UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AT&T SERVICES INC., T-MOBILE USA, INC., CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS, ERICSSON INC., AND NOKIA OF AMERICA CORPORATION,
Petitioners

v.

INNOVATIVE SONIC LIMITED AND CELERITY IP, LLC.
Patent Owner.

Case IPR2024-1145
U.S. Patent No. 9,560,559

DECLARATON OF CRAIG BISHOP

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I. INTRODUCTION

I, Craig Bishop, declare the following:

1. I have been retained as an independent expert witness on behalf of AT&T Services Inc., T-Mobile USA, Inc., Cellco Partnership d/b/a Verizon Wireless, Ericsson, Inc. and Nokia of America Corporation ("Petitioners"), related to the *Inter Partes* Review ("IPR") of U.S. Patent No. 9,560,489 ("the '559 patent").

2. I am being compensated for my work in this matter at my normal consulting hourly rate. I am also being reimbursed for reasonable and customary expenses associated with my work and testimony in this investigation. My compensation is not contingent on the results of my study, the substance of my opinions, or the outcome of this matter.

3. I have no financial interest in the '559 patent and have had no contact with the named inventors of said patent. Neither have I reviewed the '559 patent in detail, nor do I have any personal interest in the outcome of this IPR.

4. In forming the opinions expressed in this declaration, I have considered the reference materials cited herein and my own academic background and professional experiences as outlined below.

5. While I have attempted to organize the information presented in this declaration into helpful sections and/or divisions, my opinions are supported by the information in the declaration in its entirety.

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II. QUALIFICATIONS

6. My complete qualifications and professional experience are described in my *curriculum vitae*, a copy of which is attached as **Appendix 1**. The following is a summary of my relevant qualifications and professional experience.

7. I earned my Bachelor of Electronic Engineering degree with Honors from Polytechnic of Central London in 1989. In 2005, I earned my MSC in Computer Science with Distinction from the University of Kent.

8. After graduating with my first degree, I worked as an operations engineer at the British Broadcasting Corporation (BBC) for 4 years, then as a civil servant at the UK Radiocommunications Agency until 1996, during which time I became involved in telecommunications standardization in the European Telecommunication Standards Institute ("ETSI"), working in particular in Technical Committee Radio Equipment and Systems (TC RES2) concerned with the standardization of Private Mobile Radio (PMR). From 1994 through 1996, I acted as Rapporteur for voice and data related PMR standards ETS 300 113, ETS 300 219 and ETS 300 390. I participated as the only TC RES2 delegate on behalf of the UK Radiocommunications Agency, generating proposals in support of UK administration and business requirements, downloading and reviewing other meeting input documents, and proposing changes as necessary to ensure input documents and the resulting specifications were in line with said requirements.

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9. In 1996, I joined Samsung Electronic Research Institute as a Senior Standards Engineer where I worked for 16 years, eventually becoming Director of Standards and Industry Affairs in 2011. My work at Samsung mainly focused on the standardization of Global System for Mobile Communications (GSM)/ General Packet Radio Service (GPRS), Universal Mobile Telecommunications System (UMTS), the IP Multimedia subsystem (IMS), and Long-Term Evolution (LTE)/ Evolved Packet System (EPS) systems. Initially, I participated in ETSI Special Mobile Group (SMG) committees SMG1, SMG2, SMG4, SMG5, and SMG9, and relevant UMTS related sub-committees working on the air interface radio access network protocols, service, and terminal aspects of UMTS and GSM/GPRS until 1999. In particular, I was a participant in the ETSI SMG2 meetings leading up to selection of Wideband Code Division Multiple Access (WCDMA) as the radio access technology for the Frequency Division Duplex (FDD) mode of UMTS.

10. Beginning in 1998, I worked as a Principal Standards Engineer on the 3rd Generation Partnership Project (3GPP) on UMTS. I attended the inaugural 3GPP Technical Specification Group (TSG) meetings held in December 1998, and I began attending Working Group (WG) meetings in 1999. Specifically, I was a regular participant in Radio Access Network (RAN) WG1, Services & System Aspects (SA) WG1, Terminals (T) WG2, but I also attended TSG RAN and T plenary meetings and sometimes other Working Groups covering similar technical aspects as in my

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previous work in ETSI. As an example, RAN WG2 was, and is, a Working Group responsible for the specification of layer 2 and layer 3 Radio Resource, protocols for the UE. As part of this work, I would prepare meeting contributions in support of Samsung's research and development activities. Also, by way of preparation for each meeting, I would download all contributions and review those of interest to Samsung, and where necessary, prepare additional input to the meeting based on said review.

11. Beginning in 2000, I acted as project manager and then as system engineering manager at Samsung, providing technical requirements for the team working on Samsung's UMTS modem development. This involved scrutiny of ongoing standardization work, particularly in RAN WG1, RAN WG2, and TSG Core Network (CN) WG1, from which I would download, and assess the impact of, contributions on Samsung's development projects, ensuring that Samsung's development team was kept informed about the latest developments as layers 2 and 3 of the UMTS standard were stabilized.

12. During this period, in addition to authoring and presenting technical contributions for the 3GPP standard, and producing technical requirements for the radio modem, I acted as Rapporteur for 3GPP Technical Reports covering User Equipment ("UE") capability requirements (3GPP TR 21.904) from 1999–2000, and the Evolution of the 3GPP System (3GPP TR 21.902) in 2003 (the first Study Item

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to consider the 3GPP system beyond UMTS towards LTE/EPS).

13. In 2005, I became Head of Advanced Technologies, Standards and Regulation (ATSR) at Samsung. In addition to my managerial duties which included responsibility for standards, research, and regulatory engineers including three standards engineers who were regularly attending 3GPP RAN WG2 and Core Network and Terminals (CT) WG1 Working Groups, I personally continued to work on 3GPP standardization issues. From 2005 until 2008, I regularly attended and participated in SA WG2 meetings, mainly focusing on IP Multimedia Subsystem (IMS) including voice over IMS but also looking at wider Evolved Packet System (EPS) related issues. From 2008 until 2011, I regularly attended and participated in SA WG1 meetings. I also attended SA plenary meetings from 2008 until I left Samsung in 2013. As well as generating contributions in support of Samsung's research and development as preparation for each meeting, I would download and review documents from other 3GPP members, identifying those of interest to Samsung and, where necessary, preparing additional contributions on behalf of Samsung. The work required a sound working knowledge of the broader 3GPP system to ensure effective management of the ATSR team, effective participation in meeting discussions, expert assessment of third-party standards contributions, and provision of implementation guidance to Samsung developers.

14. From 2005 until I stopped attending SA WG1 meetings in 2011, I

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authored and presented over 100 contributions to SA WG2 and SA WG1 meetings at 3GPP and appeared as an author/co-author on 18 patent applications related to User Equipment operation in the IMS and the 3GPP Core Network.

15. In 2011, I became Director of Standards and Industry Affairs at Samsung, and in November of that year I was elected to the Board of ETSI on which I served for a term of 3 years until November 2014. In this position I gained further perspective on the organisation, management, and activities of ETSI and its Technical Committees and Partnership Projects including 3GPP.

16. Since leaving Samsung in January 2013, I have formed my own consulting company which is a member of ETSI, and as part of various projects undertaken, I have continued to regularly access the ETSI and 3GPP document servers, and to keep abreast of ETSI and 3GPP document handling and publication practices.

17. Through my extensive work in ETSI and on 3GPP standardization issues over the years, I have become very familiar with ETSI and 3GPP practices for when and how the technical standards (including revisions thereto) and other standards-related contributions are made publicly available, including in the 1999-2012 timeframe when I was attending or monitoring various 3GPP Working Groups including RAN WG1 and RAN WG2, and since 2013 in support of my work as a independent standardisation consultant.

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18. For purposes of my analysis in this declaration, I have been informed that a person of ordinary skill in the art ("POSITA") in the field of the '559 patent at the time of the alleged invention of the '559 patent would have had the equivalent of an undergraduate degree in Electrical Engineering, Computer Science, or Computer Engineering, familiarity with the relevant 3GPP standards as of this time, and at least three years of experience in design, development, and/or testing of wireless networks, such as cellular networks. This definition is approximate, and more education may substitute for industry experience or vice versa.

III. PUBLIC AVAILABILITY OF 3GPP STANDARDS PROPOSALS AND OTHER DOCUMENTS

19. Based on my years of experience working in various capacities in 3GPP and on 3GPP standards issues, I am familiar with the operational practices of the 3rd Generation Partnership Project (3GPP) relating to technical documents including specifications, draft standards and proposals, and standards-related technical contributions, as well as the practices through which 3GPP makes these documents public.

A. Prominence and Purpose of 3GPP

20. 3GPP was inaugurated in December 1998 to produce Technical Specifications and Technical Reports for the Universal Mobile Telecommunications System (UMTS), a 3G Mobile System based on evolved GSM core networks and a

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new radio access network known as UTRA (UMTS Terrestrial Radio Access). **Appendix 2** at 2, 3 ("[3GPP] Partnership Project Description"); **Appendix 3** at 1; **Appendix 4** at 5. At that time, various standards organisations agreed to cooperate to produce a "complete set of globally applicable Technical Specifications" that would then be transposed into standards by the relevant standardization bodies (also known as Organizational Partners). **Appendix 2** at 3, 5 ("[3GPP] Partnership Project Description"). 3GPP "attracted a very strong commitment from organisations and companies around the world, reflecting the truly global nature of the project". **Appendix 4** at 7.

21. 3GPP is a global initiative partnership made up of Organizational Partners, Market Representation Partners, and Individual Members. **Appendix 5** at 7, 8; **Appendix 2** at 10. Today, 3GPP unites seven telecommunications standard development organisations ("Organizational Partners") from around the world: the Association of Radio Industries and Businesses (ARIB) and the Telecommunication Technology Committee (TTC) from Japan, the China Communications Standards Association (CCSA) from China, the Telecommunications Standards Development Society, India (TSDSI) from India, the Telecommunications Technology Association (TTA) from Korea, the European Telecommunications Standards Institute (ETSI), and the Alliance for Telecommunications Industry Solutions (ATIS) from the United States. These Organizational Partners are regional standards

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organisations that have the authority to define, publish, and set standards for their respective regions. **Appendix 2** at 12. 3GPP also includes "Market Representation Partners" that represent various industry perspectives and offer market advice. **Appendix 5** at 8 (3GPP Working Procedures, "Market Representation Partnership"); **Appendix 2** at 14; **Appendix 4** at 5. Additionally, 3GPP includes individual member companies ("Individual Members") that participate in 3GPP through their membership in a 3GPP Organizational Partner. **Appendix 5** at 8 (3GPP Working Procedures, "Individual Membership"); **Appendix 6** at 5 (textbook including a chart showing 3GPP structure at the time of publication); **Appendix 8** at 9, 10. As an example of how prominent 3GPP was and remains in the industry, there were 350 participating Individual Members in 2008, and 399 by 2012. **Appendix 7** at 8 (3GPP Project Coordination Group document showing 3GPP membership numbers to 2017). There were 827 individual members as of June 2024. **Appendix 9**.

22. As noted in paragraph 20, a primary goal of 3GPP is to provide an environment to produce technical specifications and technical reports that define and standardise technologies covering cellular telecommunications networks, including User Equipment or Mobile Device (UE) technologies, Radio Access Network (RAN) technologies, Core Network (CN) technologies, and service and system capabilities such as work on codecs, security and quality of service. The

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specifications also provide hooks for interworking with non-3GPP networks including but not limited to Wi-Fi networks.

23. Given the prominence of 3GPP in the wireless communication industry, beginning in 1999 and continuing through today, interested POSITAs were tracking the developments of the latest 3GPP specifications and reports to ensure timely development of products and services by their companies that were consistent with the standards being developed. In other words, it is my opinion that a POSITA would have to be familiar with 3GPP and with the specification-related documents produced as part of the 3GPP process in order to properly perform his or her job. Without access to and knowledge of the 3GPP documentation, including for example the substantive contents of 3GPP technical specifications, an engineer could not develop products that were interoperable with the worldwide 3G, 4G, and later 5G standards. Because 3GPP documents were an important aspect of a POSITA's professional experience, textbooks and articles about cellular communications commonly directed readers to the 3GPP website for information regarding standards development. **Appendix 4** at 9 (directing readers to the 3GPP website at the conclusion of the chapter on the success of 3GPP in the standards development process). As a POSITA myself, I would regularly visit the 3GPP website for the latest developments mobile communications standards setting and refer colleagues involved in the development of such devices to the 3GPP website as a valuable

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reference.

24. My personal experience at Samsung confirms 3GPP's prominence in the wireless industry. For example, engineers and managers at Samsung who were responsible for implementing 3GPP compliant modem software (and who were not attending 3GPP meetings or involved with development of the 3GPP standard in any direct way) would often enquire as to which version of a given 3GPP specification they should be developing. Further, between 2000 and 2004, part of my role at Samsung involved advising software engineers implementing the 3GPP standard on the correct interpretation of the specifications and ensuring that they were made aware of any changes and proposals made during the 3GPP standards development process that would impact their work. I also for a time maintained an internal company database that tracked 3GPP approved changes, to help the software engineers at Samsung implementing the 3GPP standard more readily stay informed as to changes that would impact their work. The database also included links to relevant 3GPP documents so that engineers could access the documents more directly. In short, the technical output of 3GPP was, and continues to be, well known at 3GPP member companies, even for engineers who were not directly involved with designing the 3GPP system or contributing to the 3GPP standard process.

B. 3GPP's Policy of Making Documents Public

25. 3GPP's policy was to make 3GPP documents available to the public,

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including to interested POSITAs. The free availability of 3GPP documents to any interested member of the public was widely recognized in the industry. As an example of the prominence of 3GPP and its place in the wireless standards industry, I note that textbooks directed readers to the 3GPP website for information about relevant standards. For example, **Appendix 6** at 6, 9 ("The latest specifications can be obtained from 3GPP [9]", "[9] http//:www.3GPP.org"); **Appendix 8** at 10 ("3GPP TSs and TRs are publicly available at the 3GPP web site at either of the following URIs: http://www.3gpp.org/specs/specs.htm http://www.3gpp.org/ftp/Specs/archive/"). Because the purpose of 3GPP is worldwide adoption of a common standard, no restrictions on distribution or discussion have ever been placed on 3GPP documents. **Appendix 10** at 9 ("No password is needed to access any information on the 3GPP Web site, all information is openly published").

C. 3GPP Structure and Standards Development Process

26. Within 3GPP, responsibility for producing specifications was delegated to the Technical Specification Groups (TSGs). **Appendix 5** at 12 (3GPP Working Procedures, "TSG tasks"). At its inception, 3GPP was divided into four Technical Specification Groups (TSGs), each covering a particular category of technology. **Appendix 2** at 31 (3GPP Partnership Project Description); **Appendix 6** at 5, 6 (textbook listing four TSGs and noting the subsequent addition of a fifth TSG);

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Appendix 4 at 6, 11, 12. Each TSG is further divided into a number of Working Groups (WGs). **Appendix 8** at 8, 9; **Appendix 4** at 6; see also **Appendix 5** at 12 (3GPP Working Procedures). Two of the TSGs from 1999 are still in existence in 2024: TSG Radio Access Networks (RAN) and TSG Service & Systems Aspects (SA). The activities of two other TSGs, TSG Core Networks (CN) and TSG Terminals (T), were amalgamated under Core Network and Terminals (CT) following the closure of TSG T in 2005, with responsibility for terminal test specifications being moved to a RAN working group (RAN WG5). The fifth TSG, GSM EDGE Radio Access Networks (GERAN), was responsible for evolution of the GSM radio technology from 2000 until that TSG closed in 2016 and its work was transferred to a RAN working group (RAN WG6) which was itself closed in July 2020.

27. The TSGs held quarterly plenary meetings where members' contributions, draft specifications/reports, and other documents that had been agreed upon by the Working Groups were presented for discussion and approval. **Appendix 5** at 20 (3GPP Working Procedures, "Deliverable types," stating that Technical Specifications and Technical Reports are "drawn up by the TSGs" and are approved by TSGs); **Appendix 8** at 9 ("3GPP Deliverables"). Once a Technical Specification was or Change Requests creating a new version of a Technical Specification were, formally approved by TSG plenary, the latest version of said Technical Specification

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would be created by the Mobile Competence Centre (MCC) and uploaded to the file server. **Appendix 10** at 6; **Appendix 11** at 1. In that way, the conclusion of 3GPP TSG plenary meetings serves as notice that new versions of specifications incorporating Change Requests approved by the TSG meeting will shortly be made available on the public 3GPP server.

28. As part of the standards development process, delegates could submit contributions on behalf of the Individual Members. Members had an incentive to stay updated on 3GPP developments because those members usually wanted to contribute to the standard and make suggestions as to what technology and/or features should (or should not) be included. Delegates also attended 3GPP meetings to keep their employers abreast of developments related to the standards that would ultimately apply to those members and the products those members (*e.g.*, companies) produced. 3GPP members around the world and the interested POSITAs employed by them would have been motivated to stay up to date regarding 3GPP technology evolution to ensure their research and development programmes remained relevant to the systems being specified and that their products were compliant with the published 3GPP specifications. In light of this need to follow the standards development process, delegates often distributed 3GPP-related documents far beyond the attendees at 3GPP meetings. This was certainly my experience at Samsung.

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D. 3GPP Documents

1. Technical Specifications and Reports

29. The technical specifications and reports developed by 3GPP were, and still are, driven by the technical contributions of 3GPP members. As part of that development process, various types of documents were produced. The 3GPP process involved the consideration of temporary documents ("TDocs," also referred to as "contributions,"), many of which constituted technical proposals for how the system should be implemented and were adopted as the basis for parts of the technical specifications.

30. As I noted in paragraphs 20 and 22, a primary purpose of 3GPP is to prepare, approve, and maintain globally applicable Technical Specifications and Technical Reports. **Appendix 5** at 6 (3GPP Working Procedures, "Purpose"). A "Technical Specification," as defined by 3GPP, is "[a] 3GPP output document containing normative provisions approved by a Technical Specification Group". **Appendix 5** at 25. 3GPP would (and still does) periodically freeze a complete set of standards (referred to as a "Release"), and each set would include many new specifications. **Appendix 10** at 6. 3GPP would also make publicly available draft specifications that would usually be included as part of the next Release once approved.

31. It was widely known that Technical Specifications (and Technical

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Reports) were publicly available on 3GPP's website. It was also well known that the latest version of a given specification that was under change control would be made available following each TSG Plenary meeting responsible for that specification, and that TSG Plenary meetings usually occur four times per year. **Appendix 10** at 6; **Appendix 11** at 1.

32. Latest and previous versions of technical specifications could be easily accessed from the 3GPP website. The specifications page provided direct links to the specifications area in the 3GPP website's file repository. **Appendix 11** at 1. In the 2008 - 2012 timeframe, the specifications page listed the specifications by the date of the approval of the latest versions reflecting the TSG plenary meeting date. *E.g.*, **Appendix 11** at 1.

33. Additionally, the 3GPP specifications followed a clear numbering scheme to help the public, including interested POSITAs, identify the subject matter of each specification. **Appendix 12** at 1. As described on the 3GPP Numbering Scheme webpage, all 3G and GSM specifications had a specification number of 4 or 5 digits, where the first two digits defined the series. **Appendix 12** at 2. The Numbering Scheme webpage included a table showing the subject matter corresponding to each series. **Appendix 12** at 1. For example, the "36 series" focused on Evolved UTRA (LTE) aspects. **Appendix 12** at 1. An interested POSITA could narrow down the relevant specifications based on whether the specification

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applied to only evolved UTRA (aka 4G or LTE), to 3G, to GSM, or to GSM, 3G and evolved UTRA (GSM only specifications were transferred from ETSI to 3GPP in July 2000). For a specification in the 21–35 series, this could be determined based on the third digit of the specification number, where a "0" would indicate that the specification applied to all systems. Specifications outside the 21–36 series in 2010 applied only to GSM systems. **Appendix 12** at 1.

34. The specifications were stored on the 3GPP website's file repository as zipped files, where the filenames followed the structure: SM[-P[-Q]]-V.zip. This format corresponded to the numbering scheme discussed in paragraph 33. "S" represented the series number; "M" represented the mantissa (the part after the series number); "P" represented an optional part number; "Q" represented an optional sub-part number; and "V" represented the version number (without the separating dots). **Appendix 12** at 2.

35. The Working Groups would create incremental versions of the draft specifications (*e.g.*, V0.2.1, V1.0.0, V1.1.0, etc.). These versions were made available on the 3GPP website's file repository which is accessible from the 3GPP specifications page. The version numbering scheme for Technical Specifications and Technical Reports was standardized by 3GPP. The version number included three fields: the major version field, the technical version field, and the editorial version field. **Appendix 13** at 1. The major version field reflects the stage of the

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specification, with "0" representing an immature draft and a value of "3" or greater representing a specification that has been approved by the relevant TSG and thus placed under change control. **Appendix 13** at 1. The technical version field begins at zero and is incremented every time a technical change is made to the specification (either as part of the drafting process or as part of an approved change request). **Appendix 13** at 1. The editorial version field begins at zero and is incremented each time a non-technical change is made to the specification (*e.g.*, to fix a typo or formatting issue). **Appendix 13** at 1.

36. I understand that the alleged invention in the '559 patent relates to cellular telecommunications networks, and more particularly the enhancement of small cells in a wireless communication system. Any POSITA interested in the enhancement of small cells in a wireless communication system would have been monitoring 3GPP's activities in this area and would probably have been already participating as a full or associate member or observer in the standard development process or would have at least known that information regarding the proposed revisions to the technical specifications under discussion were available through 3GPP.

2. 3GPP TDocs

37. As mentioned in paragraph 29, the technical specifications and reports developed by 3GPP were and are driven by the technical contributions of 3GPP

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member companies. As part of that development process, various types of documents were produced and submitted. As relevant to this case, the 3GPP process involved the consideration of temporary documents or "TDocs," which are also referred to as proposals, contributions, or Change Requests ("CRs" - when proposing changes to approved Technical Specifications or Reports). The agreement of proposals submitted as TDocs results in the production of Technical Specifications and Reports.

38. Prior to each Working Group meeting, members of the Working Group would prepare TDocs to identify, discuss, and/or propose a new feature or change(s) to an existing feature or to identify a technical issue for discussion. Interested POSITAs would have known that TDocs could be a helpful source of technical information regarding the 3GPP specifications.

39. Each TDoc was assigned a TDoc number, according to a standard format set by 3GPP.[1] As described in the 3GPP Working Procedures, the numbering system followed the format xminnzzzz. **Appendix 5** at 17. This general naming convention has been in use since at least 1999 with only minor variations. Within that format, "x" referred to the relevant TSG. For example, "R" was used for TSG RAN. Likewise, "m" referred to the relevant Working Group. **Appendix 5** at 17. A

[1] Documents other than technical contributions (such as meeting reports) were also assigned TDoc numbers for ease of reference.

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document for RAN WG2 would therefore begin with "R2". The two digits "nn" represented the year (*e.g.*, 10), and the digits "zzzz" represented the unique document number. This document number was used as the TDoc's filename.

40. Each TDoc would include in its header the meeting at which the contributor intended the TDoc to be discussed. Most TDocs were uploaded to the 3GPP website for public viewing prior to the relevant Working Group meeting listed on the TDoc, although some TDocs including those created at meetings, were uploaded during or after the meeting. The documents were uploaded to the public file repository in an area allocated to the particular Working Group. **Appendix 10** at 8; **Appendix 14** at 1 (RAN WG2 homepage with link to WG2's "Documents area"). Immediately upon upload, any member of the public could download and access the TDocs and other documents offered for discussion. This process has been in place since I began attending Working Group meetings in 1999.

E. The 3GPP Website's Public File Repository

41. All TDocs, Technical Reports, and Technical Specifications were also freely available to interested member of the public through the public file repository accessible via the 3GPP website. Interested members of the public would have been well aware of 3GPP and of the 3GPP website. 3GPP documents were accessible to any member of the public through the 3GPP website without providing any login credentials or other exclusive access criteria.

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42. It is my recollection that, during the 2008 - 2012 timeframe, any interested member of the public could locate relevant documents of interest on the 3GPP website using reasonable diligence based on the website's indexing scheme or the TDoc's naming convention. The TDoc's on the 3GPP website were (and remain) organized according to the relevant Working Groups within 3GPP (each of which focused on particular subject matter) and then further organized based on the meetings of those groups. The Technical Specifications and Reports were (and remain) organized according to their subject matter as indicated by their series number and version. POSITAs would have known which Working Groups and which Technical Specification series focused on particular subject matter.

43. An interested member of the public could locate documents of interest by first navigating a web browser to the 3GPP website (www.3gpp.org). In the 2008 - 2012 timeframe, to locate TDocs from the 3GPP home page, a user could have clicked "Specification Groups" **Appendix 15**. The corresponding webpages contained links to the 3GPP's public file repository (*e.g.*, through the "Documents area" link of the RAN WG2 page). **Appendix 14**. To locate specifications, a user could have clicked "Specifications" and followed links as described in section III.D.1 above. Instead of accessing the 3GPP file repository from the 3GPP website home page, a user could have also accessed the file repository through the web address www.3gpp.org/ftp or directly using ftp client software connected to

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ftp.3gpp.org. A POSITA was also able to search for relevant documents using keywords on the search facility on the 3GPP website from at least 2000.

44. The top two levels of indexing within the file repository were based wholly on subject matter, as reflected by the division of subject matter among the various TSGs and Working Groups, or into various "Specs". Specifically, an individual could select the date and number of a relevant specification series covering the subject matter of interest. **Appendix 16**, **Appendix 17**, **Appendix 18**. Once an individual navigated to the desired folder, for example "36_series" the individual could then select the relevant specification number folder to view all versions of a Technical Specification.

45. 3GPP's public file repository provides a reliable mechanism for identifying the date and time a document was uploaded to the website and then available to download for public viewing. When a document is uploaded, the file server automatically assigns the document a time stamp—*i.e.*, an accurate and automatically computer-generated electronic record of when the document was uploaded—as part of the regular business practices of 3GPP. This has always been the practice regarding uploading documents to the 3GPP file repository, and my personal experience confirms that the time stamps have always been a reliable way to determine when a file was uploaded to the 3GPP website and immediately available for public download.

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46. Further, whilst the servers used for 3GPP file repository and many of its directories have been updated since 1999, and directories may as a result have later dates associated with them (*e.g.*, reflecting the last time they were modified in some way or their contents were updated), the original upload date for files including specifications has always been preserved, providing a true and accurate indication of their earliest availability for download.

IV. 3GPP EXHIBITS

A. Ex. 1015: 3GPP TS 36.331 v8.1.0 (2008-03): "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 8)"

47. 3GPP TS 36.331 v8.1.0 is a Technical Specification titled "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 8)". The date on the face of the specification ("2008-03") corresponds to the year (2008) and month (March) that this version of the specification was approved by 3GPP TSG RAN and subsequently made publicly available.

48. 3GPP TS 36.331 v8.1.0 being an approved version of the Release 8 specification of evolved UTRA Radio Resource Control protocol was approved by TSG RAN #39 held March 4 – 7, 2008. An interested member of the public would

Petitioners' Exhibit 1014, p. 26
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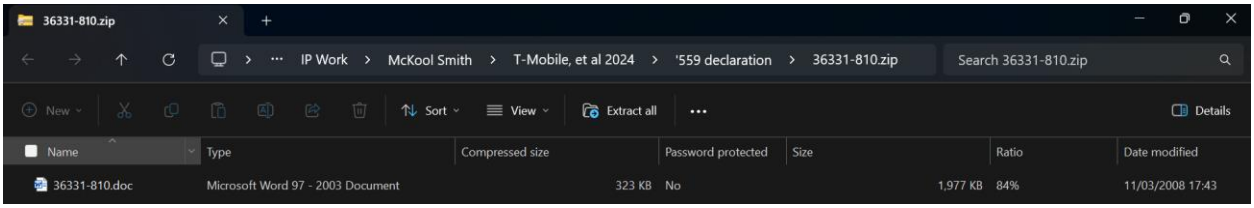
know that the latest version of an approved specification or report would be available following the plenary meeting responsible for that specification (in this case TSG RAN) in accordance with 3GPP standard practice as described in paragraphs 31. The approval of the TS 36.331 v8.1.0 is confirmed by the approval of the Change Requests to TS 36.331 release 8 documented in the meeting report from TSG RAN #39 (**Appendix 19** at annex C, p.84).

49. The 3GPP file server is and always has been open to all and free from restriction such as username or password. By way of example of how an interested member of the public could access the TS 36.331 v8.1.0 technical specification from the 3GPP website, I accessed the file server by going to the 3GPP website at http://www.3gpp.org/, selected "Specifications & Technologies" from the menu bar, and then selected "Specifications by series" from the dropdown menu. I then selected the "36 Series" link to access the public file server where the specifications are stored. I then searched for "36.331" in the specification number search bar, and for the TS 36.331 specification selected the eyeglasses icon that says "See details" when a cursor is placed on it. From there, I selected "Click to see all versions of this specification," which took me to the archive housing all versions of TS 36.331 found at the following URL: https://www.3gpp.org/ftp/Specs/archive/36_series/36.331. A true and correct copy of the relevant portion of the directory listing produced by the file server website is provided below and in **Appendix 20** at 1.

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36331-800.zip	2007/12/18 8:30	183,7 KB
36331-810.zip	2008/03/17 9:45	322,6 KB
36331-820.zip	2008/05/29 9:21	352,8 KB

50. The archive directory index stated that TS 36.331 v8.1.0 was uploaded on "2008/03/17". Selecting the link for "36331-810.zip", I downloaded a zip file of the same name. The zip file contained a Microsoft Word document titled "36331-810.doc" with a date stamp of "11/03/2008" (European date format), 6 days before the zip file was uploaded. An excerpt of the zip file directory is provided below.



51. I have confirmed that the document "36331-810.doc" is TS 36.331 v8.1.0. A true and correct copy of the Microsoft Word document titled "36331-810.doc" is the TS 36.331 v8.1.0 that is provided in Ex. 1015.

52. Based on my experience, I understand these date stamps to mean that 36331-810.zip was uploaded to 3GPP's publicly available website on March 17, 2008, and that an interested member of the public could have downloaded the zip file, extracted the Word document enclosed, viewed the contents of the Word document, and further disseminated said document without restriction on March 17,

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2008 and thereafter.

B. Ex. 1009: 3GPP TS 36.331 v11.0.0 (2012-06): "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 11)"

53. 3GPP TS 36.331 v11.0.0 is a Technical Specification titled "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 11)". The date on the face of the specification ("2012-06") corresponds to the year (2012) and month (June) that this version of the specification was approved by 3GPP TSG RAN and subsequently made publicly available.

54. 3GPP TS 36.331 v11.0.0, being an approved version of the Release 11 specification of evolved UTRA Radio Resource Control protocol, was approved by TSG RAN #56 held June 13 – 15, 2012. An interested member of the public would know that the latest version of an approved specification or report would be available following the plenary meeting responsible for that specification (in this case TSG RAN) in accordance with 3GPP standard practice as described in paragraphs 31. The approval of the TS 36.331 v11.0.0 is confirmed by the approval of the Change Requests to TS 36.331 v10.5.0 documented in the meeting report from TSG RAN #56 (**Appendix 21** at annex E, p.114).

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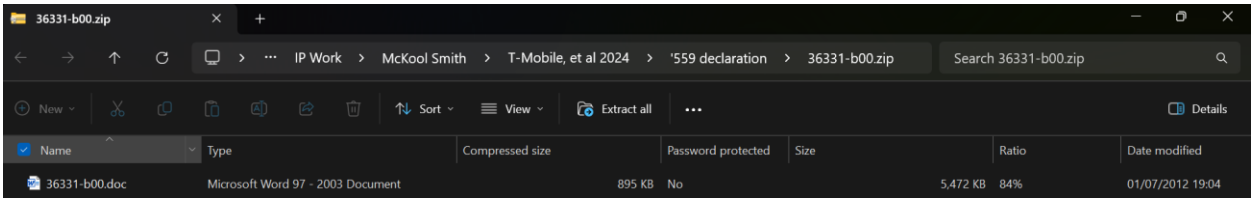
55. The 3GPP file server is and always has been open to all and free from restriction such as username or password. By way of example of how an interested member of the public could access the TS 36.331 v11.0.0 technical specification from the 3GPP website, I accessed the file server by going to the 3GPP website at http://www.3gpp.org/, selected "Specifications & Technologies" from the menu bar, and then selected "Specifications by series" from the dropdown menu. I then selected the "36 Series" link to access the public file server where the specifications are stored. I then searched for "36.331" in the specification number search bar, and for the TS 36.331 specification selected the eyeglasses icon that says "See details" when a cursor is placed on it. From there, I selected "Click to see all versions of this specification," which took me to the archive housing all versions of TS 36.331 found at the following URL: https://www.3gpp.org/ftp/Specs/archive/36_series/36.331. A true and correct copy of the relevant portion of the directory listing produced by the file server website is provided below and in **Appendix 20** at 3.



56. The archive directory index stated that TS 36.331 v11.0.0 was uploaded on "2012/07/02". Selecting the link for "36331-b00.zip", I downloaded a zip file of

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the same name. The zip file contained a Microsoft Word document titled "36331-b00.doc" with a date stamp of "01/07/2012" (European date format), the day before the zip file was uploaded. An excerpt of the zip file directory is provided below.



57. I have confirmed that the document "36331-b00.doc" is TS 36.331 v11.0.0. A true and correct copy of the Microsoft Word document titled "36331-b00.doc" is the TS 36.331 v11.0.0 that is provided in Ex. 1009.

58. Based on my experience, I understand these date stamps to mean that 36331-b00.zip was uploaded to 3GPP's publicly available website on July 2, 2012, and that an interested member of the public could have downloaded the zip file, extracted the Word document enclosed, viewed the contents of the Word document, and further disseminated said document without restriction on July 2, 2012 and thereafter.

C. Ex. 1008: 3GPP TS 36.331 v11.2.0 (2012-12): "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 11)"

59. 3GPP TS 36.331 v11.2.0 is a Technical Specification titled "3rd Generation Partnership Project; Technical Specification Group Radio Access

Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 11)". The date on the face of the specification ("2012-12") corresponds to the year (2012) and month (December) that this version of the specification was approved by 3GPP TSG RAN and subsequently made publicly available.

60. 3GPP TS 36.331 v11.2.0, being an approved version of the Release 11 specification of evolved UTRA Radio Resource Control protocol, was approved by TSG RAN #58 held December 4 – 7, 2012. An interested member of the public would know that the latest version of an approved specification or report would be available following the plenary meeting responsible for that specification (in this case TSG RAN) in accordance with 3GPP standard practice as described in paragraphs 31. The approval of the TS 36.331 v11.2.0 is confirmed by the approval of the Change Requests to TS 36.331 v11.1.0 documented in the meeting report from TSG RAN #58 (**Appendix 22** at annex E, pp.137-139).

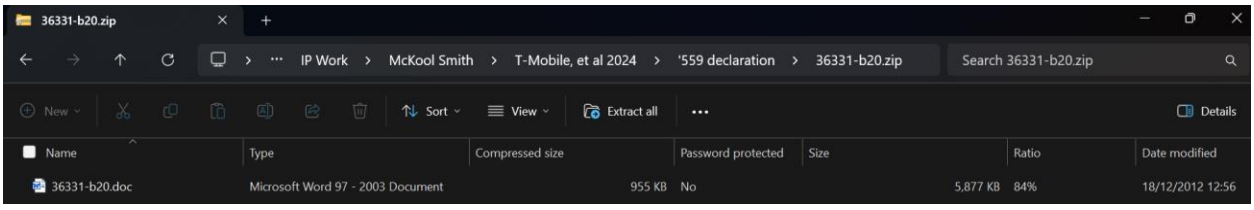
61. The 3GPP file server is and always has been open to all and free from restriction such as username or password. By way of example of how an interested member of the public could access the TS 36.331 v11.2.0 technical specification from the 3GPP website, I accessed the file server by going to the 3GPP website at http://www.3gpp.org/, selected "Specifications & Technologies" from the menu bar, and then selected "Specifications by series" from the dropdown menu. I then

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selected the "36 Series" link to access the public file server where the specifications are stored. I then searched for "36.331" in the specification number search bar, and for the TS 36.331 specification selected the eyeglasses icon that says "See details" when a cursor is placed on it. From there, I selected "Click to see all versions of this specification," which took me to the archive housing all versions of TS 36.331 found at the following URL: https://www.3gpp.org/ftp/Specs/archive/36_series/36.331. A true and correct copy of the relevant portion of the directory listing produced by the file server website is provided below and in **Appendix 20** at 3.

36331-b00.zip	2012/07/02 8:06	894,5 KB
36331-b10.zip	2012/09/24 16:19	975,3 KB
36331-b20.zip	2012/12/19 11:55	954,5 KB

62. The archive directory index stated that TS 36.331 v11.2.0 was uploaded on "2012/12/19". Selecting the link for "36331-b20.zip", I downloaded a zip file of the same name. The zip file contained a Microsoft Word document titled "36331-b20.doc" with a date stamp of "18/12/2012" (European date format), the day before the zip file was uploaded. An excerpt of the zip file directory is provided below.



63. I have confirmed that the document "36331-b20.doc" is TS 36.331 v11.2.0. A true and correct copy of the Microsoft Word document titled "36331-b20.doc" is the TS 36.331 v11.2.0 that is provided in Ex. 1008.

64. Based on my experience, I understand these date stamps to mean that 36331-b20.zip was uploaded to 3GPP's publicly available website on December 19, 2012, and that an interested member of the public could have downloaded the zip file, extracted the Word document enclosed, viewed the contents of the Word document, and further disseminated said document without restriction on December 19, 2012 and thereafter.

V. CONCLUSION

65. Based on the information in section IV, A above, it is my option that Ex.1015, 3GPP TS 36.331 v8.1.0 titled: "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 8)", was publicly available to download from the 3GPP server without restriction on March 17, 2008.

66. Based on the information in section IV, A above, it is my option that Ex.1009, 3GPP TS 36.331 v11.0.0 titled: "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol

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specification (Release 11)", was publicly available to download from the 3GPP server without restriction on July 2, 2012.

67. Based on the information in section IV, A above, it is my option that Ex.1008, 3GPP TS 36.331 v11.2.0 titled: "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 11)", was publicly available to download from the 3GPP server without restriction on December 19, 2012.

68. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

July 11, 2024



Printed Name: Craig Bishop

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Appendix 1

Curriculum Vitae

Name: Craig Bishop

Contact Tel No.: +44 (0)7984 564949 (mobile)

Email: craig@bishopcom.co.uk

Current job title: Independent Consulting Engineer, CEO

Address: 43 Ospringe Street, Faversham, Kent, ME13 8TW

Key Skills and Experience

- 35 years Telecoms, Radio and Broadcast experience
- 27 years experience of 2G/3G/4G telecoms standardisation
- Extensive knowledge of 3GPP and ETSI specifications and procedures including document handling and publication practices
- Sound understanding of 3GPP systems, including Radio Access Interfaces and Networks, Access Stratum protocols, Core Networks, Non-Access Stratum protocols, and IMS
- Experience of ETSI role from regulatory perspective (harmonised standards, mandates, spectrum, etc)
- Depositions, reports, and declarations as expert witness in cases on 3GPP technologies and on 3GPP & ETSI practices and procedures.
- Intellectual property analysis including prior art search and evaluation of patent essentiality
- Application of data analytics and machine learning techniques to standards and IP data
- Programming in Java, Python, C, Octave (Matlab)

Career History

Bishop Communications Ltd. 01/13 –

Independent Telecommuncations Standards and Intellectual Property Consultant

Company is a full ETSI member

Activities have included:

- Provision of expert support for IPR litigation from standards landscape analysis / background technical reports to expert testimony reports / declarations and depositions on matters including the public availability of 3GPP and ETSI prior art.
- Intellectual property analysis assessing strengths and weaknesses of patents and patent portfolios, conducting searches for prior art, evaluating patent essentiality, and acquring relevant documentation.
- Provision of expertise for EC funded ETSI Specialist Task Force (STF489) to produce implementation guidelines for Total Conversation for emergency services. Project delivered on time / budget and well received. Ouput published March 2016 as ETSI TR 103 201.
- Provision of expertise for ETSI Specialist Task Force (STF555) assessing the impact on existing standards of communications involving IoT devices in all types of emergency situations. Project delivered on time / budget and well received. Ouput published July 2019 as ETSI TR 103 582.
- Provision of standards consultancy services for Samsung Electronics in ETSI including membership of the ETSI Board until November 2014

Technologies covered in patent related work include: 3GPP GSM, UMTS, LTE, 5G NR radio interface technologies (Phy, MAC, RLC, RRC), 3GPP access and core networks (GPRS/UMTS & EPC NAS), IMS. Organisations covered include 3GPP & ETSI.

Clients served / represented include: ADT, Apple, AT&T, Blackberry, Cradlepoint, DELL, Ericsson, Honeywell, HTC, Huawei, LG, Lenovo, Motorola, Nokia, Oneplus, Oppo, Samsung, Sierra Wireless, Thales, T-Mobile, Sprint, Verizon, Vodafone, Xiaomi, ZTE.

Working with: Addy Hart LLP, Alston & Bird LLP, Baker Botts LLP, Banner Witcoff LLP, DLA Piper LLP, European Telecommunications Standards Institute (ETSI), Fish & Richardson P.C., Gibson Dunn LLP, Haynes and Boone LLP, Hillebrand-CE GmbH, Kirkland & Ellis LLP, K&L Gates LLP, MckoolSmith LLP, PV Law LLP, Paul Hastings LLP, Perkins Coie LLP, Powell Gilbert LLP, Sidley Austin LLP, Samsung Electronics Research & Development Institute UK (SRUK), Taylor Wessing LLP, Williams & Connolly LLP, WilmerHale LLP.

Expert testimony through deposition:

- *Huawei Technologies Co. Ltd. vs. T-Mobile US, Inc., et al.*, Case Nos. 2:16-cv-0052-JRG-RSP, 2:16-cv-0055-JRG-RSP, 2:16-cv-0056-JRG-RSP, and 2:16-cv-0057-JRG-RSP (E.D. Tex.). On behalf of T-Mobile US Inc.
- *T-Mobile US, Inc., et al.* v. *Huawei Technologies Co. Ltd.*, Case Nos. IPR2017-00696 and IPR2017-00697 (PTAB). On behalf of T-Mobile US Inc.
- *LG Electronics, Inc., v. Koninklijke KPN N.V.*, Case No. IPR2018-00558 (PTAB). On behalf of LG Electronics, Inc.
- *Nokia of America Corp. and Ericsson Inc. v. IPCOM, GMBH & Co.,* Case No. IPR2021-00533 (PTAB). On behalf of Ericsson Inc.
- *IPCom, GmbH & Co., Plaintiff, v. AT&T Inc., et al, Defendant, Nokia of America Corp., Intervenor, Ericsson Inc., Intervenor.,* Civil Action No. 2:20-CV-322-JRG*, and IPCom, GmbH & Co., Plaintiff, v. Verizon Communications, et al., Defendant, Nokia of America Corp., Intervenor, Ericsson* nc*., Intervenor.,* Civil Action No. 2:20-CV-323-JRG. On behalf of Ericsson Inc.
- *Ericsson Inc. v. Koninklijke KPN N.V.,* Case No. IPR2022-00069 (PTAB). On behalf of Ericsson Inc.

Expert testimony in court:

- *Between IPCom GmbH and Vodafone, et al.,* Claim No. HP-2018-000030 Claim No. HP-2018-000031, High Court of Justice, Business & Property Courts of England and Wales, Intellectual Property List (ChD), Patents Court. Retained by Vodafone.
- *Between (1) Mitsubishi Electric Corporation (2) Sisvel International SA and Oneplus Mobiletech UK Limited, Oppo Mobile UK Ltd, Xiaomi Technology UK Limited, et al.,* Claim No. HP-2019-000014, High Court of Justice, Business & Property Courts of England and Wales, Intellectual Property List (ChD), Patents Court. Retained by Oneplus, Oppo, and Xiaomi (trial held remotely due to COVID-19 restrictions)

Samsung Electronics Research Institute (SERI) 12/96 – 01/13

Director Standards and Industry Affairs 03/11 – 01/13

Mission and Tasks as for previous role plus:

- Proactive member of ETSI Board following election as Board member in November 2011
- Worked with Samsung internal and external legal counsel in response to EC investigation into Samsung suspected abuse of Standards Essential Patents.
- Deposed by Apple as fact witness in ITC investigation 337-TA-794.

Head of Advanced Technologies Standards & Regulation 09/05 - 03/11

Mission: To help position Samsung and SERI at the forefront of mobile telecommunication developments through participation in and leadership of mobile communications standards and European regulatory affairs

Key tasks:

- Developed standards and research strategy and coordinated activites with head office, acting as official Samsung contact for the European Telecommunications Standars Institute.
- Programme managed standardisation and regulation projects covering 3GPP (RAN2, CT1, SA2, SA1, SA, RAN, CT), OMA, and mobile Broadcast strategies and technologies (DVB Forum), European Framework projects (FP7), Spectrum Management (CEPT, ETSI EM, TFES, BRAN, …) and European Regulatory affairs (Digital Europe, relations with European Commission, …). - Grew department from 3 to 12 persons to cater for these activities.
- Participated and actively contributed to 3GPP SA1 (11/08 – 11/11), SA2 (10/05 – 08/11) , SA and ETSI TC SCP groups on issues including IMS / CS Interworking (VCC / SRVCC, VoLTE, T-ADS, ICS), Local IP Access & Selected IP Traffic Offload (LIPA-SIPTO), MOSAP, M2M/MTC, Embedded / 4FF UICC.
- Drafted and filed communication technology related patents related to 3GPP SA2 and CT1 technologies – 18 filed, mainly IMS and 3GPP NAS related
- Supported Samsung IP team with analysis of Samsung and 3rd party communication technology related patents and claim charts including GSM/GPRS, UTRAN, NAS, and IMS patents
- Chaired SERI Patent Committee from 2007-2009 - SERI achieved patent targets for first time in 2007 and did so in every year following

Standards consultant – part time 09/04 – 09/05

(Whilst studying fulltime for MSC)

During this time, I conducted a review of the wireless communication technolgies and the associated standards space, with a particular emphasis on 802.16a, as well as 3G and 802.11 evolutions. I was also involved in analysis of 3rd party patents and claim charts on request from Samsung IP team.

Technology Manager System Engineering group 06/03 – 09/04

Mission: To establish a System Engineering group within SERI to support development of SERI's dual mode GSM/UMTS radio modem platform.

Key Tasks:

- Defined and implemented System Engineering group strategy including recruitment and line management of the group which grew from 3 to 10 engineers during this period.
- Developed detailed system requirements for SERI's dual mode 2G/3G radio modem platform(s) including production of background documentation describing system wide behaviour
- Defined system test programme for platform, including example test cases using off the shelf test equipment. This project outsourced (under my supervision) to a third party company for completion.
- Provided continued support to development engineers in terms of understanding specification and system requirements, particularly with respect to Access Stratum and Non Access Stratum specifications and protocols.
- Instigated and managed studies investigating optimised system architecture for future Samsung mobile platforms.
- Analysed Samsung and 3rd party 3GPP technology related patents and claim charts on request by Samsung IP team and reported on their value and standards essentiality.

Technology Manager Standards & System Group 04/02 – 06/03

Mission: To provide Standards support to SERI development teams and Samsung's global standardisation activities.

Key Tasks:

- Devised and implemented revised strategy to improve the focus of activities and provide improved support for software developers from a system perspective.

- Attended 3GPP TSG SA plenary and occasional SA WG1 meetings - acted as rapporteur for 3GPP Evolution technical report 3GPP TR 21.902.
- Analysed 3rd party GSM/GPRS technology related patents and claim charts on request by Samsung IP team and reported on their value and standards essentiality.
- Line managed 3 engineers, ensuring that the group provided expert support for SERI SW and HW developers in terms of standards interpretation and system requirements, particularly with respect to the Radio Access Network.

Project Manager 04/00 – 04/02

Mission: To establish and manage development of a dual mode GSM/UMTS modem platform.

Key tasks:

- Defined and managed work relating to core technology development for Samsung's 3G handsets.
- Determined major technical architecture and parameters for the platform producing high level system requirements specification and project development plan.
- As a technical authority on UMTS, supported the project in terms of requirements specification and interpretation (L1, MAC/RLC, RRC, and NAS specifications), and contributed towards the training of UMTS project team members.
- Acting in a consultative capacity, interfaced with other departments in Samsung and with external customers/suppliers on issues relating to 2G and 3G technologies
- Responsible for the overall planning, work allocation and co-ordination of engineers for the project, as well as being involved in recruitment – during this period the number of engineers working on the project increased from 10 to over 40.
- Instigated, defined and managed a feasibility study involving HW and SW engineers, as essential preparation for the development of a dual mode GSM/UMTS radio modem platform.

Senior/Principal Standards Engineer 12/96 – 04/00

Mission: To support Samsung standards and development activities in ETSI and 3GPP.

Key Tasks:

- Gathered and disseminated information throughout Samsung concerning latest specifications and trends in telecommunications, providing advice to Senior Management on future strategies for telecommunications development.
- Acted as sole Samsung representative in ETSI TC SMG2 from December 1996 and during the selection phase for the UMTS Radio Acces Technology providing training for Samsung engineers on elaborated technologies
- Participated in 3GPP TSG RAN WG1 (UTRA Physical Layer), and RAN WG2 (L2/3) contributing specifically in areas related to FEC, Common Packet Channel, and Transmit Diversity
- In 3GPP TSG T WG2 I initiated and acted as rapporteur for the UE capabilities work item. I also acted as liaison officer between TSG T WG2, TSG RAN WG1 and TSG SA WG1 (Service Aspects) on issues of common interest
- Acted as main spokesperson for and advisor on Samsung strategic activities in, 3GPP TSG RAN from 3GPP's creation until April 2000
- Acted in a consultative capacity advising the company on technical, commercial and regulatory issues relating to 3rd generation telecommunications development and implementation.
- Developed and promoted programme to co-ordinate standards activities throughout Samsung. – Samsung Global Standards Strategy Group established in September 1998.
- Attended ETSI TCs, SMG1, SMG4, SMG5, SMG7, SMG9 and SMG11 as required by Samsung to keep abreast of developments prior to establishment of 3GPP

Radiocommunications Agency 06/93 -11/96

HPTO Spectrum Engineer

- Responsible for the management of spectrum for use by PMR and Wireless LAN technologies.
- Defined and instigated development of an improved assignment methodology for Private Mobile Radio (PMR) channels, promoting increased quality and spectrum efficiency.
- Managed research projects involving the assessment and selection of bids from external companies, submitted under competitive tender.
- Represented the Agency in the National and International fora associated with the use of Land Mobile Radio, acting as rapporteur for PMR voice and data standards in ETSI Sub-Technical-Committee RES02, and as chairman of a sub-working group under ITU WP8A drafting the recommendation for use of the radio spectrum by Radio LANs.
- Involved in CEPT Spectrum Engineering Project Teams, dealing with spectrum for Narrow band PMR technology and co-ordination between that technology and T-DAB transmissions in Band III.
- Dispensed technical advice both within the Agency and to external customers, on national and international PMR standards, assessing requests for additional frequencies, and providing technical justification for assignments and wider spectrum policy

BBC Radio 11/89 – 05/93

Radio Operations Engineer

- Worked on projects requiring the design, development, maintenance and testing of equipment for use within the broadcasting chain.
- Responsible for acceptance testing of new studios for Radio 5, and in particular redesign of outside source circuits for the main sports continuity studio.
- Involved in acceptance testing for NICAM transmission routers. Designed and implemented modifications to synchronise transmission feeds, resulting in seamless switching between routers.

Education

1. MSC in Computer Science from the University of Kent

   Awarded (with distinction): 07/2006

   Dissertation title: Roles Variables and Program Analysis – Received prize for outstanding achievement

2. B.Eng. (Hons) in Electronic Engineering from the Polytechnic of Central London

   Awarded: 07/1989

3. In house and external technical and management training including: Learning Tree courses on System Analysis and Design, User Requirements, UML, and Project Management.
4. On-line courses from: Cousera, Udemy, and Zenva courses covering Machine Learning, Python, Data Science, and Natural Language Processing

Appendix 2

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THIRD GENERATION PARTNERSHIP PROJECT (3GPP)

PARTNERSHIP PROJECT DESCRIPTION

During the meeting held in Copenhagen, 2 - 4 December 1998 ARIB, ETSI, T1, TTA and TTC agreed this Partnership Project Description.

Petitioners' Exhibit 1014, p. 45
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Preamble

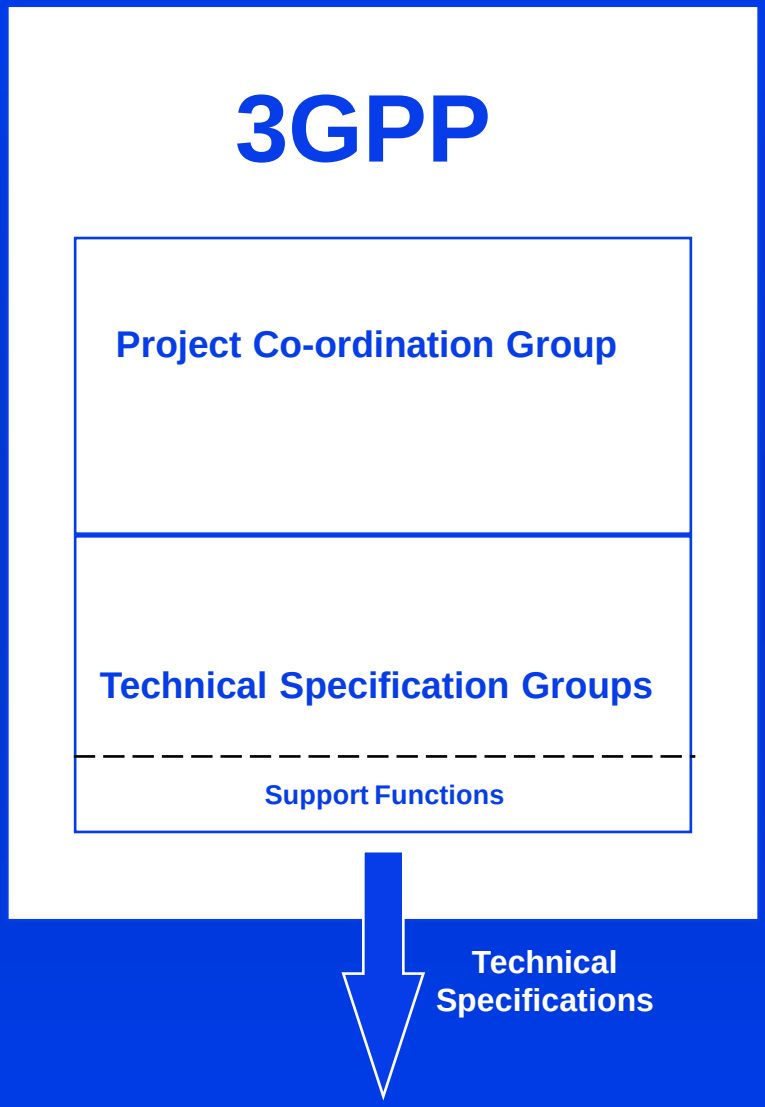
Standards organizations and other related bodies have agreed to co-operate for the production of a complete set of globally applicable Technical Specifications for a 3rd Generation Mobile System based on the evolved GSM core networks and the radio access technologies supported by 3GPP partners (i.e., UTRA both FDD and TDD modes).

The Project is entitled the "Third Generation Partnership Project" and may be known by the acronym "3GPP".

3GPP has been established for the preparation and maintenance of the above mentioned Technical Specifications, and is not a legal entity.

Petitioners' Exhibit 1014, p. 46
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3GPP Overview



Definition of the Third Generation Partnership Project

3GPP will provide globally applicable Technical Specifications for a 3rd Generation Mobile System based on the evolved GSM core network, and the Universal Terrestrial Radio Access (UTRA), to be transposed by relevant standardization bodies (Organizational Partners) into appropriate deliverables (e.g., standards).

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Scope and objectives (1)

The Technical Specifications will be developed in view of global roaming and circulation of terminals.

The 3rd Generation Mobile System and its capabilities will be developed in a phased approach. Initially, 3GPP will elaborate, approve and maintain the necessary set of Technical Specifications for the first phase of a 3rd Generation Mobile System including:

- **UTRAN (including UTRA; W-CDMA in Frequency Division Duplex (FDD) mode and TD-CDMA in Time Division Duplex (TDD) mode)**
- **3GPP Core Network (Third Generation networking capabilities evolved from GSM . These capabilities include mobility management and global roaming.)**
- **Terminals for access to the above (including specifications for a UIM)**
- **System and service aspects**

Petitioners' Exhibit 1014, p. 49
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Scope and objectives (2)

The set of global specifications for the first phase of the 3GPP core network and the specifications for the GSM core network should be common to the largest extent possible and should not be needlessly different.

The results of the 3GPP work will form the basis of member contributions to the ITU in accordance with existing procedures.

3GPP will take account of emerging ITU recommendations on interworking between IMT-2000 family members.

In the framework of agreed relationships, 3GPP will elaborate Technical Specifications that will form the basis of standards, or parts of standards, of the Organizational Partners.

Petitioners' Exhibit 1014, p. 50
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Characteristics of 3GPP (1)

3GPP is characterized by the following attributes:

- **Minimum production time for Technical Specifications from conception to approval**
- **Fast, electronic based approval process**
- **Maximum use of modern (electronic) working methods**
- **Minimum number of hierarchical levels with decision making taking place at the lowest appropriate levels**

Petitioners' Exhibit 1014, p. 51
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Characteristics of 3GPP (2)

- **A Project Co-ordination function and a Technical Specification function**
- **Task oriented, ensuring that on completion of the tasks the future of the project is re-evaluated**
- **Cost effective use of financial/human resources provided by Partner Organizations (if required)**

Petitioners' Exhibit 1014, p. 52
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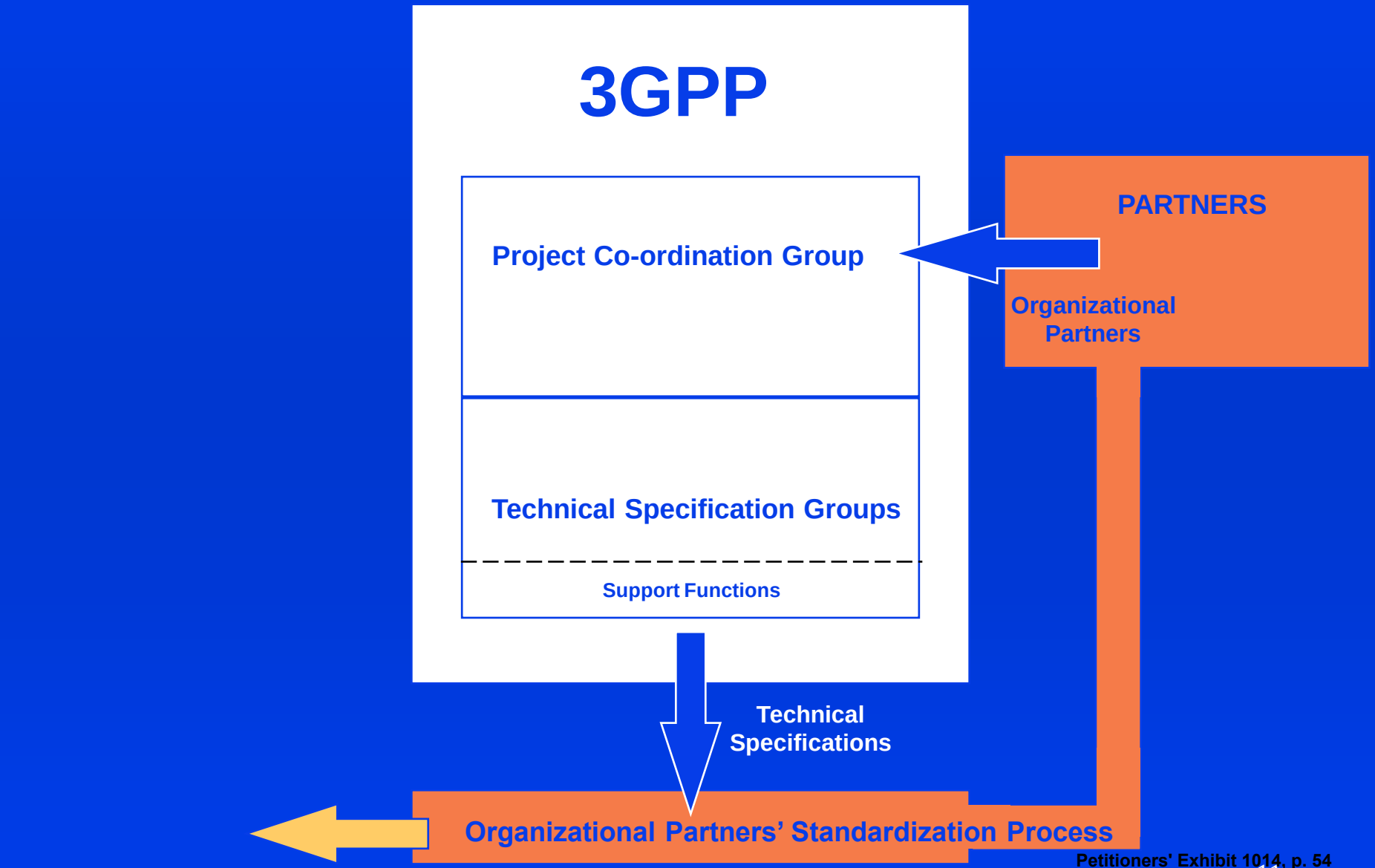
Partnership and Membership

3GPP comprises of:

- **Partners:**
  - **Organizational Partners**
    - **3GPP is open to all standards organizations irrespective of the geographical location.**
  - **Market Representation Partners**
- **Individual Members**

Petitioners' Exhibit 1014, p. 53
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Organizational Partners (1)



Petitioners' Exhibit 1014, p. 54
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Organizational Partners (2)

An Organizational Partner is:

An open standards organization with a national, regional or other officially recognized status (in their country or region)

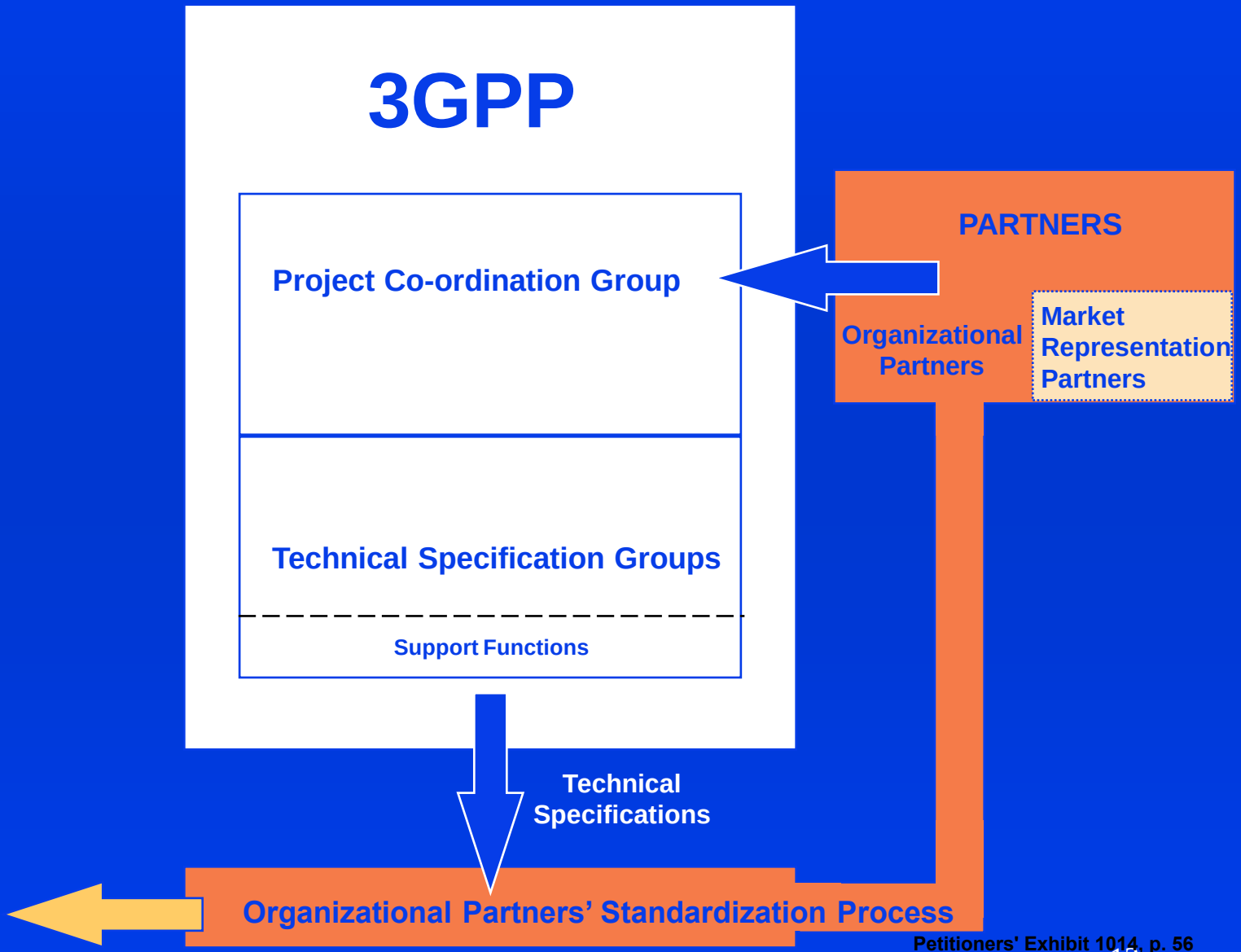
that:

- **has the capability and authority to define, publish and set standards nationally or regionally and**
- **has signed (or whose sponsor has signed) the Partnership Project Agreement**

Organizational Partners will meet as approriate and make decisions by consensus.

Petitioners' Exhibit 1014, p. 55
AT&T et al v. Innovative Sonic & Celerity
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Market Representation Partners (1)



Petitioners' Exhibit 1014, p. 56
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Market Representation Partners (2)

Standardization should meet market needs.

In order to identify market requirements, the high competence of Market Representation Partners should be used.

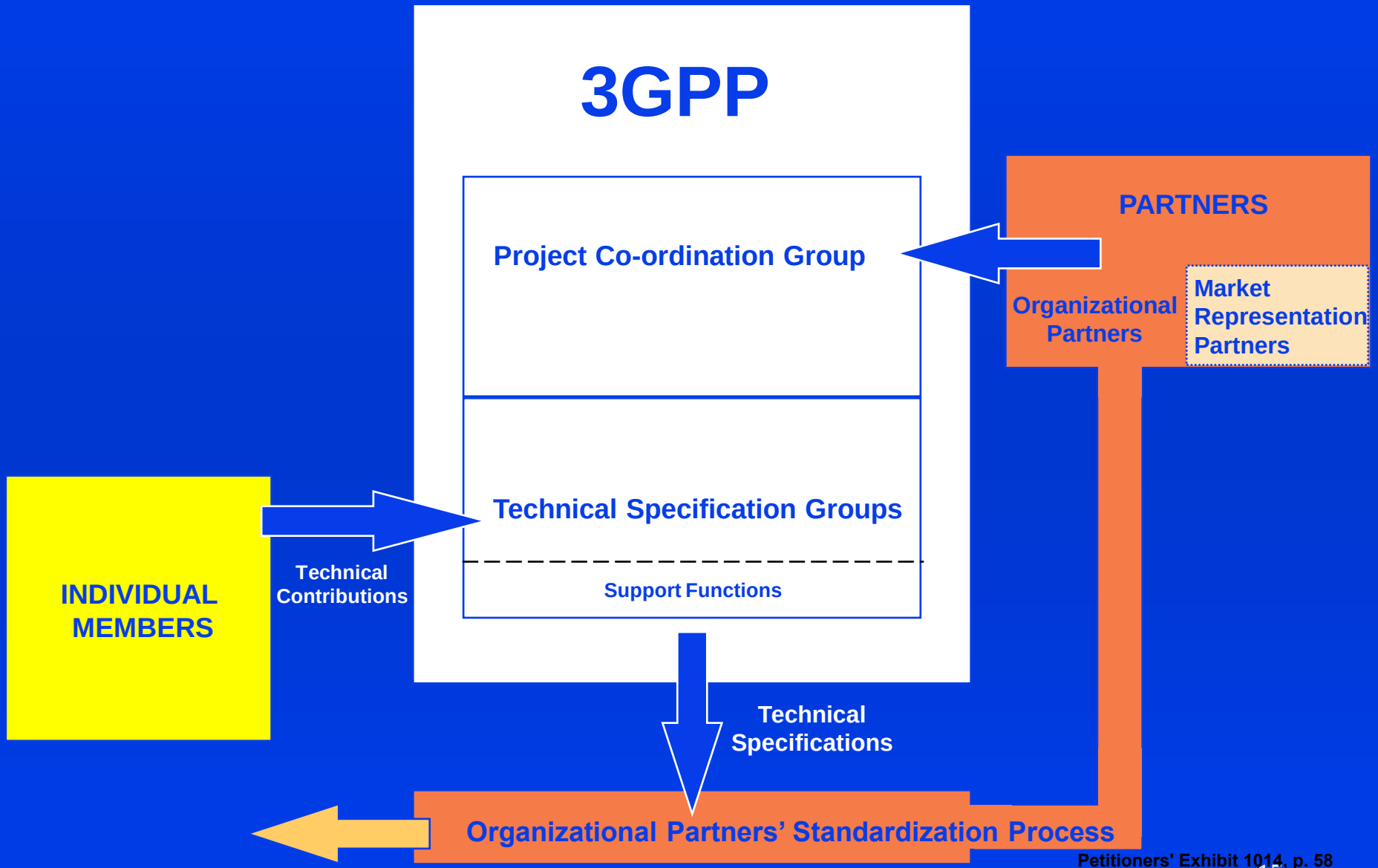
A Market Representation Partner is an organization invited to participate by the Organizational Partners to offer market advice to 3GPP and to bring into 3GPP a consensus view of market requirements (e.g. services, features and functionality) falling within the 3GPP scope.

A Market Representation Partner:

- **does not have the capability and authority to define, publish and set standards nationally or regionally**
- **has signed (or whose sponsor has signed) the Partnership Project Agreement**
- **has committed itself to the 3GPP scope**

Petitioners' Exhibit 1014, p. 57
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Individual Members (1)



Petitioners' Exhibit 1014, p. 58
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Individual Members (2)

Membership in an Organizational Partner is a pre-requisite for Individual Membership in 3GPP.

Individual Membership is open to legal entities committed to support 3GPP and to:

- **contribute technically or otherwise to one or more of the Technical Specification Groups within the 3GPP scope**
- **use the 3GPP results to the extent feasible**

Individual Membership in 3GPP will be terminated by dissolution, abolition, resignation or expulsion from the related Organizational Partner.

Petitioners' Exhibit 1014, p. 59
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Individual Members (3)

All entities registered as members of an Organizational Partner and eligible for participation in the technical work of that Partner, can become Individual Members of 3GPP. Individual members shall apply to their Organizational Partner to participate in 3GPP.

Individual Members act in the 3GPP in their own right; they carry the full responsibility for their contributions.

Individual Membership applicants residing in a country/area without an Organizational Partner can apply for membership in an Organizational Partner according to the rules of each Partner. (e.g. ETSI Associate Membership is available)

Petitioners' Exhibit 1014, p. 60
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Observership

In order to ensure globally applicable Technical Specifications, the status of "Observer" may be granted by the Organizational Partners to an entity which has the qualifications to become a future Organizational Partner. The status of "Observer" includes obligations to:

- **identify as early as possible any regulatory requirements that may lead to options within Technical Specifications**
- **make their IPR policy available for consideration**
- **contribute to the common objective of the 3GPP and avoid duplication of work related to the 3GPP**

The participation rights of an Observer will be decided on a case by case basis.

Petitioners' Exhibit 1014, p. 61
AT&T et al v. Innovative Sonic & Celerity
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The following 3 documents describe 3GPP:

- **The Partnership Project Agreement**
- **The Partnership Project Description (this present document)**
- **The Partnership Project Working Procedures**

The Partnership Project Agreement (1)

The Partnership Project Agreement is a concise legal document signed by participating Partners (or their sponsor).

It contains the minimum legal text necessary for 3GPP to function correctly.

The Partnership Project Agreement refers to the Partnership Project Description and the Partnership Project Working Procedures.

Petitioners' Exhibit 1014, p. 63
AT&T et al v. Innovative Sonic & Celerity
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The Partnership Project Agreement (2)

The Partnership Project Agreement includes obligations on Organizational Partners to commit themselves to the 3GPP scope:

- **to encourage their members to contribute to the common set of Technical Specifications and to avoid duplication of work**
- **to convert / transpose / adopt all relevant Technical Specifications resulting from 3GPP into their own relevant deliverables through their normal processes**
- **to identify as early as possible, any national / regional regulatory requirements that may lead to options within the Technical Specifications**
- **to make their IPR Policy available for consideration**

Petitioners' Exhibit 1014, p. 64
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The Partnership Project Agreement (3)

The Partnership Project Agreement includes obligations on Market Representation Partners to identify market and service requirement of 3GPP and to contribute to:

- **the promotion of 3GPP**
- **the definition of 3GPP System and Service scenarios**

The Market Representation Partners should also encourage their members to contribute to the common objectives of 3GPP and to avoid duplication of work.

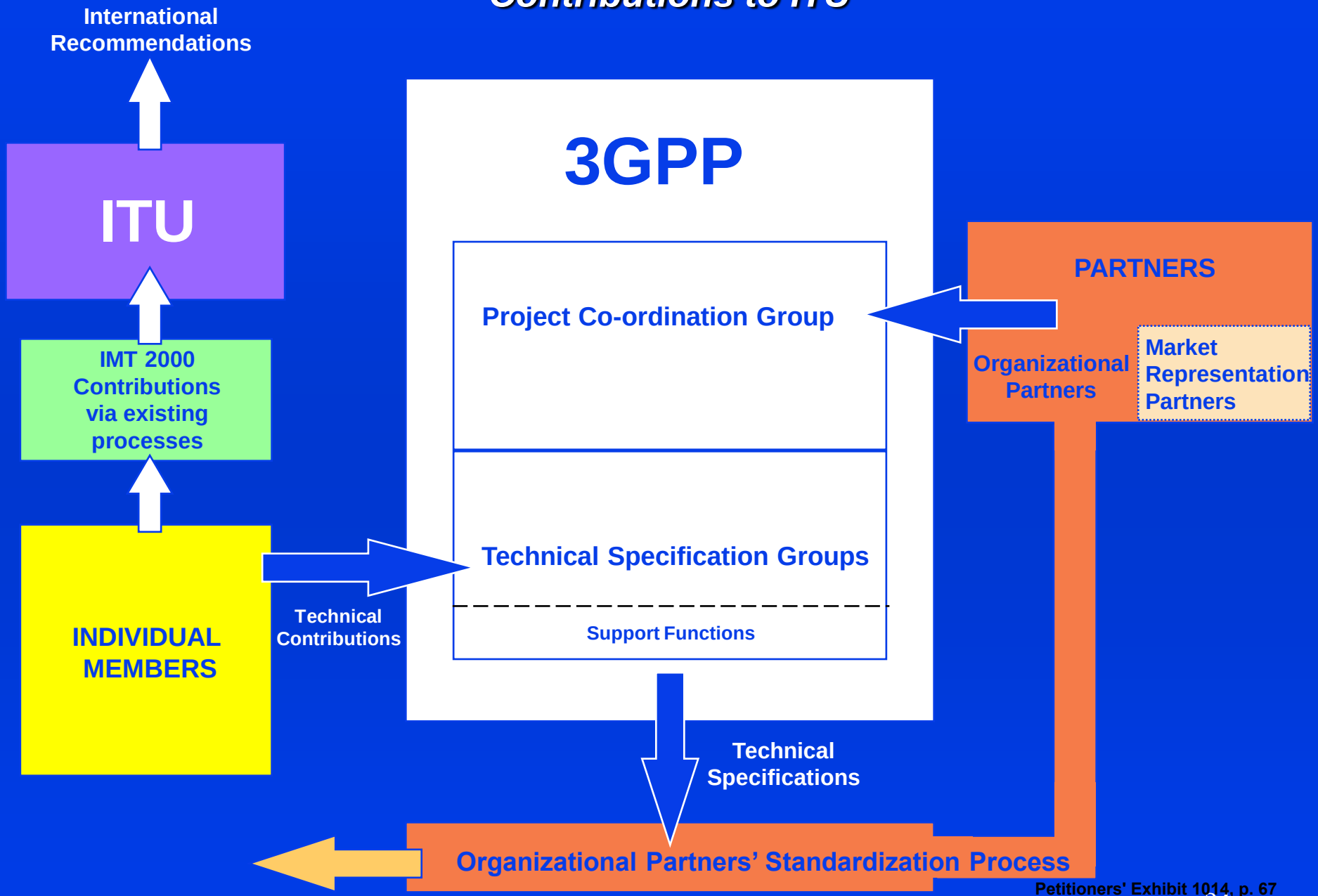
Petitioners' Exhibit 1014, p. 65
AT&T et al v. Innovative Sonic & Celerity
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Ownership of the Partnership Project results

The Organizational Partners of 3GPP will have joint ownership (including copyright) of the Technical Specifications.

Petitioners' Exhibit 1014, p. 66
AT&T et al v. Innovative Sonic & Celerity
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Contributions to ITU



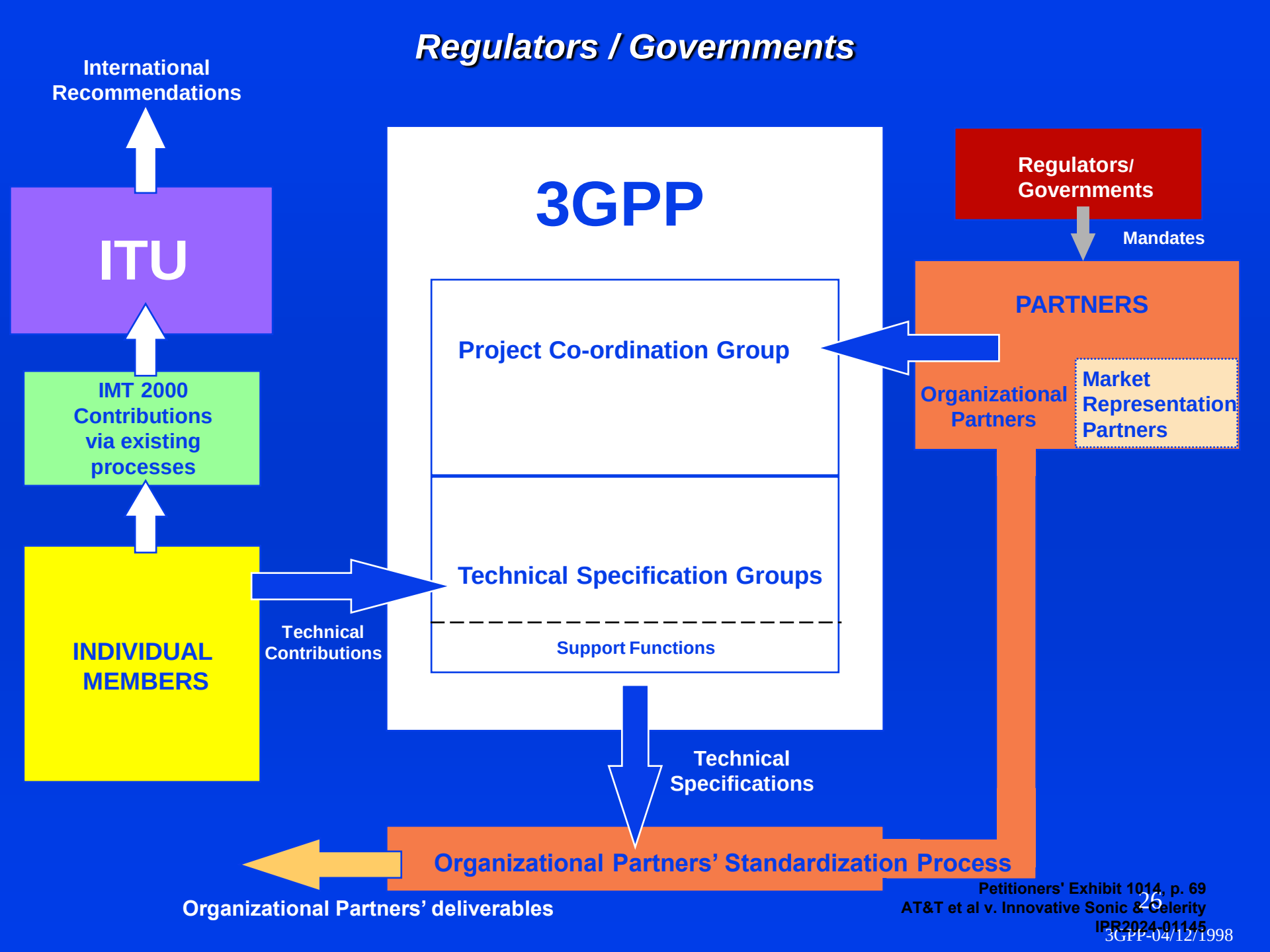
Petitioners' Exhibit 1014, p. 67
AT&T et al v. Innovative Sonic & Celerity
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Submission of 3GPP results to ITU

3GPP will not contribute directly to the ITU.

Formal contributions to ITU Study Groups are made by ITU members following existing national/regional processes.

Petitioners' Exhibit 1014, p. 68
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Petitioners' Exhibit 1014, p. 69
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National / regional regulatory requirements

Variations imposed by national / regional regulatory requirements will be included in the Technical Specifications as defined by the Technical Specification Groups.

Petitioners' Exhibit 1014, p. 70
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Resource requirements for establishing 3GPP

ETSI will absorb the initial cost of establishing the 3GPP, if required.

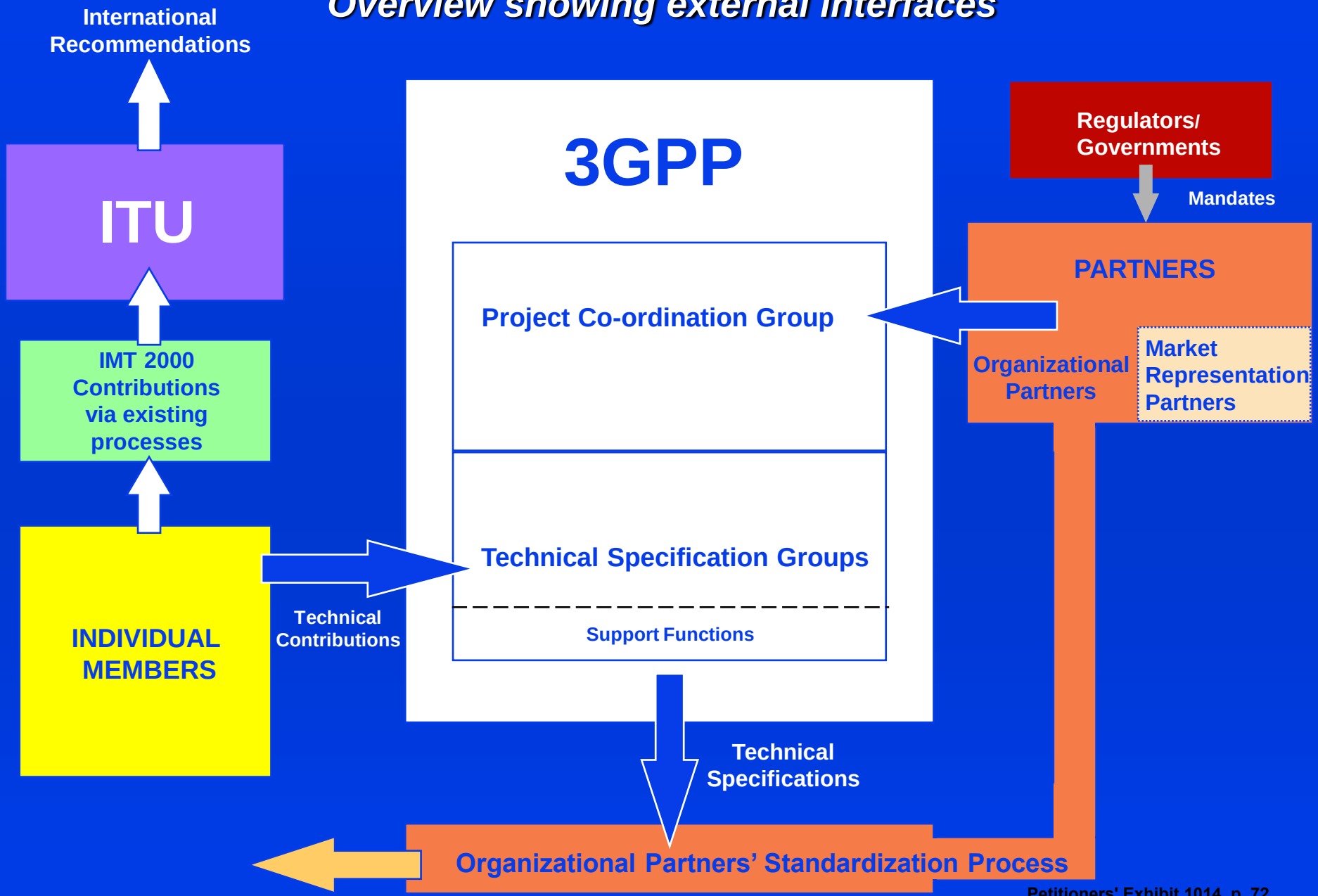
Thereafter, the costs will be shared by the Organizational Partners. There will be no direct 3GPP membership fee for Individual Members.

Partners and Individual Members may provide support functions to the extent that they are able (eg hosting of meetings and provision of Secretariat support).

The longer term financial requirements are for further study.

Petitioners' Exhibit 1014, p. 71
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Overview showing external interfaces



Petitioners' Exhibit 1014, p. 72
AT&T et al v. Innovative Sonic & Celerity
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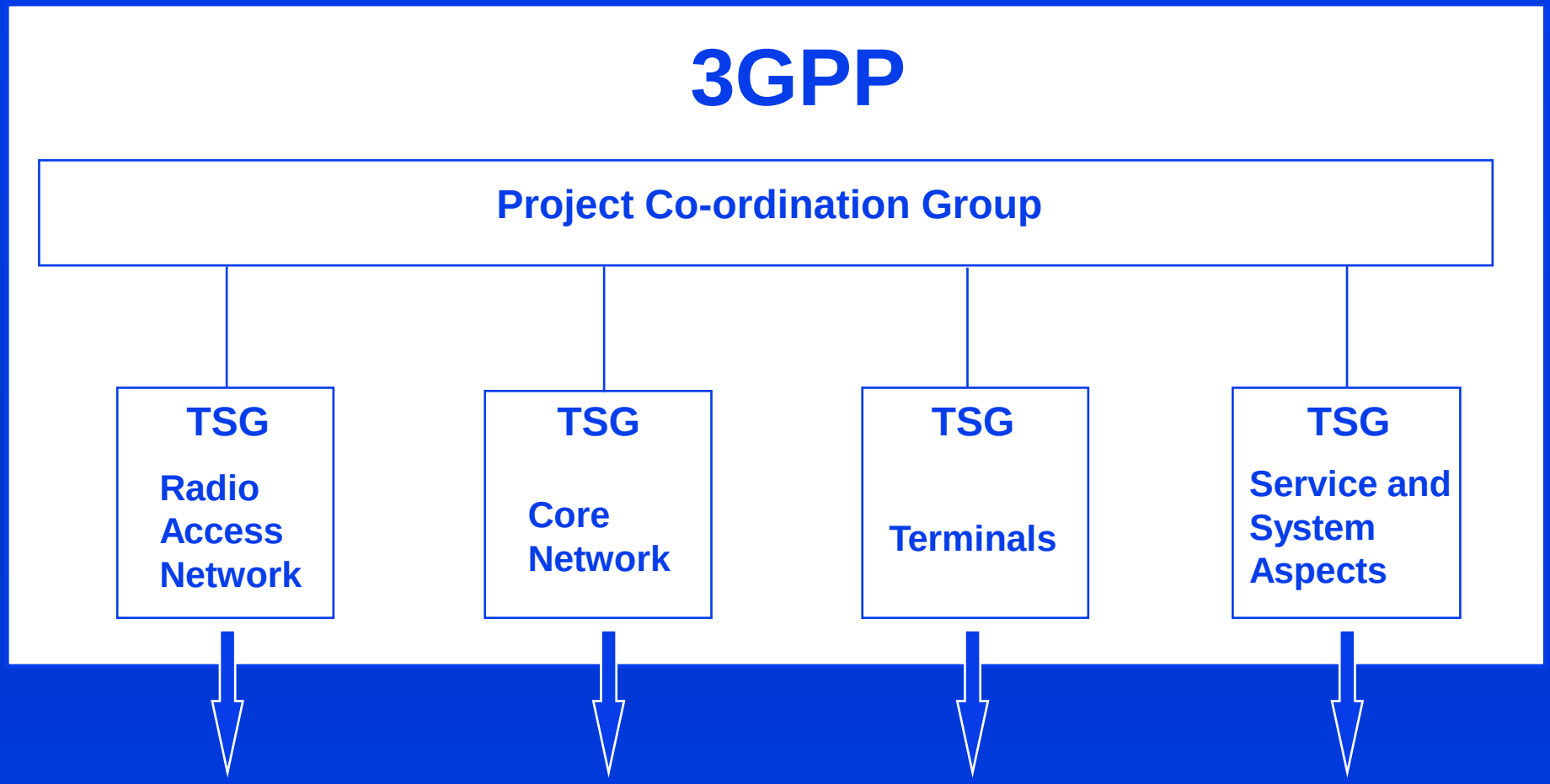
Internal structure of 3GPP (1)

3GPP consists of a Project Co-ordination Group (PCG) and Technical Specification Groups (TSGs).

To assist in the co-ordination of the technical activities, the TSGs are encouraged to meet at the same time and place, as and when appropriate (e.g. twice per year).

Petitioners' Exhibit 1014, p. 73
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Internal structure of 3GPP (2)



Petitioners' Exhibit 1014, p. 74
AT&T et al v. Innovative Sonic & Celerity
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Work areas to be covered by the Radio Access Network TSG

- Radio Layer 1 specification
- Radio Layer 2 specification
- Radio Layer 3 RR specification
- Iub specification
- Iur Interface
- Iu Interface
- UTRAN O&M requirements
- Base station radio performance specification
- Conformance test specification for testing of radio aspects of base stations
- Specifications for radio performance aspects from the system point of view

Petitioners' Exhibit 1014, p. 75
AT&T et al v. Innovative Sonic & Celerity
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Work areas to be covered by the Core Network TSG

- **Mobility management, call connection control signalling between the user equipment and the core network**
- **Core network signalling between the core network nodes. the signalling supports functionality such as user location information, subscription information and control of network services**
- **Definition of interworking functions between the core network and external networks**
- **Packet related questions such as mapping of QoS (e.g. transparency for IP domain applications, general for bearer types, special for optimized applications such as Voice over IP)**
- **Core network aspects of the Iu interface**
- **Core network O&M requiremnents**

Petitioners' Exhibit 1014, p. 76
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Work areas to be covered by the Terminal TSG

- **Service capability protocols**
- **Messaging**
- **Services end-to-end interworking**
- **USIM to Mobile Terminal interface**
- **Model/framework for terminal interfaces and services (application) execution**
- **Conformance test specifications of terminals, including radio aspects**

Petitioners' Exhibit 1014, p. 77
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Work areas to be covered by the Service and System Aspects TSG

- **Service capabilities**
  - **Definition of services and feature requirements**
  - **Development of service capabilities and a service architecture for cellular, fixed (and cordless) applications**

- **Stage one and two descriptions for:**
  - **Charging and accounting**
  - **Network Management**
  - **Security Aspects**

- **Architecture**
  - **Definition, evolution, and maintenance of overall architecture, including assignment of functions to particular sub-systems and identification of key information flows**
  - **In co-operation with other TSGs, define required services, service capabilities and bearer capabilities offered by the different sub-systems**

- **Codec aspects**
  - **Principles for definition of end-to-end transmission**
  - **Definition, evolution and maintenance of relevant specifications**

- **Project co-ordination**
  - **High level co-ordination of the work performed in other TSGs and monitoring of progress**

Petitioners' Exhibit 1014, p. 78
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Primary responsibilities of PCG and TSGs (1)

The primary responsibilities of PCG, TSGs and Organizational Partners are given in the following tables:

	Function	Org Partners collectively	PCG	TSGs
1	Approval of new Partners for 3GPP	X		
2	Approval of Organizational Partner funding requirements and contributions	X		
3	Allocation of human and financial resources provided by Partners to PCG	X		
4	Allocation of resources to TSGs		X	
5	Allocation of resources within TSGs			X

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Primary responsibilities of PCG and TSGs (2)

	Function	Org Partners collectively	PCG	TSGs
6	Allocation of voluntary human and financial resources by Market Representation Partners and Individual Members		X	X
7	Handling of appeals from Individual Members on procedural matters	2nd step	1st step	
8	Handling of appeals from Individual Members on technical matters		2nd step	1st step
9	Determine overall time frame and manage overall work progress		X	

Petitioners' Exhibit 1014, p. 80
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Primary responsibilities of PCG and TSGs (3)

	Function	Org Partner collectively	PCG	TSGs
10	Detailed time frame and manage detailed work progress			X
11	Approval of Technical Specifications			X
12	Proposal and approval of work items within the agreed scope and terms of reference			X
13	Final adoption of work items within the agreed scope and terms of reference		X	
14	Management of work items			X

Petitioners' Exhibit 1014, p. 81
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Primary responsibilities of PCG and TSGs (4)

	Function	Org Partners collectively	PCG	TSGs
15	Technical Co-ordination (System Aspects TSG will play a role here)			X
16	Appointment of Org Partners meeting Chairman (provided by host on a rotational basis)	X		
17	Appointment of PCG Chairman (for one year term)		X	
18	Election of TSG Chairman and Vice Chairmen			X
19	Creation of TSGs and approval of their terms of reference	X		

Petitioners' Exhibit 1014, p. 82
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Primary responsibilities of PCG and TSGs (5)

	Function	Org Partners collectively	PCG	TSGs
20	Creation of TSG working groups and approval of their terms of reference			X
21	Election of TSG Working Group Chairmen and Vice Chairmen			X
22	Confirmation of individual member participation rights	X		
23	Approval of 3GPP scope and terms of reference	X		
24	Maintain Partnership Project Agreement, Project Description and Working Procedures (consensus agreement by all Partners)	X		

Petitioners' Exhibit 1014, p. 83
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Participation rights in PCG and TSGs

The following have a right to participate in the PCG:

- **Representatives of participating Organizational Partners**
- **Representatives of participating Market Representation Partners**
- **Chairman and Vice Chairmen of the TSGs, as ex-officio members**

The following have a right to participate in the TSGs :

- **Representatives of members of participating Organizational Partners (i.e. Individual Members)**
- **Representatives of participating Organizational and Market Representation Partners**

Petitioners' Exhibit 1014, p. 84
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Principles for decision making within 3GPP

Decision making within PCGs

- **By consensus amongst the Organizational Partners**
- **By vote amongst the Organizational Partners in unavoidable cases**

Decision making within TSGs

- **By consensus amongst the Individual Members**
- **By vote amongst the Individual Members in unavoidable cases**

The Organizational Partners will conduct a fairness review of the decision making process six months after 3GPP start-up, taking into account all concerns raised

(Note: voting will not be permitted on National/Regional regulatory requirements)

Petitioners' Exhibit 1014, p. 85
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Principles for voting within TSGs

The following principles will be applied for voting within the TSGs

- **One "Individual company Member", one vote**
- **Organizational Partners to interpret " Individual company Member" according to its own rules of membership**
- **The PCG will maintain a register of eligible voters for the TSGs**
- **Each Individual Member may carry the proxy for up to five other Individual Members**

Petitioners' Exhibit 1014, p. 86
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Working language for 3GPP

The working language for 3GPP shall be English

- **Meetings of the PCG and TSGs shall be conducted in English**
- **3GPP Technical Specifications shall be prepared in English**

Petitioners' Exhibit 1014, p. 87
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Relationship with other groups

3GPP will establish and maintain good relationships with groups working on standards for other IMT-2000 family members.

Petitioners' Exhibit 1014, p. 88
AT&T et al v. Innovative Sonic & Celerity
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Intellectual Property Rights (IPR) Principles (1)

The Individual Members of 3GPP are bound by the IPR Policies of their respective Organizational Partner.

Individual Members are encouraged to declare at the earliest opportunity, any IPRs which they may have and believe to be essential, or potentially essential, to any work ongoing within 3GPP.

After comparing their respective IPR policies, ARIB, ETSI, T1, TTA and TTC have agreed that their IPR policies share common principles are quite similar and have agreed on the following additional principles to maximize the success of 3GPP.

Petitioners' Exhibit 1014, p. 89
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Intellectual Property Rights (IPR) Principles (2)

(i) **To encourage their respective members' declaration of willingness to grant licences on fair, reasonable terms and conditions on a non-discriminatory basis, and consistent with the respective Organizational Partners' IPR policies.**

(ii) **To encourage their respective members who may have IPR which they believe to be essential, or potentially essential, and are unwilling to license such IPR, that early indication of such unwillingness be provided to their respective Organizational Partners.**

(iii) **To understand that essential IPRs mean essential IPRs relative to any or all parts of the content of the 3GPP technical specifications.**

(iv) **A mechanism for exchanging information associated with the patent statement among the Organizational Partners will be introduced so that such information may be used when adopting relevant standards in each Partner Organization.**

Petitioners' Exhibit 1014, p. 90
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Appendix 3

Introducing 3GPP



The 3rd Generation Partnership Project (3GPP) unites seven telecommunications standard development organizations (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC), known as “Organizational Partners” providing their members with a stable environment to produce the Reports and Specifications that define 3GPP technologies.

3GPP specifications cover cellular telecommunications technologies, including radio access, core network and service capabilities, which provide a complete system description for mobile telecommunications. The 3GPP specifications also provide hooks for non-radio access to the core network, and for interworking with non-3GPP networks

The Project’s Scope

The original scope of 3GPP (1998) was to produce Technical Specifications and Technical Reports for a 3G Mobile System based on evolved GSM core networks and the radio access technologies that they support (i.e., Universal Terrestrial Radio Access (UTRA) both Frequency Division Duplex (FDD) and Time Division Duplex (TDD) modes).

The scope was subsequently amended to include the maintenance and development of the Technical Specifications and Technical Reports for evolved 3GPP technologies, beyond 3G.

- The latest 3rd Generation Partnership Project Agreement (Annex 42).
- The discussions that led to the signing of the 3GPP Project Agreement were recorded in a series of slides called the “Partnership Project Description” that describes the basic principles and ideas on which the project is based. The document has not been maintained since its first creation, but the principles within do still remain valid.

Petitioners' Exhibit 1014, p. 92
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Organizing the work

The 3GPP Working Procedures are the rule book of 3GPP, with sections covering:

- Description, Purpose, Scope and objectives
- Participation
- Structure
- Partners' collective responsibilities
- Project Coordination Group (PCG)
- Technical Specification Groups (Incl. Elections)
- Work Programme & technical co-ordination
- Deliverables (Technical Specifications and Technical Reports)
- Reporting

The 3GPP production of specifications and studies (TRs) are contribution-driven, by member companies, in Working Groups and at the Technical Specification Group (TSG) level. The Technical Specification Groups in 3GPP are:

- Radio Access Networks (RAN)
- Services & Systems Aspects (SA)
- Core Network & Terminals (CT)

The Working Groups, within the TSGs, meet regularly and come together for their quarterly TSG Plenary meeting, where their work is presented for information, discussion and approval. The last meeting of the week of TSG Plenary meetings is TSG SA, which also has responsibility for the overall coordination of the technical work and for the monitoring of its progress.

Generational Approach

The 3GPP technologies from these groups are constantly evolving through Generations of commercial cellular / mobile systems (see table below). With LTE and 5G work, 3GPP has become the focal point for the vast majority of mobile systems beyond 3G.

Although these Generations have become an adequate descriptor for the type of network under discussion, real progress on 3GPP standards is measured by the milestones achieved in particular Releases. New features

are 'functionality frozen' and are ready for implementation when a Release is completed. 3GPP works on a number of Releases in parallel, starting future work well in advance of the completion of the current Release. Although this adds some complexity to the work of the groups, such a way of working ensures that progress is continuous & stable.

Backward Compatibility

The major focus for all 3GPP Releases is to make the system backwards and forwards compatible where possible, to ensure that the operation of user equipment is uninterrupted.

For 5G, many operators are starting with dual connectivity between LTE and 5G NR equipment – using the 'Non-Standalone' work completed early in Release 15. In the process of completing the early drop of 5G NR care has been taken to build 'forward compatibility' into Non-Standalone NR equipment, to ensure that it will be fit for use on Standalone 5G NR systems.

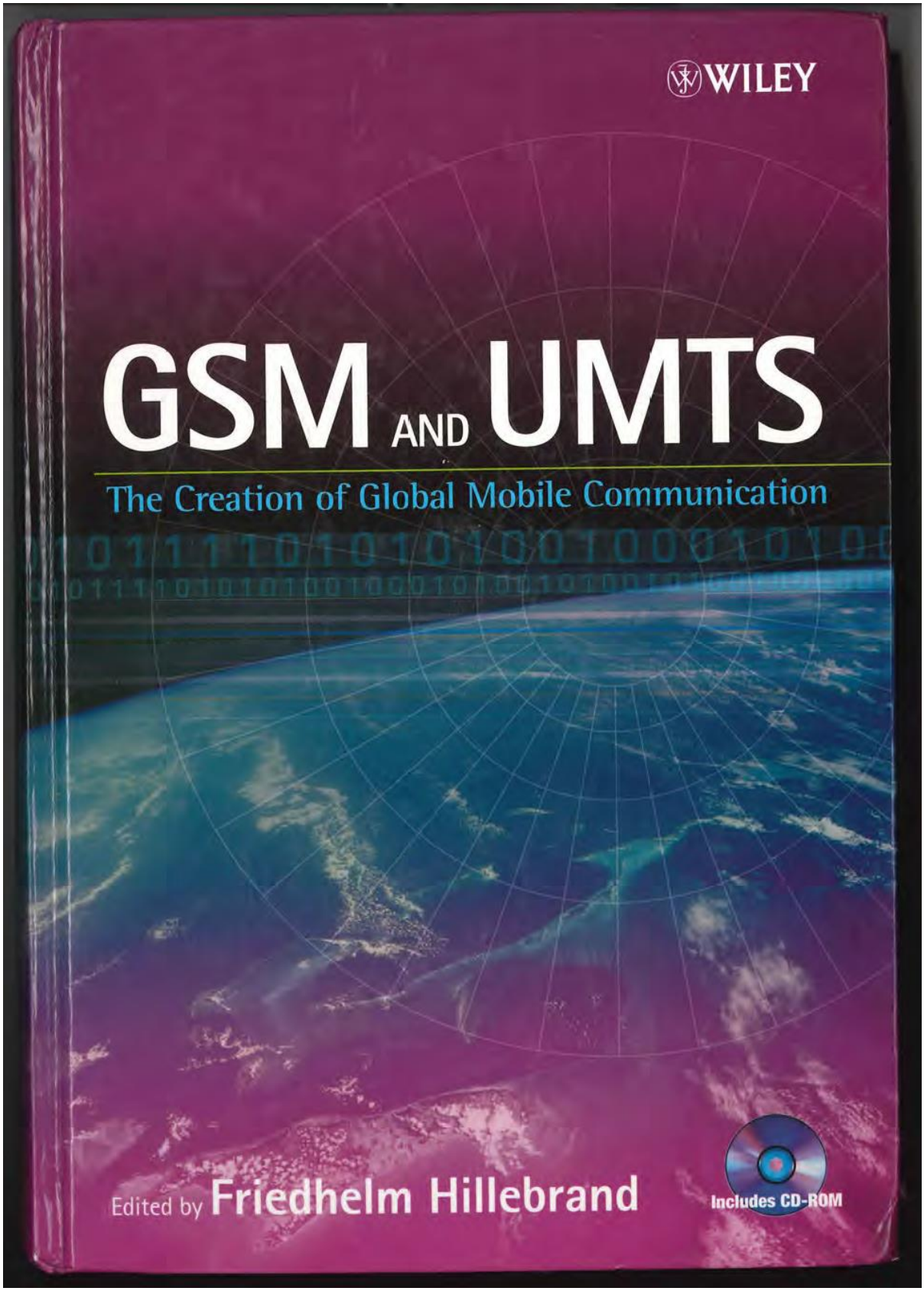
For details of the contents of each Release, see the appropriate 'Release Description' document or go to our dedicated Release page.

Details of all 3GPP Work Items are in the 3GPP Work Plan, which provides details of the cooperation between all of the 3GPP groups on "Features", defined as 'new or substantially enhanced functionality which represents added value to the existing 3GPP system'.

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Appendix 4



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GSM and UMTS

The Creation of Global Mobile Communication

Edited by

Friedhelm Hillebrand
Consulting Engineer, Germany

With contributions from 37 key players involved in the work for GSM and UMTS



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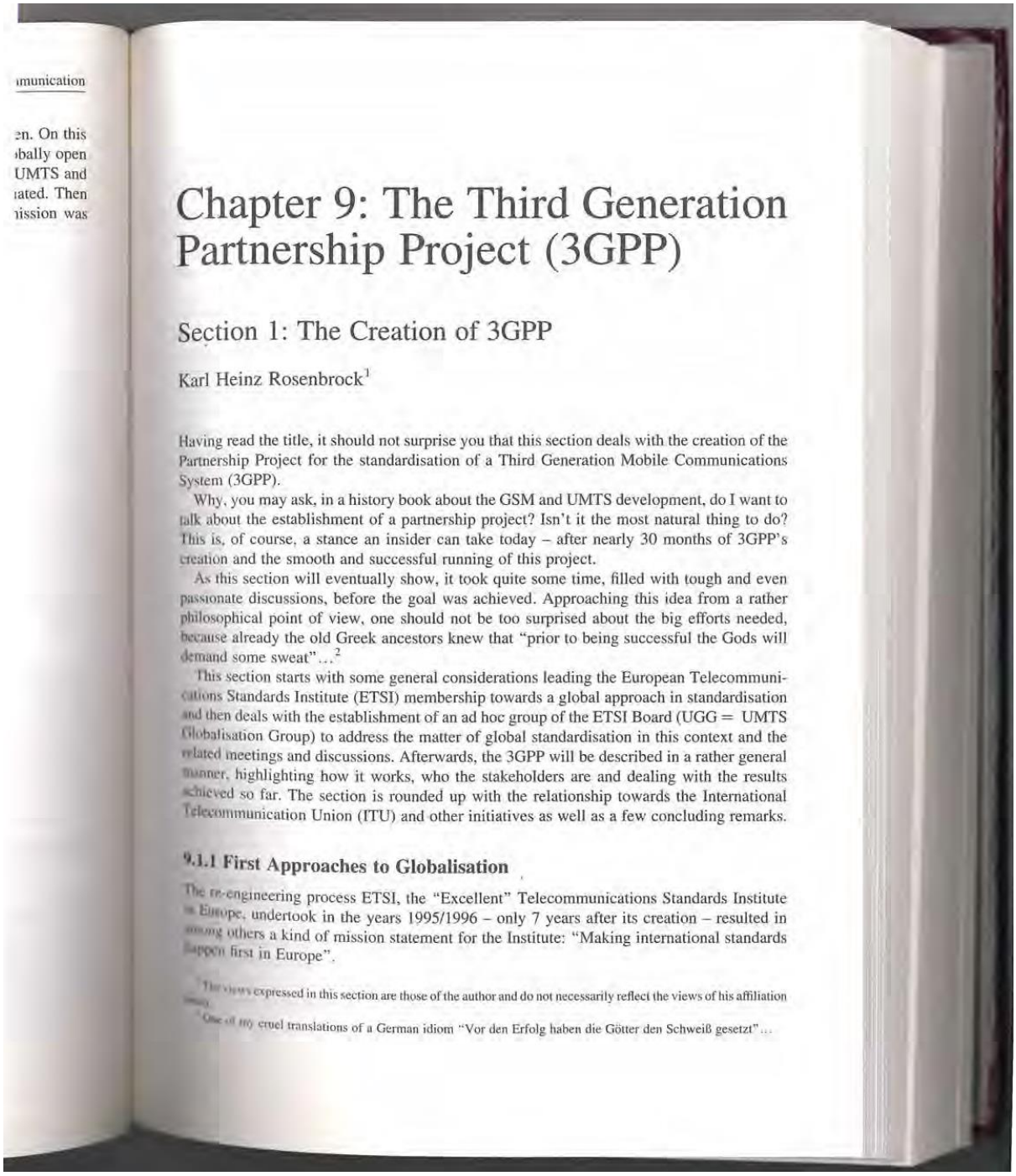
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Chapter 9: The Third Generation Partnership Project (3GPP)

Section 1: The Creation of 3GPP

Karl Heinz Rosenbrock[1]

Having read the title, it should not surprise you that this section deals with the creation of the Partnership Project for the standardisation of a Third Generation Mobile Communications System (3GPP).

Why, you may ask, in a history book about the GSM and UMTS development, do I want to talk about the establishment of a partnership project? Isn't it the most natural thing to do? This is, of course, a stance an insider can take today – after nearly 30 months of 3GPP's creation and the smooth and successful running of this project.

As this section will eventually show, it took quite some time, filled with tough and even passionate discussions, before the goal was achieved. Approaching this idea from a rather philosophical point of view, one should not be too surprised about the big efforts needed, because already the old Greek ancestors knew that "prior to being successful the Gods will demand some sweat"...[2]

This section starts with some general considerations leading the European Telecommunications Standards Institute (ETSI) membership towards a global approach in standardisation and then deals with the establishment of an ad hoc group of the ETSI Board (UGG = UMTS Globalisation Group) to address the matter of global standardisation in this context and the related meetings and discussions. Afterwards, the 3GPP will be described in a rather general manner, highlighting how it works, who the stakeholders are and dealing with the results achieved so far. The section is rounded up with the relationship towards the International Telecommunication Union (ITU) and other initiatives as well as a few concluding remarks.

9.1.1 First Approaches to Globalisation

The re-engineering process ETSI, the "Excellent" Telecommunications Standards Institute in Europe, undertook in the years 1995/1996 – only 7 years after its creation – resulted in among others a kind of mission statement for the Institute: "Making international standards happen first in Europe".

[1] The views expressed in this section are those of the author and do not necessarily reflect the views of his affiliation [illegible].

[2] One of my cruel translations of a German idiom "Vor den Erfolg haben die Götter den Schweiß gesetzt"...

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- unanimously requested the ETSI Board (through its UMTS Globalisation Group) to complete the negotiations with potential partners and to oversee the creation of the Partnership Project;
- unanimously requested the ETSI Board to agree and maintain on behalf of ETSI the final versions of the Partnership Project Description, the Partnership Project Working Procedures, and the Partnership Project Agreement;
- unanimously authorised the director-general to sign the Partnership Project Agreement.

9.1.2.4.14 Happy End in Copenhagen

It was in Copenhagen where the last 3GPP preparatory meeting with all six OPs took place on 2–4 December 1998.

Here, the final fine-tuning of the 3GPP documentation was achieved. In addition, the 3GPP agreement[8] was signed (in a nice framework provided by the host, TeleDenmark) by the following OPs: ARIB, ETSI, T1, TTA, and TTC.

Unfortunately, the partners from CWTS (China) were not authorised to sign the 3GPP agreement yet. Furthermore, owing to the fact that the UMTS Forum was unable to participate in Copenhagen, they were prevented from co-signing the 3GPP agreement as a first Market Representative Partner (MRP).

During that Copenhagen meeting, another discussion ensued about the role the MRPs should play. Finally, it was concluded that the high competence of MRPs should be used in order to identify market requirements, thus enabling 3GPP standardisation to meet the needs of the market. An MRP is an organisation invited by the OPs to participate in 3GPP with the objective of offering market advice to 3GPP and to bring into 3GPP a consensus view of market requirements.

9.1.3 What is 3GPP?

The 3GPP is a global standardisation initiative created in December 1998. Its task was to develop a complete set of globally applicable Technical Specifications for a third generation (3G) mobile telecommunications system based on the evolved GSM core network and an innovative radio interface known as UTRA. The Project is based on a concept devised by ETSI aimed at facilitating better co-operation between regional standards organisations, fora and other industry groupings. 3GPP is a collaborative activity between officially recognised SDOs, with the participation of other industry groups and individual members.

Partnership in 3GPP is open to all national, regional or other SDOs, irrespective of their geographical location – within the project the participating SDOs are referred to as OPs. The OPs may invite MRPs to participate: these may be any organisation from anywhere in the world that can offer market advice to 3GPP and bring a consensus view of market requirements that fall within the project's scope. Individual membership is open to companies and organisations within the communications industry that are active members of one of the OPs. The truly global nature and the breadth of the market interest in the task of specifying this 3G system is evident from the identity of the 3GPP partners (see further in sub-paragraph 9.13.2) and all agree that 3GPP is proving a highly successful initiative.

[8] The 3GPP Agreement and the 3GPP Project Description can be found on the attached CD-ROM in

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The 3GPP has no legal status. Ownership (including copyright) of the specifications and reports it produces is shared between the partners. The 3GPP process includes a conversion (transposition) of the project's output into official standards and reports by one or more of the OPs.

The specifications being prepared by 3GPP are evolved in part from the enormously successful GSM standard, which is currently (February 2001) serving over 400 million subscribers in more than 140 countries. Building on this massive installed base, the system being specified by 3GPP will be an attractive upgrade path for existing operators and users. It also has an assured compatibility with GSM – good news for both operators and users who are unable, or unwilling, to upgrade to 3G.

Paramount among the 3GPP specifications is the definition of UTRA, the innovative radio access technology that is the key to the new system's high data rates and dramatically improved performance. UTRA is spectrum-efficient and supports FDD and TDD modes. This interface has been accepted by ITU as a member of the IMT-2000 family – or more correctly, as *two* family members: IMT-DS, the FDD mode; and IMT-TC, the TDD mode. IMT-2000 family membership requires the ability for users to roam globally and seamlessly, which implies interoperability with other family members: 3GPP thus co-operates closely with the 3GPP2 project which is specifying another family member, a 3G CDMA system based on an evolution of the ANSI-41 architecture.

9.1.3.1 How Does 3GPP Work?

3GPP has been designed to minimise delays and inefficiencies. As a result, it has a "flat" organisational structure and a large degree of distributed autonomy. Overall project planning and co-ordination is the responsibility of the PCG, with input primarily from the OPs, guided by the MRPs. It is mainly at this level that regulatory requirements, provided by the telecommunications administrations and governments around the world, are taken into account.

The development of the specifications is performed by TSGs and their subordinate working groups. Here, the main participation is by technical experts from the individual members of the OPs. Individual members in their capacity as ITU members are also responsible for carrying the results of the 3GPP work to the ITU.

At the time of the creation, 3GPP had structured around four principal aspects of the 3G system being defined as TSGs:

- TSG CN: core network
- TSG RAN: radio access network
- TSG SA: services and systems aspects
- TSG T: terminals

Each TSG is authorised to develop and approve specifications and reports within its scope, and TSG SA also has a role of co-ordinating the work of the TSGs at a more detailed level than the PCG. The result is a process that is able to rapidly produce and approve specifications and reports in response to the needs of the market, although it is important to note that the deliverables do not have a formal status until they have been transposed by one or more of the OPs.

The formal status is necessary for regulatory and other purposes in the various regions, and all the OPs have committed themselves to complete this process rapidly. Each OP will apply

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its own procedures, appropriate to their respective regions. As the official European SDO within 3GPP, ETSI recognises the 3GPP output as ETSI Technical Specifications and ETSI Technical Reports without a need for any further endorsement within the Institute. This means that the 3GPP documents are published – within a matter of a few weeks – as identical text directly as ETSI deliverables. In addition, ETSI is transposing, i.e. adapting, a few of the initial 3GPP specifications into ENs for specific European regulatory requirements. This is happening in parallel with the publication of the initial Technical Specifications and will not impede the implementation of 3G in Europe.

9.1.3.1.1 Electronic Working

3GPP has taken a leading role in changing the traditional ways of standards making. A very heavy dependence is now placed on electronic working, both outside and within meetings, advancing a trend that started in ETSI a year or two ago. This means that paper copies of draft documents have been almost entirely eliminated, saving time and expense, and making a significant contribution to the environment.

Given that 3GPP has participants from all over the world, the use of the Internet, e-mail exploders and other such facilities have proved invaluable for distributing and sharing information, working drafts and so on. Delegates to meetings had already become used to downloading working documents from the Internet and having updates to the documents distributed in meetings on CD-ROM. But in recent months, in meetings around the world participants have experienced the benefits of a local area network (LAN) solution as the latest step in improving working methods. ETSI's headquarters premises already have LANs in all its meeting rooms, but most other venues currently rely on temporary LANs (wired or radio), using equipment and support kindly donated by individual members.

Such facilities permit delegates to access all the meeting documents electronically from their laptop computers. As a result, the huge burden of producing paper copies (as many as 10 000 pages per delegate for some meetings) can be eliminated. Delegates can access new documents as soon as they are available, rather than having to wait for paper copies to be made or for the documents to be distributed by other means, such as diskette or CD-ROM.

9.1.3.1.2 Project Support

For administrative and support purposes the 3GPP Partners have established a Mobile Competence Centre (MCC) which is hosted by ETSI at its premises in Sophia Antipolis, Southern France. The MCC was created in March 1999 to provide support not only to the 3GPP but also to ETSI's own studies in mobile technologies. A full description of MCC including the financing is given in Chapter 15, Section 3.

9.1.3.2 Who are the Stakeholders in 3GPP?

3GPP has attracted a very strong commitment from organisations and companies around the world, reflecting the truly global nature of the project. There are currently six OPs (in alphabetical order):

- The Association of Radio Industries and Businesses (ARIB), Japan

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being TD-SCDMA, proposed by CWTS. A similar group, 3GPP2, is preparing the cdma2000 specifications, UWC-136 TDMA specifications are being developed principally by UWCC, and DECT specifications are defined by a set of ETSI standards (Figure 9.1.1).

Since the UWCC and ETSI are both partners in 3GPP (as an MRP and OP respectively), there is direct liaison between the Project and these two sources of specifications for other IMT-2000 family members.

When 3GPP and 3GPP2 were created it was felt that the interests of each group were sufficiently different to require them to remain separate but here again many of the OPs and MRPs are common to both groups, so there are natural channels for information exchange. Particular instances of formal co-operation between the groups were the two joint 3GPP-3GPP2 workshops held in 1999 to address the "Hooks and Extensions" issue aimed at ensuring interworking between the respective technologies.

In addition to all this, the 3GPP TSGs and their working groups are encouraged to liase directly with relevant technical bodies within the Project as well as among the Partners.

9.1.6 Conclusions

The attentive reader, and let's assume that you are one, may still be astonished to learn what big efforts have been necessary in order to establish 3GPP.

In the meantime, i.e. in the course of year 2000 nearly the whole work of the former ETSI TC SMG has been incorporated into 3GPP, to a large extent within the new TSG GERAN.

Well, our Japanese friends were not happy about this shift because they feared that it could result in delays in the 3G introduction in their country. They accepted this because a separate TSG for the GSM work was created.

Trying to recall the heated discussions within ETSI about the scope of 3GPP from 1998, one has to admit that such a move would have been violently rejected by a lot of ETSI members, maybe even by the majority. Using a philosophic approach, one can, of course, state that time helps healing (even wounds).

Today, i.e. February 2001, we can conclude from ETSI's point of view that all standardisation work related to further evolution of the second generation mobile system, i.e. GSM, and to UMTS is being done well within 3GPP. Thus, the objective to avoid parallel work within ETSI TBs and 3GPP has been fully achieved.

The ability of organisations and individuals around the world to co-operate and make available a full set of stable, agreed 3GPP specifications in 1 year is a remarkable achievement, one that is unprecedented in the world of standardisation. 3GPP meetings have taken place in many parts of the world, emphasising the strong commitment of the SDOs from China, Europe, Japan, Korea and the US. The MRPs have also lent very strong support to the work. Thanks to this widespread and determined commitment it has been possible to meet the very aggressive targets for 3G.

But Release 99 was only the first step – the workload has continued to intensify this year, as the initial specifications are refined and many new ones added, opening the path to full, seamless, global 3G services, changing forever the way that people communicate.

In the meantime, 3GPP has changed the designation of the releases and dropped to mention the year in order to avoid irritations and wrong expectations. Release 99 was first established in December 1999 and got its maturity in the course of year 2000. In 2000, more than 5700 change requests were implemented. The next big event will be Release #4 as a result of the

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series of TSG meetings scheduled for March 2001 in Palm Springs, US. This will obviously result in a further stabilisation and extension of the UMTS specifications.

3GPP is running very well. The individual members from the six OPs seem to be very satisfied with this arrangement – and the production line is in full swing.

Without exaggeration, one can give 3GPP the attribute of a success story. One may quote again here Mr Ed Roney who even addressed the 3GPP concept – prior to its realisation – as a "paradigm shift".

As the results of the GSM and UMTS related standardisation work represent a great part of ETSI's deliverables, it might be justified to note here that during the year 2000, ETSI published more than seven new deliverables each working day (Monday through Friday), i.e. one deliverable per hour!

Further information may be found on the 3GPP website at http://www.3gpp.org.

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Chapter 9: The Third Generation Partnership Project (3GPP)

Section 2: UMTS in 3GPP (December 1998–May 2001)

Niels Peter Skov Andersen[1]

9.2.1 A Change of Environment

In the period 1982 until end of 1998 the work on the GSM standard, and in the later part of the period on UMTS, had been performed in the same environment, starting under CEPT and later transferred into ETSI. The Technical Committee GSM, during this period renamed to SMG, and its working groups (Sub Technical Committees) had continuously existed and evolved. The same was the case for the working methods and procedures used within the work. Over time with the success of the GSM system more and more interested parties became involved in the work including parties from outside the original CEPT area. However, this was all a relatively slow evolution and no major revolutions in the organisation or the working methods occurred in this period.

After all these years of continuity in the work the discussions around the creation of 3GPP and the decision to establish 3GPP for the initial phase of UMTS[2] naturally created some uncertainty amongst the members of SMG. Especially the resulting split of the GSM standardisation, with the responsibility for the GSM core network transferred to 3GPP, but the responsibility for the GSM radio access Network maintenance remained in ETSI in SMG. This caused some concern amongst many delegates. Also the internal structure for the technical work within 3GPP was different from the well-known structure in SMG. SMG was based on a technical plenary with a number of working groups (SMG1, SMG2, ..., SMG12) performing the detailed technical work. The SMG plenary was the approving authority for the results of the work performed by the working groups. Also the plenary was the group responsible for approval of all new work items and the content of the releases. The structure for the work in 3GPP, as agreed by the partners, was quite different. The project

[1] The views expressed in this section are those of the author and do not necessarily reflect the views of his affiliation [illegible].

[2] The term UMTS is throughout this section used to keep consistency of terminology with the other chapters and sections. The term UMTS do not appear in the in 3GPP agreement, which defines the system as a third generation mobile system based on an evolved GSM core network and UTRAN (including UTRAN (FDD and TDD modes)).

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was organised with four equal Technical Specification Groups (TSGs), who had complete autonomy for their area of responsibility, i.e. they were responsible for approval of new work items and final approval of deliverables. The four technical groups originally defined were:

TSG CN	Responsible for the core network development
TSG-RAN	Responsible for the radio access network based on UTRAN (FDD and TDD modes)
TSG-SA	Responsible for services and system aspects
TST-T	Responsible for Terminal and UIM

In addition to the technical groups the 3GPP organisation has a Project Coordination Group (PCG). However, the role of this PCG cannot be compared to the role the SMG plenary played. The SMG plenary was an open technical group with the approving authority in all technical questions including approval of new work items. The 3GPP PCG is a closed group with a defined membership consisting of a limited number representative of each of the partners (SDOs, MRPs) and the leadership (chairman and two vice-chairmen) of each TSG. Thus as a closed group the role of the PCG becomes more like a board overlooking the overall well being of the project.

This structure made many long-term SMG delegates concerned about how the overall coordination of the project could be ensured. This new structure was not introduced to overcome known deficits of the SMG organisation, but in my opinion, by political considerations to ensure than no single individual, individual member, organisational partner could obtain a controlling position in the project.

9.2.2 The First Two TSG Meetings

The inauguration meeting of the 3GPP TSGs was held in December 1998 in Sophia Antipolis, France. In the process of creation of 3GPP this was the first time that the 3GPPs real work force – the technical experts – met. The main objectives for this first meeting was to get the work started. One of the elements of the meeting was a presentation from the different partners on the status of their work on the third generation mobile system, the work, which they now were in the process of handing over to 3GPP.

Listening to the presentations and the discussions during the breaks it was very obvious that the background for standardization amongst the delegates was quite different. As an example, I remember that during the coffee break just after I, as chairman of ETSI SMG2, had presented the status of the UMTS radio work in ETSI, and had ended my presentation by stating that the UMTS radio work would only be on the agenda of one more meeting of ETSI SMG2. This was in order to complete the documentation to be handed over to 3GPP and then the work on UMTS radio in ETSI would cease, a small group of non-ETSI delegates came to me and asked "if all work on UMTS radio in ETSI ceases, how do the Europeans then co-ordinate their views on 3GPP?" Coming from the ETSI SMG background this was a completely unexpected question, as the working procedures for 3GPP were very similar to those of ETSI, it was clear to me that the contributions to 3GPP in general should come from the individual members – the companies, regulators etc. – in their own name and not as regional contributions. I explained this, but I also understood that for delegates with a background in international standardization from, e.g. ITU this was the normal way of thinking. During the

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Annex 2: Organisation Evolution of the Technical Groups

Section 3: 3GPP

Adrian Scrase[1]

A2.3.1 December 1998 to Mid-1999

During the preparatory talks that led to the creation of 3GPP, many discussions took place to find the optimum organizational structure. The ETSI TC SMG model had worked well for many years and it was very tempting to adopt a similar structure and just widen the sphere of participation. However, some voices called for a more radical approach in order to streamline the structure and to reduce the time taken for specifications production. As a result of these discussions, the following key principles were established on which 3GPP was structured:

- Minimum number of hierarchical levels;
- Large degree of distributed autonomy;
- Clear separation of technical activities from political and administrative activities.

When 3GPP was created, four Technical Specification Groups (TSGs) were formed to undertake the preparation of technical specifications. The four TSGs were as follows:

- TSG CN – core network
- TSG RAN – radio access network
- TSG SA – services and system aspects
- TSG T – terminals

Each of the TSGs was authorized to develop and approve specifications and reports within its terms of reference. This represented a departure from the more traditional approach where a single entity (i.e. a plenary) within a project has the authority to approve a project's output. It was believed that by distributing the approval authority, the time taken to produce specifications would be reduced since this effectively removes one level of hierarchy from the approval procedure. However, it was apparent from the outset that distributing the approval of specifications would lead to a greater requirement for technical co-ordination and thus TSG SA was tasked to perform a co-ordination role across all TSGs. This co-ordination role

[1] The views expressed in this section are those of the author and do not necessarily reflect the views of his affiliation entity.

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Appendix 5

Third Generation Partnership Project

3GPP

Working Procedures

23 April 2010

Deleted: 12 August 2009

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Foreword

These Working Procedures of the Third Generation Partnership Project (3GPP) are effective from 23 April 2010.

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An electronic version of these Partnership Project Working Procedures is available from the following address:

http://www.3gpp.org

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SECTION A: GENERAL

Article 1: Description

The Partnership Project is not a legal entity but is a collaborative activity between the following recognized Standards Development Organizations:

ARIB (Japan)

CCSA (China)

ETSI (Europe)

ATIS (US)

TTA (Korea)

TTC (Japan)

The Partnership Project is entitled the "THIRD GENERATION PARTNERSHIP PROJECT" and may be known by the acronym "3GPP".

Article 2: Purpose

The purpose of 3GPP is to prepare, approve and maintain globally applicable Technical Specifications and Technical Reports for

- a 3rd Generation Mobile System based on the evolved GSM core network, and the Universal Terrestrial Radio Access (UTRA),
- further development of radio technologies such as LTE, coupled with evolution of core network elements such as the Evolved Packet Core (EPC),
- continuing evolution of the 2nd generation GSM/EDGE Radio Access Network (GERAN),

to be transposed by the Organizational Partners into appropriate deliverables (e.g., standards).

Article 3: Scope and objectives

The 3rd Generation Mobile System and its capabilities shall be developed in a phased approach. Initially, 3GPP shall prepare, approve and maintain the necessary set of Technical Specifications and Technical Reports for a 3rd Generation Mobile System including:

- UTRAN (including UTRA; in Frequency Division Duplex (FDD) and Time Division Duplex (TDD) modes);
- 3GPP Core Network (Third Generation networking capabilities evolved from GSM. These capabilities include mobility management, global roaming, and utilisation of relevant Internet Protocols);
- Terminals for access to the above (including specifications for a UIM); and
- System and service aspects.

3GPP shall prepare, approve and maintain the necessary set of Technical Specifications and Technical Reports for:

- the Global System for Mobile communication (GSM) including GSM evolved radio access technologies (e.g., General Packet Radio Service (GPRS) and Enhanced Data rates for GSM Evolution (EDGE)).

3GPP shall consider the long term evolution.

The Technical Specifications and Technical Reports shall be developed in view of global roaming and circulation of terminals.

The set of 3GPP Technical Specifications and Technical Reports for the 3GPP core network and the specifications for the GSM core network should be common to the greatest extent possible and should not be unnecessarily different.

Options in the form of a regulatory requirement particular to one or more regions / nations shall be included in 3GPP specifications. TSGs should not debate the inclusion or rejection of such options.

The results of the 3GPP work shall form the basis of member contributions to the ITU in accordance with existing procedures.

3GPP shall take account of emerging ITU recommendations on interworking between IMT-2000 family members.

In the framework of agreed relationships, the 3GPP Technical Specifications and Technical Reports will form the basis of standards, or parts of standards, of the Organizational Partners.

SECTION B: PARTICIPATION

Article 4: Categories

Participation in 3GPP shall be classified into one of the following categories:

- Partners;
- Individual Members;
- ITU Representatives;
- Observers;
- Guests.

Article 5: Partnership

Partners in 3GPP shall be classified into one of the following two categories:

- Organizational Partners;
- Market Representation Partners.

Article 6: Organizational Partnership

Organizational Partnership is open to any Standards Organization, irrespective of its geographical location, which has:

- a national, regional or other officially recognized status and the capability and authority to define, publish and set standards within the 3GPP scope, in that nation or region;
- an Intellectual Property Rights (IPR) Policy which is compatible with those of the Organizational Partners;
- committed itself to all or part of the 3GPP scope;
- signed the Partnership Project Agreement.

Standards Organizations may apply to become an Organizational Partner by writing to any of the existing Organizational Partners.

Article 7: Market Representation Partnership

The Organizational Partners may invite Market Representation Partners to take part in 3GPP.

An invitation for Market Representation Partnership is open to any organization, irrespective of its geographical location, which:

- has the ability to offer market advice to 3GPP and to bring into 3GPP a consensus view of market requirements (e.g., services, features and functionality) falling within the 3GPP scope;
- does not have the capability and authority to define, publish and set standards within the 3GPP scope, nationally or regionally;
- has committed itself to all or part of the 3GPP scope;
- has signed the Partnership Project Agreement.

Organizations may apply to become Market Representation Partners by writing to any of the existing Partners. Further guidance for MRP applicants can be found in Annex E.

Article 8: Individual Membership

Membership in an Organizational Partner is a pre-requisite for Individual Membership of 3GPP. All entities registered as members of an Organizational Partner and eligible for participation in the technical work of that Organizational Partner, can become Individual Members of 3GPP if they are committed to support 3GPP and:

- to contribute technically or otherwise to one or more of the Technical Specification Groups within the 3GPP scope;
- to use the 3GPP results to the extent feasible.

An Individual Member has the right to participate in the work of 3GPP by attending meetings of the Technical Specification Groups and subtending groups.

Applications for Individual Membership of a Technical Specification Group shall be made in writing to the relevant Organizational Partner using the form given at **Annex C**. Applications may also be made on-line using the template available at http://www.3gpp.org.

Individual Members act in 3GPP in their own right and carry the full responsibility for their contributions.

Article 9: Termination of Individual Membership

Individual Membership of 3GPP may be terminated by dissolution, abolition, resignation or expulsion from the related Organizational Partner.

Article 10: Observers and Guests

The status of Observer may be granted by the Organizational Partners to an entity which has the qualifications to become a future Partner.

An Observer may send a single representative to an Organizational Partners or PCG meeting. An Observer may also have representatives at TSG meetings. Representatives of Observers may receive documents and contribute documents for information, but shall not submit documents that propose changes to the specifications, reports, work item descriptions, work plan, or any other document under the control of the TSG. Observers shall not take part in decision making or hold any leadership positions.

Additional participation rights of an Observer shall be decided by the Organizational Partners on a case-by-case basis.

The status of Guest may be granted for a limited period, by the Organizational Partners to an entity which has the qualifications to become a future Individual Member. The limited period shall be decided by the Organizational Partners on a case-by-case basis.

A Guest may have representatives at TSG and subtending group meetings. Representatives may receive documents but shall not take part in decision making, participate in discussions, contribute documents, or hold any leadership positions.

SECTION C: STRUCTURE

Article 11: Structure of 3GPP

3GPP shall consists of a Project Co-ordination Group (PCG) and Technical Specification Groups (TSGs). The Technical Specification Groups may establish Working Groups if required.

The Organizational Partners may decide to call a meeting of the full 3GPP membership if required.

SECTION D: PARTNERS' COLLECTIVE RESPONSIBILITIES

Article 12: Organizational Partners' Collective Responsibilities

The Organizational Partners shall determine the general policy and strategy of 3GPP.

In addition the Organizational Partners shall perform the following tasks:

- approval and maintenance of the 3GPP scope;
- maintenance the Partnership Project Description;
- taking decisions on the creation or cessation of Technical Specification Groups, and approving their scope and terms of reference;
- approval of Organizational Partner funding requirements;
- allocation of human and financial resources provided by the Organizational Partners to the Project Co-ordination Group;
- acting as a body of appeal on procedural matters referred to them.

Article 13: Collective responsibilities of all Partners

Organizational Partners and Market Representation Partners shall perform the following tasks:

- maintenance of the Partnership Project Agreement;
- approval of applications for 3GPP partnership;
- taking decisions relating to the dissolution of 3GPP.

SECTION E: PROJECT CO-ORDINATION GROUP (PCG)

Article 14: PCG tasks

The PCG shall perform the following tasks:

- appointment of PCG Chairman and Vice Chairmen;
- allocation of human and financial resources provided by Organizational Partners to TSGs;
- allocation of voluntary human and financial resources provided by Market Representation Partners and Individual Members;
- management of the 3GPP Support Team;
- handling of appeals from Individual Members on procedural matters referred to them;
- propose and approve modifications to the Partnership Project Working Procedures;
- handling of appeals from Individual Members on technical matters referred to them;
- determination of the overall time frame and manage overall work progress;
- final adoption of new and stopped work items proposed by the TSGs within the agreed 3GPP scope and objectives;
- when a work item is outside the scope of the 3GPP, and where a common global solution is desired, recommend how to achieve a global solution;
- appointment or dismissal of TSG Chairmen and Vice Chairmen, as proposed by TSGs based on election results. (The proposed candidate shall be appointed unless there are extraordinary reasons that prevent such an appointment, e.g., severe company or geographical imbalance within 3GPP. In such cases the TSG shall be requested to elect an alternative candidate. The decision not to appoint a candidate shall be made by consensus.);
- authorizing requests from the TSGs for approval to liaise with external organizations, and maintain a list of approved requests;
- maintenance of the register of Individual Members eligible to participate in 3GPP;
- maintenance of the register of IPR declarations relevant to 3GPP, received by the Organizational Partners.

The PCG may decide to call a meeting of the full 3GPP membership if required.

Article 15: PCG participation

The following shall have a right to participate in the PCG:

- Typically, a maximum of five representatives of each Organizational Partner (not counting the Chairman and Vice-Chairmen);
- A maximum of three representatives of each Market Representation Partner. (MRPs are however urged to limit their participation to one representative wherever possible.);
- The Chairmen and Vice Chairmen of the TSGs as ex-officio members;
- A maximum of three ITU representatives;
- One representative of each Observer.

Article 16: PCG appointment of Chairman and Vice Chairman

The PCG shall appoint their Chairman and Vice Chairmen from amongst the Organizational Partner representatives.

The Chairman and Vice Chairmen shall be appointed for a one year term of office.

The Chairman and Vice Chairmen shall normally serve one term of office. If no other candidates are available, the Chairman or Vice Chairmen may be appointed for a further term.

Successive Chairmen and Vice Chairmen should not be from the same Organizational Partner, the same region or from the same group of companies, unless no other candidate is available.

Article 17: PCG Chairman Responsibilities

The PCG Chairman is responsible for the overall management of the co-ordination work within 3GPP.

The Chairman has the overall responsibility to ensure that the Partnership Project Agreement, Partnership Project Description and Partnership Project Working Procedures are followed.

The Chairman may nominate officials to assist in the work.

The Chairman may be assisted by the Support Team.

The Chairman may delegate tasks to the Vice Chairmen.

In performing his tasks, the Chairman and Vice Chairmen shall maintain strict impartiality and act in the interest of the 3GPP.

Article 18: PCG meetings

A meeting of the PCG shall be held at least twice per year.

At least thirty days before the due date, a calling notice, draft agenda and supporting documents shall be issued.

Article 19: PCG decision making

In any meeting of the PCG, the quorum required for decision making shall be 50% of the total number of Organizational Partners. Proxies shall not be permitted.

The PCG shall endeavour to reach consensus on all issues. The views and opinions of the Market Representation Partners and the Chairmen and Vice Chairmen of the TSGs shall be taken into account during the consensus building process. If consensus cannot be achieved, the Chairman can decide to take a vote. The vote may exceptionally be performed by a secret ballot if decided by the PCG.

Each Organizational Partner shall have one vote. A proposal shall be deemed to be approved if 71% of the votes cast are in favour. Abstentions or failure to submit a vote shall not be included in determining the number of votes cast.

SECTION F: TECHNICAL SPECIFICATION GROUPS

Article 20: TSG tasks

The TSGs shall prepare, approve and maintain the 3GPP Technical Specifications and Technical Reports taking into account the market requirements provided by Market Representation Partners.

The TSGs shall also perform the following tasks:

- Propose to the PCG for appointment TSG Chairman and Vice Chairmen based on election results;
- Creation of TSG Working Groups and approval of their terms of reference;
- When a new Working Group is created, the appointment of TSG Working Group Convenor;
- Allocation of resources within the TSG;
- Allocation of voluntary human and financial resources provided by Market Representation Partners and Individual Members;
- Handling of appeals from Individual Members on technical matters;
- Preparation of a detailed time frame and management of detailed work progress;
- Management of work items;
- Technical Co-ordination;
- Proposal and approval of work items within the agreed scope and terms of reference of the TSG;
- Where a work item is outside the scope of the 3GPP, but a common global solution is desired, recommend an approach to the PCG;
- Assignment of work to Partners. (Specification development may be accomplished using various methods, including the assignment of work to Partners.);
- Maintenance of the list of Individual Members eligible to vote within the TSG (Voting Members).

Article 21: TSG participation

The following shall have a right to participate in the TSGs:

- Representatives of members of participating Organizational Partners (i.e. Individual Members);
- Representatives of Organizational Partners;
- Representatives of Market Representation Partners;
- Representatives of Observers;
- Representatives of Guests.

Article 22: TSG and WG election of Chairman and Vice Chairman

22.1 TSG elections

Regular TSG elections shall be held every two years in the first semester of odd numbered years.

The TSG Chairman and Vice Chairmen shall be elected by the Technical Specification Group from amongst the Individual Member representatives. Each TSG shall elect a maximum of three Vice Chairmen.

A candidate for election shall provide a letter of support from the Individual Member that he/she represents. Nominations may be made up to the point when an election takes place.

The Chairman and the Vice Chairmen shall be elected for a two year term of office. The Chairman and Vice Chairmen may offer themselves for election for a second consecutive term. Exceptionally, they may offer themselves for further consecutive terms, subject to the following:

- A two week deadline that expires at noon Central European Time on the Friday which falls between 20 and 14 days prior to the first day of the meeting at which elections are due to be held shall be established.
- A Chairman is not permitted to stand for another consecutive term if another candidate is announced via the 3GPP web site or via the relevant 3GPP email reflector prior to this deadline.
- A Chairman is not permitted to stand for another consecutive term until after this deadline.
- A Vice Chairman is not permitted to stand for another consecutive term in a Vice Chairman position for which there is a candidate announced via the 3GPP web site or via the relevant 3GPP email reflector prior to this deadline.
- A Vice Chairman is not permitted to stand for another consecutive term until after this deadline. If, by the deadline, the number of candidatures is less than the number of Vice Chairman positions, then any incumbent Vice Chairman may put forward his candidature.

There is no restriction on a Vice Chairman whose term of office is due to expire offering himself for the position of Chairman; neither is there any restriction on a Chairman whose term of office is due to expire offering himself as a Vice Chairman. There is no restriction of a retiring Chairman or Vice Chairman of one TSG offering himself for election as either Chairman or Vice Chairman of any other TSG (or WG).

Should the office of Chairman or Vice Chairman of a TSG become vacant for reasons other than expiration of term of office, a special election shall be conducted to fill the unexpired term. This special election shall be conducted at a meeting of the TSG, and shall be announced in the agenda according to the provisions of Article 32.

When such a special election is held to fill the office of Chairman, and one or more of the Vice Chairmen of the TSG intends to stand for election to that position, the announcement shall also indicate that there will be an election to fill the position of Vice Chairman in the event that a Vice Chairman be elected to the office of Chairman. If at the special election the Vice Chairman is elected to the office of Chairman, that individual shall become Chairman immediately, and, the position of Vice Chairman thus being vacant, an election shall be held for the office of Vice Chairman.

Similarly, if an incumbent Chairman intends to stand for election to the position of Vice Chairman, the same applies, with the necessary changes to the text above.

If a Chairman or Vice Chairman changes the Individual Member that he/she represents (e.g., job change, merger or acquisition) during his/her term of office, a new letter of support shall be provided. If the change of company affiliation is due to a move to another company, then the decision for the Chairman or Vice Chairman to continue in office shall be made by consensus of the TSG. If consensus cannot be achieved, a special election shall be held for the office.

The term of office for a Chairman or Vice Chairman elected at a special election is a partial term lasting until the end of the current term. A partial term of office does not count towards the two consecutive term limit.

Chairman and Vice Chairmen should not be from the same region, Organizational Partner, or from the same group of companies, unless no other candidate is available.

Successive Chairmen should not be from the same Organizational Partner, the same region or from the same group of companies, unless no other candidate is available. This does not apply to special elections or to regular elections for a second or subsequent consecutive term of office .

When a new TSG is established, the Organizational Partners shall appoint a convenor for the first two TSG meetings. The election for TSG Chairman and Vice Chairmen shall take place at the second TSG meeting. If the election takes place other than at the normal time for TSG elections (see above), the elected Chairman and Vice Chairman shall serve until the next regular TSG election. This partial term of office does not count towards the two consecutive term limit. The provisions of this paragraph may be overridden by consensus of the PCG where a new TSG is formed by the merger of existing TSGs; under these circumstances, the PCG shall establish a set of ad hoc rules for the creation of the new TSG.

Following election by the TSG, the TSG Chairman and Vice Chairmen shall be appointed by the PCG on the proposal of the TSG.

22.2 WG elections

The provisions concerning the election of WG Chairmen and Vice Chairmen shall be as for TSG Chairmen and Vice Chairmen as defined in 22.1 above, changing TSG to WG wherever TSG is mentioned, with the following differences.

Deleted: with the necessary changes,

Each WG shall elect a maximum of two Vice Chairmen.

WG elections shall be held when the corresponding terms of office expire or when an existing Chairman or Vice Chairman resigns. WG elections need not be synchronized within the WG (i.e. elections for Chairman and each Vice Chairmen may occur at different times), across different WGs of the same or other TSGs, nor with the regular TSG elections.

WG Chairmen and Vice Chairmen are always elected for a period of two years (and not, as is the case with special elections in TSGs, for the unexpired period of the present term of office).

Note: For this reason, elections for WG Chairmen and Vice Chairmen are likely to become spread over a period of time, rather than being grouped like the TSGs' regular elections.

When a new WG is established, the parent TSG is responsible for appointing a convenor for the first two meetings.

Following election by the WG, the Chairman and Vice Chairman hold office immediately, without need of appointment by TSG or PCG.

Article 23: TSG and WG Chairman responsibilities

The TSG Chairman is responsible for the overall management of the technical work within the TSG and its Working Groups. The Chairman has an overall responsibility to ensure that the activities of the TSG follow the Partnership Project Working Procedures.

The WG Chairman is responsible for the overall management of the technical work within the WG and its sub-groups.

The Chairman may nominate officials to assist in the work.

The Chairman may delegate tasks to the Vice Chairmen.

The Chairman may be assisted by the Support Team.

The Chairman shall form a Management Team, including the Vice Chairmen and Support Team, in order to assist in discharging his duties.

Recognizing the need to balance the requirement of rapid specification development with the limited resources of delegates, the Chairman should encourage a minimum number of meetings, especially parallel meetings, and maximize the use of electronic means to advance the work.

In performing TSG tasks, the Chairman shall maintain strict impartiality and act in the interest of 3GPP.

Article 24: TSG and WG Chairman and Vice Chairmen dismissal

A secret ballot shall be taken for the proposal to dismiss a TSG or WG Chairman or Vice Chairman because of a failure to effectively perform their duties, if requested by 30% of the TSG or WG membership list. 71% of the votes cast are required to recommend dismissal.

The PCG shall dismiss a Chairman or Vice Chairman on the proposal of the TSG.

Article 25: TSG and WG decision making

TSGs and WGs shall endeavour to reach consensus on all issues, including decisions on Technical Specifications and Technical Reports. Informal methods of reaching consensus are encouraged (e.g., a show of hands). If consensus cannot be achieved, the Chairman can decide to take a vote. The vote may exceptionally be performed by a secret ballot if decided by the TSG or WG. A vote may be conducted during a TSG or WG meeting or by correspondence.

A proposal shall be deemed to be approved if 71% of the votes cast are in favour. Abstentions or failure to submit a vote shall not be included in determining the number of votes cast.

It is the responsibility of the Chairman to ensure that questions to be voted upon are phrased in a positive yes/no manner, with 71% required to approve the question. Questions should not be phrased as the TSG shall not do something. Examples of appropriate questions are; Shall the TSG approve the Specification and send it to the SDOs? Shall the liaison be approved? Shall the new WI be approved? Shall the existing WI be stopped? If the issue is to choose option A or B, the question should be split into two questions, with the Chairman selecting the order. First, shall the TSG take option A as the way forward? If this question fails the second question is, shall the TSG take option B as the way forward?

Contributions on which decisions will be based should be made available in good time before each meeting. TSGs may establish informal guidelines for dealing with late contributions.

Working Agreements may be used to establish tentative agreements in cases where consensus cannot be obtained. The working agreement process is described in Annex G.

Article 26: TSG and WG voting during a meeting

The following procedures apply for voting during a TSG or WG meeting:

- before voting, a clear definition of the issues shall be provided by the Chairman;
- Voting Members shall only be entitled to one vote;
- if a Voting Member has more than one representative present, only one representative may vote;
- each Voting Member may only cast the vote once;
- each Voting Member may carry proxy votes for up to five other Voting Members. All proxy votes shall be accompanied by a letter of authority from the authorising Voting Member. Proxies will not be taken into account when determining the quorum;
- the quorum required for voting during a TSG or WG meeting shall be 30% of the total number of Voting Member companies on the TSG or WG voting list;
- the result of the vote shall be recorded in the meeting report.

For the determination of the quorum, see annex X.

Article 27: TSG or WG voting by correspondence

The following procedures apply for voting by correspondence:

- before voting, a clear definition of the issues shall be provided by the Chairman and disseminated to all on the TSG or WG membership list;
- Voting Members shall only be entitled to one vote;
- each Voting Member may only cast the vote once within the voting period;
- the voting period shall be 30 days;
- there are no quorum requirements;
- The result of the vote should be disseminated to the TSG or WG .

Article 28: TSG or WG voting for the election of TSG or WG Chairman and Vice Chairman

In the case where there is more than one candidate for TSG or WG Chairman or Vice Chairman, a secret ballot shall be used. For interpreting the result of the secret ballot the following procedure shall apply:

When, in the first ballot, no candidate has obtained 71% of the votes cast, a second ballot shall be held. In the second ballot, in cases where there are only two candidates, the candidate obtaining the higher number of votes is elected. In cases where there are more than two candidates, if none of them has obtained 71% of the votes, a third and final ballot shall be held among the two candidates who have obtained the highest number of votes in the second ballot. The candidate obtaining the higher number of votes in the third ballot is then elected.

The TSG or WG Chairman shall be responsible for the voting process and shall ensure that confidentiality is maintained.

Article 29: TSG or WG Chairman's decision appeal process

An Individual Member of 3GPP who opposes a Chairman’s ruling on a vote taken within a TSG or WG may submit its case to the PCG for decision. In such cases the Individual Member shall also inform the relevant TSG or WG Chairman.

When a TSG or WG Chairman has made a ruling, his decision shall be taken as the basis for future operations, unless or until overturned by the PCG.

Article 30: TSG and WG meetings

TSGs and WGs shall meet as necessary to complete their work within the prescribed timeframe. TSGs should endeavour to hold their meetings at the same time and place to assist in the overall co-ordination of the work.

Meeting locations should reflect the geographical diversity of the TSG and WG delegates.

Further information on meetings is given in Annex F.

Article 31: TSG and WG meeting invitation

The invitation to a TSG or WG meeting and the necessary logistical information should be disseminated as soon as practically possible, taking into account the need to obtain travel documentation. It shall be disseminated at least 28 days before the meeting to all on the TSG or WG membership list.

Article 32: TSG and WG meeting agenda

The draft agenda for a TSG or WG meeting shall be disseminated by the responsible Chairman to all on the TSG or WG membership list at least 21 days before a meeting. The draft agenda should indicate subject matters where voting may be required. The draft agenda shall indicate elections to be held (including known candidates).

Article 33: TSG and WG meeting registration

Every delegate shall register on arrival at each TSG or WG meeting. Each delegate who represents an Individual Member shall declare the precise name of that Individual Member. A delegate may only register to represent one Individual Member.

Article 34: TSG and WG meeting document and file naming

Documents for a TSG or WG meeting shall follow a consistent numbering system as shown in the following example:

xminnzzzz

This numbering system has six logical elements:

1) **x**: a single letter corresponding to the TSG;

   where x : **R** (Radio Access Network)

   N (Core Network) [TSG closed March 2005]

   S (Service and System Aspects)

   T (Terminals) [TSG closed March 2005]

   G (GSM/EDGE Radio Access Network)

   C (Core network and Terminals)

2) **m** A single character corresponding to the Working Group identity (typically 1, 2, 3, etc) or, in the case of the TSG itself, the letter "**P**".

3) **i**: Normally the hyphen character "-". May take on other values depending on the nature of the meeting at which the document is presented, eg the identity of a subgroup.

4) **(nn)**: two digits to indicate the year, i.e. 99, 00, 01, etc;

5) **zzzz**: unique number of the document

No provision is made for the use of revision numbers. Documents which are a revision of a previous version should indicate the document number of that previous version.

The filename of documents shall be the document number. Documents may be compressed to .Zip files (and thus bear a file extension ".zip"). For example, document **S1-060357** will be contained in file **S1-060357.zip**.

Article 35: TSG and WG Voting Membership List

35.1 Voting list

Each TSG and WG shall maintain a list of Individual Members eligible to vote in that group.

The voting list shall be used to establish quorum and for determining those eligible to take part in a vote.

NOTE 1: The term "membership list" has no particular significance in the context of TSG and WG meetings. The term "attendance list" is used for a list of individuals who attend a given meeeting representing an Individual Member or other entity entitiled to participate in meetings – see annex F.

For the determination of the quorum, see annex X.

35.2 On creation of new TSG or WG

When a new TSG or WG is formed an Individual Member is added to the voting list at the first meeting at which it is represented, and may vote at the second meeting where it is represented.

Exceptionally, if inadequate notice (less thanthe period of time given in article 31) had been given for the first meeting of the new group, an Individual Member shall be added to the voting list on its delegate's attending the second meeting (the election meeting) and vote at that meeting even if it had not been represented at the group's first meeting.

Only an Individual Member that had been represented at the group's first meeting may provide a proxy for the second meeting.

35.3 Established TSGs and WGs

To qualify for the voting list it is necessary for at least one delegate of an Individual Member to attend at least two meetings of the group concerned, without being removed according to the provisions of article 35.4..

An Individual Member having been represented at at least two ordinary meetings of the group has the right to cast a vote by proxy (see article 26). Thus an Individual Member may not cast a vote by proxy during a meeting at which it is not represented unless it had already been represented at two or more qualifying meetings of the group.

35.4 Removal from and reinstatement to voting list

An Individual Member which is not represented at three consecutive meetings of the TSG or WG shall be removed from the voting list.

The right to vote is reinstated at the second meeting which a delegate of the Individual Member attends without missing the number of consecutive meetings mentioned in the previous paragraph (but see article 35.3 for eligibility to cast a proxy vote).

EXAMPLE 1: If Individual Member Zis represented at meeting K and K+3 (and is thus eligible to vote) but is not represented at meetings K+4, K+5 and K+6, it is removed from the voting list.

EXAMPLE 2: If Individual Member X, not previously having been represented at a meeting of the group, is represented at meetings N and N+3, it may cast a vote at meeting N+3.

NOTE: Individual Member X might choose to cast a vote by proxy at meeting N+3, even though its delegate is physically present. This is sometimes useful for coordinating company positions where one large company has several Individual Memberships, possibly via several different Organizational Partners.

EXAMPLE 3: If Individual Member Y, not previously having been represented at a meeting of the group, is represented at meeting N only, it may not cast a vote by proxy at meeting N+2.

35.5 Meetings other than ordinary meetings

Any group that wants to call an electronic meeting (audio, video, document distribution by posting or e-mail, etc) may do so, although this works best with smaller groups. Therefore, all electronic meetings are allowed but only ordinary meetings (see annex F) count towards attendance. However, if a meeting is designated as face-to-face, provision of bridge and speakerphone capabilities for those requesting it would be at the discretion of the host. Those participating by speakerphone are not to be counted toward quorum or attendance, and are not allowed to vote.

For the determination of the quorum, see annex X.

Article 36: TSG Sub Working Groups

A Working Group may establish a Sub Working Group (SWG) with defined Terms of Reference. The Working Group shall appoint a SWG Chairman. The SWG shall work by consensus. The meeting notice requirements for a SWG meeting are the same as for TSGs and WGs.

SECTION G: WORK PROGRAMME AND TECHNICAL CO-ORDINATION

Article 37: Work Programme

The 3GPP Work Programme shall consist of Work Items defined by the TSGs.

Article 38: Work Items

A 3GPP Work Item is a specification task defined in terms of the following principal parameters:

- title;
- intended output (i.e. Technical Specifications or Technical Reports);
- impact on other Technical Specifications and Technical Reports;
- technical scope, including the field of application of the intended output;
- impact on other 3GPP Work Items;
- the schedule of tasks to be performed;
- the identities of the supporting Individual Members;
- the identity of the Work Item Rapporteurs.

Article 39: Work Item creation

Each proposed new Work Item shall be supported by at least four Individual Members, and their names shall be recorded in the Work Item definition prepared for the TSG approval. One or more persons shall be named as Rapporteur for the proposed Work Item, and the Rapporteur shall act as the prime contact point on technical matters and for information on progress throughout the drafting phases. The supporting Individual Members are expected to contribute to and progress the new work item throughout the drafting phases.

In addition to the above, TSGs shall approve new Work Items, giving all essential parameters. The proposal shall be entered into the 3GPP work programme, clearly marked as a new entry, for which a unique reference identity shall be allocated.

Article 40: Work Item adoption by PCG

The 3GPP work programme shall be made available to all Individual Members. A new Work Item shall remain flagged as "new" until the end of the month following the month during which the 3GPP work item was entered into the 3GPP work programme. A new Work Item shall be adopted by the PCG unless a substantial objection is received from an Individual Member or Partner during this period. At the end of the period, the "new" flag shall be removed (even if there is an objection) and it is the responsibility of any objecting Individual Member or Partner to discuss their objections with the TSG Chairman. If it is not possible to resolve the objection, it is the responsibility of the Individual Member or Partner to raise the issue with the PCG.

The TSGs shall ensure that the 3GPP Work Item details are maintained at regular intervals.

Article 41: Work Item stopping

Prior to completion of the intended 3GPP output, the responsible TSG may conclude that a Work Item is no longer required. Any Work Item shall automatically be considered by a TSG for stopping, if no progress has been achieved in a given period of time, typicallysix months, e.g. due to a lack of contribution. In such cases, the Work Item shall be flagged as "stopped" in the Work Programme. The proposal to stop a Work Item shall be fully justified.

The Work Programme shall be updated accordingly, and shall show the Work Item as "stopped" until the end of the month following the month during which the Work Item was initially flagged.

The Work Item will be stopped by the PCG unless substantial objection is received from an Individual Member during this period. It is the responsibility of any objecting Individual Member to discuss their objections with the TSG Chairman. If it is not possible to resolve the objection, it is the responsibility of the Individual Member to raise the issue with the PCG.

Article 42: Technical co-ordination

The PCG shall be responsible for determining the overall time frame and for managing the overall work progress. The System Aspects TSG shall have a particular responsibility for the technical co-ordination of work being undertaken within 3GPP, and for overall system architecture and system integrity. Problems encountered in performing this technical co-ordination role shall be reported immediately to the PCG.

SECTION H: DELIVERABLES

Article 43: Deliverable types

3GPP shall prepare, approve and maintain documents known as Technical Specifications and Technical Reports. Such documents shall be drawn up by the TSGs and shall, following approval at that level, be submitted to the participating Organizational Partners to be submitted to their respective standardization processes.

Article 44: Approval process

Approval of Technical Specifications and Technical reports by a TSG shall normally be by consensus.

Where consensus cannot be achieved in the TSG a vote may be taken.

When Technical Specifications and Technical Reports become sufficiently stable, they shall be put under change control of the relevant TSG. The further elaboration of these Technical Specifications and Technical Reports shall be achieved by change requests to be approved by the TSG.

Article 45: Drafting rules

The Technical Specifications and Technical Reports drafted by the TSGs shall follow the 3GPP drafting rules, using document processing facilities, format, languages and notations agreed by the Organizational Partners, and on a medium suited for electronic document handling and publishing.

Article 46: Copyright and ownership

The Organizational Partners will have joint ownership (including copyright) of the Technical Specifications and Technical Reports produced by 3GPP.

Article 47: Conversion by Organizational Partners

Organizational Partners shall use their best endeavours to convert the Technical Specifications and Technical Reports approved by the Partnership Project into national/regional deliverables in a timely manner through their normal processes.

The Organizational Partners are urged not to change the technical parts of the Technical Specifications and Technical Reports; they may add non-technical parts required by their own deliverable schemes and they may add descriptions of options selected.

Organizational Partners should ensure that all unresolved comments raised during their public enquiry and approval phases are delivered to the appropriate TSG.

SECTION I: REPORTING

Article 48: Chairman's reporting obligations

A report shall be prepared by the Chairman following all PCG and TSG meetings.

Article 49: Changes to structure and officials

The Chairman of each TSG shall inform the PCG of all organizational changes concerning Working Groups and their officials. An up to date record of the 3GPP structure shall be maintained.

Article 50: Calendar of meetings

The PCG and TSGs shall maintain an up to date calendar of the dates and venues for future meetings.

SECTION J: EXTERNAL RELATIONS

Article 51: Relationship with the ITU

3GPP results should be submitted to the ITU as appropriate.

For working groups, the following handling of communications toward ITU shall apply:

1 Working groups shall send ITU submissions which are destined to become part of ITU deliverables to their parent TSG for review.

2 Working group communications towards the ITU which are NOT destined to become part of an ITU deliverable must be reviewed by the TSG chairman and the appropriate ITU sector convener (if one exists for the given ITU sector). The working group's TSG chairman and ITU sector convener will determine if such a communication should be sent to the parent TSG for review. If for some reason either the TSG chairman or ITU sector convener is not available, then it is sufficient for the remaining person to review the document and determine if it should be escalated to the TSG or not.

3 If the working group communication does not require TSG review, then it shall be conveyed to the ITU from the WG using one of the mechanisms described below.

For TSGs, the following handling of communications toward ITU shall apply:

1 TSGs shall send ITU submissions which are destined to become part of ITU deliverables to the PCG for review.

2 TSGs communications towards the ITU which are deemed sensitive by the TSG shall be sent to the PCG for review.

3 If the TSG does not judge the communication as sensitive, then it shall be conveyed to the ITU from the WG using one of the mechanisms described below.

To convey a communications towards the ITU, one of the following mechanisms shall be used based upon determination of the sending body (a body may determine a default mechanism).

a) The communication shall be sent from the OPs as a deliverable from their organizations (applicable to PCG reviewed communications only)

b) The communication shall be made by Individual Members who are also members of the ITU. In such a circumstance, the appropriate ITU sector convener will coordinate and handle the administrative matters for the submission. 3GPP Technical Specifications and Technical Reports may be taken as the technical content of such contributions (applicable to PCG reviewed communications or TSG reviewed communications).

c) The communication shall be sent directly from the 3GPP liaison coordinator to the appropriate ITU receiver in the ITU (applicable to TSG reviewed communications or WG reviewed communications).

Representatives of ITU-D, ITU-R and ITU-T are invited to participate in the Project Coordination Group for the efficient coordination and exchange of information.

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Deleted: 3GPP will not contribute directly to the ITU. Formal contributions to ITU Study Groups shall be made by Individual Members who are also members of the ITU. 3GPP Technical Specifications and Technical Reports may be taken as the technical content of such contributions.¶
PCG need only review those ITU LSs which are destined to become part of ITU deliverables.¶

Article 52: Relations with other groups

TSGs and WGs are encouraged to liaise directly with the relevant technical bodies within the 3GPP and Partners as appropriate.

A liaison statement shall clearly communicate what is expected from the receiver, i.e., which parts are for information, which questions are expected to be clarified and by whom (especially if there are multiple receivers), and also when an answer is needed, e.g., when is the next meeting of the group sending the liaison statement.

A TSG or any subtending Working Group may send individual liaisons to any external organization (other than ITU) without PCG approval, except if the statement is considered sensitive by the TSG Chairman, in which case PCG clearance is needed.

It is not necessary to have all external liaisons copied to the PCG and/or TSG SA. The liaison originating TSG should decide, at its own discretion, which should be copied. External liaisons that may have management implications such as schedules, organization, process, procedures, and policy shall be copied to the PCG, or approved by the PCG if sensitive.

Relations with the ITU are described in Article 51.

SECTION K: MISCELLANEOUS

Article 53: Resources

The resources for the operation of 3GPP shall be managed by the Organizational Partners. The resources are allocated to the TSGs by the PCG.

Article 54: Support Team

The Partners shall provide logistical support to, and assist in the operation of, 3GPP. The support shall be in the form of a Support Team which shall operate under the overall management of the PCG and the day to day management of TSGs.

Article 55: Intellectual Property Rights (IPR) Policy

Individual Members shall be bound by the IPR Policy of their respective Organizational Partner.

Individual Members should declare at the earliest opportunity, any IPRs which they believe to be essential, or potentially essential, to any work ongoing within 3GPP. Declarations should be made by Individual Members to their respective Organizational Partners.

Organizational Partners should encourage their respective members to grant licences on fair, reasonable terms and conditions and on a non-discriminatory basis.

The PCG shall maintain a register of IPR declarations relevant to 3GPP, received by the Organizational Partners.

Article 56: Working language

The working language for 3GPP shall be English.

Meetings of the PCG and TSGs shall be conducted in English.

3GPP Technical Specifications and Technical Reports shall be prepared in English (as defined by the Shorter Oxford English Dictionary).

Article 57: Duration

3GPP shall be task oriented and on completion of the tasks the future of 3GPP shall be re-considered. The continuation of 3GPP shall therefore be confirmed by the Organizational Partners on an annual basis.

Article 58: Review of activities

An evaluation of the activities of 3GPP should be made by the Organizational Partners at regular intervals.

Article 59: Dissolution, winding up

In the event of a voluntary dissolution of 3GPP, the Partners shall determine the terms of liquidation by consensus. All issues shall be documented and distributed at least 30 days prior to decisions being made.

Article 60: Amendments to 3GPP Working Procedures

These Partnership Project Working Procedures may only be amended by decision taken by the PCG.

Annex A: Definitions

Consensus:	General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interest and by a process that involves seeking to take into account the views of all parties concerned and to reconcile any conflicting arguments. (Note: consensus need not imply unanimity).
Conversion:	The transformation of a 3GPP output document into an Organizational Partners deliverable following the Organizational Partners' recognized processes.
Delegate:	An individual taking part in a TSG/WG meeting physically or by electronic means.
Drafting Rules:	A document approved by the Organizational Partners providing rules for the drafting of 3GPP Technical Specifications and Technical Reports.
Election:	The voting process used to identify an individual from a number of individuals.
Guest:	An entity fulfilling the criteria to become a future Individual Member, which has been granted temporary participation rights in the 3GPP
Individual Member:	A member of an Organizational Partner having participation rights within that Organizational Partner and which has registered to take part in 3GPP.
ITU Representative	Representatives of ITU-D, ITU-R and ITU-T invited to participate in the Project Coordination Group for the efficient coordination and exchange of information.
Market Representation Partner:	A Partner invited by the Organizational Partners to participate in 3GPP to offer advice and to bring into 3GPP a consensus view of market requirements.
Observer:	An Organization fulfilling the criteria to become a future Partner which has been granted temporary participation rights in 3GPP.
Organizational Partner:	A recognized Standards Organization which has been accepted as a Partner in 3GPP.
Partner:	An Organizational Partner or a Market Representation Partner of 3GPP.
Partnership Project Agreement:	The document signed by 3GPP Partners defining their rights and obligations.
Partnership Project Description:	A document which describes the overall structure and operation of 3GPP.
Represent:	Attend on behalf of. A person who attends a meeting on behalf of an Individual Member represents that Individual Member. The person is not necessarily employed by that Individual Member, but may be, for example, employed by a subsidiary company in the same group as the represented Individual Member; or the person may be an independent consultant under contract to the Individual Member. "Representation" sometimes influences the eligibility to vote – see article 35 and annexes A and F.
Sub Working Group	A subordinate body of a Working Group.
Support Team:	A number of persons dedicated to support 3GPP.
Technical Report:	A 3GPP output document containing mainly informative elements approved by a Technical Specification Group.
Technical Specification:	A 3GPP output document containing normative provisions approved by a Technical Specification Group.
Voting Member	An Individual Member who has voting rights within a TSG/WG.
Work Item:	The documented record of a specific technical activity of 3GPP.
Work Programme:	The documented record of the all technical activities of 3GPP.
Working Group:	A subordinate body of a Technical Specification Group.

Annex B: Abbreviations

3GPP	Third Generation Partnership Project
ARIB	Association of Radio Industries and Businesses
ATIS	Alliance for Telecommunications Industry Solutions (successor to T1)
CCSA	China Communications and Standards Association (successor to CWTS)
CDMA	Code Division Multiple Access
CWTS	China Wireless Telecommunications Standards Group (superseded by CCSA)
ETSI	European Telecommunications Standards Institute
FDD	Frequency Division Duplex
GSM	Global System for Mobile Communication
IMT-2000	International Mobile Telecommunication
ITU	International Telecommunication Union
MRP	Market Representation Partner
PCG	Project Co-ordination Group
SWG	Sub Working Group
T1	Standards Committee T1 (superseded by ATIS)
TDD	Time Division Duplex
TSG	Technical Specification Group
TTA	Telecommunications Technology Association
TTC	Telecommunication Technology Committee
UIM	User Identity Module
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network
WG	Working Group

Annex C: Individual member application form

APPLICATION FORM
for INDIVIDUAL MEMBERSHIP
of the THIRD GENERATION PARTNERSHIP PROJECT
Please complete this form and return it to your Organizational Partner

COMPANY NAME .....

Please indicate below which ORGANIZATIONAL PARTNER you are a member of

ARIB	
CCSA	
ETSI	
ATIS	
TTA	
TTC	

Please indicate below which Technical Specification Groups you wish to participate in:

Radio Access Network	
Core Network and Terminals	
Service and System Aspects	
GSM EDGE Radio Access Network (GERAN)	

Signed by (Authorized Representative) (See Note 1)	
Print name	
Position	
Date	
Telephone	
Fax	
Email	
Company Website URL	

Contact person's family name (See Note 2)	
Contact person's given name	
Job title	
Mailing address	
Telephone	
Fax	
Email	

Note 1: Is either the official contact person or voting contact of a company.

Note 2: People attending meetings and who can also have signing authority.

Annex D: (Void)

Annex E: Guidance for MRP applicants

E.1 Introduction

The conditions for the acceptance of Market Representation Partners (MRPs) in 3GPP are given in Article 7 of these Working Procedures. This Annex provides additional guidance to MRP Applicants.

E.2 Guidance

During the application process, the Organizational Partners will need to be assured that an Applicant:

(a) Has a field of interest directly or indirectly related to the work being undertaken by 3GPP;

(b) Has attained a demonstrable level of recognition within this field of interest;

(c) Has an understanding of the market requirements relevant to 3GPP;

(d) Is willing to actively contribute to the work of 3GPP and has sufficient resources for this purpose;

(e) Fully supports the goals and objectives of 3GPP and does not take part in activities that conflict with these goals and objectives.

In processing an application, the Organizational Partners will peruse openly available documentation published by an Applicant, including material posted on its Website, in order to confirm that the points listed above have been satisfied.

Annex F: Guidance on meeting organization

F.1 Meeting classification

TSG and WG Meetings are classified either:

- ordinary; or
- ad hoc.

F.2 Ordinary meetings

Ordinary meetings are ones where the regular business of the TSG or WG is conducted. Such meetings are normally chaired by the Group's chairman or, if unavailable, a vice-chairman. Ordinary meeting should be announced at least six months prior to the opening day of the meeting.

TSG and WG ordinary meetings shall follow an incrementing number sequence. If an additional ordinary meeting is required between two ordinary meetings, the sequence may be preserved, even though this means renumbering subsequent meetings, or the additional meeting may be numbered using the 'bis' suffix as a numbering scheme.

Attendance at an ordinary meeting counts towards an Individual Member's eligibility to cast a vote in the Group (see Articles 26 and 27). The Support Team shall record the participation in an ordinary meeting (each person and organization represented) and the attendance list shall be included in the meeting report.

F.3 Ad hoc meetings

An ad hoc meeting of a WG or a TSG is one called to address one or more particular topics. The ad hoc meeting shall be called by decision of the WG (or its parent TSG) or TSG concerned; the decision to hold any subsequent ad hoc meetings on the same topic may be made by the ad hoc meeting participants themselves without reference to the parent WG or TSG, although the parent WG or TSG shall review any ad hoc activity at every Ordinary meeting and determine to either continue or to close the ad hoc activity, even if the previous ad hoc meeting suggested a further meeting. The scope of each subsequent ad hoc meeting shall be indicated by the chairman at least 21 days before the meeting. The ad hoc meeting shall not expand or change the scope originally determined by the parent group. An ad hoc meeting is allowed to make decisions only within its pre-defined remit, and any such decisions shall be ratified by the parent WG or TSG unless, in the case of a WG, a decision was previously explicitly delegated by the WG to the ad hoc meeting.

An ad hoc meeting may be chaired as described for an ordinary meeting above, or, with the agreement of the WG or TSG concerned, by a Work Item rapporteur, or other appropriate person. Although open to all 3GPP Individual Members, ad hoc meetings may attract only a subset of Individual Member representatives who would normally participate in ordinary meetings.

Ad hoc meetings shall not be considered when calculating voting rights. That is, attendance at (or absence from) an ad hoc meeting shall not influence voting rights, which are determined solely by attendance at "ordinary" meetings.

No voting shall occur at ad hoc meetings.

F.4 Attendance register

F.4.1 Face to face meetings

A delegate is deemed to have attended a given meeting if the individual confirms his or her participation by signing the attendance list made available by the group's secretary during the meeting. If a delegate does not sign the attendance sheet during the meeting, the secretary shall assume that the individual did not attend.

Deleted: A delegate is deemed to have attended a given meeting once all the following conditions have been fulfilled:¶
- the individual has registered his intention to attend;¶
- the individual has physically picked up his badge at the meeting venue and, when possible, has been acknowledged by the meeting Secretary or a representative of the hosting organization as having done so;¶
- the individual has confirmed his participation by ticking the "yes" box on the delegate list circulated by the group's Secretary.¶

If any of these conditions are not fulfilled, the meeting Secretary will assume that the individual did not attend.¶

A delegate, having registered and begun to participate in a meeting, is not allowed to change the organization he represents during the course of that meeting. An individual delegate is not allowed to simultaneously represent two or more Individual Members at a meeting.

F.4.2 Electronic meetings

Electronic meetings such as audio / video conferences, email exchanges considered as meetings, etc, are encouraged where appropriate. For such events, the Secretary will establish the attendance list on the basis of those actually participating in the meeting (those dialling in to the conference bridge, those issuing and responding to emails, etc.) Nevertheless, advance registration is strongly encouraged.

Fully electronic meetings are to be considered as "ad hoc" as defined above.

Participation by Individual Member in fully electronic meetings, or electronic participation in a face to face meeeting (eg by phoning in) is not considered for the accrual or loss of voting rights.

Annex G: Working agreements

"Working agreements" are tentative decisions reached by 3GPP groups in order to make progress on matters where consensus (as defined in Annex A) cannot be reached. It is intended to be used in situations where there is a clear majority in favour of one approach, but a small minority has sustained opposition to that approach.

The working agreement process has the following steps:

- Consensus cannot be reached on an issue. A substantial majority of individual members prefer a given approach, but there is sustained opposition by a small minority of individual members, preventing consensus.
- The chair declares a working agreement. The working agreement is documented in the meeting report
- The approach agreed to by the majority and documented in the working agreement can continue unimpeded.
- The working agreement is entered into the 3GPP working agreements page on the 3GPP web site. The window for challenging the working agreement is now open.
- Working agreements may be challenged, resulting in a formal vote. This potential vote would be held at the next meeting of the WG or parent TSG (whichever comes first). If the next meeting is less than 14 days after the establishment of the working agreement, then that meeting is skipped in determining the next meeting. The meeting for potential voting is documented on the 3GPP working agreements page of the 3GPP web site (http://www.3gpp.org/TSG-Working-Agreements).
- The challenge cutoff date is established. This is 7 days before the start of the meeting for potential voting. The cutoff date is documented on the 3GPP working agreements page of the 3GPP web site.
- Organizations wishing to challenge the working agreement may do so until the challenge window closes. A challenge may be made by informing the chair of the group which will do the voting. Any received challenge is documented on 3GPP working agreements page of the 3GPP web site.
- The group which will be voting is informed of the intention to have a working agreement challenge vote and the specific voting question.
- If no challenge is received by the challenge cutoff date, then the working agreement is confirmed. The confirmation of the working agreement is documented on the 3GPP working agreements page of the 3GPP web site. The issue is closed.
- If a challenge is received, then a formal vote on the working agreement will occur at the designated meeting. Voting on working agreements is a standing part of meeting agendas. Voting is as described in articles 25 & 26 of the working procedures.
- If the challenge fails (at least 71% in favour of the working agreement), then the working agreement is confirmed. The confirmation of the working agreement is documented on the 3GPP working agreements page of the 3GPP web site. The issue is closed.
- If the challenge suceeds (less than 71% in favour of the working agreement), then the working agreement fails. All changes which were made based on the working agreement shall be reversed and the group must continue to search for consensus. The overturning of the working agreement is documented on the 3GPP working agreements page of the 3GPP web site.
- Organizations may withdraw a challenge at any time in the process. If the last challenge is withdrawn after the challenge cutoff, then the working agreement is confirmed. The confirmation of the working agreement is documented on the 3GPP working agreements page of the 3GPP web site. The issue is closed.

Annex H: Calculation of quorum in TSGs and WGs

Where calculation of a quorum is required in the context of a vote conducted in a TSG or a WG, the quorum shall be deemed to have been met if:

$(B - P) / V >= Q$

Where:

B is the number of ballot papers issued;

P is the number of proxy votes exercised (i.e. the number of ballot papers issued to delegates bearing authorization to cast votes by proxy);

V is the number of Individual Members having the right to vote at the meeting (including those with only the right to vote “in person” and not by proxy);

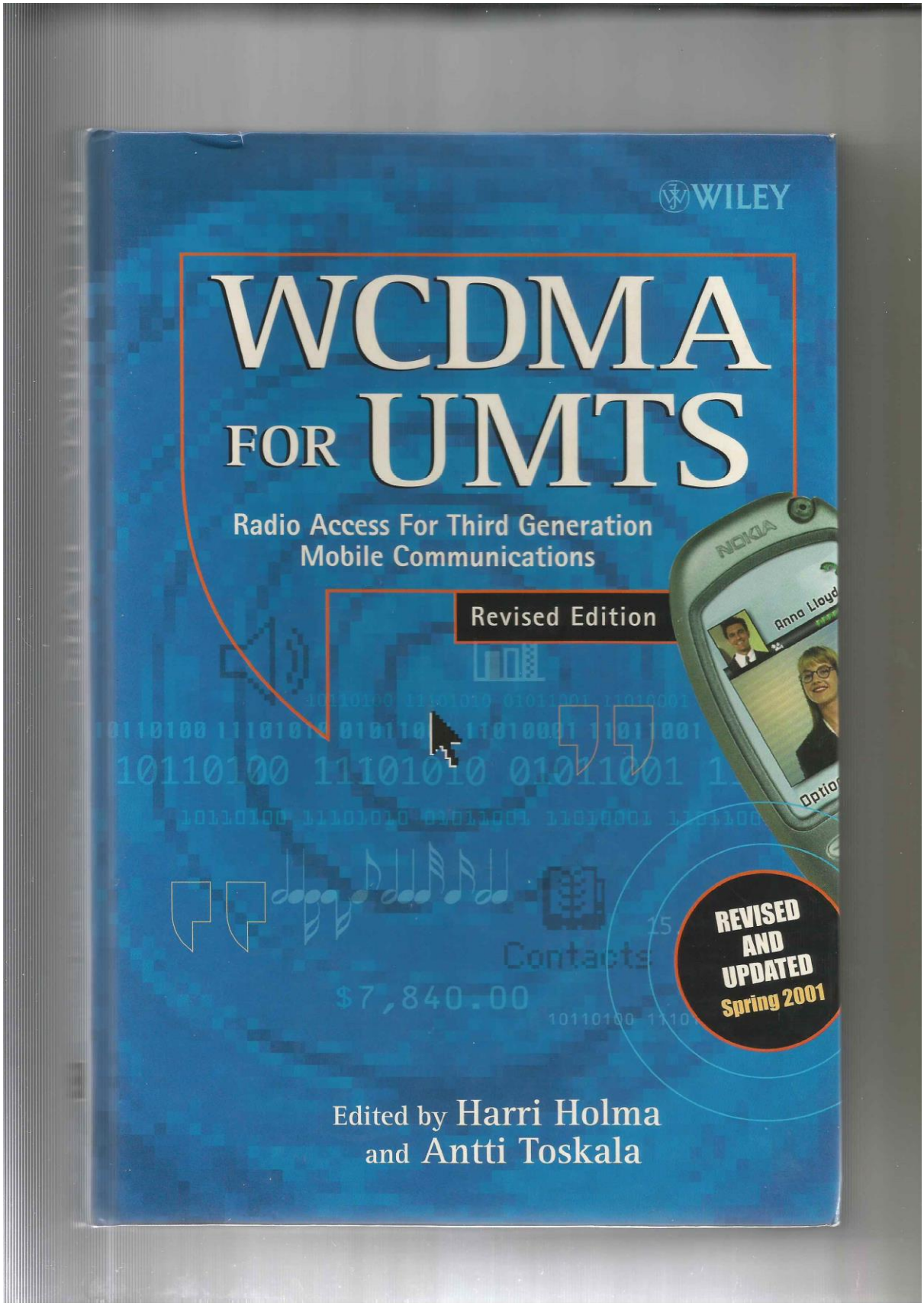
Q is the required quorum value given in article 26.

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Annex I: Change history

Date	PCG #	PCG Doc.	CR	Rev	Subject/Comment
2002-04-25	6				
2005-03-01	13				Changes agreed at PCG meeting incorporated. [No formal change control system yet in place]
2006-04-24	16	PCG16_07	2		ETSI proposal: Article 10 Clarify the rights of observers and guests
			3		ETSI proposal: Article 15 To allow leeway in the number of delegates representing each OP at PCG (To reflect the decision already taken by PCG#14 on PCG participation)
			9		ETSI proposal: Article 34 To cater for current TSG structure and to reflect common practice of Tdoc numbering
			1	1	Article 3 Reflect decision on regional options (To incorporate PCG#7 decision)
			4	1	Article 22 Clarification and codification of the rights to stand for elected positions in TSGs and WGs
			8		Article 30 & annex F Inclusion of an annex giving guidance on meeting organization
2006-10-27	17	PCG17_15 r1	10		Article 35 Clarification of voting rights
2009-05-18	22	PCG22_18	11	5	Changes resulting from the OP ad hoc group on improvements report and conclusions of OP#20. Articles affected: 22 23 31 35 41 52 Annex D plus sundry spelling corrections.
		PCG22_19	12	2	Rules on eligibility to cast votes at TSG and WG level.
		PCG22_20	13		Bring statement of purpose of 3GPP up to date
		PCG22_23	14		Adding Working Agreements to working procedures
		PCG22_30 r3	15	3	Change of ITU liaison process Note: PCG meeting #22 approved contribution PCG22_30r1 but this was subsequently revised to r3 after the meeting with the apparent approval of the PCG.
					Decision PCG22/11: clause 22.1 changed wording from "in the March time frame in" to "in the first semester of".
2009-08-12					Editorial correction to implementation of CR15r3. (article 52).
2010-04-23		PCG24_11	16		TSG vs WG election
		PCG24_12	17		Quorum
		PCG24_13	18		Communication with ITU
		PCG12_25	19		Attendance register for meetings

Appendix 6



Petitioners' Exhibit 1014, p. 145
AT&T et al v. Innovative Sonic & Celerity
IPR2024-01145

WCDMA FOR UMTS

Radio Access For Third Generation Mobile Communications

Revised edition

Edited by
Harri Holma and Antti Toskala
Both of Nokia, Finland

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Petitioners' Exhibit 1014, p. 147
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4.5.3 *cdma2000*

The cdma2000 air interface proposal to ITU is the result of work in TR45.5 on the evolution of IS-95 towards the third generation. The cdma2000 proposal is based partly on IS-95 principles with respect to synchronous network operation, common pilot channels, and so on, but it is a wideband version with three times the bandwidth of IS-95. The ITU proposal contains further bandwidth options as well as the multi-carrier option for downlink. The cdma2000 proposal has a high degree of commonality with the Global CDMA 1 ITU proposal from TTA, Korea.

The cdma2000 multi-carrier option is covered in more detail in Chapter 13, as being currently standardised by 3GPP2.

4.5.4 *TR46.1*

The WIMS W-CDMA was not based on work derived from an existing second generation technology but was a new third generation technology proposal with no direct link to any second generation standardisation. It was based on the constant processing gain principle with a high number of multicodes in use, thus showing some fundamental differences but also a level of commonality with WCDMA technology in other forums.

4.5.5 *WP-CDMA*

WP-CDMA (Wideband Packet CDMA) resulted from the convergence between W-CDMA N/A of T1P1 and WIMS W-CDMA of TR46.1 in the US. The main features of the WIMS W-CDMA proposal were merged with the principles of W-CDMA N/A. The merged proposal was submitted to the ITU-R IMT-2000 process towards the end of 1998, and to the 3GPP process at the beginning of 1999. Its the most characteristic feature, compared with the other WCDMA-based proposals, was a common packet mode channel operation for the uplink direction, but there were also a few smaller differences.

4.6 Creation of 3GPP

As similar technologies were being standardised in several regions around the world, it became evident that achieving identical specifications to ensure equipment compatibility globally would be very difficult with work going on in parallel. Also, having to discuss similar issues in several places was naturally a waste of resources for the participating companies. Therefore initiatives were made to create a single forum for WCDMA standardisation for a common WCDMA specification.

The standardisation organisations involved in the creation of the 3rd Generation Partnership Project (3GPP) [9] were ARIB (Japan), ETSI (Europe), TTA (Korea), TTC (Japan) and T1P1 (USA) as shown in Figure 4.2. The partners agreed on joint efforts for the standardisation of UTRA, now standing for Universal Terrestrial Radio Access, as distinct from UTRA (UMTS Terrestrial Radio Access) from ETSI, also submitted to 3GPP. Companies such as manufacturers and operators are members of 3GPP through the respective standardisation organisation to which they belong.

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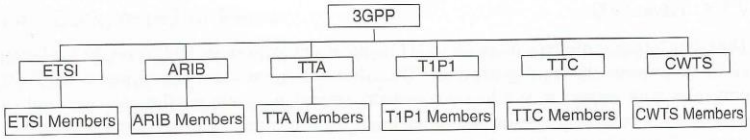


Figure 4.2. 3GPP organisational partners

Later during 1999, CWTS (the China Wireless Telecommunication Standard Group) also joined 3GPP and contributed technology from TD/SCDMA, a TDD-based CDMA third generation technology already submitted to ITU-R earlier.

3GPP also includes market representation partners: GSM Association, UMTS Forum, Global Mobile Suppliers Association, IPv6 Forum and Universal Wireless Communications Consortium (UWCC). In [9] there are up-to-date links to all participating organisations.

The work was initiated formally at the end of 1998 and the detailed technical work was started in early 1999, with the aim of having the first version of the common specification, called Release-99, ready by the end of 1999.

Within 3GPP, four different technical specification groups (TSG) were set up as follows:

- Radio Access Network TSG
- Core Network TSG
- Service and System Aspects TSG
- Terminals TSG

Within these groups the one most relevant to the WCDMA technology is the Radio Access Network TSG (RAN TSG), which has been divided into four different working groups as illustrated in Figure 4.3.

The RAN TSG will produce Release-99 of the UTRA air interface specification. The work done within the 3GPP RAN TSG working groups has been the basis of the technical description of the UTRA air interface covered in this book. Without such a global initiative, this book would have been forced to focus on a single regional specification, though with many similarities to those of other regions. Thus the references throughout this book are to the specification volumes from 3GPP.

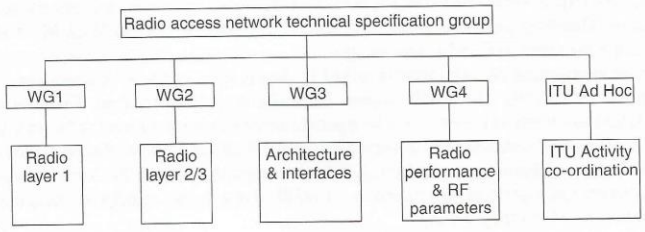


Figure 4.3. 3GPP RAN TSG working groups

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During the first half of 1999 the inputs from the various participating organisations were merged in a single standard, leaving the rest of the year to finalise the detailed parameters for the first full release, Release-99, of UTRA from 3GPP. The member organisations have undertaken individually to produce standard publications based on the 3GPP specification. Thus, for example, the Release-99 UMTS specifications from ETSI are identical to the Release-99 specifications produced by 3GPP. The latest specifications can be obtained from 3GPP [9].

During 2000, further work on GSM evolution was moved from ETSI and other forums to 3GPP, including work on GPRS and EDGE. A new TSG, TSG GERAN was set up for this purpose.

4.7 Creation of 3GPP2

Work done in TR45.5 and TTA was merged to form 3GPP2, focused on the development of cdma2000 Direct-Sequence (DS) and Multi-Carrier (MC) mode for the cdma2000 third generation component. This activity has been running in parallel with the 3GPP project, with participation from ARIB, TTC and CWTS as member organisations. Recently the main concentration has been on the MC mode work, due to decisions resulting from the global harmonisation efforts.

4.8 Harmonisation Phase

During the spring of 1999 several operators and manufacturers held series of meetings to seek further harmonisation and convergence between the CDMA-based third generation solutions, WCDMA and cdma2000. For the 3GPP framework the ETSI, ARIB, TTA and T1P1 concepts had already been merged to a single specification, while cdma2000 was still on its own in TR45.5. As a result of several meetings and telephone conferences, the manufacturers and operators agreed to adopt a harmonised global third generation CDMA standard consisting of three modes: Multi-Carrier (MC), Direct Spread (DS) and Time Division Duplex (TDD). The MC mode was based on the cdma2000 multi-carrier option, the DS mode on WCDMA (UTRA FDD), and the TDD mode on UTRA TDD. The agreement was to phase in a modular approach in which both core networks could be used with all air interface alternatives, as described in Figure 1.4 in Chapter 1.

The main technical impacts of these harmonisation activities were the change of UTRA FDD and TDD mode chip rate from 4.096 Mcps to 3.84 Mcps and the inclusion of a common pilot for UTRA FDD. The work in 3GPP2 focused on the MC mode, and the DS mode from cdma2000 was abandoned. The result is that globally there is only one Direct Spread (DS) wideband CDMA standard, WCDMA.

4.9 IMT2000 Process in ITU

In the ITU, recommendations have been developed for third generation mobile communications systems, the ITU terminology being called IMT-2000 [10], formerly FPLMTS. In the ITU-R, ITU-R TG8/1 has worked on the radio-dependent aspects, while the radio-independent aspects have been covered in ITU-T SG11.

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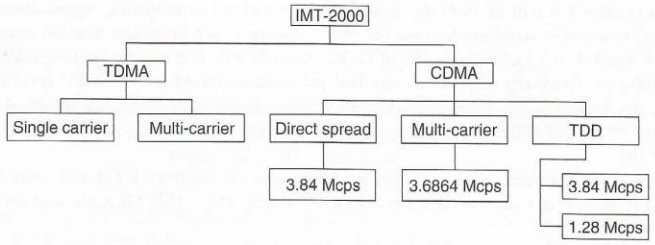


Figure 4.4. ITU-R IMT-2000 grouping

In the radio aspects, ITU-R TG8/1 received a number of different proposals during the IMT-2000 candidate submission process. In the second phase of the process, evaluation results were received from the proponent organisations as well as from the other evaluation groups that studied the technologies. During the first half of 1999 recommendation IMT.RKEY was created which describes the IMT-2000 multimode concept.

The ITU-R IMT-2000 process was finalised at the end of 1999, when the detailed specification (IMT-RSCP) was created and the radio interface specifications were approved by ITU-R [11]. The detailed implementation of IMT-2000 will continue in the regional standards bodies. The ITU-R process has been an important external motivation and timing source for IMT-2000 activities in regional standards bodies. The requirements set by ITU for an IMT-2000 technology have been reflected in the requirements in the regional standards bodies, for example in ETSI UMTS 21.01 [5], in order for the ETSI submission to fulfil the IMT-2000 requirements. The ITU-R interaction between regional standardisation bodies in the IMT-2000 process is reflected in Figure 4.5.

The ITU-R IMT-2000 grouping, with TDMA- and CDMA-based groups, is illustrated in Figure 4.4. The UTRA FDD (WCDMA) and cdma2000 are part of the CDMA interface, as CDMA Direct Spread and CDMA Multi-Carrier respectively. UWC-136 and DECT are part of the TDMA-based interface in the concept, as TDMA Single Carrier and TDMA Multi-Carrier respectively. The TDD part in CDMA consists of UTRA TDD from 3GPP and TD-SCDMA from CWTS. For the FDD part in the CDMA interface, harmonisation has been completed, and the harmonisation process is expected to continue for the CDMA TDD mode within 3GPP during 2000 and 2001.

4.10 Beyond 3GPP Release-99

Upon completion of the Release-99 specifications, work will concentrate on specifying new features as well as making the necessary corrections to Release-99. Typically such corrections arise as implementation proceeds and test systems are updated to include the latest changes in the specifications. As experience in various forums has shown, a major step forward in system capabilities with many new features requires a phasing-in period for the specifications. Fortunately, the main functions have been verified in the various test systems in operation since 1995, but only the actual implementation will reveal any errors and inconsistencies in the fine detail of the specifications.

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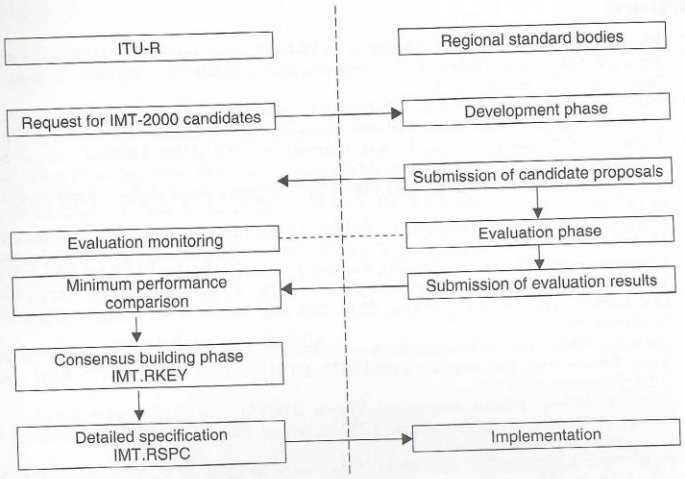


Figure 4.5. Relationship of ITU-R to the regional standards bodies

In 3GPP the next version of the specifications was originally considered as Release 2000, but since that the Release naming was adjusted so that next release is called Release 4 due to the 03/2001. Release 4 will contain only minor adjustment with respect to the Release'99. Bigger items are foreseen for inclusions in Release 5, including reaching for the data rates even up to the 10 Mbps in the downlink direction. Release 5 is due for the end of 2001. Release'99 specifications have a version number starting with 3 while Release 4 and 5 specifications have version number starting logically with 4 and 5 respectively.

During coming years, part of the process is to specify the extensions for connecting UTRA FDD to IS-41 based core networks. Work will be carried out on cdma2000 to allow connection to GSM-based core networks. This development will offer operators some degree of flexibility in selecting their third generation technology, assuming they are not aiming to launch such a service immediately, since Release-99 does not yet contain these options.

On the TDD side, further alignment is expected between the TDD mode in UTRA and the TDD mode from CWTS (China). This process is expected to continue after Release-99 is completed in 3GPP. 3GPP Release-4 is also planned to cover the lower chip rate (1.28 Mcps) TDD.

Other interesting developments are expected in the area of using IP based technology in UTRA. First step is going to be the IP based transport option in Release 4 and further releases are likely to see IP technology shaping the internal architecture of the UTRA Network (UTRAN). Also some of the protocols developed by the Internet Engineering Task Force (IETF) [12], such as robust IP header compression suitable for cellular transmission, are foreseen to be adopted as part the UTRA Rel'4 specifications.

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References

[1] Pajukoski, K. and Savusalo, J., 'Wideband CDMA Test System', *Proc. IEEE Int. Conf. on Personal Indoor and Mobile Radio Communications*, PIMRC'97, Helsinki, Finland, 1–4 September 1997, pp. 669–672.

[2] Nikula, E., Toskala, A., Dahlman, E., Girard, L., and Klein, A., 'FRAMES Multiple Access for UMTS and IMT-2000', *IEEE Personal Communications Magazine*, April 1998, pp. 16–24.

[3] Klein, A., Pirhonen, R., Sköld, J., and Suoranta, R., 'FRAMES Multiple Access Mode 1—Wideband TDMA with and without Spreading', *Proc. IEEE Int. Conf. on Personal Indoor and Mobile Radio Communications*, PIMRC'97, Helsinki, Finland, 1–4 September 1997, pp. 37–41.

[4] Ovesjö, F., Dahlman, E., Ojanperä, T., Toskala, A., and Klein, A., 'FRAMES Multiple Access Mode 2—Wideband CDMA', *Proc. IEEE Int. Conf. on Personal Indoor and Mobile Radio Communications*, PIMRC'97, Helsinki, Finland, 1–4 September 1997, pp. 42–46.

[5] Universal Mobile Telecommunications System (UMTS), Requirements for the UMTS Terrestrial Radio Access System (UTRA), ETSI Technical Report, UMTS 21.01 version 3.0.1, November 1997.

[6] Universal Mobile Telecommunications System (UMTS), Selection Procedures for the Choice of Radio Transmission Technologies of the UMTS, ETSI Technical Report, UMTS 30.03 version 3.1.0, November 1997.

[7] Universal Mobile Telecommunications System (UMTS), UMTS Terrestrial Radio Access System (UTRA) Concept Evaluation, ETSI Technical Report, UMTS 30.06 version 3.0.0, December 1997.

[8] ETSI Press Release, SMG Tdoc 40/98, 'Agreement Reached on Radio Interface for Third Generation Mobile System, UMTS', Paris, France, January 1998.

[9] http://www.3GPP.org

[10] http://www.itu.int/imt/

[11] ITU Press Release, ITU/99–22, 'IMT-2000 Radio Interface Specifications Approved in ITU Meeting in Helsinki', 5 November 1999.

[12] http://www.ietf.org

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Appendix 7

3GPP PCG#38
West Palm Beach, 25 April 2017
PCG38_20

MCC Activity Report

Source

Adrian Scrase

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Contents

- Departures and Arrivals
- Resource Allocation
- Personnel Changes
- Workload
- 3GPP Membership
- Antitrust Compliance Training
- Summary and Outlook

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Departures and Arrivals

Kyoungseok OH has joined MCC from the beginning of 2017 as the seconded expert from TTA. He has been allocated Working Group RAN4.



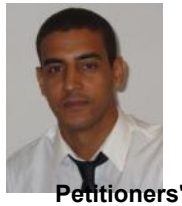
Hakim MKINSI has joined MCC from the beginning of February 2017 and has been allocated Working Group CT6 (as a part time assignment, the remainder of his time being allocated to ETSI TC SCP.)



As a result of these arrivals, Juha Korhonen has now been allocated Working Group RAN2, and Issam Toufik has been allocated Working Group RAN3.



Due to the increasing number of additional meetings, a flexible assignment may be necessary on a case by case basis.



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Resource Allocation



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Workload: Change Requests

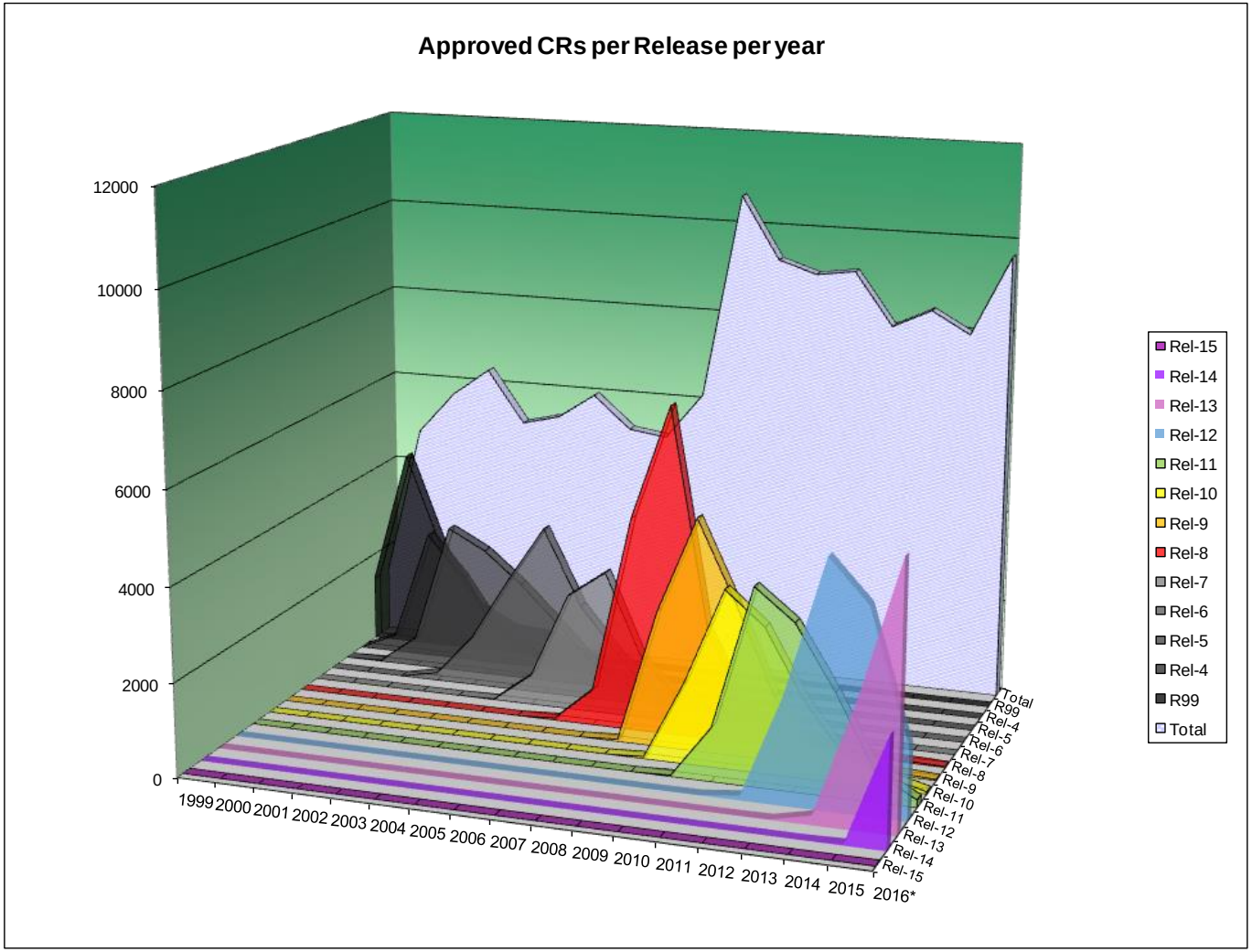
Approved CRs per Release per Year

Release	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*	Total
R99	1408	4398	2266	1004	581	512	111	42	23	5	5	1	0						**10356**
Rel-4		376	2828	1900	690	257	122	63	48	22	20	13	11	8	7	2			**6367**
Rel-5		27	644	3274	2842	2162	1357	509	94	25	22	7	7	5	3	2			**10980**
Rel-6				172	1088	2458	3721	2074	1078	212	74	19	17	10	4	4			**10931**
Rel-7					1	20	663	2529	3132	1262	492	176	91	43	25	15			**8449**
Rel-8								49	777	4609	7073	2347	706	347	184	91	46	22	**16251**
Rel-9										49	2918	4991	3252	1366	376	165	70	26	**13213**
Rel-10											47	1722	3800	3103	1636	584	267	50	**11209**
Rel-11												32	1152	4178	3525	2186	622	163	**11858**
Rel-12													6	102	2254	5181	4287	1530	**13360**
Rel-13															8	200	2648	5571	**8427**
Rel-14																	24	2315	**2339**
Rel-15																		6	**6**
Total	**1408**	**4801**	**5738**	**6350**	**5202**	**5409**	**5974**	**5266**	**5152**	**6184**	**10651**	**9308**	**9042**	**9162**	**8022**	**8430**	**7964**	**9683**	123746

* It should be noted that **9683** Change Requests were processed during 2016, which represents the highest peak since 2009 (Release 8 (LTE) freeze). It is predicted that the Release 15 and Release 16 freezes (5G) will result in an even higher number of Change Requests to be processed (i.e., the Perfect Storm).

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Workload: CRs



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Workload: Committee Support

PCG#36 requested that MCC provide support to ad hoc meetings, bis meetings and workshops to the extent that this is possible within the overall budget. This request has been implement and, in most cases, such meetings have received support.

At PCG#37, I gave warning that the increasing workload was likely to become unsustainable and would necessitate an increase in MCC resources.

A proposal is therefore made at this PCG to increase MCC resources and this can be found in document PCG38_21.

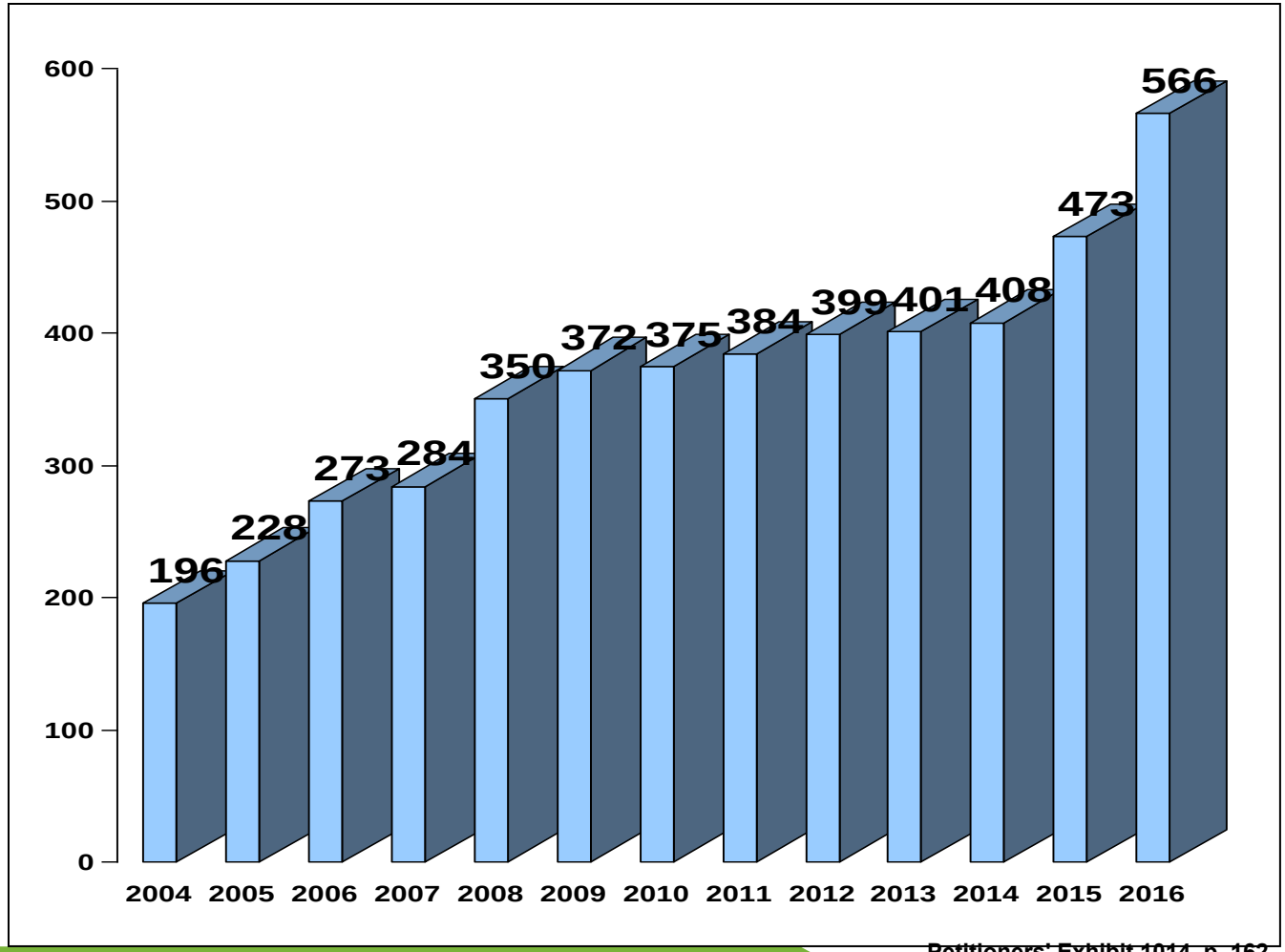
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3GPP Membership

3GPP Membership currently stands at *566* Individual Members. In addition, there are 26 companies having Guest Status, which are potential IMs

Number of Individual Members in 3GPP

3GPP Individual Members come from 45 Countries worldwide



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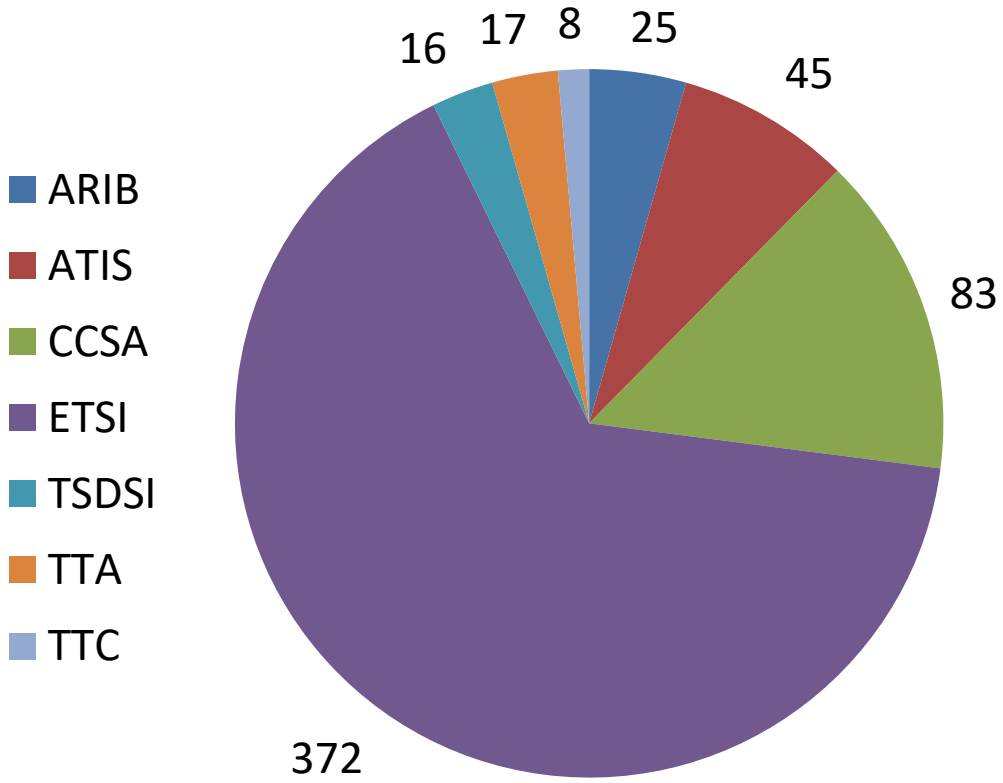
3GPP Member Territories

AUSTRALIA	DENMARK	ISRAEL	POLAND	SOUTH AFRICA
AUSTRIA	ESTONIA	ITALY	PORTUGAL	SPAIN
AZERBAIJAN	FINLAND	JAPAN	QATAR	SWEDEN
BELGIUM	FRANCE	KOREA (REPUBLIC OF)	ROMANIA	SWITZERLAND
BOTSWANA	GERMANY	LEBANON	RUSSIAN FEDERATION	TAIWAN, PROVINCE OF CHINA
BRAZIL	HONG KONG	LUXEMBOURG	SERBIA	TURKEY
CANADA	INDIA	MALAYSIA	SINGAPORE	UNITED ARAB EMIRATES
CHINA	INDONESIA	NETHERLANDS	SLOVAKIA	UNITED KINGDOM
CZECH REPUBLIC	IRELAND	NORWAY	SLOVENIA	UNITED STATES

Note: Membership is growing substantially, and also outside of traditional 3GPP territories. This may well lead to proposals for 3GPP meetings to be held in such locations.

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Individual Members in 3GPP



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Antitrust Training

Three antitrust and competition law training sessions are planned for 2017:

27 March:	convenient for European based leaders
03 May:	convenient for US based leaders
01 June:	convenient for Asian based leaders

Each session is delivered by trainers based in the specific region

These sessions are currently aimed at the TSG Leadership, MCC and OP staff. The question has been raised as to whether such training should be extended to delegates as well? Some advice from the PCG on this would be helpful.

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Summary and Outlook

3GPP Membership continues to show a 20% annual growth and there is no indication that this will reduce. On the contrary, as 5G normative work has only just begun, further growth is expected

The workload within the TSGs is increasing and will continue to do so in order to meet the accelerated timeline for Release 15 and 16 delivery

The increasing workload within the TSGs places a higher workload on MCC which is now working at capacity with no margin for the unforeseen

3GPP has become *the* focal point for delivery of 5G standards and it is important to ensure that the workload within the TSGs (and therefore within MCC) remains manageable

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Appendix 8

The 3G IP Multimedia Subsystem (IMS)

Merging the Internet and the Cellular Worlds

Gonzalo Camarillo and Miguel A. García-Martín

Both of
Ericsson, Finland



John Wiley & Sons, Ltd

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Chapter 2

The History of the IMS Standardization

In Chapter 1 we mentioned that the IMS uses Internet protocols. When the IMS needs a protocol to perform a particular task (e.g., to establish a multimedia session), the standardization bodies standardizing the IMS take the Internet protocol intended for that task and specify its use in the IMS. Still, no matter how simple this may sound the process of choosing protocols to be used in the IMS can sometimes get tricky. Sometimes, the Internet protocol that is chosen lacks some essential functionality, or does not even exist at all. When this happens the IMS standardization bodies contact the standardization body developing Internet protocols to work together on a solution. We will cover this collaboration in Section 2.5. Nevertheless, before jumping into that we will introduce in Section 2.1 all the standardization bodies involved in IMS development. We need to know who is who and which functions of the IMS each of them performs.

2.1 Relations between IMS-related Standardization Bodies

The ITU (International Telecommunication Union) IMT-2000 (International Mobile Telecommunications-2000) is the global standard for 3G (third generation) networks. IMT-2000 is the result of the collaboration between different standards bodies and aims at providing access to telecommunication services using radio links, which include satellite and terrestrial networks.

We will focus on two of the standard bodies involved in IMT-2000: 3GPP (Third Generation Partnership Project) and 3GPP2 (Third Generation Partnership Project 2). Still, they are not the only ones working within IMT-2000. Other bodies, such as the ITU-R (ITU-Radiocommunication Sector), for instance, are also involved in IMT-2000 but on different areas than the IMS.

Both 3GPP and 3GPP2 have standardized their own IMS (IP Multimedia Subsystem). The 3GPP IMS and the 3GPP2 IMS are fairly similar, but, nevertheless, have a few differences (Appendix A lists the most important differences).

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An important similarity between the 3GPP IMS and the 3GPP2 IMS is that both use Internet protocols, which have been traditionally standardized by the IETF (Internet Engineering Task Force). Consequently, both 3GPP and 3GPP2 collaborate with the IETF in developing protocols that fulfill their requirements. The following sections introduce the IETF, 3GPP, and 3GPP2 and provide a brief history of the IETF-3GPP/3GPP2 collaboration.

In addition to the standard bodies we have just mentioned, OMA (Open Mobile Alliance [144]) will play an important role in developing IMS services in the near future. While 3GPP and 3GPP have standardized (or are standardizing) a few IMS services, such as basic video calls or conferencing, from now on OMA will focus on service standardization for the IMS (of course, other standard bodies and third parties besides OMA may also develop services for the IMS).

2.2 Internet Engineering Task Force (IETF)

The Internet Engineering Task Force (IETF) is a loosely self-organized collection of network designers, operators, vendors, and research institutions that work together to develop the architecture, protocols, and operation of the public Internet. The IETF is body that is open to any interested individual. The IETF is not a corporation and, therefore, does not have a board of directors, members, nor dues.

The IETF is the standardization body that has developed most of the protocols that are currently used on the Internet. The IETF does not standardize networks, architectures combining different protocols, the internal behaviour of nodes, nor APIs (Application Programming Interface). The IETF is the protocol factory for IP-related protocols.

2.2.1 Structure of IETF

Work in the IETF is organized in working groups. Each working group is chartered to perform specific tasks, such as the delivery of a precise set of documents. Each working group has from one to three chairs, who take care that the working group completes its chartered tasks in time. Working groups have a temporary lifetime; so, once they have delivered their documents, either they are rechartered or they cease to exist. Figure 2.1 shows a few, but not all, of the working groups in the IETF; there are more than 100 active working groups in the IETF. The complete up-to-date list of active working groups is available at:

`http://www.ietf.org/html.charters/wg-dir.html`

Working groups get an acronym name that identifies the chartered task. For instance, SIPPING is the acronym of "Session Initiation Protocol Investigation", SIMPLE is the acronym of "SIP for Instant Messaging and Presence Leveraging Extensions" or AAA for "Authentication, Authorization and Accounting".

A collection of working groups form an Area Directorate. There are currently eight areas, as illustrated in Figure 2.1.

Each area has one or two area directors who, together with the IETF chairman, form the IESG (Internet Engineering Steering Group). The IESG is the technical

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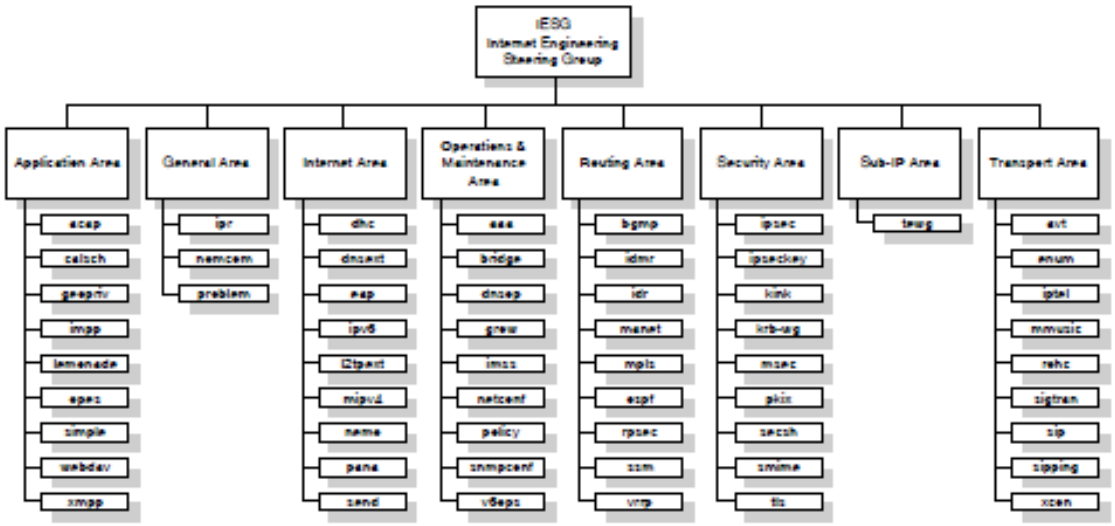


Figure 2.1: The structure of the IETF

management team of the IETF. They decide on which areas the IETF should work and review all the specifications that are produced.

The following web pages contain the complete list of the working groups of all areas and the charter of the SIPPING working group respectively.

`http://www.ietf.org/html.charters/wg-dir.html`
`http://www.ietf.org/html.charters/sipping-charter.html`

The IAB (Internet Architecture Board) is the body that provides technical leadership and handles appeals. Its web page is:

`http://www.iab.org/`

2.2.2 Working Group Operations

The technical work in the IETF is done within the working groups. Working groups do not have any kind of membership; they are formed by a number of volunteers that work as individuals. That is, they do not represent their companies when working for the IETF.

Most of the technical discussions within a working group take place in its mailing list. Even the decisions made at face-to-face meetings (held three times a year) have to be confirmed in the mailing list.

The technical documents used within the working groups are called Internet-Drafts. There are two types of them: individual submissions and working group items. Individual submissions are technical proposals submitted by an individual or individuals. If the working group decides that an individual submission is a good starting point to work on a particular topic, it becomes a working group item.

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Individual submissions and working group items can be distinguished by the name of the file where they are stored. Individual submissions start with:

```
draft-author's_name
```

while working group items start with:

```
draft-ietf-name_of_the_working_group
```

A list of all the Internet-Drafts can be found at:

```
http://www.ietf.org/internet-drafts/
```

When a working group feels that a working group item is ready for publication as an RFC the working group chairs send it to the IESG. The IESG may provide feedback to the working group (e.g., ask that working group to change something in the draft) and, eventually, decides whether or not a new RFC is published.

Although most of the Internet-Drafts that the IESG receives come from working groups an individual may also submit an Internet-Draft to the IESG. This usually happens with topics that are not large enough to grant the creation of a working group, but which, nevertheless, are of interest to the Internet community.

It is important to note that Internet-Drafts, even if they are working group items, represent work in progress and should only be referenced as such. Internet-Drafts are temporary documents that expire and cease to exist six months after they are issued. They can change at any time without taking into consideration backward compatibility issues with existing implementations. Only when a particular Internet-Draft becomes an RFC can it be considered a stable specification.

2.2.3 Types of RFCs

The technical documents produced by the IETF are called RFCs (Request For Comments). According to the contents of the document there are three main types of RFCs:

- Standards-track RFCs.
- Non-standards-track RFCs.
- BCP (Best Current Practise) RFCs.

Standards-track RFCs typically define protocols and extensions to protocols. According to the maturity of the protocol there are three levels of standards-track RFCs: proposed standard, draft standard, and Internet standard. Standards-track specifications are supposed to advance from proposed to draft and, finally, to Internet standard as they get more and more mature. An important requirement in this process is that a particular specification is implemented by several people to show that different independently built implementations that follow the same specification can successfully interoperate.

Nevertheless, in practise only a few RFCs reach the draft standard level and even fewer become Internet standards. At present, the specifications of many protocols that are used massively on the Internet are proposed standards.

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There are three types of non-standards-track RFCs: experimental, informational, and historical (which are called *historic* RFCs). Experimental RFCs specify protocols with a very limited use, while informational RFCs provide information for the Internet community about some topic, such as a requirements document or a process. When a standards-track RFC becomes obsolete, it becomes a historic RFC.

BCP RFCs record the best current practise known to the community to perform a particular task. They may deal with protocol issues or with administrative issues.

Figure 2.2 shows the relations between all the RFC types. A list of all the RFCs published so far and their status can be fetched from:

`http://www.ietf.org/iesg/1rfc_index.txt`

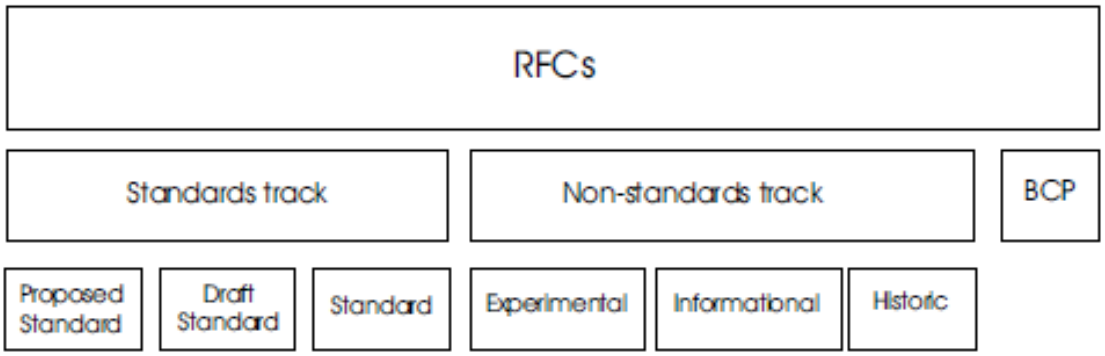


Figure 2.2: RFC types

RFCs can be downloaded from the following web page by just introducing the RFC number:

`http://www.ietf.org/rfc.html`

Additionally, the RFC Editor offers a web page that allows us to search for RFCs by title, number, author and keywords:

`http://www.rfc-editor.org/rfcsearch.html`

2.3 Third Generation Partnership Project (3GPP)

The Third Generation Partnership Project (3GPP) was born in 1998 as a collaboration agreement between a number of regional telecommunication standard bodies, known as *organizational partners*. The current 3GPP organizational partners are:

1. ARIB (Association of Radio Industries and Business) in Japan,

   `http://www.arib.or.jp/english/`

2. CCSA (China Communications Standards Associations) in China,

   `http://www.ccsa.org.cn/english/`

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3. ETSI (European Telecommunications Standards Institute) in Europe,

   `http://www.etsi.org/`

4. Committee T1 in the United States of America,

   `http://www.t1.org/`

5. TTA (Telecommunications Technology Association) of Korea

   `http://www.tta.or.kr/English/`

6. TTC (Telecommunication Technology Committee) in Japan,

   `http://www.ttc.or.jp/e/`

3GPP was originally chartered to develop globally applicable Technical Specifications and Technical Reports for a third-generation mobile system based on GSM. The scope has been reinforced to include maintenance and development of GSM specifications including the supported and evolved radio networks, technologies, and packet access technologies.

Besides the organizational partners, *market representation partners* provide the partnership with market requirements. Market representation partners include, among others, the UMTS Forum, 3G Americas, the GSM Association, the Global mobile Suppliers Association, the TD-SCDMA Forum, and the IPv6 Forum.

3GPP maintains an up-to-date web site at:

`http://www.3gpp.org/`

2.3.1 3GPP Structure

3GPP is organized in a Project Co-ordination Group (PCG) and Technical Specification Groups (TSGs), as illustrated in Figure 2.3. The PCG is responsible for the overall management of 3GPP, time plans, allocation of work, etc. The technical work is produced in the TSGs. At the moment there are five TSGs, responsible for the Core Network (CN), System and Services Aspects (SA), GSM EDGE Radio Access Network (GERAN), Radio Access Network (RAN), and Terminals (T). Each of the TSGs is further divided into Working Groups. Each of the Working Groups is allocated particular tasks. For instance, CN WG1 is responsible for all the detailed design of the usage of SIP and SDP in the IMS, CN WG3 for interworking aspects and CN4 for all the detailed design of the usage of Diameter. SA WG1 is responsible for the requirements, SA2 for the architecture, SA WG3 for the security aspects, SA WG4 for the codecs, and SA WG5 for the operation and maintenance of the network.

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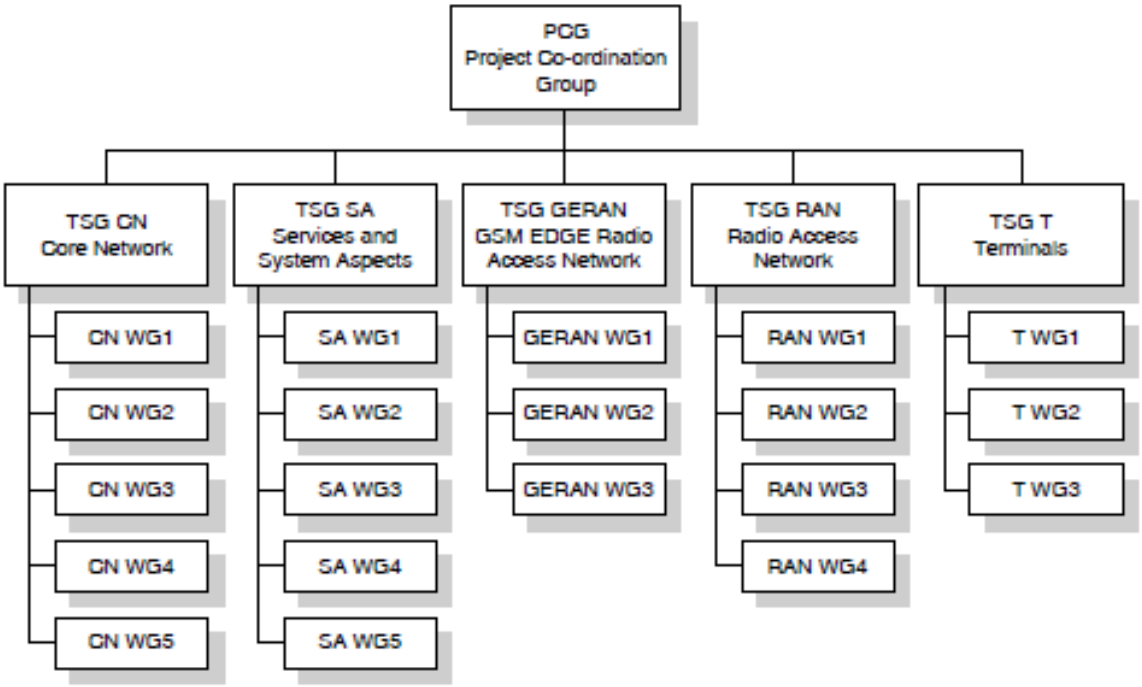


Figure 2.3: The structure of 3GPP

2.3.2 3GPP Deliverables

3GPP working groups do not produce standards. Instead, they produce Technical Specifications (TS) and Technical Reports (TR) that are approved by the TSGs. Once approved they are submitted to the organizational partners to be submitted to their respective standardization processes. The final part of the process is in the organizational partners' hands when they approve the TSs or TRs as part of their standards procedures. As a result, there is a set of globally developed standards that are ready to be used in a particular region.

3GPP TSs and TRs are numbered according to the sequence of four or five digits that follow the pattern "xx.yyy". The first two digits "xx" identify the series number, and the last two or three digits "yy" or "yyy" identify a particular specification within a series. For instance, 3GPP TS 23.228 [21] describes the architectural aspects of the IMS.

3GPP groups its specifications in what is called a *Release*. 3GPP Release 5 contains the first version of the IMS. 3GPP Release 6 contains enhancements to the IMS. The reader must note that the IMS is just a fraction of the 3GPP deliverables in a particular Release, as there are other non-IMS specifications included in a 3GPP Release. 3GPP TSs and TRs include a version number that follows the pattern "x.y.z", where "x" represents the 3GPP Release where the specification is published, "y" is the version number, and "z" is a sub-version number. So, 3GPP TS 23.228 version 5.8.0 means version 8.0 of the Release 5 version of TS 23.228.

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3GPP TSs and TRs are publicly available at the 3GPP web site at either of the following URIs:

`http://www.3gpp.org/specs/specs.htm`

`http://www.3gpp.org/ftp/Specs/archive/`

2.4 Third Generation Partnership Project 2 (3GPP2)

If 3GPP was born to evolve GSM specifications into a third-generation cellular system, the Third Generation Partnership Project 2 (3GPP2) was born to evolve North American and Asian cellular networks based on ANSI/TIA/EIA-41 standards and CDMA2000© radio access into a third-generation system. 3GPP2 like 3GPP is a partnership project whose members are also known as *organizational partners*. The current list of organizational partners include ARIB (Japan), CCSA (China), TIA (Telecommunications Industry Association) (North America), TTA (Korea), and TTC (Japan). Probably, the reader has noticed that most of them are also organizational partners of 3GPP.

Like 3GPP, 3GPP2 gets market requirements and advice from *market representation partners*. At the moment the list includes the IPv6 Forum and the CDMA Development Group.

2.4.1 3GPP2 Structure

The 3GPP2 structure mimics the structure of 3GPP, as illustrated in Figure 2.4. A Steering Committee (SC) is responsible for the overall standardization process and the planning. The technical work is done in Technical Specification Groups (TSGs). TSG-A is focused on the Access Network Interface, TSG-C on CDMA2000© technology, TSG-S on Service and System Aspects, and TSG-X in Intersystems Operations. TGS-X was born as a merger between the former TSG-N (Core Networks) and TSG-P (Packet Data) TSGs. The structure of TSN-X is not completely defined yet.

2.4.2 3GPP2 Deliverables

Like 3GPP, 3GPP2 does not produce standards but, instead, Technical Specifications (TSs) and Technical reports (TRs). The documents are created by the TSGs and approved by the SC. Then, they are submitted to the organizational partners to be submitted to their respective standardization processes.

3GPP2 TSs and TRs are numbered with a sequence of letters and digits that follows the scheme "A.Bxxxx-yyy-R" where "A" is a letter that represents the name of the TSG that delivers the document, "B" can be an "R" letter to indicate a TR or a requirements document, but it can also be an "S" letter to indicate a TS. "xxxx" is a sequential number allocated to the document. An optional "yyy" sequence of digits can further identify the chapter within a specification series. The "R" letter identifies the revision. The version number follows the specification and indicates a major and

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Appendix 9

3GPP MEMBERSHIP

2024-07-01 Version 1.1

New Query

Selected categories:

- **Individual Members (all partners)**

Choose csv separator : , export to csv file

INDIVIDUAL MEMBERS

Organization	Country	Partner
3in (Industrial Internet Innovation Center (Shanghai) Co.,Ltd.)	CHINA	CCSA
450connect GmbH (450connect GmbH)	GERMANY	ETSI
A.S.T.R.I.D. SA/NV (A.S.T.R.I.D. SA)	BELGIUM	ETSI
ABP, NRTA (Academy of Broadcasting Planning, NRTA)	CHINA	CCSA
ABS (Academy of Broadcasting Science)	CHINA	CCSA
AccelerComm Ltd (AccelerComm Ltd)	UNITED KINGDOM	ETSI
Acer Incorporated (Acer Incorporated)	TAIWAN, PROVINCE OF CHINA	ETSI
adare GmbH (adare GmbH)	GERMANY	ETSI
Airbus (Airbus DS SLC)	FRANCE	ETSI
Ajou University (Ajou University)	KOREA (REPUBLIC OF)	TTA
albis-elcon system GermanyGmbH (albis-elcon system Germany GmbH)	GERMANY	ETSI
Alibaba (China) Group., Ltd. (Alibaba (China) Group., Ltd.)	CHINA	CCSA
All Connected BV (Rail Connected)	NETHERLANDS	ETSI
Allot Ltd (Allot Ltd)	ISRAEL	ETSI
Altan Redes S.A.P.I. de C.V. (Altan Redes S.A.P.I. de C.V.)	MEXICO	ETSI
Amazon Web Services (Amazon Web Services EMEA SARL)	LUXEMBOURG	ETSI
Amdocs Software Systems Ltd (Amdocs Software Systems Limited)	IRELAND	ETSI
Analog Devices, Inc. (Analog Devices, Inc.)	UNITED STATES	ATIS
Anemone Technology (Anemone Technology)	DENMARK	ETSI
Anritsu Corporation (ANRITSU CORPORATION)	JAPAN	ARIB
Anritsu EMEA Ltd (Anritsu EMEA Ltd)	UNITED KINGDOM	ETSI
Anterix (Anterix)	UNITED STATES	ATIS
Apple	CHINA	CCSA

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(Apple Purchase Operation management)		
Apple (Guizhou) **(Apple Technology Services (Guizhou) Ltd.)**	CHINA	CCSA
Apple (UK) Limited **(Apple (UK) Limited)**	UNITED KINGDOM	ETSI
Apple (Ulanqab) **(Apple Technology Services (Ulanqab) Ltd)**	CHINA	CCSA
Apple AB Denmark **(Apple AB, filial AF Apple Aktiebolag, Sverige)**	DENMARK	ETSI
Apple Benelux B.V. **(Apple Benelux B.V.)**	NETHERLANDS	ETSI
Apple Benelux B.V. - Belgium **(Apple Benelux B.V. - Belgium Branch)**	BELGIUM	ETSI
Apple Computer Trading Co. Ltd **(Apple Computer Trading (Shanghai) Co., Ltd.)**	CHINA	CCSA
Apple Distribution Intl Ltd **(Apple Distribution International Limited)**	IRELAND	ETSI
Apple France **(Apple France)**	FRANCE	ETSI
Apple GmbH **(Apple GmbH)**	GERMANY	ETSI
Apple Inc **(Apple Inc)**	UNITED STATES	ATIS
Apple R&D **(Apple R&D)**	CHINA	CCSA
Apple Solutions **(Apple Solutions Consulting Services (Beijing) Company Limited)**	CHINA	CCSA
Apple Switzerland AG **(Apple Switzerland AG)**	SWITZERLAND	ETSI
Apple Trading **(Apple Trading (Shanghai) Company Limited)**	CHINA	CCSA
AQSACOM S.A.S. **(AQSACOM S.A.S.)**	FRANCE	ETSI
Arriver Software AB **(Arriver Software AB)**	SWEDEN	ETSI
ARTICLE19 **(ARTICLE19)**	UNITED KINGDOM	ETSI
ASELSAN **(ASELSAN Inc.)**	TÜRKIYE	ETSI
AsiaInfo **(AsiaInfo Technologies (China), Inc.)**	CHINA	CCSA
AsiaInfo Technologies Inc **(AsiaInfo Technologies Inc)**	CHINA	ETSI
ASR **(ASR Microelectronics Co., Ltd.)**	CHINA	CCSA
ASTRI **(Hong Kong Applied Science & Technology Research Institute)**	HONG KONG	ETSI
Astrome Technologies Pvt Lt **(Astrome Technologies Pvt Lt)**	INDIA	TSDSI
ASUSTEK COMPUTER (SHANGHAI) **(ASUSTEK COMPUTER (SHANGHAI) CO. LTD.)**	CHINA	CCSA
AT&T **(AT&T)**	UNITED STATES	ATIS
AT&T GNS Belgium SPRL **(AT&T Global Network Services Belgium SPRL)**	BELGIUM	ETSI
AT&T Labs, Inc **(AT&T Labs, Inc)**	UNITED STATES	ATIS
AT&T Services, Inc. **(AT&T Services, Inc.)**	UNITED STATES	ATIS
ATEME **(ATEME SA)**	FRANCE	ETSI
Avanti **(Avanti Communications Ltd)**	UNITED KINGDOM	ETSI
Axyom.Core **(Axyom.Core Inc)**	UNITED STATES	ETSI
BAE Systems AI Ltd	UNITED KINGDOM	ETSI

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(BAE Systems Applied Intelligence Limited)		
Baicells Technologies Co. Ltd **(Baicells Technologies Co. Ltd)**	CHINA	CCSA
BBC **(BRITISH BROADCASTING CORPORATION)**	UNITED KINGDOM	ETSI
B-Com **(B-Com)**	FRANCE	ETSI
BDBOS **(Federal Agency for Public Safety Digital Radio)**	GERMANY	ETSI
BeammWave AB **(BeammWave AB)**	SWEDEN	ETSI
Beijing Lenovo Software Ltd. **(Beijing Lenovo Software Ltd.)**	CHINA	CCSA
BEIJING SAMSUNG TELECOM R&D **(BEIJING SAMSUNG TELECOM R&D CENTER)**	CHINA	CCSA
Beijing Xiaomi Electronics **(Beijing Xiaomi Electronics)**	CHINA	CCSA
Beijing Xiaomi Mobile Software **(Beijing Xiaomi Mobile Software Co., Ltd)**	CHINA	CCSA
Beijing Xiaomi Mobile Software **(Beijing Xiaomi Mobile Software Co., Ltd.)**	CHINA	ETSI
Beijing Xiaomi Software Tech **(Beijing Xiaomi Software Technology)**	CHINA	CCSA
Bell Mobility **(Bell Mobility)**	CANADA	ETSI
BfV **(Bundesamt für Verfassungsschutz)**	GERMANY	ETSI
Bharti Airtel Limited **(Bharti Airtel Limited)**	INDIA	TSDSI
BIFNC **(BRICS Institute of Future Network)**	CHINA	CCSA
BIPT **(BIPT - Belgian Institute for Postal services & Telecommunications)**	BELGIUM	ETSI
Bittium Wireless Ltd. **(Bittium Wireless Ltd.)**	FINLAND	ETSI
BJTU **(Beijing Jiaotong University)**	CHINA	CCSA
BKA **(Bundeskriminalamt)**	GERMANY	ETSI
Bluetest AB **(Bluetest AB)**	SWEDEN	ETSI
BMF **(Austrian Federal Ministry of Finance)**	AUSTRIA	ETSI
BMW AG **(Bayerische Motoren Werke AG)**	GERMANY	ETSI
BMWK **(Bundesministerium für Wirtschaft und Klimaschutz)**	GERMANY	ETSI
BOCRA **(Botswana Communications Regulatory Authority)**	BOTSWANA	ETSI
BOUYGUES Telecom **(BOUYGUES Telecom)**	FRANCE	ETSI
Broadcom (EU) **(Broadcom Europe Ltd)**	UNITED KINGDOM	ETSI
BSI (DE) **(Bundesamt für Sicherheit in der Informationstechnik)**	GERMANY	ETSI
BSNL **(Bharat Sanchar Nigam Limited)**	INDIA	TSDSI
BT plc **(British Telecommunications plc)**	UNITED KINGDOM	ETSI
BTL Inc. **(BTL Inc.)**	CHINA	ETSI
BTPDI **(Beijing Telecom Planning & Designing Institute Co.,LTD.)**	CHINA	CCSA
BUPT **(Beijing University of Posts and Telecommunications)**	CHINA	CCSA
Bureau Veritas ADT	TAIWAN, PROVINCE OF CHINA	ETSI

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(Bureau Veritas Consumer Products Services (Hong Kong) Limited, Taoyuan Branch)		
Bytedance **(Bytedance (Nanjing) Technology Research and Development Co., Ltd.)**	CHINA	CCSA
C Spire Wireless **(C Spire Wireless)**	UNITED STATES	ATIS
CableLabs **(CableLabs)**	UNITED STATES	ETSI
Cadence Design Systems Inc. **(Cadence Design Systems Inc.)**	UNITED STATES	ETSI
CAICT. **(China Academy of Information and Communications Technology)**	CHINA	CCSA
CALTTA **(CALTTA TECHNOLOGIES CO., LTD.)**	CHINA	CCSA
Cambium Networks Limited **(Cambium Networks Limited)**	UNITED KINGDOM	ETSI
CAMBRIDGE CONSULTANTS LTD **(CAMBRIDGE CONSULTANTS LTD)**	UNITED KINGDOM	ETSI
CANON Research Centre France **(CANON Research Centre France SAS)**	FRANCE	ETSI
CAPGEMINI **(CAPGEMINI TECHNOLOGY SERVICES INDIA LIMITED)**	INDIA	TSDSI
Catapult **(Satellite Applications Catapult Ltd)**	UNITED KINGDOM	ETSI
CATT **(China Academy of Telecommunications Technology (CATT))**	CHINA	ETSI
CATT **(China Academy of Telecommunication Technology - (Datang Telecom Technology and Industry Group))**	CHINA	CCSA
CBN **(China Broadcasting Network Group Corporation Ltd.)**	CHINA	CCSA
CCU **(National Chung Cheng University)**	TAIWAN, PROVINCE OF CHINA	ETSI
C-DAC **(Centre for Development of Advanced Computing)**	INDIA	TSDSI
C-DOT **(C-DOT)**	INDIA	TSDSI
CEA **(Commissariat à l'Energie Atomique et aux Energies Alternatives)**	FRANCE	ETSI
Cellnex **(Cellnex Telecom)**	SPAIN	ETSI
CENC **(CETC Network & Communications Group Co., Ltd.)**	CHINA	CCSA
CEPRI **(China Electric Power Research Institute)**	CHINA	CCSA
Ceragon Networks AS **(Ceragon Networks AS)**	NORWAY	ETSI
CERTH **(CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS)**	GREECE	ETSI
cetecom advanced GmbH **(cetecom advanced GmbH)**	GERMANY	ETSI
CEWiT **(Centre of Excellence in Wireless Technology (CEWiT))**	INDIA	TSDSI
CGL **(CHAZAH GROUP LTD)**	UGANDA	ETSI
Changeself **(Changeself Technology(Shenzhen)Co.,Ltd.)**	CHINA	ETSI
Charter Communications, Inc **(Charter Communications, Inc)**	UNITED STATES	ATIS
Chengdu OPPO Telecommunication **(Chengdu OPPO Mobile Telecommunications Corp., ltd.)**	CHINA	CCSA
CHENGDU TD TECH LTD. **(CHENGDU TD TECH LTD.)**	CHINA	CCSA
China Broadnet **(China Broadnet Mobile Communications Co., Ltd.)**	CHINA	CCSA
China Mobile (Hangzhou) Inf. **(China Mobile (Hangzhou) Information Technology Co., Ltd.)**	CHINA	CCSA
China Mobile (Suzhou) Software	CHINA	CCSA

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(China Mobile (Suzhou) Software Technology Co., Ltd.)		
China Mobile Com. Corporation **(China Mobile Communications Corporation (CMCC))**	CHINA	CCSA
China Mobile E-Commerce Co. **(China Mobile E-Commerce Co.)**	CHINA	CCSA
China Mobile Group Device Co. **(China Mobile Group Device Co., Ltd)**	CHINA	CCSA
China Mobile International Ltd **(China Mobile International Limited)**	CHINA	CCSA
China Mobile M2M Company Ltd. **(China Mobile M2M Company Ltd.)**	CHINA	CCSA
China Southern Power Grid Co. **(China Southern Power Grid Co., Ltd.)**	CHINA	CCSA
China Telecom Corporation Ltd. **(China Telecom Corporation Ltd.)**	CHINA	CCSA
China Telecommunications **(China Telecommunications Corporation)**	CHINA	ETSI
China Telecomunication Corp. **(China Telecomunication Corporation)**	CHINA	CCSA
China Unicom **(China Unicom)**	CHINA	CCSA
Chinatelecom Cloud **(China Telecom Cloud Technology Co., Ltd)**	CHINA	CCSA
Chongqing University **(Chongqing University)**	CHINA	CCSA
CHTTL **(Chunghwa Telecommunication Laboratories, Chunghwa Telecommunication Co.)**	TAIWAN, PROVINCE OF CHINA	ETSI
CICT **(China Information Communication Technologies Group)**	CHINA	ETSI
CICT **(China Information Communication Technologies Group Corporation)**	CHINA	CCSA
CICT Mobile **(CICT Mobile Communication Technology Co., Ltd.)**	CHINA	CCSA
CICTCI **(CICT Connected and Intelligent Technologies Co., Ltd)**	CHINA	CCSA
CIS **(Center for Internet Security)**	UNITED STATES	ETSI
CISA ECD **(Cybersecurity and Infrastructure Security Agency (CISA) ECD)**	UNITED STATES	ATIS
Cisco Systems **(Cisco Systems)**	UNITED STATES	ATIS
Cisco Systems Belgium **(Cisco Systems Belgium)**	BELGIUM	ETSI
Cisco Systems France **(Cisco Systems France)**	FRANCE	ETSI
CITC **(CHINA INFORMATION TECHNOLOGY DESIGNING&CONSULTING INSTITUTE CO.,LTD.)**	CHINA	CCSA
CKH IOD UK LIMITED **(CKH IOD UK LIMITED)**	UNITED KINGDOM	ETSI
CMDI **(China Mobile Group Design Institute Co., Ltd)**	CHINA	CCSA
CNC **(CLAP-N-CLANK)**	JAPAN	ETSI
CNES **(CNES - Centre National d'Etudes Spatiales)**	FRANCE	ETSI
Cobham SatCom A/S **(Thrane & Thrane A/S)**	DENMARK	ETSI
Cognyte **(Cognyte Technologies Israel Ltd.)**	ISRAEL	ETSI
Cohere Technologies **(Cohere Technologies)**	UNITED STATES	ATIS
Collins Aerospace **(Collins Aerospace)**	UNITED STATES	ATIS
Comba **(Comba Network Systems Company Limited)**	CHINA	CCSA
Comcast	UNITED STATES	ATIS

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(Comcast)		
Comprion GmbH **(Comprion GmbH)**	GERMANY	ETSI
Comtech Telecommunications Cor **(Comtech Telecommunications Corp)**	UNITED STATES	ATIS
Consort Digital **(Consort Digital Private Limited)**	INDIA	ETSI
Continental Automotive **(Continental Automotive Technologies GmbH)**	GERMANY	ETSI
Convida Wireless **(Convida Wireless, LLC)**	UNITED STATES	ETSI
Cosmian **(Cosmian Tech SAS)**	FRANCE	ETSI
CQUPT **(Chongqing University of Posts and Telecommunications)**	CHINA	CCSA
Crosscall **(Crosscall)**	FRANCE	ETSI
CSA **(Cyber Security Agency of Singapore)**	SINGAPORE	ETSI
CSCN **(CHINA SATELLITE NETWORK GROUP CO., LTD.)**	CHINA	CCSA
CSIRO **(Commonwealth Scientific and Industrial Research Organisation)**	AUSTRALIA	ETSI
cstconsultancy **(CyberSecurity & Technology Consultancy LTD)**	UNITED KINGDOM	ETSI
CTSI **(China Telecom System Integration Co., Ltd)**	CHINA	CCSA
CTTC **(Centre tecnologic de Telecomunicacions de Catalunya)**	SPAIN	ETSI
CU Digital Technology **(China Unicom Digital Technology Co., Ltd.)**	CHINA	CCSA
CUC **(Communication University of China)**	CHINA	CCSA
CUG **(China Unicom Global Limited)**	CHINA	CCSA
Cybercore **(Beijinig Cybercore Technology Co., Ltd.)**	CHINA	CCSA
Cygnusemi **(Cygnusemi)**	CHINA	CCSA
Czech Telecommunication Office **(Czech Telecommunication Office)**	CZECH REPUBLIC	ETSI
DAC-SSR-UPC **(D. Arquitectura de Computadores/GT Smart Sustainable Resources -Universidad Politecnica de Cataluna)**	SPAIN	ETSI
DanKook University **(DanKook University)**	KOREA (REPUBLIC OF)	TTA
DARS TELECOM S.L. **(DARS TELECOM S.L.)**	SPAIN	ETSI
Datang Linktester Technology **(Datang Linktester Technology Co., Ltd.)**	CHINA	CCSA
Datang Mobile Com. Equipment **(Datang Mobile Communications Equipment Co., Ltd)**	CHINA	CCSA
DeepSig Inc **(DeepSig Inc)**	UNITED STATES	ATIS
DEKRA **(DEKRA testing and Certification, S.A.U.)**	SPAIN	ETSI
Dell Technologies **(Dell Technologies)**	UNITED STATES	ATIS
DENSO CORPORATION **(DENSO CORPORATION)**	JAPAN	ARIB
Department of Telecom **(Department of Telecommunications)**	INDIA	TSDSI
Dept of Home Affairs **(Department of Home Affairs)**	AUSTRALIA	ETSI
Deutsche Telekom AG **(Deutsche Telekom AG)**	GERMANY	ETSI
DIGG	SWEDEN	ETSI

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(Agency for Digital Government)		
DISA **(Defense Information Systems Agency)**	UNITED STATES	ATIS
Dish Network **(Dish Network)**	UNITED STATES	ATIS
DLR **(Deutsches Zentrum für Luft- und Raumfahrt e.V.)**	GERMANY	ETSI
DOCOMO Beijing Labs **(DOCOMO Beijing Communications Laboratories Co., Ltd)**	CHINA	CCSA
DOCOMO Communications Lab. **(DOCOMO Communications Laboratories Europe GmbH)**	GERMANY	ETSI
Dolby France SAS **(Dolby France SAS)**	FRANCE	ETSI
Dolby Germany GmbH **(Dolby Germany GmbH)**	GERMANY	ETSI
Dolby Sweden AB **(Dolby Sweden AB)**	SWEDEN	ETSI
Dolby Technology India Pvt Ltd **(Dolby Technology India Pvt Ltd)**	INDIA	TSDSI
Douyin **(Beijing Douyin Information Service Co., Ltd.)**	CHINA	CCSA
DP **(DigitalPlatforms SpA)**	ITALY	ETSI
DSIT **(Department for Science, Innovation and Technology)**	UNITED KINGDOM	ETSI
DTCY **(Deloitte Tohmatsu Cyber LLC)**	JAPAN	TTC
DTS Licensing Limited **(DTS Licensing Limited)**	IRELAND	ETSI
EA Consult Services Ltd **(EA Consult Services Ltd)**	UNITED KINGDOM	ETSI
EBU **(EBU - European Broadcasting Union)**	SWITZERLAND	ETSI
EchoStar **(EchoStar)**	UNITED KINGDOM	ETSI
ECTL **(Enhanced Communications & Technologies Pvt Ltd)**	INDIA	TSDSI
EDF Recherche et Développement **(EDF)**	FRANCE	ETSI
EFORT **(Etudes et Formations en Telecommunication)**	FRANCE	ETSI
Elbit Systems **(Elbit Systems C4I and Cyber Ltd)**	ISRAEL	ETSI
Element Materials Technology **(Element Materials Technology Warwick Ltd)**	UNITED KINGDOM	ETSI
Elena **(Elena Geo Systems Pvt Ltd)**	INDIA	TSDSI
Embotech AG **(Embotech AG)**	SWITZERLAND	ETSI
EMITE **(EMITE Ingenieria S.L.)**	SPAIN	ETSI
ENENSYS **(ENENSYS Technologies SA)**	FRANCE	ETSI
Ericsson (China) **(Ericsson (China) Communications, Co.Ltd)**	CHINA	CCSA
Ericsson España S.A. **(Ericsson España S.A.)**	SPAIN	ETSI
Ericsson France S.A.S **(Ericsson France S.A.S)**	FRANCE	ETSI
Ericsson GmbH, Eurolab **(Ericsson GmbH, Eurolab - Unternehmensbereich Forschung und Entwicklung)**	GERMANY	ETSI
Ericsson Hungary Ltd **(Ericsson Hungary Ltd)**	HUNGARY	ETSI
Ericsson Inc. **(Ericsson Incorporated)**	UNITED STATES	ATIS
Ericsson India Private Limited	INDIA	TSDSI

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(Ericsson India Private Limited)		
Ericsson Japan K.K. **(Ericsson Japan K.K.)**	JAPAN	ARIB
Ericsson Limited **(Ericsson Limited)**	UNITED KINGDOM	ETSI
Ericsson LM **(Ericsson Telefonaktiebolaget LM)**	SWEDEN	ETSI
Ericsson Telecomunicazioni SpA **(Ericsson Telecomunicazioni SpA)**	ITALY	ETSI
Ericsson-LG Co., LTD **(Ericsson-LG Co., LTD)**	KOREA (REPUBLIC OF)	TTA
Erillisverkot **(Suomen Erillisverkot Oy)**	FINLAND	ETSI
ERNET India **(ERNET India)**	INDIA	TSDSI
ESA **(ESA - European Space Agency)**	NETHERLANDS	ETSI
E-SPACE **(E-SPACE SAS)**	FRANCE	ETSI
ESSEN INNOVATION **(ESSEN INNOVATION COMPANY LIMITED)**	CHINA	CCSA
E-surfing Digital **(E-surfing Digital Life Technology Co., Ltd)**	CHINA	CCSA
Esurfing IoT **(Esurfing IoT Tech Co., Ltd)**	CHINA	CCSA
ETELM **(Electronique Telematique ETELM)**	FRANCE	ETSI
Etherstack Wireless Limited **(Etherstack Wireless Limited)**	UNITED KINGDOM	ETSI
ETRI **(Electronics & Telecommunications Research Institute)**	KOREA (REPUBLIC OF)	TTA
ETS-Lindgren Europe **(ETS-Lindgren Europe)**	FINLAND	ETSI
EURECOM **(EURECOM)**	FRANCE	ETSI
Eurofins KCTL **(Eurofins KCTL Co. Ltd)**	KOREA (REPUBLIC OF)	ETSI
European Commission **(EC - European Commission)**	BELGIUM	ETSI
European Patent Organisation **(European Patent Organisation)**	GERMANY	ETSI
EUTC **(European Utilities Telecom Council (EUTC))**	BELGIUM	ETSI
Eutelsat Group **(Eutelsat S.A.)**	FRANCE	ETSI
EVE Compliancy Solutions **(EVE Compliancy Solutions)**	NETHERLANDS	ETSI
Everactive **(Everactive)**	UNITED STATES	ATIS
F5 **(F5, Inc.)**	UNITED STATES	ETSI
Fabasoft AG **(Fabasoft AG)**	AUSTRIA	ETSI
Facebook Japan G.K. **(Facebook Japan G.K.)**	JAPAN	ARIB
Fastweb S.p.A. **(Fastweb S.p.A.)**	ITALY	ETSI
FAU **(Friedrich-Alexander-Universität Erlangen-Nürnberg)**	GERMANY	ETSI
FBK **(Fondazione Bruno Kessler)**	ITALY	ETSI
FCC **(Federal Communications Commission)**	UNITED STATES	ATIS
Fiberhome Technologies Group **(Fiberhome Technologies Group)**	CHINA	CCSA
FirstNet	UNITED STATES	ATIS

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(FirstNet)		
FORCE Technology **(FORCE Technology)**	DENMARK	ETSI
Ford **(Ford Motor Company)**	UNITED STATES	ETSI
Fraunhofer FOKUS **(Fraunhofer Institute for Open Communication Systems FOKUS)**	GERMANY	ETSI
Fraunhofer HHI **(Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute)**	GERMANY	ETSI
Fraunhofer IIS **(Fraunhofer Institut für Integrierte Schaltungen IIS)**	GERMANY	ETSI
Frequentis AG **(Frequentis AG)**	AUSTRIA	ETSI
Fujitsu Limited **(Fujitsu Limited)**	JAPAN	ETSI
Fujitsu Limited. **(Fujitsu Limited.)**	JAPAN	TTC
Fujitsu Limited.. **(Fujitsu Limited..)**	JAPAN	ARIB
Futurewei **(Futurewei Technologies Inc.)**	UNITED STATES	ETSI
Futurewei Technologies **(Futurewei Technologies)**	UNITED STATES	ATIS
G+D MS **(Giesecke+Devrient Mobile Security Germany GmbH)**	GERMANY	ETSI
Gatehouse Satcom A/S **(Gatehouse Satcom A/S)**	DENMARK	ETSI
GDCNI **(Guangdong Communications and Networks Institute)**	CHINA	CCSA
GE Network Technologies, LLC **(GE Network Technologies, LLC)**	UNITED STATES	ATIS
GEESPACE **(ZHE JIANG GEESPACE TECHNOLOGY CO., LTD.)**	CHINA	CCSA
Gigaset Technologies **(Gigaset Technologies GmbH)**	GERMANY	ETSI
Gilat **(Gilat Satellite Networks Ltd)**	ISRAEL	ETSI
GIST **(Gwangju Institute of Science and Technology)**	KOREA (REPUBLIC OF)	TTA
GLOBALSTAR Inc. **(GLOBALSTAR Inc.)**	UNITED STATES	ETSI
GM - ATCI **(General Motors - ATCI)**	ISRAEL	ETSI
Google Ireland Limited **(Google Ireland Limited)**	IRELAND	ETSI
Group 2000 **(Group 2000 Nederland B.V.)**	NETHERLANDS	ETSI
GTRC **(Georgia Tech Research Corporation)**	UNITED STATES	ETSI
GUANGDONG GENIUS TECHNOLOGY CO **(GUANGDONG GENIUS TECHNOLOGY CO., LTD.)**	CHINA	CCSA
Guangdong OPPO Mobile Telecom. **(Guangdong OPPO Mobile Telecommunications Corp., Ltd)**	CHINA	CCSA
GW **(Greenerwave)**	FRANCE	ETSI
HA/ST **(HARTING Stiftung & Co. KG)**	GERMANY	ETSI
Hangzhou Mengyuxiang **(Hangzhou Mengyuxiang Network Technology Corp., Ltd.)**	CHINA	CCSA
Harman GmbH **(Harman Becker Automotive Systems GmbH)**	GERMANY	ETSI
HEAD acoustics GmbH **(HEAD acoustics GmbH)**	GERMANY	ETSI
Hewlett-Packard Enterprise **(Hewlett-Packard Enterprise)**	FRANCE	ETSI
HiSilicon Technologies Co. Ltd	CHINA	CCSA

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(HiSilicon Technologies Co.Ltd)		
HISPASAT SA **(HISPASAT SA)**	SPAIN	ETSI
HOME OFFICE **(HOME OFFICE)**	UNITED KINGDOM	ETSI
Honda Motor Co., Ltd **(Honda Motor Co., Ltd)**	JAPAN	ARIB
Honor **(Honor Device Co., Ltd.)**	CHINA	CCSA
Honor **(Honor Device Co., Ltd)**	CHINA	ETSI
HTC Communications Co., Ltd. **(HTC Communications Co., Ltd.)**	CHINA	CCSA
Huawei Device Co., Ltd **(Huawei Device Co., Ltd)**	CHINA	CCSA
HUAWEI TECH. GmbH **(HUAWEI TECHNOLOGIES Duesseldorf GmbH)**	GERMANY	ETSI
Huawei Tech.(UK) Co.. Ltd **(Huawei Technologies (UK) Co., Ltd.)**	UNITED KINGDOM	ETSI
Huawei Technologies (Korea) **(Huawei Technologies (Korea))**	KOREA (REPUBLIC OF)	TTA
HUAWEI TECHNOLOGIES Co. Ltd. **(Huawei Technologies Co. Ltd.)**	CHINA	ETSI
HuaWei Technologies Co., Ltd **(HuaWei Technologies Co., Ltd)**	CHINA	CCSA
Huawei Technologies France **(Huawei Technologies France)**	FRANCE	ETSI
Huawei Technologies Japan K.K. **(Huawei Technologies Japan K.K.)**	JAPAN	TTC
HUAWEI Technologies Japan K.K. **(HUAWEI Technologies Japan K.K.)**	JAPAN	ARIB
Huawei Technologies R&D UK **(Huawei Technologies Research & Development (UK) Limited)**	UNITED KINGDOM	ETSI
Huawei Technologies Sweden AB **(Huawei Technologies Sweden AB)**	SWEDEN	ETSI
Huawei Telecommunication India **(Huawei Telecommunication (India) Co. Pvt. Ltd.)**	INDIA	TSDSI
Husqvarna AB **(Husqvarna AB (publ))**	SWEDEN	ETSI
Hytera Communications Corp. **(Hytera Communications Corporation Limited)**	CHINA	CCSA
Hyundai Motor Company **(Hyundai Motor Company)**	KOREA (REPUBLIC OF)	TTA
IBM Europe **(IBM Europe)**	GERMANY	ETSI
ICS **(Institute for Communication Systems - University of Surrey)**	UNITED KINGDOM	ETSI
IDEMIA **(IDEMIA)**	FRANCE	ETSI
IDRBT **(Institute for Development and Research in Banking Technology)**	INDIA	TSDSI
III **(Institute for Information Industry)**	TAIWAN, PROVINCE OF CHINA	ETSI
IIIT Bangalore **(International Institute of Information Technology - Bangalore)**	INDIA	TSDSI
IIIT Naya Raipur **(International Institute of Information Technology, Naya Raipur)**	INDIA	TSDSI
IISc, Bangalore **(Indian Institute of Science, Bangalor)**	INDIA	TSDSI
IIT Bhilai **(Indian Institute of Technology Bhilai)**	INDIA	TSDSI
IIT Bombay **(Indian Institute of Technology Bombay)**	INDIA	TSDSI
IIT Delhi **(Indian Institute of Technology Delhi)**	INDIA	TSDSI
IIT Gandhinagar	INDIA	TSDSI

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(Indian Institute of Technology Gandhinagar)		
IIT JODHPUR **(Indian Institute of Technology Jodhpur)**	INDIA	TSDSI
IIT Kanpur **(Indidan Institute of Technology Kanpur)**	INDIA	TSDSI
IIT Mandi **(Indian Institute of Technology Mandi)**	INDIA	TSDSI
IIT Patna **(Indian Institute of Technology Patna)**	INDIA	TSDSI
IIT, Kharagpur **(IIT, Kharagpur)**	INDIA	TSDSI
IMDA **(Infocomm Media Development Authority)**	SINGAPORE	ETSI
Imperial College London **(Imperial College of Science Technology and Medicine)**	UNITED KINGDOM	ETSI
IMU **(Istanbul Medipol University)**	TÜRKIYE	ETSI
Indian Institute of Tech (H) **(Indian Institute of Technology Hyderabad)**	INDIA	TSDSI
Indian Institute of Tech (M) **(Indian Institute of Technology Madras)**	INDIA	TSDSI
INFINEON TECHNOLOGIES **(Infineon Technologies)**	GERMANY	ETSI
Inmarsat **(Inmarsat)**	UNITED KINGDOM	ETSI
Institut Mines-Telecom **(Institut Mines-Telecom)**	FRANCE	ETSI
Institute VEDECOM **(Institute VEDECOM)**	FRANCE	ETSI
Intel **(Intel)**	UNITED STATES	ATIS
Intel Belgium SA/NV **(Intel Belgium SA/NV)**	BELGIUM	ETSI
Intel China Ltd. **(Intel China Ltd.)**	CHINA	CCSA
Intel Corporation (UK) Ltd **(Intel Corporation (UK) Ltd)**	UNITED KINGDOM	ETSI
Intel Corporation Italia SpA **(Intel Corporation Italia SpA)**	ITALY	ETSI
Intel Corporation SAS **(Intel Corporation SAS)**	FRANCE	ETSI
Intel Deutschland GmbH **(Intel Deutschland GmbH)**	GERMANY	ETSI
Intel Ireland **(Intel Ireland Ltd)**	IRELAND	ETSI
Intel Sweden AB **(Intel Sweden AB)**	SWEDEN	ETSI
Intel Technology India Pvt Ltd **(Intel Technology India Pvt. Ltd.)**	INDIA	TSDSI
Intel Technology Poland SP Zoo **(Intel Technology Poland SP Zoo)**	POLAND	ETSI
Intellian Technologies **(Intellian Technologies)**	KOREA (REPUBLIC OF)	TTA
Intelsat **(Intelsat)**	UNITED STATES	ATIS
InterDigital Belgium. LLC **(InterDigital Belgium, LLC)**	BELGIUM	ETSI
InterDigital Canada **(InterDigital Canada)**	CANADA	ATIS
InterDigital Communications **(InterDigital Communications Corporation)**	UNITED STATES	ATIS
InterDigital Finland Oy **(InterDigital Finland Oy)**	FINLAND	ETSI
InterDigital France R&D, SAS **(InterDigital France R&D, SAS)**	FRANCE	ETSI
InterDigital New York	UNITED STATES	ATIS

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(InterDigital New York)		
InterDigital Pennsylvania **(InterDigital Pennsylvania)**	UNITED STATES	ATIS
InterDigital, Europe, Ltd. **(InterDigital, Europe, Ltd.)**	UNITED KINGDOM	ETSI
InterDigital, Inc. **(InterDigital, Inc.)**	UNITED STATES	ETSI
Intersec **(Intersec SA)**	FRANCE	ETSI
Intertek **(Intertek)**	UNITED KINGDOM	ETSI
IPCom GmbH & Co.KG **(IPCom GmbH & Co.KG)**	GERMANY	ETSI
IPLOOK **(IPLOOK Networks Co., Ltd.)**	CHINA	CCSA
iQoo **(iQoo Software Technology (Shanghai) Co., Ltd.)**	CHINA	CCSA
Iridium Satellite LLC **(Iridium Satellite LLC)**	UNITED STATES	ATIS
IRT Saint Exupery **(Institut de recherche technologique Saint Exupery)**	FRANCE	ETSI
ISED **(Innovation, Science and Economic Development Canada)**	CANADA	ETSI
ISRO **(Indian Space Research Organisation)**	INDIA	TSDSI
ISSDU **(Information Security Service Digital United Inc.)**	TAIWAN, PROVINCE OF CHINA	ETSI
ITL **(Innovative Technology Lab Co., Ltd)**	KOREA (REPUBLIC OF)	TTA
ITOCHU Techno-Solutions Corp **(ITOCHU Techno-Solutions Corporation)**	JAPAN	TTC
ITRI **(Industrial Technology Research Institute)**	TAIWAN, PROVINCE OF CHINA	ETSI
ITRON SAS **(ITRON SAS)**	FRANCE	ETSI
Ittiam System Pvt Ltd **(Ittiam System Pvt Ltd)**	INDIA	TSDSI
Japan Radio Co., Ltd **(Japan Radio Co., Ltd)**	JAPAN	ARIB
Jetflow **(Jetflow Technologies Co., Ltd)**	CHINA	CCSA
Jio **(Jio Estonia OÜ)**	ESTONIA	ETSI
JMA Wireless **(JMA Wireless)**	UNITED STATES	ATIS
John Deere GmbH & Co. KG **(John Deere GmbH & Co. KG)**	GERMANY	ETSI
Johns Hopkins University APL **(Johns Hopkins University Applied Physics Laboratory)**	UNITED STATES	ATIS
JSI GmbH **(JSI GmbH)**	GERMANY	ETSI
Juniper Networks **(Juniper Networks)**	UNITED STATES	ETSI
KAIST **(Korea Advanced Institute of Science and Technology)**	KOREA (REPUBLIC OF)	TTA
Kapsch TrafficCom AG **(Kapsch TrafficCom AG)**	AUSTRIA	ETSI
KDDI Corporation **(KDDI Corporation)**	JAPAN	TTC
KDDI Corporation **(KDDI Corporation)**	JAPAN	ARIB
Kepler **(Kepler Communications GmbH)**	GERMANY	ETSI
Keysight Technologies UK Ltd **(Keysight Technologies UK Ltd)**	UNITED KINGDOM	ETSI
KIPO	KOREA (REPUBLIC OF)	TTA

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(Korean Intellectual Property Office)		
Kontron Transportation France **(Kontron Transportation France S.A.S)**	FRANCE	ETSI
Korea Testing Laboratory **(Korea Testing Laboratory)**	KOREA (REPUBLIC OF)	TTA
Korea University **(Korea University)**	KOREA (REPUBLIC OF)	TTA
KPN N.V. **(Koninklijke KPN N.V.)**	NETHERLANDS	ETSI
KRRI **(Korea Railroad Research Institute)**	KOREA (REPUBLIC OF)	TTA
KT Corp. **(KT Corporation)**	KOREA (REPUBLIC OF)	TTA
Kymeta Corporation **(Kymeta Corporation)**	UNITED STATES	ETSI
Kyocera Corporation **(Kyocera Corporation)**	JAPAN	ARIB
Kyonggi University **(Kyonggi University)**	KOREA (REPUBLIC OF)	TTA
Kyoto University **(Kyoto University)**	JAPAN	ETSI
L.M. Ericsson Limited **(L.M. Ericsson Limited)**	IRELAND	ETSI
L3Harris Technologies **(L3Harris Technologies)**	UNITED STATES	ATIS
Langbo **(Shanghai Langbo Communication Technology Co., Ltd.)**	CHINA	CCSA
Lansus **(Lansus Technologies Inc.)**	CHINA	CCSA
LEGRAND FRANCE **(LEGRAND FRANCE ISERE)**	FRANCE	ETSI
Lekha Wireless Solutions **(Lekha Wireless Solutions Pvt Ltd)**	INDIA	TSDSI
Lenovo (Beijing) Ltd **(Lenovo (Beijing) Ltd)**	CHINA	CCSA
Lenovo Future Communications **(Lenovo Future Communications Technology (Chongqing) Co., Ltd.)**	CHINA	CCSA
Lenovo Information Technology **(Lenovo (Beijing) Information Technology Co., Ltd.)**	CHINA	CCSA
Leonardo SpA **(Leonardo SpA)**	ITALY	ETSI
LG Electronics Deutschland **(LG Electronics Deutschland GmbH)**	GERMANY	ETSI
LG Electronics Finland **(LG Electronics Finland Lab Oy)**	FINLAND	ETSI
LG Electronics France **(LG Electronics France)**	FRANCE	ETSI
LG Electronics Inc. **(LG Electronics Inc.)**	KOREA (REPUBLIC OF)	TTA
LG Electronics Polska **(LG Electronics Polska Sp. z.o.o.)**	POLAND	ETSI
LG Electronics UK **(LG Electronics UK Ltd)**	UNITED KINGDOM	ETSI
LG Uplus **(LG Uplus)**	KOREA (REPUBLIC OF)	TTA
Ligado Networks **(Ligado Networks)**	UNITED STATES	ETSI
LKA Niedersachsen **(Landeskriminalamt Niedersachsen)**	GERMANY	ETSI
Lockheed Martin **(Lockheed Martin)**	UNITED STATES	ATIS
Logius **(Logius)**	NETHERLANDS	ETSI
Lynk Global **(Lynk Global)**	UNITED STATES	ATIS
Magister Solutions Ltd	FINLAND	ETSI

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(Magister Solutions Ltd)		
Maketh Secure Limited **(Maketh Secure Limited)**	UNITED KINGDOM	ETSI
Marquis Technologies **(Marquis Technologies Pvt Ltd)**	INDIA	TSDSI
MATRIXX Software **(MATRIXX Software, Inc.)**	UNITED STATES	ETSI
Mavenir **(Mavenir Systems, Inc)**	UNITED STATES	ETSI
MaxWave Micro **(MaxWave Microelectronics Ltd.)**	CHINA	CCSA
MediaTek (Chengdu) Inc. **(MediaTek (Chengdu) Inc.)**	CHINA	CCSA
MediaTek (Hefei) Inc. **(MediaTek (Hefei) Inc.)**	CHINA	CCSA
MediaTek (Shenzhen) Inc. **(MediaTek (Shenzhen) Inc.)**	CHINA	CCSA
MediaTek (Wuhan) Inc. **(MediaTek (Wuhan) Inc.)**	CHINA	CCSA
MediaTek Beijing Inc. **(MediaTek Beijing Inc.)**	CHINA	CCSA
MediaTek Finland **(MediaTek Wireless Finland Oy)**	FINLAND	ETSI
MediaTek Germany GmbH **(MediaTek Germany GmbH)**	GERMANY	ETSI
MediaTek Inc. **(MediaTek Incorporated)**	TAIWAN, PROVINCE OF CHINA	ETSI
Mediatek India Technology Pvt. **(Mediatek India Technology Pvt. Ltd.)**	INDIA	TSDSI
MediaTek Korea Inc. **(MediaTek Korea Inc.)**	KOREA (REPUBLIC OF)	TTA
MediaTek Sweden AB **(MediaTek Sweden AB)**	SWEDEN	ETSI
MediaTek UK **(MTK Wireless Ltd)**	UNITED KINGDOM	ETSI
MeitY **(Ministry of Electronics & Information Technology)**	INDIA	TSDSI
Meizu Technology **(Meizu Technology)**	CHINA	CCSA
Mercedes-Benz AG **(Mercedes-Benz AG)**	GERMANY	ETSI
Mesaqin.com s.r.o (Ltd.) **(Mesaqin.com s.r.o (Ltd.))**	CZECH REPUBLIC	ETSI
Meta India **(Meta India Online Services Pvt Ltd)**	INDIA	TSDSI
Meta Ireland **(Meta Platforms Ireland Ltd.)**	IRELAND	ETSI
Meta USA **(Meta USA)**	UNITED STATES	ATIS
Microchip Technology, Inc. **(Microchip Technology, Inc.)**	UNITED STATES	ATIS
Microsoft Europe SARL **(Microsoft Europe SARL)**	FRANCE	ETSI
MidWave Wireless **(MidWave Wireless)**	UNITED STATES	ATIS
MIMIT **(Ministry of Enterprises and Made in Italy)**	ITALY	ETSI
MinEA **(Ministry of Economic Affairs and Climate Policy)**	NETHERLANDS	ETSI
MINISTERE DE L'INTERIEUR **(MINISTERE DE L'INTERIEUR)**	FRANCE	ETSI
Ministère Economie et Finances **(Ministère de l'Economie et des Finances)**	FRANCE	ETSI
Ministry for Digital - Spain **(Ministry for Digital Transformation and of Civil Service)**	SPAIN	ETSI
Ministry of Transport SR	SLOVAKIA	ETSI

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(Ministry of Transport of the Slovak Republic)		
MITRE Corporation **(MITRE Corporation)**	UNITED STATES	ETSI
MITRE-FFRDC **(MITRE-FFRDC)**	UNITED STATES	ATIS
Mitsubishi Electric Co. **(Mitsubishi Electric Co.)**	JAPAN	ARIB
Mitsubishi Electric Corp **(Mitsubishi Electric Corporation)**	JAPAN	TTC
Mitsubishi Electric RCE **(Mitsubishi Electric R&D Centre Europe)**	FRANCE	ETSI
Motorola Mobile Com Technology **(MOTOROLA MOBILE COMMUNICATION TECHNOLOGY LTD.)**	CHINA	CCSA
Motorola Mobility España SA **(Motorola Mobility España SA)**	SPAIN	ETSI
Motorola Mobility France S.A.S **(Motorola Mobility France S.A.S)**	FRANCE	ETSI
Motorola Mobility Germany GmbH **(Motorola Mobility Germany GmbH)**	GERMANY	ETSI
Motorola Mobility UK Ltd. **(Motorola Mobility UK Ltd.)**	UNITED KINGDOM	ETSI
Motorola Solutions Germany **(Motorola Solutions Germany GmbH)**	GERMANY	ETSI
Motorola Solutions UK Ltd. **(Motorola Solutions UK Ltd.)**	UNITED KINGDOM	ETSI
MTCC **(Mobile Technology Convergence Center)**	KOREA (REPUBLIC OF)	TTA
Murata Manufacturing Co Ltd. **(Murata Manufacturing Co Ltd.)**	JAPAN	ARIB
MVG Industries **(MVG Industries)**	FRANCE	ETSI
Nanjing vivo Software Tech. **(Nanjing vivo Software Technology Co., Ltd.)**	CHINA	CCSA
Nanjing Weibo **(Nanjing Weibo Software Technology Co., Ltd.)**	CHINA	CCSA
National Instruments Corp. **(National Instruments Corporation)**	UNITED STATES	ETSI
National Radio Research Agency **(National Radio Research Agency)**	KOREA (REPUBLIC OF)	TTA
National Spectrum Consortium **(National Spectrum Consortium)**	UNITED STATES	ATIS
National Technical Assistance **(National Technical Assistance Centre)**	UNITED KINGDOM	ETSI
nbn co Limited **(nbn co Limited (ABN 86 136 533 741))**	AUSTRALIA	ETSI
NCI Agency **(NATO Communication and Information Agency)**	NETHERLANDS	ETSI
NCIS **(National Criminal Investigation Service)**	NORWAY	ETSI
NCSC **(National Cyber Security Centre)**	UNITED KINGDOM	ETSI
NDRE **(National Defence Radio Establishment)**	SWEDEN	ETSI
NEC Corporation **(NEC Corporation)**	JAPAN	ARIB
NEC Corporation **(NEC Corporation)**	JAPAN	ETSI
NEC Corporation. **(NEC Corporation)**	JAPAN	TTC
NEC Europe Ltd **(NEC Europe Ltd)**	UNITED KINGDOM	ETSI
NEC Telecom MODUS Ltd. **(NEC Telecom MODUS Ltd.)**	UNITED KINGDOM	ETSI
NEMERGENT **(NEMERGENT SOLUTIONS SL)**	SPAIN	ETSI
NERCDTV	CHINA	CCSA

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(Shanghai National Engineering Research Center of Digital Television Co.,Ltd.)		
Netherlands Police **(Netherlands Police, Division MDC)**	NETHERLANDS	ETSI
Netscout Systems Inc. **(Netscout Systems Inc.)**	UNITED STATES	ETSI
Network Rail **(Network Rail infrastructure limited)**	UNITED KINGDOM	ETSI
New H3C Technologies Co., Ltd. **(New H3C Technologies Co., Ltd.)**	CHINA	CCSA
NextNav **(NextNav)**	UNITED STATES	ATIS
NHK **(NHK (Japan Broadcasting Corporation))**	JAPAN	ARIB
NICT **(National Institute of Information and Communications Technology)**	JAPAN	ARIB
Niral **(Niral Networks Private Limited)**	INDIA	TSDSI
NIST **(National Institute of Standards and Technology)**	UNITED STATES	ATIS
Nkom **(Norwegian Communications Authority)**	NORWAY	ETSI
Nokia **(Nokia)**	UNITED STATES	ATIS
Nokia Belgium **(Nokia Bell N.V.)**	BELGIUM	ETSI
Nokia Corporation **(Nokia Corporation)**	FINLAND	ETSI
Nokia Denmark **(Nokia Denmark A/S)**	DENMARK	ETSI
Nokia France **(Nokia Networks France)**	FRANCE	ETSI
Nokia Germany **(Nokia Solutions and Networks GmbH & Co. KG)**	GERMANY	ETSI
Nokia Hungary **(Nokia Solutions and Networks Kft.)**	HUNGARY	ETSI
Nokia Japan **(Nokia Japan)**	JAPAN	ARIB
Nokia Korea **(Nokia Korea)**	KOREA (REPUBLIC OF)	TTA
Nokia Poland **(Nokia Solutions and Networks Sp. z.o.o.)**	POLAND	ETSI
Nokia Shanghai Bell **(Nokia Shanghai Bell Co., Ltd)**	CHINA	CCSA
Nokia Solutions & Networks (I) **(Nokia Solutions and Networks India Pvt. Ltd.)**	INDIA	TSDSI
Nokia UK **(Nokia UK Ltd.)**	UNITED KINGDOM	ETSI
Nordic Semiconductor ASA **(Nordic Semiconductor ASA)**	NORWAY	ETSI
NOVAMINT **(NOVAMINT)**	UNITED KINGDOM	ETSI
NTIA **(National Telecommunications and Information Administration)**	UNITED STATES	ATIS
NTPU **(National Taipei University)**	TAIWAN, PROVINCE OF CHINA	ETSI
NTT **(Nippon Telegraph and Telephone Corporation (NTT))**	JAPAN	TTC
NTT corporation **(Nippon Telegraph and Telephone Corporation)**	JAPAN	ETSI
NTT DOCOMO INC. **(NTT DOCOMO INC.)**	JAPAN	TTC
NTT DOCOMO INC.. **(NTT DOCOMO INC.)**	JAPAN	ARIB
NTT-AT Corp. **(NTT Advanced Technology Corporation)**	JAPAN	TTC
NTU	TAIWAN, PROVINCE OF CHINA	ETSI

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(National Taiwan University)		
Nubia Technology Co.,Ltd **(Nubia Technology Co.,Ltd)**	CHINA	CCSA
NUFRONT **(Nufront (Beijing) Technology Co., Ltd.)**	CHINA	CCSA
NVIDIA **(NVIDIA Corporation)**	UNITED STATES	ATIS
NXP Semiconductors Netherlands **(NXP Semiconductors Netherlands B.V.)**	NETHERLANDS	ETSI
NYCU **(National Yang Ming Chiao Tung University)**	TAIWAN, PROVINCE OF CHINA	ETSI
Obvios **(Obvios)**	FRANCE	ETSI
Odido **(Odido Netherlands B.V.)**	NETHERLANDS	ETSI
Ofcom (CH) **(Ofcom (CH))**	SWITZERLAND	ETSI
Ofcom (U.K.) **(Ofcom - Office of Communications (U.K.))**	UNITED KINGDOM	ETSI
Oki Electric Industry Co. Ltd. **(OKi Electric Industry Co., Ltd)**	JAPAN	TTC
Omnispace **(Omnispace)**	UNITED STATES	ATIS
ONE Media 3.0 LLC **(ONE Media 3.0 LLC)**	UNITED STATES	ATIS
one2many B.V. **(one2many B.V.)**	NETHERLANDS	ETSI
OnePlus **(OnePlus (Shenzhen) Technology Co., LTD)**	CHINA	CCSA
OPPO **(Guangdong OPPO Mobile Telecommunications Corp.,Ltd.)**	CHINA	ETSI
OPPO (chongqing) Intelligence **(OPPO (chongqing) Intelligence Technology Limited)**	CHINA	CCSA
OPPO Beijing **(Beijing OPPO Telecommunications Corp., ltd.)**	CHINA	CCSA
OptM Media **(OptM Media Solutions Private Limited)**	INDIA	TSDSI
OQTEC **(OQ TECHNOLOGY)**	LUXEMBOURG	ETSI
Oracle Corporation **(Oracle Corporation)**	UNITED STATES	ETSI
Orange **(Orange)**	FRANCE	ETSI
Orange Romania **(Orange Romania)**	ROMANIA	ETSI
Orange Spain **(France Telecom España S.A.U.)**	SPAIN	ETSI
Orange UK **(Orange Brand Services Ltd)**	UNITED KINGDOM	ETSI
ORS **(Österreichische Rundfunksender GmbH & Co KG)**	AUSTRIA	ETSI
OTD_US **(OTD_US)**	UNITED STATES	ATIS
OTE S.A **(OTE S.A)**	GREECE	ETSI
P.I. WORKS **(P.I. WORKS TR BILISIM HIZMETLERI A.S.)**	TÜRKIYE	ETSI
Pairpoint **(DABCO Ltd)**	UNITED KINGDOM	ETSI
Panasonic Holdings Corporation **(Panasonic Holdings Corporation)**	JAPAN	ARIB
PANASONIC R&D Center Germany **(PANASONIC R&D Center Germany GmbH)**	GERMANY	ETSI
PCCW Global B.V. **(PCCW Global B.V.)**	FRANCE	ETSI
Peking University	CHINA	CCSA

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(Peking University)		
Pengcheng laboratory **(Pengcheng laboratory)**	CHINA	CCSA
Peraton Labs **(Peraton Labs)**	UNITED STATES	ATIS
Philips International B.V. **(Philips International B.V.)**	NETHERLANDS	ETSI
PHY Wireless **(PHY Wireless)**	UNITED STATES	ATIS
PIDS **(PIDS)**	NETHERLANDS	ETSI
Plan-S **(Plan S Uydu ve Uzay Teknolojileri A.S)**	TÜRKIYE	ETSI
PML **(Purple Mountain Laboratories: Networking, Communications and Security)**	CHINA	CCSA
Polaris Wireless **(Polaris Wireless)**	UNITED STATES	ATIS
Polisen **(Polismyndigheten)**	SWEDEN	ETSI
POST Luxembourg **(POST Luxembourg)**	LUXEMBOURG	ETSI
Prasar Bharati **(Prasar Bharati)**	INDIA	TSDSI
Proximus Plc **(Proximus Plc)**	BELGIUM	ETSI
PSCE **(Public Safety Communication Europe Forum)**	BELGIUM	ETSI
PT PORTUGAL SGPS SA **(PT Portugal SGPS SA)**	PORTUGAL	ETSI
PTS **(Swedish Post and Telecom Authority)**	SWEDEN	ETSI
Public Safety Canada **(Public Safety Canada)**	CANADA	ETSI
Qihoo 360 **(Qihoo 360 Technology Co., Ltd.)**	CHINA	CCSA
Qorvo **(Qorvo)**	UNITED STATES	ETSI
Qualcomm Austria RFFE GmbH **(Qualcomm Austria RFFE GmbH)**	AUSTRIA	ETSI
QUALCOMM Europe Inc. - Italy **(QUALCOMM Europe Inc. - Italy Branch Office)**	ITALY	ETSI
QUALCOMM Europe Inc. - Spain **(QUALCOMM Europe Inc. - Spain Branch Office)**	SPAIN	ETSI
Qualcomm Finland RFFE Oy **(Qualcomm Finland RFFE Oy)**	FINLAND	ETSI
Qualcomm France **(Qualcomm France SARL)**	FRANCE	ETSI
Qualcomm Germany **(Qualcomm Germany GmbH)**	GERMANY	ETSI
Qualcomm Incorporated **(Qualcomm Incorporated)**	UNITED STATES	ATIS
Qualcomm India Pvt Ltd **(Qualcomm India Pvt Ltd)**	INDIA	TSDSI
QUALCOMM JAPAN LLC. **(QUALCOMM JAPAN LLC.)**	JAPAN	ARIB
Qualcomm Korea **(Qualcomm Korea)**	KOREA (REPUBLIC OF)	TTA
Qualcomm Tech. Netherlands B.V **(Qualcomm Technologies Netherlands B.V.)**	NETHERLANDS	ETSI
Qualcomm Technologies Int **(Qualcomm Technologies International, Ltd)**	UNITED KINGDOM	ETSI
Qualcomm Technologies Ireland **(QT Technologies Ireland Limited)**	IRELAND	ETSI
Quanray **(Shanghai Quanray Electronics Co., Ltd.)**	CHINA	CCSA
Quectel	CHINA	CCSA

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(Quectel Wireless Solutions Co., Ltd.)		
RadiSys **(RadiSys Inc.)**	CANADA	ETSI
Rakuten Mobile, Inc **(Rakuten Mobile, Inc)**	JAPAN	ARIB
RATEL **(Regulatory Authority For Electronic Communications and Postal Services)**	SERBIA	ETSI
Realme (Shenzhen) **(Realme Mobile Telecommunications (Shenzhen) Co., Ltd.)**	CHINA	CCSA
Reflection B.V. **(Reflection Investment B.V.)**	NETHERLANDS	ETSI
Reliance Jio **(Reliance Jio)**	INDIA	TSDSI
RICHTEK KOREA **(RICHTEK KOREA)**	KOREA (REPUBLIC OF)	TTA
RISE **(RISE Research Institutes of Sweden)**	SWEDEN	ETSI
ROBERT BOSCH GmbH **(ROBERT BOSCH GmbH)**	GERMANY	ETSI
Rogers Communications Canada **(Rogers Communications Canada Inc.)**	CANADA	ETSI
ROHDE & SCHWARZ **(ROHDE & SCHWARZ GmbH & Co.KG)**	GERMANY	ETSI
Ruijie Network Co. Ltd **(Ruijie Network Co. Ltd)**	CHINA	CCSA
SageRAN **(Guangdong Sageran Technology Co., Ltd)**	CHINA	CCSA
SAICT **(Shenzhen Academy of Information and Communication Technology)**	CHINA	CCSA
Samsung Electronics Co., Ltd **(Samsung Electronics Co., Ltd.)**	KOREA (REPUBLIC OF)	TTA
Samsung Electronics Czech **(Samsung Electronics Czech)**	CZECH REPUBLIC	ETSI
Samsung Electronics France SA **(Samsung Electronics France SA)**	FRANCE	ETSI
Samsung Electronics GmbH **(Samsung Electronics GmbH)**	GERMANY	ETSI
Samsung Electronics Iberia SA **(Samsung Electronics Iberia SA)**	SPAIN	ETSI
Samsung Electronics Nordic AB **(Samsung Electronics Nordic AB)**	SWEDEN	ETSI
Samsung Electronics Polska **(Samsung Electronics Polska)**	POLAND	ETSI
Samsung Guangzhou Mobile R&D **(Samsung Guangzhou Mobile R&D Center)**	CHINA	CCSA
Samsung Nanjing **(Samsung Electronic (China) R&D Center)**	CHINA	CCSA
Samsung R&D Institute India **(Samsung R&D Institute India - Bangalore Pvt. Ltd)**	INDIA	TSDSI
SAMSUNG R&D INSTITUTE JAPAN **(SAMSUNG R&D INSTITUTE JAPAN)**	JAPAN	ARIB
Samsung R&D Institute UK **(Samsung R&D Institute UK)**	UNITED KINGDOM	ETSI
Samsung Research America **(Samsung Research America)**	UNITED STATES	ATIS
Samsung Shenzhen **(Samsung Network R&D Center-Shenzhen)**	CHINA	CCSA
Sanechips **(Sanechips Technology Co. , Ltd.)**	CHINA	CCSA
Sateliot **(Satelio IoT Services)**	SPAIN	ETSI
Schindler **(Schindler Elevator Ltd)**	SWITZERLAND	ETSI
SDI Squared **(SDI Squared LLC)**	UNITED STATES	ETSI
Sectra Communications AB	SWEDEN	ETSI

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(Sectra Communications AB)		
Security Service **(Swedish Security Service)**	SWEDEN	ETSI
Semtech Neuchatel SA **(Semtech Neuchatel SA)**	SWITZERLAND	ETSI
Sennheiser electronic SE **(Sennheiser electronic SE & Co. KG)**	GERMANY	ETSI
Sensus UK **(Sensus UK Systems Limited)**	UNITED KINGDOM	ETSI
Sepura Ltd **(Sepura Limited)**	UNITED KINGDOM	ETSI
Sequans Communications **(Sequans Communications)**	FRANCE	ETSI
SES S.A. **(SES S.A.)**	LUXEMBOURG	ETSI
SETS **(Society for Electronic Transactions and Security)**	INDIA	TSDSI
SEU **(Southeast University)**	CHINA	CCSA
SGDSN **(Secrétariat Général de la Défense et de la Sécurité Nationale (SGDSN))**	FRANCE	ETSI
SGITG **(State Grid Information & Telecommunication Group Co., Ltd.)**	CHINA	CCSA
SGS Wireless **(SGS Wireless)**	UNITED KINGDOM	ETSI
Shanghai Chen Si Electronics **(Shanghai Chen Si Electronics Technology Co., Ltd)**	CHINA	CCSA
Shanghai Jiao Tong University **(Shanghai Jiao Tong University)**	CHINA	CCSA
Shanghai Tejet Com Technology **(Shanghai Tejet Communications Technology Co., Ltd.)**	CHINA	CCSA
SHARP Corporation **(SHARP Corporation)**	JAPAN	ARIB
Shenzhen Heytap **(Shenzhen Heytap Technology Corp.,Ltd.)**	CHINA	CCSA
ShenZhen Zhongxing Shitong **(ShenZhen Zhongxing Shitong Tech. Co.,Ltd.)**	CHINA	CCSA
SIA **(Shenyang Institute of Automation, Chinese Academy of Sciences)**	CHINA	CCSA
Siemens AG **(Siemens AG)**	GERMANY	ETSI
Signalchip Innovations Pvt. **(Signalchip Innovations Pvt. Ltd.)**	INDIA	TSDSI
SIST **(Slovenian Institute for Standardisation)**	SLOVENIA	ETSI
Sisvel **(Sisvel International S.A.)**	LUXEMBOURG	ETSI
SK Telecom **(SK TELECOM)**	KOREA (REPUBLIC OF)	TTA
SKY Perfect JSAT Corporation **(SKY Perfect JSAT Corporation)**	JAPAN	ARIB
Skylo Technologies **(Skylo Technologies)**	UNITED STATES	ATIS
Skyworks Solutions Inc. **(Skyworks Solutions Inc.)**	UNITED STATES	ETSI
Smart Internet Lab **(Smart Internet Lab, University of Bristol)**	UNITED KINGDOM	ETSI
SmarterMicro Inc. **(Smarter Microelectronics(Guangzhou) Co.,Ltd)**	CHINA	CCSA
SnT - University of Luxembourg **(Interdisciplinary Centre for Security, Reliability and Trust/University of Luxembourg)**	LUXEMBOURG	ETSI
SoftBank Corp. **(SoftBank Corp.)**	JAPAN	ARIB
Softel Systems **(Softel Systems Pty Ltd)**	AUSTRALIA	ETSI
Softil Ltd	ISRAEL	ETSI

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(Softil Ltd)		
Sony Corporation **(Sony Corporation)**	JAPAN	ARIB
Sony Europe B.V. **(Sony Europe B.V.)**	UNITED KINGDOM	ETSI
Sony Group Corporation **(Sony Group Corporation)**	JAPAN	ARIB
Sooktha Consulting Pvt Ltd **(Sooktha Consulting Pvt Ltd)**	INDIA	TSDSI
Soongsil University **(Soongsil University)**	KOREA (REPUBLIC OF)	TTA
SOS Alarm **(SOS Alarm Sverige AB)**	SWEDEN	ETSI
Southern Linc. **(Southern Linc.)**	UNITED STATES	ATIS
Southwest Jiaotong university **(Southwest Jiaotong university)**	CHINA	CCSA
SpaceX **(SpaceX Netherlands B.V)**	NETHERLANDS	ETSI
Spark NZ Ltd **(Spark NZ Ltd)**	NEW ZEALAND	ATIS
Spirent Communications **(Spirent Communications)**	UNITED STATES	ETSI
Sporton International Inc **(Sporton International Inc.)**	TAIWAN, PROVINCE OF CHINA	ETSI
Spreadtrum Communications **(Spreadtrum Communications (Shanghai) Co., Ltd.)**	CHINA	CCSA
SRTC **(The State Radio_monitoring_center Testing Center)**	CHINA	CCSA
SS8 **(SS8 Networks Inc.)**	UNITED STATES	ETSI
SSNS **(Special Service for the National Security of Hungary)**	HUNGARY	ETSI
Starpoint **(Beijing Starpoint Technology Company Limited)**	CHINA	CCSA
STE IDIRECT IRELAND LTD **(ST ENGINEERING IDIRECT (IRELAND) LIMITED)**	IRELAND	ETSI
STMicroelectronics **(STMicroelectronics International NV)**	SWITZERLAND	ETSI
Sumitomo Elec. Industries, Ltd **(Sumitomo Electric Industries, Ltd.)**	JAPAN	ARIB
SUNGKYUNKWAN UNIVERSITY **(SUNGKYUNKWAN UNIVERSITY)**	KOREA (REPUBLIC OF)	TTA
SUTD **(Singapore University of Technology and Design)**	SINGAPORE	ETSI
Swift Navigation **(Swift Navigation)**	UNITED STATES	ATIS
SWISSCOM **(SWISSCOM SA)**	SWITZERLAND	ETSI
SWR **(Südwestrundfunk)**	GERMANY	ETSI
SyncTechno Inc. **(SyncTechno Inc.)**	KOREA (REPUBLIC OF)	TTA
Syniverse **(M/s Syniverse Technologies Services India Pvt. Ltd.)**	INDIA	TSDSI
TA **(Tantra Analyst)**	UNITED STATES	ETSI
Tait Europe Limited **(Tait Europe Limited)**	AUSTRIA	ETSI
TATA Communications Ltd **(TATA Communications Ltd)**	INDIA	TSDSI
Tata Elxsi Limited. **(Tata Elxsi Limited.)**	INDIA	TSDSI
TCL **(Shenzhen TCL New Technology Company Ltd.)**	CHINA	CCSA
TCS	INDIA	TSDSI

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(TATA Consultancy Services)		
TD Tech Ltd **(TD Tech Ltd)**	CHINA	CCSA
TDF **(TDF SAS)**	FRANCE	ETSI
Tech Mahindra Limited **(Tech Mahindra Limited)**	INDIA	TSDSI
Tejas Network Limited **(Tejas Network Limited)**	INDIA	TSDSI
Tektronix GmbH **(Tektronix GmbH)**	GERMANY	ETSI
TELECOM ITALIA S.p.A. **(Telecom Italia S.p.A.)**	ITALY	ETSI
Telefonica Germany GmbH **(Telefónica Germany GmbH & Co OHG)**	GERMANY	ETSI
TELEFONICA S.A. **(TELEFONICA S.A.)**	SPAIN	ETSI
Telekom Deutschland GmbH **(Telekom Deutschland GmbH)**	GERMANY	ETSI
TELENOR ASA **(Telenor ASA)**	NORWAY	ETSI
Telesat International Limited **(Telesat International Limited)**	UNITED KINGDOM	ETSI
Telia Company AB **(Telia Company AB)**	SWEDEN	ETSI
Telit Communications S.p.A. **(Telit Communications S.p.A.)**	ITALY	ETSI
Telstra Limited **(Telstra Limited)**	AUSTRALIA	ETSI
TELUS **(TELUS)**	CANADA	ATIS
Tencent **(Shenzhen city Tencent computer system Co. Ltd.)**	CHINA	CCSA
Tencent Cloud **(Tencent cloud computing Beijing Co., Ltd)**	CHINA	CCSA
Teradyne **(Teradyne)**	UNITED STATES	ATIS
TerreStar Solutions Inc. **(TerreStar Solutions Inc.)**	CANADA	ATIS
Texas A&M University **(Texas A&M University)**	UNITED STATES	ETSI
TEXAS Instruments **(Texas Instruments France)**	FRANCE	ETSI
THALES **(THALES)**	FRANCE	ETSI
THURAYA TELECOM CO. **(THURAYA TELECOMMUNICATIONS COMPANY)**	UNITED ARAB EMIRATES	ETSI
Tiami Networks **(Tiami Networks)**	UNITED STATES	ATIS
TII **(Technology Innovation Institute)**	UNITED ARAB EMIRATES	ETSI
T-Mobile Austria GmbH **(T-Mobile AUSTRIA GmbH)**	AUSTRIA	ETSI
T-Mobile Polska S.A. **(T-Mobile Polska Spolka Akcyjna)**	POLAND	ETSI
T-Mobile USA **(T-Mobile USA, Inc.)**	UNITED STATES	ETSI
T-Mobile USA Inc. **(T-Mobile USA Inc.)**	UNITED STATES	ATIS
TNO **(TNO)**	NETHERLANDS	ETSI
Tomorrow's Creation Labs **(Tomorrow's Creation Labs)**	JAPAN	ARIB
Tongji University **(Tongji University)**	CHINA	CCSA
Toshiba	UNITED KINGDOM	ETSI

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(Toshiba)		
TOWE Wireless **(Sushi TOWE Wireless Testing (Shenzhen) Co.,Ltd.)**	CHINA	ETSI
TOYOTA Info Technology Center **(TOYOTA Info Technology Center USA, Inc.)**	UNITED STATES	ETSI
TOYOTA MOTOR CORPORATION **(TOYOTA MOTOR CORPORATION)**	JAPAN	TTC
TRAFICOM **(The Finnish Transport and Communications Agency)**	FINLAND	ETSI
Trafikverket **(Trafikverket)**	SWEDEN	ETSI
Transsion Holdings **(Transsion Holdings)**	CHINA	CCSA
TransUnion **(TransUnion)**	UNITED STATES	ATIS
Trimble **(Trimble)**	UNITED STATES	ATIS
Tron Future Tech Inc. **(Tron Future Tech Inc.)**	TAIWAN, PROVINCE OF CHINA	ETSI
TTP plc **(TTP plc)**	UNITED KINGDOM	ETSI
Turk Telekomunikasyon A.S. **(Turk Telekomunikasyon A.S.)**	TÜRKIYE	ETSI
TURKCELL **(Turkcell Iletisim Hizmetleri A.S.)**	TÜRKIYE	ETSI
U.S. Department of Defense **(U.S. Department of Defense)**	UNITED STATES	ATIS
U.S. Department of Transport. **(U.S. Department of Transportation)**	UNITED STATES	ATIS
U.S. National Security Agency **(US National Security Agency)**	UNITED STATES	ATIS
Uangel **(Uangel Corporation)**	KOREA (REPUBLIC OF)	TTA
Ubiik **(Ubiik SAS)**	FRANCE	ETSI
ubinexus **(Beijing Ubinexus Technology Development Co., Ltd)**	CHINA	CCSA
u-blox AG **(u-blox AG)**	SWITZERLAND	ETSI
UESTC **(University of Electronic Science and Technology of China)**	CHINA	CCSA
UL VS Ltd **(UL VS Ltd)**	UNITED KINGDOM	ETSI
UMA **(Universidad de Malaga)**	SPAIN	ETSI
umlaut **(umlaut communications GmbH)**	GERMANY	ETSI
UNIBO **(ALMA MATER STUDIORUM Università di Bologna)**	ITALY	ETSI
UniBw M **(University of the Bundeswehr Munich)**	GERMANY	ETSI
Unicom Broadband Online **(Unicom Broadband Online Co., Ltd.)**	CHINA	CCSA
Unicompay **(Unicompay Co., Ltd.)**	CHINA	CCSA
Union Inter. Chemins de Fer **(Union Internationale des Chemins de Fer)**	FRANCE	ETSI
Union Telephone Company **(Union Telephone Company)**	UNITED STATES	ATIS
Unisoc **(Unisoc (Shanghai) Technologies Co., Ltd.)**	CHINA	CCSA
Unisoc Beijing **(Beijing Unisoc Communications Technology Co., Ltd.)**	CHINA	CCSA
UPV/EHU **(Universidad del País Vasco/Euskal Herriko Unibertsitatea)**	SPAIN	ETSI
US Cellular Corporation.	UNITED STATES	ATIS

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(US Cellular Corporation/TDS.)		
US DHS Science & Technology **(US DHS Science & Technology)**	UNITED STATES	ATIS
UTIMACO TS GmbH **(UTIMACO TS GmbH)**	GERMANY	ETSI
UTokyo **(The University of Tokyo)**	JAPAN	ETSI
Vaan Megam **(Vaan Megam Networks)**	INDIA	TSDSI
Valeo **(Valeo Telematik und Akustik GmbH)**	GERMANY	ETSI
VALID SOLUCIONES TECNOLÓGICAS **(VALID SOLUCIONES TECNOLÓGICAS S.A.U)**	SPAIN	ETSI
Valid8 **(Valid8.com, Inc.)**	UNITED STATES	ETSI
Vanchip **(Vanchip (Tianjin) Technology Co., Ltd.)**	CHINA	CCSA
Verizon Denmark **(Verizon Denmark A/S)**	DENMARK	ETSI
Verizon Finland **(Verizon Finland Oy)**	FINLAND	ETSI
Verizon France **(Verizon France SAS)**	FRANCE	ETSI
Verizon Netherlands **(Verizon Nederland B.V)**	NETHERLANDS	ETSI
Verizon Spain **(Verizon Spain S.L.)**	SPAIN	ETSI
Verizon Sweden **(Verizon Sweden Aktiebolag 2116)**	SWEDEN	ETSI
Verizon Switzerland AG **(Verizon Switzerland AG)**	SWITZERLAND	ETSI
Verizon UK Ltd **(Verizon UK Ltd)**	UNITED KINGDOM	ETSI
Vestel **(Vestel Elektronik Sanayi ve Ticaret A.S)**	TÜRKIYE	ETSI
ViaSat Satellite Holdings Ltd **(ViaSat Satellite Holdings Ltd)**	UNITED KINGDOM	ETSI
VIAVI Solutions **(Viavi Solutions UK Ltd.)**	UNITED KINGDOM	ETSI
vivo Mobile Com. (Chongqing) **(vivo Mobile Communication (Chongqing) Co., Ltd)**	CHINA	CCSA
vivo Mobile Communication (H) **(vivo Mobile Communication (Hangzhou) Co., Ltd.)**	CHINA	CCSA
vivo Mobile Communication (S) **(vivo Mobile Communication (Shenzhen) Co., Ltd.)**	CHINA	CCSA
vivo Mobile Communication Co., **(vivo Mobile Communication Co., Ltd)**	CHINA	CCSA
vivo Software Technology **(vivo Software Technology (Xi'an) Co., Ltd.)**	CHINA	CCSA
VIVO TECH GmbH **(VIVO TECH GmbH)**	GERMANY	ETSI
vivo Wisdom Technology **(vivo Wisdom Technology Co., Ltd.)**	CHINA	CCSA
Vodafone GmbH **(Vodafone GmbH)**	GERMANY	ETSI
VODAFONE Group Plc **(Vodafone Group Plc)**	UNITED KINGDOM	ETSI
Vodafone Ireland Plc **(Vodafone Ireland Plc)**	IRELAND	ETSI
Vodafone Italia SpA **(Vodafone Italia SpA)**	ITALY	ETSI
Vodafone Romania S.A. **(Vodafone Romania S.A.)**	ROMANIA	ETSI
Vodafone Telekomünikasyon A.S. **(Vodafone Telekomünikasyon A.S.)**	TÜRKIYE	ETSI
VoiceAge Corporation	CANADA	ETSI

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(VoiceAge Corporation)		
Volkswagen AG **(Volkswagen AG)**	GERMANY	ETSI
VSENS **(Unicom Vsens Telecommunications Co., Ltd)**	CHINA	CCSA
VTT **(VTT Technical Research Centre of Finland)**	FINLAND	ETSI
WE Certification Oy **(WE Certification Oy)**	FINLAND	ETSI
Wiliot Ltd. **(Wiliot Ltd.)**	ISRAEL	ETSI
WILUS Inc. **(WILUS Inc.)**	KOREA (REPUBLIC OF)	TTA
Wipro **(Wipro Limited)**	INDIA	TSDSI
Wipro GE **(Wipro GE Healthcare Private Limited)**	INDIA	TSDSI
Wisig Networks Pvt Ltd **(Wisig Networks Pvt Ltd)**	INDIA	TSDSI
Wuhan Hongxin Technology **(Wuhan Hongxin Technology Development Co., Ltd.)**	CHINA	CCSA
XGN **(XGen Network LLC)**	UNITED STATES	ETSI
Xiamen Sanan Integr. Circuit **(Xiamen Sanan Integrated Circuit Co., Ltd.)**	CHINA	CCSA
Xiaomi Communications **(Xiaomi Communications)**	CHINA	CCSA
Xiaomi Digital Technology **(Beijing Xiaomi Digital Technology Co., Ltd.)**	CHINA	CCSA
Xiaomi Electronic Software **(Beijing Xiaomi Electronic Software Co., Ltd.)**	CHINA	CCSA
Xiaomi EV Technology **(Xiaomi EV Technology Co., Ltd.)**	CHINA	CCSA
Xiaomi Technology **(Xiaomi Technology)**	CHINA	CCSA
Xiaomi Technology (Polska) sp. **(XIAOMI TECHNOLOGY (POLSKA) SPOLKA Z OGRANICZONA ODPOWIEDZIALNOSCIA)**	POLAND	ETSI
Xiaomi Technology France **(Xiaomi Technology France)**	FRANCE	ETSI
Xiaomi Technology Germany GmbH **(Xiaomi Technology Germany GmbH)**	GERMANY	ETSI
Xiaomi Technology Italy srl **(Xiaomi Technology Italy srl)**	ITALY	ETSI
Xiaomi Technology Netherlands **(Xiaomi Technology Netherlands B.V.)**	NETHERLANDS	ETSI
Xiaomi Technology Spain S.L **(Xiaomi Technology Spain S.L)**	SPAIN	ETSI
Xiaomi Technology UK Limited **(Xiaomi Technology UK Limited)**	UNITED KINGDOM	ETSI
Xidian University **(Xidian University)**	CHINA	CCSA
Xilinx Ireland **(Xilinx Ireland)**	IRELAND	ETSI
XNET **(ZGC Institute of Ubiquitous-X Innovation and Applications)**	CHINA	ETSI
X-Net **(ZGC Institute of Ubiquitous-X Innovation and Applications)**	CHINA	CCSA
Yonsei University **(Yonsei University)**	KOREA (REPUBLIC OF)	TTA
Zhejiang Lab **(Zhejiang Lab)**	CHINA	CCSA
Zhejiang University **(Zhejiang University)**	CHINA	CCSA
ZITiS **(Central Office for Information Technology in the Security Sector)**	GERMANY	ETSI
Zollkriminalamt (ZKA)	GERMANY	ETSI

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(Zollkriminalamt (ZKA))		
ZONSON **(ZONSON SAMRT AUTO CORPORATION)**	CHINA	CCSA
ZTE **(ZTE Telecom India Pvt Ltd)**	INDIA	TSDSI
ZTE Corporation **(ZTE Corporation)**	CHINA	CCSA
ZTE Corporation **(ZTE Corporation)**	CHINA	ETSI
ZTE Deutschland **(ZTE Deutschland GmbH)**	GERMANY	ETSI
ZTE FRANCE SASU **(ZTE FRANCE SASU)**	FRANCE	ETSI
ZTE Italia **(ZTE Italia S.R.L)**	ITALY	ETSI
ZTE JAPAN K.K. **(ZTE JAPAN K.K..)**	JAPAN	TTC
ZTE Japan K.K. **(ZTE Japan K.K.)**	JAPAN	ARIB
ZTE Korea Limited **(ZTE Korea Limited)**	KOREA (REPUBLIC OF)	TTA
ZTE Photonics **(ZTE Photonics Technology Co.,Ltd.)**	CHINA	CCSA
ZXNE **(ZXNE CORPORATION)**	CHINA	CCSA

Total : 827 Individual Members

Any comments or problems with this application? Please let us know...

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Appendix 10

The Wayback Machine - https://web.archive.org/web/20081210044159/http://www.3gpp.org:80/FAQ



FAQ

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Membership

Who can become an Individual Member of 3GPP and how much does it cost?

Individual Members are by definition members of the Organizational Partners of 3GPP. This means that members of standardization bodies such as ETSI, ARIB, TTA, TTC, ATIS and CCSA have a right to take part in 3GPP. If your company becomes an ETSI member, please be informed that for participation in 3GPP you need to pay 3 units of contribution as a minimum except SMEs, Users, Universities, Public Research Bodies who should pay 2 units (instead of 1). If you determine 2 units for your company based on ICT business turnover, you have to add another unit of contribution. If you require further guidance on how to participate in 3GPP activities you should contact 3GPP Membership

Who may participate in 3GPP meetings?

To attend a 3GPP meeting, you must be a 3GPP Individual Member (i.e. you must be a Member of one of the Organizational Partners involved in the project; ARIB, CCSA, ETSI, T1, TTA or TTC. A non-member company should seek membership with one of the above partners to be eligible to contribute and participate at 3GPP Meetings.

Who shall fill in the 3GPP Individual Member Application form?

The person legally responsible for the requesting company shall fill in the form.

What shall I do if a 3GPP company or official contact details change?

All changes of correspondence should be notified to 3GPPContact@3gpp.org

Different membership categories?

The different membership categories of 3GPP are described in Section B of the 3GPP Working Procedures.

Who may become an observer?

Who may become a Guest Member and do guests have to pay any fees?

12328 unique visitors average per day

343 connected visitors

The Guest Status is for potential Individual Members who may be granted permission to participate in 3GPP for a maximum period of 6 months. Guest status is granted on a case-by-case basis by the Organizational Partners (see also Working Procedures Article 10). If you like to apply for a Guest status, please send an email to 3GPPContact@etsi.org

No membership fees are requested for Guest applications.

Who can apply for market representative Partnership?

Can an ETSI Observer become an Individual Member of 3GPP?

No, an ETSI Observer may "observe" all activities, but their participation is limited to the ETSI General Assembly only. Therefore, ETSI Observers have no participation rights in 3GPP. ETSI Observers have access to ETSI documentation and of course to 3GPP documentation since that is openly published on the web.

3GPP does have it's own category called "Observer" but that is entirely different and is used for potential Partners.

Can an ETSI Applicant apply for 3GPP Membership?

YES, an Applicant means that your request to become an ETSI Member will be addressed (and normally approved) at the next General Assembly and that the company has specified they want to participate in 3GPP activities. See also above regarding 3GPP fees.

My company is already an ETSI Member, what do I have to do to join 3PP and do I have to pay any fees?

As an ETSI member your company is eligible for a 3GPP Individual Membership and you will be able to attend any of the 3GPP Meetings. Please fill in the on-line 3GPP Application form and your company will be then listed on the 3GPP Website (add link to the form)

There are currently no additional costs involved for participation in 3GPP (the membership fees for ETSI covers the cost of 3GPP participation).

3GPP email exploder lists

Are there discussion archives for the 3GPP exploder lists?

Home page of listserv

Then, just follow the links to the archives. For example, the archives for the main RAN email list

How do I subscribe to the 3GPP exploder lists?

follow the instructions found >>>here

Legal Matters

What is the 3GPP IPR Policy?

The 3GPP Organizational Partners have agreed that their IPR policies should be respected and that their respective members should be encouraged to declare "their willingness to grant licenses on fair reasonable terms and conditions and on non discriminatory basis" (Article 3.1 of the Third Generation Partnership Project). For more information Look Here >>>

The above-mentioned principles are further reflected in Article 55 of the 3GPP Technical Working Procedures which request that each Individual Members should declare "at the earliest opportunity, any IPR which they believe to be essential, or potentially essential, to any work ongoing within 3GPP".

What is the 3GPP policy on licensing?

Some aspects of 3GPP systems are covered by essential Intellectual Property Rights (IPR) - that is, patented technologies without which equipment cannot be implemented. The IPR vests in - i.e. the patents are held by - individual companies, and not by 3GPP itself or any of its Organizational Partners (OPs). All Individual Members of 3GPP abide by the IPR policies of the OP to which they belong; all such policies are broadly similar (see FAQ 3.1), and require IPR holders to make licences available to all third parties, whether or not they are 3GPP Individual Members, under fair, reasonable and non-discriminatory (FRAND) terms.

Neither 3GPP nor its component OPs offer an IPR search service. It is the responsibility of each manufacturer / system implementor to seek and obtain its own licences from the individual IPR holders.

For more information, and a guide to the IPRs declared to each 3GPP OP, look here >>>

(Answer drafted 2005-09-12 by JMM.)

Petitioners' Exhibit 1014, p. 207
AT&T et al v. Innovative Sonic & Celerity
IPR2024-01145

What is the 3G Patent Platform?

On the fringe of standardization activities some telecom companies have set up a voluntary arrangement for the licensing of essential patents required to meet the standards published for 3G systems has emerged.

Please find a historical recap of the creation of the 3G Patent Platform. Thank you to note that Phase 3 has not started yet.

1. Discussions started in the UMTS IPR working Group (1998).

2. The UMTS IPR working group operated within the UIAP (UMTS Intellectual Property Association) to define the functions of the 3G Patent Platform.

The 3G Patent Platform will provide services for:

Evaluating,
Certifying and,
Licensing

essential patents for 3G Mobile communications.

3. Implementation of the 3G Patent Platform scheme.

The 3G Patent Platform will operate within a new profit service company governed by the members (essential patent holders and licensees). As of today this NEW CO is not operational since it is waiting for the approval of the US/EC/Japanese competition law authorities in order to launch the above-described activities.

More information...

Is it true that a number 3GPP members are looking at setting up a patents cooperative, with the aim of reducing the royalties they pay each other for the use of patented technology in third-generation mobile systems?

1. Discussion started in the UMTS IPR working Group (1998),
2. Creation of the UIAP (UMTS Intellectual Property Association) which has performed the function of the definition the 3G Patent Platform scheme (Evaluation of a patent, certification of essentiality, licensing arrangements, etc.) and which is the legal owner of the 3G Patent Platform Specification.
3. Implementation of the scheme:

As of today NEW CO (implementing the 3G Patent Platform) has not be incorporated and the Patent Platform scheme is not operational as it is awaiting for the approval of the US/EC competition law authorities.

ETSI follows the development of the 3G Patent Platform but, as a neutral standard body, cannot take an active participation in this market initiative.

Who owns the Technical Specifications and the Technical Reports approved by 3GPP?

According to the Article 3.2.2 of the Third Generation Partnership Project Agreement, the 3GPP Organizational Partners jointly own copyright on the Technical Specifications and the Technical Reports approved by 3GPP.

Does a company implementing a product based on the 3GPP specifications have to pay any royalties to the 3GPP organization?

The Third Generation Partnership Project is not a legal entity but a Partnership Project between different standardization organizations in the field of telecommunications.

Is permission needed to use the 3GPP logo in marketing collaterals or on a web site?

ETSI (European Telecommunications Standards Institute) is the sole owner of the following acronyms:

ETSI,
DECT,
UMTS,
3GPP and
TIPHON,

as well as the ETSI, TIPHON and 3GPP logos. ETSI Members shall use these Trade Marks in accordance with Collective Letter 1943. Authorization is needed to use the above mentioned acronyms and logos.

For further information please contact : 3GPP Legal

Can I use computer code included with a 3GPP TS to implement a product?

Yes. Some 3GPP Technical Specifications include computer code such as ASN.1 or XML (protocols), C language (codecs), ...; and some include test patterns (codecs) for verifying implementations. These are published to allow users of these TSs to implement real-world products. No permission is required from 3GPP or its Organizational Partners (OPs) to use this code in the design of products - e.g. to compile the C to implement a codec in machine code.

Nevertheless, there may be essential IPR involved with such a design, and implementors are obliged to seek licences to use that technology. See FAQ 3.2.

Moreover, the copyright of all 3GPP TSs and TRs vests jointly by all the 3GPP OPs. Other than for in-house copies for the purpose of further development of the 3GPP standard or for product design purposes, etc. you may not reproduce any part of a 3GPP TS or TR without seeking permission: use the form available here. This means that you must not provide verbatim copies of source code (or lightly modified copies) without seeking permission from 3GPP.

Finally, you are reminded that 3GPP TSs and TRs have no legal status, and you should not design products directly to them. See the advice notice on the cover page of every 3GPP TS and TR. Instead, use the technically identical publication of one of the OPs.

(Answer drafted 2005-09-12 by JMM.)

Specifications

Where can the rules, protocols or software needed to develop applications for UMTS be found?

A good place to start is on the 3GPP website , and particularly the specifications list.

Look at the titles of the specs for those which are appropriate. Perhaps 21.111, 31.102 and 31.111 might be relevant.

What is the correlation between Stage 1, Stage 2 (GSM 3.90 and GSM 02.90) and Phase 1, Phase 2?

The "stage" nomenclature was an ancient CCITT invention, related to ISDN standardisation. "Stage 1" refers to the service description from a service-user's point of view. "Stage 2" is a logical analysis, breaking the problem down into functional elements and the information flows amongst them. "Stage 3" is the concrete implementation of the protocols between physical elements onto which the functional elements have been mapped.

Is there any simple guide to the different CAMEL specifications?

Unfortunately there is no single document acting as a guide to the CAMEL standards. Initial plans were published in ETSI ETR 244 in 1995, though this is so old as to be more or less useless now. GSM 10.78 is the CAMEL project plan, and this is probably the best thing. This may have been available as a temp doc to SMG meeting no. 25, but is still only in draft form, and has never been made publicly available.

In the SS7 arena,

GSM 02.78 / UMTS 22.078 is the Stage 1 (requirements) document.
GSM 03.78 / UMTS 23.078 is the Stage 2 (functions, conceptual data flow)
GSM 09.78 / UMTS 29.078 is the Stage 3 (protocol) - CAMEL Application Part (CAP)
CAP has been released in several phases:

Release 1996 = Phase 1
Release 1997 = Phase 2
Release 1998 = Phase 2
Release 1999 = Phase 3 (GSM and UMTS common spec)

For UMTS, 21.978 is a feasibility study on CAMEL control of Voice over IP.

In the Intelligent Network area, CAMEL is an extension of Core INAP, under the control of ETSI SPAN3 (formerly SPS3) - ignore for simplicity the Stage 1 and Stage 2 specifications, which were under ETSI SPAN6 (formerly NA6). Core INAP was released in sevaral phases:

CS1 = ETS 300 374 series,
CS2 = EN 301 140 series,
CS3 = EN 301 931 series.

It had originally been intended to split CS3 into two releases, and also to produce a CS4. These plans now seem to be on hold. Tthe ETSI phasing of the various Capability Sets was not strictly aligned with the ITU-T "equivalents", and this was a source of some confusion. For further information on SPAN please contact : spansupport@etsi.org Very recently, SPAN has been reorganised, and SPAN3's work is now to be found within SPAN12.

IN CAMEL phase 1 is an enhancement of Core INAP CS1. The protocol is defined in the ETSI EN 301 152 series, which is a "delta" to ETS 300 374, and assumes a CAP according to GSM 09.78 v5.5.x (Phase 2+, Release 1996). IN CS3 includes CAMEL aspects (which were ignored for IN CS2).

Where are the specifications which identify the Vcc voltages for the SIM interface?

3V and 1.8 V SIMs for GSM are specified in GSM 11.12 (phase 2) and GSM 11.18 (release 98) respectively. However, in 3GPP we have developed a new specification (3G TS 31.101) which combines the physical/electrical/logical aspects of GSM 11.11, GSM 11.12 and GSM 11.18 into a single specification. The electrical and physical aspects have not really been changed compared to the GSM specification mentioned above (the logical and security aspects have been enhanced). It is recommended that you use this new specification as the basis for any new work.

Are the 3GPP specifications produced only in word?

The 3GPP specs are published as ETSI deliverables, and these are available in PDF from http://www.etsi.org/key . But you can download a free Word viewer (ie read only) from the Microsoft web site. PDF is inherently secure (more so than html, in fact), and because WordViewer is very simple (it can not handle macros, for example), it is pretty safe too.

ETSI has no plans at present to publish specifications in plain text or in html.

Which group works with specifications covering the use of the GSM codec (either in C or Java based)?

The SMG11 and 3GPP SA4 specifications available from http://www.3gpp.org respectively deal with this. It gives you a list of specifications via the status list (look for the GSM specs in the MS-Access database at : and you can then download the specs you need. If you do not have an ETSI EOL account, you can download the ETSI equivalent standards from http://www.etsi.org/key .

Does the ETSI GSM standard document collection also include GSM standard documents produced by the GSM Association and exactly what kind of GSM standards does ETSI produce?

The GSM specifications were originally started in committee GSM of CEPT. There (as "CEPT Recommendations") they were allocated a reference number of the form nn.nn, for example GSM 06.12. Even after transfer to ETSI about ten years ago, the GSM community (in Technical Committee SMG) continue to use these spec identifiers.

The specifications are grouped into 'Releases'. The original specifications were published by ETSI in 1994 and are now known as 'Phase 1'. The next release was known as 'Phase 2', and the next one as ... 'Phase 2+'. Within Phase 2+, there have been annual releases since 1996, which are known as R96, R97, R98 and R99. You can find the specifications on the SMG file server http://docbox.etsi.org/tech-org/smg... grouped into directories by Release. (You need an account on the ETSI server to have access to this directory.) Looking at a spec, you can tell which release it belongs to by the version number:

Version release:

- 3.x.x Phase 1
- 4.x.x Phase 2
- 5.x.x Phase 2+, R96
- 6.x.x Phase 2+, R97
- 7.x.x Phase 2+, R98
- 8.x.x Phase 2+, R99

There will (probably) not be a Release 2000, since the work has been subsumed by the third generation specifications under 3GPP.

All (nearly) the specs of all releases are published as ETSI deliverables, and most have undergone several revisions in each release. In order to match a GSM spec number and version with the corresponding ETSI deliverable, you should go to http://www.etsi.org/key/ .

Where would I find a document (e.g. UMTS 30.03 version 3.1.0) which does not appear on the 3GPP Status List?

Look at http://docbox.etsi.org/tech-org/smg... but, an ETSI server account is needed to access this. It is a document stemming from the initial TC-SMG studies on UMTS, not a product of 3GPP. It was, in fact, published as an ETSI deliverable, TR 101 112, and this may be downloaded via http://pda.etsi.org/pda .

In general, the cross-referencing between GSM and ETSI deliverables, and between 3GPP and ETSI deliverables may be found at http://www.etsi.org/key

Where are all the Change Requests (CRs) located?

The information on CRs is available via the 3GPP website .

The information is classed by series so it is very easy to locate the particular specification which interests you.

If, for example, you are looking for CRs on GSM 08.18 then you would use this link:

http://www.3gpp.org/ftp/Specs/html-...

Where are all the current ETSI SMG specs located?

All the archives for the GSM documentation

An ETSI On-Line account is needed to access these documents. You can apply for an ETSI online account .

In general, the cross-referencing between GSM and ETSI deliverables, and between 3GPP and ETSI deliverables may be found here .

Which group works on the W-CDMA and the Physical Layer of W-CDMA?

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The radio aspects are standardised in TSG-RAN. The technical work is done in the 4 Working Groups of RAN (WG1 radio layer 1, WG2 radio layer 2/3, WG3 interfaces, WG4 RF measurements). I'd say you are interested in TSG-RAN WG1 then. Their specifications are numbered 25.2xx.

The temporary documents (meeting documents etc.) of WG1 are stored on ftp://ftp.3gpp.org/TSG_RAN/WG1_RL1 and the latest specifications (December 99) are or will be provided on ftp://ftp.3gpp.org/Specs/December_99/25_series.

Where can I find the list of Abstract syntax notation (ASN.1) object identifiers?

The expandable list of object identifiers is available here >>>. To see the formal definition of the object identifiers, see the document cited on the right. The tree is not necessarily complete; further extensions may be included in the referenced document. For more information look here >>>

Where can I find the 3GPP Confidentiality and Integrity algorithms?

The 3GPP Confidentiality and Integrity algorithms F8 & F9 (KASUMI) have been developed through the collaborative efforts of the 3GPP Organizational Partners. For more information and in order to download the algorithms look here >>>

What is a Release - how does specification version numbering work?

To meet new market requirements, 3GPP specifications are continually being enhanced with new features. In order to provide developers with a stable platform for implementation while at the same time allowing the addition of new features, the 3GPP uses a system of parallel "releases". For more information look here >>>

Where can I find information on the current status of 3GPP specifications?

New versions of many 3GPP specifications are made available shortly after the 3GPP TSG plenary meetings which take place four times a year (March, June, September and December). In order to identify what the current version is or and how to find information about older versions of specifications look here >>>.

What is the system for numbering specifications? Which specifications contain information on specific topics?

All 3G and GSM specifications have a 3GPP specification number consisting of 4 or 5 digits. (e.g. 09.02 or 29.002). For a more complete description and examples look here >>>

Technical Specification Group/Working Group

Who are the TSG/WG Officials and Support team and Where can I find their contact details?

Each TSG/WG has a Chairman, up to two Vice-Chairmen (three Vice-Chairmen) in the case of TSGs), a secretary and a member of the support team. From the 3GPP structural organization page, click on the TSG or WG of interest to reach its home page. From there, click on the "List of elected officials" entry in the table.

Where can I find the Terms of Reference for my TSG/WG?

The current Terms of Reference for each TSG/WG appear on the web pages of each TSG/WG.

When did the Officials begin their Term of Office?

The four Technical Specification Groups (TSGs) have elected their 3GPP TSG officials at the Fort Lauderdale (FL) meeting in March.

The meeting reports for each TSG/WG will indicate the election/re-election/resignation of an official. A complete list of TSG/WG officials is available on the 3GPP web site.

May I become an Official?

The TSG Chairman and Vice Chairmen are elected by the Technical Specification Group from amongst the Individual Member representatives. Each TSG can elect a maximum of two Vice Chairmen. Once elected, these candidates are proposed to the PCG for appointment.

The Working Group Chairman and Vice Chairmen are elected by the Working Group from amongst the Individual Member representatives. Each Working Group can elect a maximum of two Vice Chairmen.

A candidate for TSG or Working Group election shall provide a letter of support from his Organization and nominations may be made up to the point when an election takes place.

The TSG Chairman and Vice-Chairmen shall be appointed by the PCG on the proposal of the TSG.

The Chairman and the Vice-Chairmen shall be appointed for a two year term of office. The Chairman and Vice-Chairmen may be appointed for one further consecutive term. If, at the end of a Chairman or Vice Chairmans second term, no other candidates are available, the Chairman or Vice Chairmen may be appointed for a further term.

Chairman and Vice Chairmen should not be from the same region, Organizational Partner, or from the same group of companies, unless no other candidate is available.

Successive Chairmen should not be from the same Organizational Partner, the same region or from the same group of companies, unless no other candidate is available

Where are my TSG/WGs documents stored?

Each TSG/WG has a specific area allocated on the 3GPP ftp server.

Is the ETSI Secretariat responsible for the management of the Application Provider Codes for 3GPP ?

The ETSI secretariat does not actually allocate these number - unique number are obtained by the coding scheme that is defined in 31.110. Application identifiers for consist of two parts - a RID and a PIX.

The RID is simple: ISO/IEC have allocated the number 'A000000087' to the 3GPP. This was allocated to ETSI on behalf of the 3GPP.

The coding of the PIX is specified in annex B of 31.110. There are three different sorts of PIX:

3G UICC,
3G USIM, and
3G USIM toolkit

Each of these requires the use of the "Card issuer code" as defined in ITU-T recommendation E.118 [3]. This is a unique code given to each card issuer (for example, each GSM operator in the world has requested a card issuer code). So, any 3G operator that does not have a 2G system that uses SIMs will have to apply to the ITU-T in accordance with the procedures in E.118.

Documents and TSG/WG Meetings

How do I register for a meeting?

If you are a TSG/WG member you will receive information about forthcoming meetings via the e-mail exploder. This will indicate the path on the ftp server where the invitation and related documents may be found. You may also consult the Meetings area on the 3GPP Web where the latest invitations of each TSG/WG are stored together with the calendar of meetings.

How do I submit a contribution for a meeting?

Each meeting invitation will contain details of how to register contributions for that meeting and who to send your contributions to.

How do I obtain a document number for my contribution?

Each meeting invitation will contain details of how to register contributions for that meeting and who to send your contributions to.

Where can I download documents for an upcoming meeting?

Each meeting invitation will contain details of where the documents are stored for the meeting. It is advisable for delegates attending a meeting to download the documents available prior to the meeting from the ftp server and onto their personal computers.

Where can I find a temporary document template?

The document template is made available by each TSG/WG in the meeting respective folder on the ftp server.

What happens if I am unable to attend a meeting?

You should contact your chairman and the meeting host indicating when you will be absent.

Work Items and Deliverables

What is my role when my TSG/WGs has to approve a deliverable?

Petitioners' Exhibit 1014, p. 212
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Approval of Technical Specifications and Technical reports by a TSG shall normally be by consensus.

Where consensus cannot be achieved in the TSG a vote may be taken.

When Technical Specifications and Technical Reports become sufficiently stable, they shall be put under change control of the relevant TSG. The further elaboration of these Technical Specifications and Technical Reports shall be achieved by Change Requests (CRs) to be approved by the TSG.

What are the different types of deliverables?

3GPP shall prepare, approve and maintain documents known as Technical Specifications and Technical Reports. Such documents shall be drawn up by the TSGs and shall, following approval at that level, be submitted to the participating Organizational Partners to be submitted to their respective standardization processes.

Can I write an 3GPP Document myself?

Why not?! If you wish to propose a deliverable then bring it to the attention of your chairman and the other members of the TSG/WG in order to discuss the subject.

Each proposed new Work Item shall be supported by at least four Individual Members, and their names shall be recorded in the Work Item definition prepared for the TSG approval. One or more persons shall be named as Rapporteur for the proposed Work Item, and the Rapporteur shall act as the prime contact point on technical matters and for information on progress throughout the drafting phases.The supporting Individual Members are expected to contribute to and progress the new work item throughout the drafting phases.

In addition to the above, TSGs shall approve new Work Items, giving all essential parameters. The proposal shall be entered into the 3GPP work programme, clearly marked as a new entry, for which a unique reference identity shall be allocated.

Do I and my company have to support my TSG/WGs Work Items?

Neither you or your company is obliged to support the work items of your TSG/WG, however it is normal that if you and your company are supporting members of a Work Item that you be in agreement with their work and will normally support the production of the related deliverable.

Miscellaneous

How do I resolve the problem with the corrupt file warning in MSWord. Note that this only applies to MSWord2000?

Problem: When opening a document in Word 2000, the following error message appears: This document may be corrupt. To preserve the contents: Choose Select All from the Edit menu, then choose Copy from the Edit menu. Create a new document, then choose Paste from the Edit menu.

Cause: This may be related to something called list templates. A list template is created for every numbering or bulleting scheme defined in the document. Apparently, a minor change in a scheme, or even switching a list from numbered to bulleted creates a new template. In an arcane way, tables are also related to list templates. The template count increases automatically, but cannot be decreased by the user. When more than 1500 templates are defined in the list, the document becomes corrupt. There are more reasons why a document is corrupt, so the fix proposed will not solve the problem 100% of the times.

Resolution:

1. To solve the problem, you need to have MS Office 2000 Service Release 1/1a installed . To check this, in Word on the "Help" menu point to "About Microsoft Word". The first line in the window shows you the MSWord version you have. You should get something like: "Microsoft Word 2000 (9.0.3821 SR-1)". If you don't get SR-1 (or SR-1a) at the end, you need to install the Service Release. Contact your IT department or follow this link: http://support.microsoft.com/suppor...
2. You have to introduce a new entry in the Windows registry. You can do this simply by clicking twice in the file "word_bug_fix.reg" attached. Note that modifying the Windows Registry incorrectly can cause serious problems; this fix simply introduces a new entry in a MSWord part of the registry, but if you don't feel confident, contact your IT department or check the Microsoft link below.
3. Open MSWord normally. The fix proposed will open the corrupted files without warning and delete the unused list templates, so its count goes under 1500. The user will not notice anything, but this implies that the document is modified. When closing, MSWord will ask the user if he wants to save the changes, even if apparently no change has been made.

This bug is confirmed by Microsoft and it is listed in its Support Web Site. Follow this link to get the complete report: http://support.microsoft.com/suppor...

Where is the information regarding the Core Network located ?

Unfortunately, there is no one document that describes the Core Network, as it is an area of work far too involved to be contained in one specification. For a general overview document of Network Architecture TS 23.002 may be downloaded from our FTP server. ftp://ftp.3gpp.org/Specs/October_99/23_series. For more general organizational information, have a look at the 3GPP web site which shows the individual areas of 3GPP and in particular Core Network. http://www.3gpp.org/TSG/CN.htm .

Do I need a password and user name to access the 3GPP Web site ?

No password is needed to access any information on the 3GPP Web site, all information is openly published.

Can you give me information about which companies manufacture particular types of equipment. Or about what services are available on particular networks?

No. The 3GPP Support Team must remain neutral and must not show bias to any of its Individual Members. Such information may be available from the Global Mobile Suppliers Association (www.gsacom.com) where you will find a statistics area which could be of help.

Technical topics

Where can I find a list of technical terms and abbreviations used in 3GPP documents?

Individual terms are defined in each 3GPP Technical Specification and Technical Report. A compendium of terms and abbreviations can be found in 3GPP TR 21.905. ETSI maintains a list of all terms and abbreviations defined in its publications in "TEDDI".

What is the difference between a SIM and a USIM? What is a UICC?

The Universal Integrated Circuit Card (UICC) is the removable card bearing a silicon chip which holds 3GPP system subscriber information. The UICC is a general purpose card having both non-volatile memory and a general-purpose processor. Thus while it is used, in a 3GPP terminal, to hold (U)SIM information / applications, it is can also be used for other purposes, possibly unrelated to telecommunications. A common use of UICCs is in the well-known credit card format, and there is no reason why a single card could not hold (U)SIM functionality in addition to electronic purse / credit card functionality, or indeed any other application / data.

The Subscriber Identity Module (SIM) is the collection of functions which personalize a 3GPP terminal. The SIM contains static information about the services subscribed to, the phone number, the identity of the home network, a list of preferred roaming networks, and so on. The SIM also contains storage capacity for the subscriber's contacts' phone numbers. The term "SIM" is often misused for "UICC". The SIM concept was created during the early development of the GSM standards, and second-generation (based on GERAN) terminals up to and including Release 4 use SIM functionality.

For third generation systems (based on UTRAN), more complex functionality was called for, and the SIM evolved into the USIM or Universal Subscriber Identity Module. Release 99 3rd generations onwards use USIMs rather than SIMs. From Release 5 onwards, both second and third generation terminals use USIMs (though to maintain backwards compatibility with older networks and terminals, later Release 2nd generation USIMs are likely to implement Rel-4 SIM functionality in addition to Rel-5 or later USIM functionality).

For further information on the 3GPP Release system, see the Release page.

What is an R-UIM?

Short answer: nothing to do with us!

Longer answer: the R-UIM is to 3GPP2 systems what the USIM is to 3GPP systems. (3GPP2 is an independent organization responsible for the standardization of CDMA2000.)

I have transferred a movie file from my phone to my PC. Where can I find a player for 3gp files?

The 3gp file format is defined in 3GPP TS 26.244 and in TS 26.412. However, 3GPP has not defined a decoder. Your phone manufacturer may have supplied a player (check the CD-ROM which came with your phone) or look on its web site. Alternatively, search the Internet: a number of commercial players exist, and trial versions of some may be downloaded without charge.

What formalities do I have to go through to get type approval for terminal equipment in Europe? Is there a single point of contact? What standards does my equipment need to conform to in order that I can place it on the market?

The legal requirements for the marketing of electrical products in Europe are governed by various EU Directives, depending on the nature of the equipment. Conformity with any of these Directives can be demonstrated by the use of Harmonized Standards, whose title has been cited in the Official Journal of the European Union. The lists of relevant standards can be found on the Commission web site which can be accessed via http://www.newapproach.org .

General electrical equipment is covered by the EMC Directive & Low Voltage Directives, see http://ec.europa.eu/enterprise/elec... . The harmonized standards are listed at http://ec.europa.eu/enterprise/newa... and

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http://ec.europa.eu/enterprise/newa... respectively. More general information on procedures to declare conformity and how equipment should be marked are contained on the web sites related to the two Directives.

Radio Equipment and Telecommunications Terminal Equipment is covered by the Radio and Telecommunications Terminal Equipment Directive, see http://ec.europa.eu/enterprise/rtte... , which also includes a link to the one-stop procedure for "placing on the market" (http://ec.europa.eu/enterprise/rtte...). The standards are listed at http://ec.europa.eu/enterprise/newa... .

Further information on EU harmonized standards relevant to telecommunications can be found on the ETSI site at http://www.etsi.eu/WebSite/Standard... , and the published standards themselves can be downloaded via http://pda.etsi.org/pda/queryform.asp .

Where can I find the specification of the SIM Lock feature?

In clause 8 of 3GPP TS 22.022 .

3GPP Plenary Meetings

Full Meeting Calendar

3GPP GERAN#41 - Valetta (tbc) MT - From 16 to 20 February 2009
3GPP RAN/CT/SA #43 - Biarritz FR - From 3 to 12 March 2009
3GPP GERAN#42 - Shenzhen CN - From 11 to 15 May 2009
3GPP RAN/CT/SA #44 - TBD US - From 26 May 2009 to 6 June 2009

Releases

About Releases

Release 9
Release 8
Release 7
Release 6
Release 5
Release 4
Release 1999
Functionality in early GSM releases

Keywords

Browse Technologies

UMTS
GPRS & EDGE
HSPA
IMS
LTE-Advanced
LTE
W-CDMA

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Appendix 11

The Wayback Machine - https://web.archive.org/web/20081026202407/http://www.3gpp.org:80/specs/specs.htm

3GPP Specifications Home Page

Spec download | Titles and spec numbers | Current version | Releases | Numbering scheme | Change Requests
Published specifications | Historical information | Work plan | TSG Working methods | Drafting rules | Delegates corner | ASN.1

Quick link to the specifications file server area (http) for those who know where they are going!

To find a particular spec quickly, go here and click on the links in the spec-series in the table or use the links in the "further information" section.

The term "***3GPP specification***" covers all **GSM** (including **GPRS** and **EDGE**) and **W-CDMA** specifications. The following terms are also used to describe networks using the 3G specifications: **UTRAN**, **UMTS** (in Europe) and **FOMA** (in Japan). Revised versions of many of these specifications are produced up to four times a year following the quarterly TSG plenary meetings. (TSG GERAN meets five times a year.) See the table below which gives links to lists of specifications arising from each plenary TSG meeting since the freezing of Release 1999. The month of the meeting and the meeting number are shown in each case. Note that **the tables show only those specifications newly approved or modified at the meeting concerned**; they do *not* contain a complete list of all specifications current following the meeting. For such a list, consult the "status list" - see below.

Following each TSG SA plenary meeting, a complete set of specifications is produced. This set includes not only the new specifications generated at that meeting, but also the latest versions of each specification that was not changed at that meeting. i.e. each directory holds a complete set of specifications. Each set has an associated **status list** as detailed in the table below. Each set (and corresponding status list) includes the specs arising from the TSG GERAN meetings held since the preceding SA meeting. (GERAN meets asynchronously from the other TSGs.)

The **Status List** (ZIPped RTF or Word format) summarizes the current version number for every release of every 3GPP specification following each TSG plenary meeting. Also listed for each specifications are:

- the 3GPP working group and rapporteur responsible for the specification
- the Project Manager in MCC (Mobile Competence Centre) responsible for the specification
- the meeting at which it was, or is expected to be, "frozen" (i.e. the point after which only corrections are allowed)

Full details of the Specifications, their history and current status can be found in the 3GPP Specifications Status database.

Missing Specs: Click **here** to see those Specs not yet available following the most recent round of TSG meetings.

year-month	remark	latest status	specs directory	TSG CN meeting number	TSG RAN* meeting number	TSG T meeting number	TSG SA meeting number	TSG GERAN meeting number	TSG CT meeting number
2008-09		StatusList	ftp://ftp.3gpp.org/specs/2008-09		41		41	39	41
2008-06		StatusList	ftp://ftp.3gpp.org/specs/2008-06		40		40	38	40
2008-03		StatusList	ftp://ftp.3gpp.org/specs/2008-03		39		39	37	39
2007-12		StatusList	ftp://ftp.3gpp.org/specs/2007-12		38		38	36	38
2007-09		StatusList	ftp://ftp.3gpp.org/specs/2007-09		37		37	35	37
2007-06		StatusList	ftp://ftp.3gpp.org/specs/2007-06		36		36	34	36
2007-03		StatusList	ftp://ftp.3gpp.org/specs/2007-03		35		35	33	35
2006-12		StatusList	ftp://ftp.3gpp.org/specs/2006-12		34		34	32	34
2006-09	GERAN henceforward meets synchronously with other TSGs, so no further "delta" directories necessary.	StatusList	ftp://ftp.3gpp.org/specs/2006-09		33		33	31	33
2006-06	New at GERAN only.		ftp://ftp.3gpp.org/specs/2006-06-geran-mtg-30-delta/					30	
2006-06		StatusList	ftp://ftp.3gpp.org/specs/2006-06		32		32		32
2006-04	New at GERAN only.		ftp://ftp.3gpp.org/specs/2006-04-geran-mtg-29-delta/					29	
2006-03		StatusList	ftp://ftp.3gpp.org/specs/2006-03		31		31		31
2006-01	New at GERAN only.		ftp://ftp.3gpp.org/specs/2006-01-geran-mtg-28-delta/					28	
2005-12		StatusList	ftp://ftp.3gpp.org/specs/2005-12		30		30		30
2005-11	New at GERAN only.		ftp://ftp.3gpp.org/specs/2005-11-geran-mtg-27-delta/					27	
2005-09		StatusList	ftp://ftp.3gpp.org/specs/2005-09		29		29		29
2005-08/09	New at GERAN only.		ftp://ftp.3gpp.org/specs/2005-09-geran-mtg-26-delta/					26	
2005-06	New at GERAN only.		ftp://ftp.3gpp.org/specs/2005-06-geran-mtg-25-delta/					25	

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2005-06		StatusList	ftp://ftp.3gpp.org/specs/2005-06		28		28		28
2005-04	New at GERAN only.		ftp://ftp.3gpp.org/specs/2005-04-geran-mtg-24-delta/					24	
2005-03	RAN closed and RANnew opened. CN and T closed. CT opened.	StatusList	ftp://ftp.3gpp.org/specs/2005-03	27	27bis 27	27	27		27
2005-01	New at GERAN only.		ftp://ftp.3gpp.org/specs/2005-01-geran-mtg-23-delta/					23	
2004-12		StatusList	ftp://ftp.3gpp.org/specs/2004-12	26	26	26	26		
2004-11	New at GERAN only.		ftp://ftp.3gpp.org/specs/2004-11-geran-mtg-22-delta/					22	
2004-09		StatusList	ftp://ftp.3gpp.org/specs/2004-09/	25	25	25	25		
2004-08	New at GERAN only.		ftp://ftp.3gpp.org/specs/2004-08-geran-mtg-21-delta/					21	
2004-06	New at GERAN only.		ftp://ftp.3gpp.org/specs/2004-06-geran-mtg-20-delta/					20	
2004-06		StatusList	ftp://ftp.3gpp.org/specs/2004-06/	24	24	24	24		
2004-04	New at GERAN only.		ftp://ftp.3gpp.org/specs/2004-04-geran-mtg-19-delta/					19	
2004-03		StatusList	ftp://ftp.3gpp.org/specs/2004-03/	23	23	23	23		
2004-02	New at GERAN only.		ftp://ftp.3gpp.org/specs/2004-02-geran-mtg-18-delta					18	
2003-12		StatusList	ftp://ftp.3gpp.org/specs/2003-12/	22	22	22	22		
2003-11	New at GERAN only.		ftp://ftp.3gpp.org/specs/2003-11-geran-mtg-17-delta					17	
2003-09		StatusList	ftp://ftp.3gpp.org/specs/2003-09/	21	21	21	21		
2003-09	New at GERAN only.		ftp://ftp.3gpp.org/specs/2003-09-geran-mtg-16-delta					16	
2003-06	New at GERAN only.		ftp://ftp.3gpp.org/specs/2003-06-geran-mtg-15-delta					15	
2003-06		StatusList	ftp://ftp.3gpp.org/specs/2003-06/	20	20	20	20		
2003-04	New at GERAN only.		ftp://ftp.3gpp.org/specs/2003-04-geran-mtg-14-delta					14	
2003-02		StatusList	ftp://ftp.3gpp.org/specs/2003-03/	19	19	19	19		
2003-02	New at GERAN only.		ftp://ftp.3gpp.org/specs/2003-02-geran-mtg-13-delta					13	
2002-12 2002-11		StatusList	ftp://ftp.3gpp.org/specs/2002-12/	18	18	18	18	12	
2002-09		StatusList	ftp://ftp.3gpp.org/specs/2002-09/	17	17	17	17	11	
2002-06	Rel-5 GERAN features content functionally frozen		ftp://ftp.3gpp.org/specs/2002-06-geran-mtg-10-delta/					10	
2002-06	Rel-5 features content functionally frozen (remainder, non-GERAN)	StatusList	ftp://ftp.3gpp.org/specs/2002-06/	16	16	16	16		
2002-04			ftp://ftp.3gpp.org/specs/2002-04-geran-mtg-09-delta/					9	
2002-03	Rel-5 features content functionally frozen (part)	StatusList	ftp://ftp.3gpp.org/specs/2002-03/	15	15	15	15		
2002-02								8	
2001-12		StatusList	ftp://ftp.3gpp.org/specs/2001-12/	14	14	14	14		
2001-11								7	
2001-09		StatusList	ftp://ftp.3gpp.org/specs/2001-09/	13	13	13	13		
2001-08								6	
2001-06		StatusList	ftp://ftp.3gpp.org/specs/2001-06/	12	12	12	12	5	
2001-06	Rel-4 GERAN features content functionally frozen							4	
2001-03	Rel-4 non-GERAN features content functionally frozen	StatusList	ftp://ftp.3gpp.org/specs/2001-03/	11	11	11	11		
2001-01								3	
2000-12 2000-11		StatusList	ftp://ftp.3gpp.org/specs/2000-12/	10	10	10	10	2	
2000-11									
2000-09		StatusList	ftp://ftp.3gpp.org/specs/2000-09/	9	9	9	9	1	
2000-06		StatusList	ftp://ftp.3gpp.org/specs/2000-06/	8	8	8	8		
2000-03				7	7	7	7		
1999-12	R99 features content functionally frozen			6	6	6	6		
1999-10				5	5	5	5		

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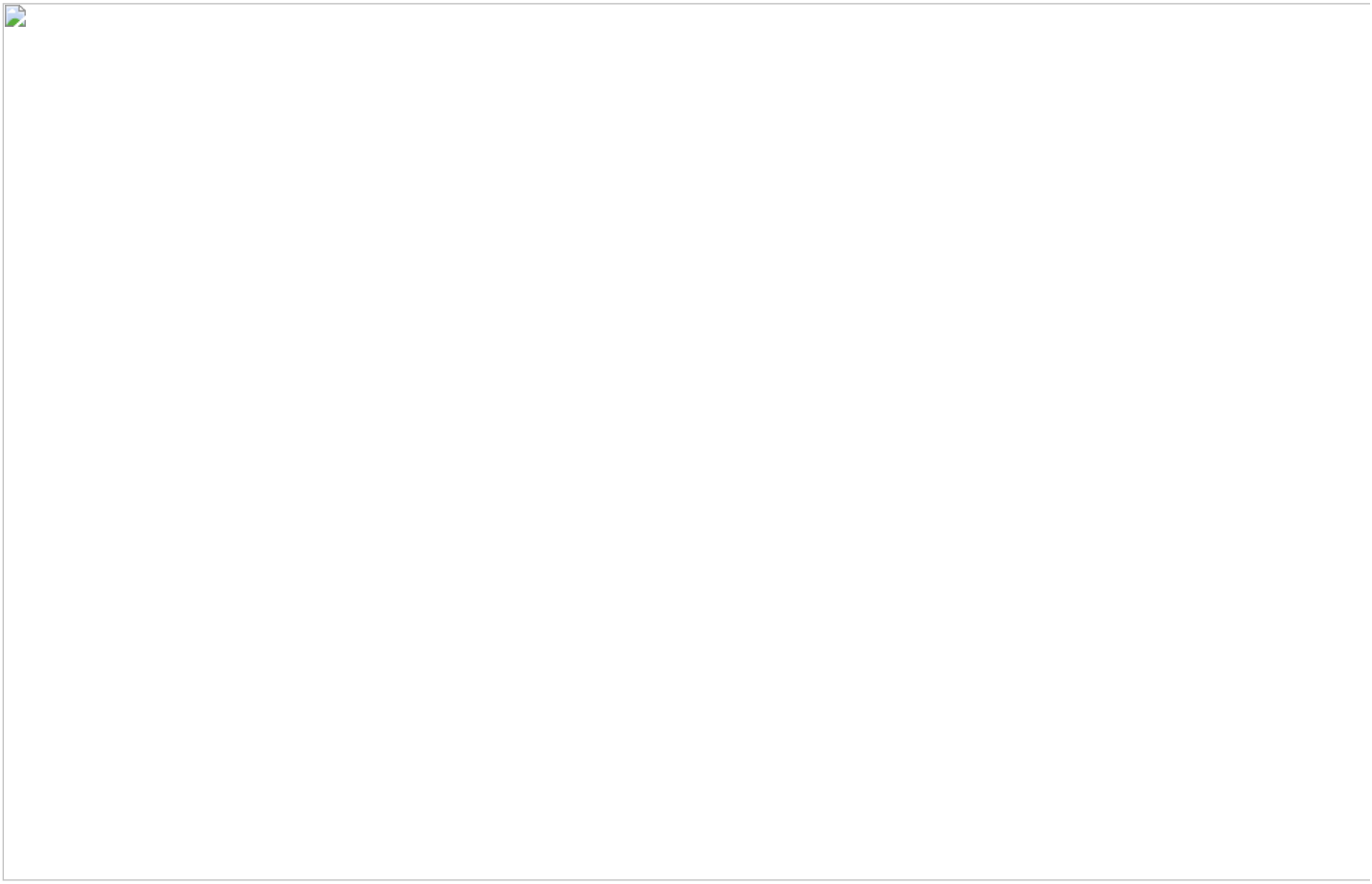
1999-06					4	4	4		
1999-05				4					
1999-04				3	3	3	3		
1999-03				2	2	2	2		
1998-12				1	1	1	1		

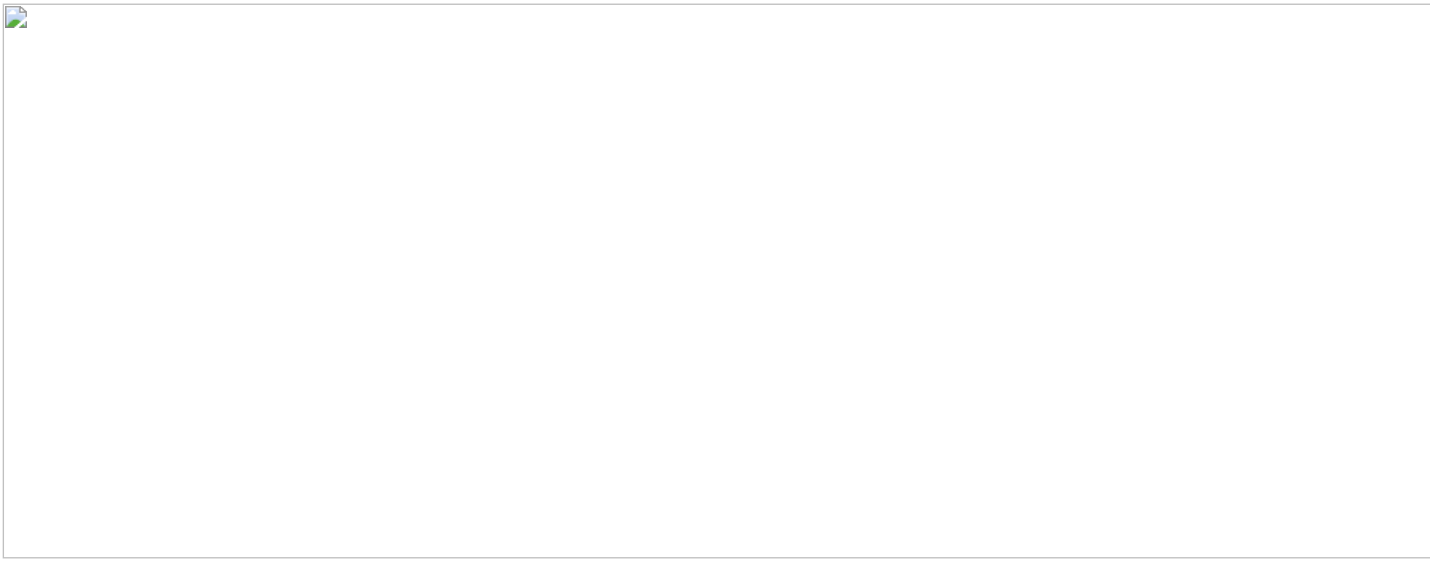
* TSG RAN was closed at the end of meeting 27 and re-opened for meeting 27 bis.

If you plan to download a large number of specifications and are using MS Explorer 4.0 or earlier, it may be worthwhile acquiring an FTP client software tool such as:

- Ipswitch WS_FTP Pro® : This general purpose file transfer program simplifies the process of downloading large numbers of files from an FTP site.
- FTPSync®: This tool allow the user to specify a directory on their local disk and synchronize it with a directory on an FTP site.

For additional information relating to 3GPP Specifications, their creation and maintenance, etc, go here.





This page maintained by Specifications Manager.

last updated:
2008-10-06: #41 (#39) added, charts updated.

2008-06-09: #40 (#38) added.
2008-03-20: #39 (#37) added, charts updated
2008-01-28: Link to missing specs page added
2007-09-24: #38 (#36) added, charts updated
2007-09-24: #37 (#35) added, charts updated
2007-06-13: #36 (#34) added, charts updated
2007-04-20: typo and link corrected
2007-03-21: typo corrected
2007-03-19: TSGs#35 (GERAN#33) added
2006-12-08: TSGs#34 (GERAN#32) added, charts updated
2006-09-13 (2): Other TSGs#33 added on same line.
2006-09-13: GP-31 added.
2006-07-06: GP-30 added.
2006-06-12: TSGs#32 added, charts updated
2006-05-02: GP-29 added
2006-03-20: TSGs#31 added
2006-01-23: GP-28 added
2006-01-17: charts updated
2005-12-15: hyperlinks to status lists fixed
2005-12-12: TSGs#30 added
2005-11-15: GP-27 added
2005-10-03: RP-29, CP-29, SP-29 added
2005-09-18: GP-26 misprint corrected
2005-09-06: GP-26 added.
2005-06-28: GP-25 added.
2005-06-13: Hyperlinks for TSGs#28 added
2005-04-28: Charts updated.
2005-04-21: GP-24 directory included.
2005-04-19: Hyperlink for GP-24 list added.
2005-04-04: All TSG links changed as to point to auto pages.
2005-04-01: Links for TSGs#27 changed to point to experimental pages automatically generated from status database rather than manually maintained pages.
2005-03-29: early TSG meeting entries added; GERAN#24 and other TSGs#28 entries added (no hyperlinks); column for TSG CT added
2005-03-21: TSGs#27 added, charts updated
2005-02-01: GERAN#23 added
2005-01-26: broken link to chart fixed
2005-01-19: charts updated
2004-12-23: TSGs#25 added
2004-11-19: GERAN#22 added
2004-11-03: charts updated
2004-09-28: TSGs#25 added, link to 2004-06 status list corrected.
2004-09-01: GERAN#21 added
2004-08-02: Spec availability chart updated.
2004-07-01: GERAN#20 added
2004-06-18: TSGs 24 added
2004-05-07: GP-19 added; clarifications to introductory text above the table of meetings.
2004-04-14: Specs delivery chart updated.
2004-03-26: minor errors in hyperlinks fixed.
2004-03-22: table entry for TSGs 23 added.
2004-02-18: table entry for GP-18 added.
2004-01-27: chart of spec delivery added.
2004-01-05: table entry for TSGs 22 added.
2003-12-03: table entry for GP-17 added.
2003-10-21: "further information" section moved to the "numbering" page.
2003-09-26: table entries for GP-16 and other TSGs 'P-21 added
2003-08-18: broken link repaired, links to cited spec pages made relative.
2003-07-02: typo corrected
2003-06-26: Further GERAN#15 info added; minor cosmetic improvements to text; hyperlinks for identified specs are now to their info page, not their archive storage directory
2003-06-23 - CN, RAN, T, SA #20 info and preliminary GERAN#15 info added
2003-04-25 - GERAN#14 info added
2003-04-24 - quick link to spec series table page added near top; from this it is possible to get to lists of specs in each series, and thence to details of the individual specs.
2003-03-25 - table entry for TSGs#19 added
2003-02-24 - table entry for GERAN#13 added
2003-01-13 - link to CR trends page added.
2002-12-15 - TSGs#18 (GERAN#12) line added; quick link to specs file at top of page added.
2002-10-18 - reference to 3GPP Specifications Status database added.

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Appendix 12

The Wayback Machine - https://web.archive.org/web/20081030112056/http://www.3gpp.org:80/specs/numbering.htm

3GPP Specifications - Numbering scheme

Spec download | Titles and spec numbers | Current version | Releases | Numbering scheme | Change Requests
Published specifications | Historical information | Work plan | TSG Working methods | Drafting rules | Delegates corner| ASN.1

All 3G and GSM specifications have a 3GPP specification number consisting of 4 or 5 digits. (e.g. 09.02 or 29.002). The first two digits define the series as listed in the table below. They are followed by **2** further digits for the 01 to 13 series or **3** further digits for the 21 to 55 series. The term "3G" means a 3GPP system using a UTRAN radio access network; the term "GSM" means a 3GPP system using a GERAN radio access network. (Thus "GSM" includes GPRS and EDGE features.)

The full title, specification number and latest version number for every specification can be found in the current status list [**warning: large file!**] (see also main specs page for status lists pertaining to each TSG SA meeting) and more information about terms such as R99 and Rel-4 can be found on the Releases and phases page.

A specification in the 21 to 35 series may apply either to 3G only or to GSM *and* 3G. A clue lies in the third digit, where a "0" indicates that it applies to both systems. For example, 29.002 applies to 3G and GSM systems whereas 25.101 and 25.201 apply only to 3G. Most specs in all other series apply only to GSM systems. However, as the spec numbering space has been used up, this guide is frequently broken, and it is necessary to examine the information page for each spec (see the table below) or to check the lists in 01.01 / 41.101 (GSM) and 21.101 (3G) for the definitive specification sets for each system and each Release.

Subject of specification series	3G/GSM R99 and later	GSM only (Rel-4 and later)	GSM only (before Rel-4)
General information *(long defunct)*			00 series
Requirements	21 series	41 series	01 series
Service aspects ("stage 1")	22 series	42 series	02 series
Technical realization ("stage 2")	23 series	43 series	03 series
Signalling protocols ("stage 3") - user equipment to network	24 series	44 series	04 series
Radio aspects	25 series	45 series	05 series
CODECs	26 series	46 series	06 series
Data	27 series	47 series (none exists)	07 series
Signalling protocols ("stage 3") -(RSS-CN)	28 series	48 series	08 series
Signalling protocols ("stage 3") - intra-fixed-network	29 series	49 series	09 series
Programme management	30 series	50 series	10 series
Subscriber Identity Module (SIM / USIM), IC Cards. Test specs.	31 series	51 series	11 series
OAM&P and Charging	32 series	52 series	12 series
Access requirements and test specifications		13 series (1)	13 series (1)
Security aspects	33 series	(2)	(2)
UE and (U)SIM test specifications	34 series	(2)	*11 series*
Security algorithms (3)	35 series	55 series	(4)
Evolved UTRA aspects	36 series	-	-

Note (1): The 13 series GSM specifications relate to European-Union-specific regulatory standards. On the closure of ETSI TC SMG, responsibility for these specifications was transferred to ETSI TC MSG, (Mobile Specification Group) and they do not appear on the 3GPP file server.

Note (2): The specifications of these aspects are spread throughout several series.

Note (3): Algorithms may be subject to export licensing conditions. See the relevant 3GPP page. See also the relevant ETSI pages.

Note (4): The original GSM algorithms are not published and are controlled by the GSM Association.

Technical Reports are of two classes:

- Those intended to be transposed and issued by the Organizational Partners as their own publications; and
- Those not intended for publication but which are simply 3GPP internal working documents, used, for example, for documenting planning and scheduling of work, or for holding the interim results of feasibility studies.

The first category have numbers of the form:
xx.**9**xx

The second category have numbers of the form:
xx.**8**xx (feasibility study reports, etc) or, more rarely,
30.xxx / **50**.xxx (planning and scheduling)

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Missing Specs: Click **here** to see those Specs not yet available following the most recent round of TSG meetings.

The 3GPP Specifications are stored on the file server as zipped MS-Word files. The filenames have the following structure:

SM[-P[-Q]]-V.zip

where the character fields have the following significance ...

S = series number - 2 characters (see the table above)
M = mantissa (the part of the spec number after the series number) - 2 or 3 characters (see above)
P = optional part number - 1 or 2 digits if present
Q = optional sub-part number - 1 or 2 digits if present
V = version number, without separating dots - 3 digits

So for example:
21900-320.zip is 3GPP TR 21.900 version 3.2.0
0408-6g0.zip is 3GPP TS 04.08 version 6.16.0
32111-4-410 is 3GPP TS 32.111 part 4 version 4.1.0
29998-04-1-100 is 3GPP TS 29.998 part 4 sub-part 1 version 1.0.0

Further information:

Latest version

The latest versions of the approved specifications in the "latest" directory. The latest version of draft specs (i.e. those not yet under change control) are in the "latest-drafts" directory. See also the page on version numbering.

Particular version

All older versions of specifications (where available) are stored in the archive subdirectory. All versions of all releases of a given specification are placed directly under the name of the specification.

Title or subject

If you only know the **title** or the subject, but not the specification number, the best place to start looking is the complete list of all 3GPP specification numbers and titles. This list also shows the most recent version in each Release.

Specs related to a particular working group

Each 3GPP TSG Working Group has a home page, which lists the specifications under its responsibility. Follow the links from here....

Official versions published by recognized Standards Development Organizations

The 3GPP Technical Specifications (and Technical Reports) which are publicly available from this site have, in themselves, no legal standing. They only become "official" when transposed into corresponding publications of the Partner Organizations. If you are looking for the **official versions**, see the official publications page.

Yet more information:

- **Work plan.** The 3GPP Work plan describes the new functionality currently being elaborated in the TSG working groups. It also indicates the expected timescales for their finalization.
- **Releases (and phases, stages).** An introduction to the 3GPP mechanism for specifications releases can be found here.
- **Historical information.** If you need to look for old / superseded specifications or change requests, start here.
- **TSG working methods.** The procedures for creating, enhancing and maintaining specifications are described in TR 21.900. A presentation outlining the release and change request process can be found here.
- **3GPP Drafting rules.** The rules for drafting specifications are described in TR 21.801.
- **Change Requests (CRs).** The change request mechanism is used when a correction or new functionality is required for an existing specification. Here you can find all information related to change requests.
- **Version numbering.** More information on the version numbering page.
- **Issuing new TS/TR numbers.** More information on this page.

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last updated:
2008-08-19: Link to guidance on new spec numbers added; guidance on TR numbering added.
2008-01-28: Link to missing specs page added.
2006-09-04: 36.- series added.
2005-08-05: Title for table entry 32/52/12.- series changed from "O&M".
2005-07-29: Title for 34.-series changed from "(U)SIM test specs" to add "UE" as well.
2005-07-21: corrects hyperlink to TB chart; adds links to info on version numbering
2004-08-02: missing bracket inserted
2004-03-02: typo in hyperlink to 45-series specs corrected.
2003-10-21: "further information" section originally in main specs page transferred to this page; sundry editorial improvements.
2003-09-10: links to current status list and to spec numbering system added.
2003-07-10: minor editorial clarifications
2003-06-27: 00.-series added to table; URLs to spec lists made relative rather than absolute (to aid site mirroring)
2003-09-26: minor corrections and clarifications
2003-04-24: links to specs series indexes added
2002-10-10: mention of 55 series specs added, plus notes 3 & 4.

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Appendix 13

The Wayback Machine - https://web.archive.org/web/20080912163040/http://www.3gpp.org:80/specs/version-numbering.htm

3GPP Specifications - Version numbering scheme

Spec download | Titles and spec numbers | Current version | Releases | Numbering scheme | Change Requests
Published specifications | Historical information | Work plan | TSG Working methods | Drafting rules | Delegates corner| ASN.1

As 3GPP Technical Specifications and Technical Reports evolve from the early drafting stages, though progressively more stable versions, to being brought under change control, so the version number of the document changes. The rules for maintaining the version number are contained in clause 4.4 of 3GPP TR 21.900, but are briefly summarized here.

The "version" is comprised of three fields:

- major
- technical
- editorial

and each has a numeric value, starting with zero. The fields are separated with dots, and the version number shows major, technical and editorial fields respectively from left to right. Thus a spec whose major field is 4, whose technical field is 7 and whose editorial field is 1 would be shown as **version 4.7.1**.

The **major version field** reflects the stage of the spec:

- 0 = immature draft
- 1 = draft which is at least 50% complete and has been presented / will shortly be presented to the responsible TSG for *information*
- 2 = draft which is at least 80% complete and has been presented / will shortly be presented to the responsible TSG for *approval*
- 3 or greater = spec which has been approved by the responsible TSG and is under change control.

Once under change control, the major field indicates the Release to which the spec applies. Thus it is quite normal for a Release 7 specification to go, on TSG approval, from version 2.0.0 directly to version 7.0.0. There will be no versions 3.0.0, 4.0.0 etc between.

The **technical version field** is incremented each time a technical change is made to the spec as a result of the drafting process (major version <= 2) or as a result of the incorporation of one or more approved Change Requests (major version > 2).

The **editorial version** field is incremented each time a non-technical change is made to the spec, for example to correct trivial typographical errors. Note that any change which could conceivably have an effect on the interpretation of the *technical* provisions of a spec cannot be considered as *editorial*. (Thus changing the greater-than symbol > into the less-than symbol <, although only the result of a mistyped character, is *not* considered editorial, since it makes a profound difference to the interpretation of the technical provisions of the document.) Exceptionally, the editorial version is used to show the replacement of a new version of a spec within the period (normally three working weeks) immediately following the end of a TSG meeting prior to the "all specs available" deadline, even though the modification might be more than purely editorial. Such circumstances cover, for example, the late availability of C code or TTCN associated with a spec. The document's change history annex will always explain the nature of any such change.

The version number, consisting of the three numeric fields, is reflected in the filename of the TS or TR concerned. Each field is represented by a single character, and the mapping between version field value and the character representing that value in the filename is as shown in the table below:

version field value	filename character
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1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	a
11	b
12	c
13	d
14	e
15	f
16	g
17	h

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18	i
19	jh
20	k
21	l
22	m
23	n
24	o
25	p
26	q
27	r
28	s
29	t
30	u
31	v
32	w
33	x
34	y
35	z
36 onwards	for further study

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last updated:
2005-07-21: original

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TSG RAN WG2 (Radio layer 2 and Radio layer 3 RR)

Overview:

TSG RAN WG2 is in charge of the Radio Interface architecture and protocols (MAC, RLC, PDCP), the specification of the Radio Resource Control protocol, the strategies of Radio Resource Management and the services provided by the physical layer to the upper layers.

Useful links and information			
About RAN2	List of elected officials and contact points	**Meetings**	Next meeting information & previous meeting reports and documents
	Terms of Reference		Liaisons Statements
			Full RAN2 meeting calendar
Documents	Documents area	**General info**	Email exploder lists
	Specifications		
	Work items		

Last update:
2008-08-04: Removed election information
2008-06-30: Added Etienne Chaponniere
2008-05-29: Election information added
2007-08-27: Editorial
2007-06-28: Election information added
2006-01-09: Election information removed
2005-03-24: Election information page link added
2005-01-10: Link to meetings page changed
2004-11-25: Next meeting information updated

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IMT-Advanced

Press Release - 8t

The 3GPP Partner ng mobile technology companies, made a formal submission to the ITU yesterday, proposing that LTE Release 10 & beyond (LTE-Advanced) be evaluated as a candidate for IMT-Advanced.

The ITU had set a deadline of 7 October for proposals to be received and 3GPP responded by submitting a comprehensive description of LTE-Advanced, an evolution of the LTE technology which has received considerable support from the world's leading mobile operators. The submission was made jointly in the name of the 3GPP Organizational Partners: ARIB, ATIS, CCSA, ETSI, TTA and TTC, which represent the North American, European and Asian regions and make 3GPP a truly global initiative.

» (...more)

3GPP News
3GPP Partners News

3GPP Website: Search

Search for:
In: Inbox Search

8635 unique visitors average per day

446 connected visitors



LTE - the Global Opportunity - UMTS Forum Report

The UMTS Forum have made their latest Report - *LTE Mobile Broadband Ecosystem: the Global Opportunity* available for free download

The report presents a positive picture of LTE's transformation of the global market for mobile broadband. The UMTS Forum web site promises that *"This unique study offers detailed analysis and insight into key issues shaping tomorrow's mobile broadband ecosystem. It also explores key success factors, enablers, challenges and risk factors that will determine the global market success of 3G LTE (Long Term Evolution)....*

» (...more)



The ATIS Technology Conference will be co-located with SUPERCOMM 2009 at the McCormick Place in Chicago, October 21 – 22, 2009 and will feature presentations from 3GPP Officials for more...

« Previous News

3GPP Plenary Meetings

Full Meeting Calendar

GERAN #44 - Sophia Antipolis FR - From 16 to 20 November
RAN/CT/SA #46 - TBD CN - From 1 to 10 December

GERAN #45 - Berlin DE - From 1 to 5 March 2010

Releases

About Releases

- Release 10
- Release 9
- Release 8
- Release 7
- Release 6
- Release 5
- Release 4
- Release 1999
- Functionality in early GSM releases

Keywords (WCDMA, HSPA, LTE, etc)

Browse Technologies

- eCall specifications set to save lives
- Conformance Testing (UE)
- UMTS
- GPRS & EDGE
- HSPA
- IMS
- LTE-Advanced
- LTE
- W-CDMA

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www.3gpp.org - /FTP/

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www.3gpp.org - /FTP/Specs/

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Appendix 19

Title:	**Draft (v02) Minutes of the 39th 3GPP TSG RAN meeting (Puerto Vallarta, Mexico, 04 - 07 March 2008)**
Document for:	**Approval~~Comments~~**
TDoc No:	**RP-080237**
Source:	**3GPP support**



25~~11th March~~April 2008

Juergen Caldenhoven
ETSI 3GPP Support
Juergen.Caldenhoven@etsi.org

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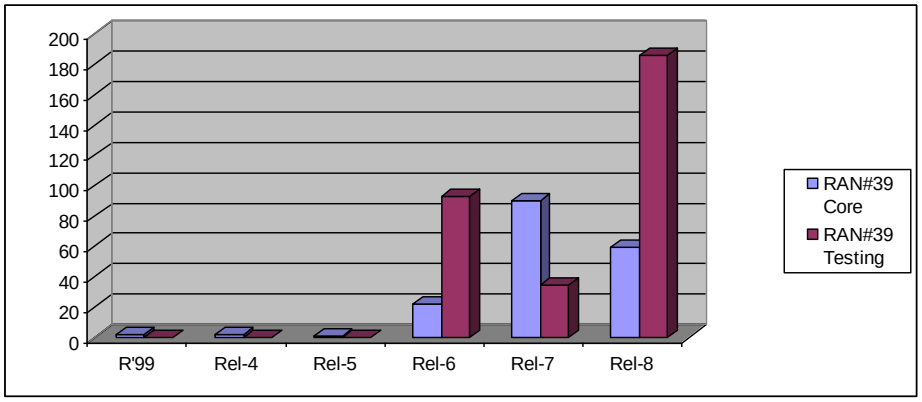
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Executive summary

Change Requests

The following number of CRs were approved at TSG-RAN#39:
Category A CRs are excluded from this table and from the graphic below:

Release	RAN1	RAN2	RAN3	RAN4	RAN5	Total Of CRs
R99		1		1		2
Rel-4		1		1		2
Rel-5		1				1
Rel-6		10	2	10	93	115
Rel-7	12	38	27	13	34	124
Rel-8	5	24	15	15	186	245
Total of CRs	17	75	44	40	313	489



The following table lists the approved CRs per category and per Release

Release	Cat	Number of CRs
R99	B	1
R99	F	1
Rel-4	B	1
Rel-4	F	1
Rel-5	A	1
Rel-5	B	1
Rel-6	A	1
Rel-6	B	53
Rel-6	F	62
Rel-7	A	19
Rel-7	B	3
Rel-7	C	1
Rel-7	F	120
Rel-8	A	50
Rel-8	B	29
Rel-8	C	1
Rel-8	F	215

Incoming Liaisons

Following an LS from the WiMAX~~a~~x Forum on interworking of the EPC with WiMAX it will be reported to TSG-SA that the work on interworking with WiMAX~~a~~x cannot be concluded in due time for Release 8.

ITU-R Issues

The ITU-ad hoc ~~needs to be~~has been tasked to elaborate the update on M.1801 by September. ITU-R ad-hoc has also been tasked to elaborate a proposal initial submission towards Revision 9 of M.1457 and to update the material on M.1580 and M.1581by May.~~and input needs to be delivered in September~~

Release 8 UTRAN Work Items and Study Items

The following Work Items were closed in RAN#39:

- Further Improved Minimum Performance Requirements for HSDPA UE (FDD) - Two-Branch Interference Cancellation
- CS Voice Service over HSPA
- Performance requirements for 15 code reception with 16QAM/QPSK (FDD)
- 3G Long Term Evolution – Physical Layer

-RF/RRM Conformance Test Aspects MBMS (FDD) (Rel-6)
-Conformance test aspects – 64QAM for HSDPA (FDD)
-Conformance test aspects – Improved L2 support for high data rates
-Conformance test aspects – Multiple Input Multiple Output antennas (MIMO) for FDD
-Conformance Test Aspects - Minimum UE performance requirement for downlink physical channels in support of MTCH and MCCH operation based on type 1 enhanced receiver (Rx-Diversity)

Closed Study Items
Synchronised E-DCH for UTRA FDD
HS-PDSCH serving cell change enhancementsLong Term Evolution

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UTRA Home Node B

The Study items remains open for the RAN3 part in order to find a solution on the remaining architectural issues.
A new Work Item on the support of UTRA HNB was in principle approved and needs to be reviewed
A new Work Item for FDD Home Node B RF requirements was approved

Long Term Evolution

TSG-RAN tasked all WG to review all LTE specifications in order to reduce the number of options.

The RAN1 part of the Long Term Evolution Work Item was closed, The Work Item remains open for all other WGs. The target for closure of the Work Item is June 2008.

New Work Items and Study Items

Work Items:

Continuous Connectivity for packet data users for 1.28Mcps TDD	WID in RP-080085
HSPA VoIP to WCDMA/GSM CS continuity	WID in RP-080229
HS-DSCH Serving Cell Change Enhancements	WID in RP-080227
Support of UTRA HNB	WID in RP-080159, to be reviewed
FDD Home NodeB RF requirements	WID in RP-080234
Conformance Test Aspects - Network Selection Enhancements	WID in RP-080135
Conformance Test Aspects – MBSFN for HCR and VHCR TDD	WID in RP-080155
Conformance test aspects – CS Voice Service over HSPA	WID in RP-080160

Study Items:

SI	LTE-Advanced	RP-080137
SI	Dual-Cell HSDPA operation	RP-080228

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1 Opening of the Meeting

Francois Courau (Chairman) opened the meetint on 04 March at 09:00 hrs. Don Zelmer (AT&T) welcomed the delegates on behalf of the American Friends of 3GPP.

2 Approval of the Agenda

RP-080010 Agenda TSG-RAN #39, 04 - 07 March 2008 (Chairman)
discussion: no comments were given to the Agenda
conclusion: The Agenda was approved

The Chairman presented this document. Francois Courau (Chairman) informed of the ongoing discussion regarding the meaning of "consensus" and the number of companies needed to approve a new WI. He informed that currently no agreement on any change is made but company views can be given to the chairman which shall be taken into account for the chairman discussion during SA#39. The result will be provided to the PCG in April. Further views on the processes can be given to the chairman.

3 Approval of the meeting report on TSG-RAN #38

RP-080011 revised meeting report for TSG-RAN#38 (MCC)(draft 5)
In 9.20.8.1. the sentence "Yoshihide Ishida (ARIB) commented that the LTE technology cannot be applicable in Japan before it is approved in ITU-R" will be deleted in the final version.
conclusion: Final report in RP-080213
RP-080213 Final meeting report for TSG-RAN#38 (MCC)
conclusion: approved

4 Reminder for IPR declaration

The attention of the delegates to the meeting of this Technical Specification Group is drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.

The delegates are asked to take note that they are thereby invited:

- to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.
- to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Statement and the Licensing declaration forms (http://webapp.etsi.org/Ipr/).

Serge Willenegger (Qualcomm) read out the following text:
"Qualcomm has observed a growing pattern of 3GPP members' WG representatives communicating information regarding intellectual property ownership in a selective and non transparent manner and using such information outside of the regular meeting proceedings as an argument and/or element of pressure to develop and/or grow consensus to exclude technology based on this information. Such conduct on the part of some members' representatives raises a number of issues and concerns, including as to whether the quality of the 3GPP decision making process is being degraded, and is independent of the merits of the technology. The quality, accuracy and relevance of the information is best evaluated when disclosed and discussed in an open and inclusive manner. Furthermore 3GPP rules now state: "Individual Members should declare at the earliest opportunity, any IPRs which they believe to be essential, or potentially essential, to any work ongoing within 3GPP. Declarations should be made by Individual Members to their respective Organizational Partners." Qualcomm recognizes the importance of the

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information being made available to the membership and is involved in the activities in and around 3GPP that have been set up to review the process and address the desire for enhanced transparency. We are concerned with the pattern outlined earlier and we are hopeful that moving forward the members and their representatives will act in accordance with the 3GPP rules."

Francois Courau (Chairman) reminded on the importance of the declarations in the box above.

5 Chairman Report of meetings

RAN Chairman report from SA: On WiMAX~~ax~~ interworking Francois Courau (Chairman) reported the one of the key issues was that a decision Dual Radio or Single Radio can not be agreed in SA alone but must be made in radio groups. He reported that t~~T~~he agreement is that single radio will be supported in REL-8 (but not for WiMAX). ~~He further stated that this cannot prevent operators from deploying LTE and other technologies in the same freuency band.~~
Further, as earlier mentioned by the chairman, members can discuss open points on the working procedures during RAN#39 in order to provide input for SA#39.

6 Liaisons from other groups

6.1 Groups outside 3GPP

RP-080150 LS on EPC Interworking with WiMAX access networks (WiMAX~~ax~~ Forum)
reply from WiMAX~~ax~~ Forum to SP-070950
discussion: The conclusion from SA was to re-send the issue to this RAN plenary. The discussion will be held in more detail under the relevant Agenda Item.
conclusion: Subject to delegates comments: The chairman was tasked to report to the SA that the view of RAN was that the work on interworking with WiMAX~~ax~~ cannot be concluded in due time for Release 8 and that if support of Single radio was felt necessary owing to radio deployment scenarios then support of handover will be resticted by denyal by the EPC.

RP-080174 WiMAX Forum Multimedia Session Continuity Requirements Release 2.0 version 1.0.0 (WiMAX~~ax~~ Forum)
discussion: A reply will depend on the WiMAX~~x~~ discussion in this meeting. It is proposed to reply that REL-9/end 2009 is the planned completion date of the 3GPP and non-3GPP (WiMAX) interworking work items. This will need to be co-ordinated with SA.
conclusion: noted,

RP-080152 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS ON THE SCHEDULE FOR UPDATING RECOMMENDATION ITU-R M.1457 TO REVISION 9 (ITU)
see AI 7.1.1

RP-080175 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS –REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R M.1801 (ITU)
see AI 7.1.1

6.2 TSG SA, TSG CT, TSG GERAN

RP-080012 LS to TSG RAN ITU-R Ad-hoc on the documents to be considered for Revision 8 of Recommendation ITU-R M.1457 (3GPP TSG CT, CP-070866)
note: was already treated in RAN#38

RP-080013 Follow-up to 3GPP2 LS on Mobility interworking between 3GPP and 3GPP2 systems. (TSG SA, SP-070955)
TSG-SA informs 3GPP2 that:
3GPP TSG-SA has approved the TS23.402, which specifies the stage 2 architecture for providing IP connectivity using non-3GPP accesses to the Evolved 3GPP Packet Switched domain at SA#38.
- 3GPP TSG-SA WG2 considers interoperation between LTE and CDMA2000 as an essential SAE item for Release-8.
- 3GPP TSG-RAN has approved TR36.938 and the amendment to the Work Item Description for 3G Long-Term Evolution to include the scope work on network based, optimized handover between LTE and 3GPP2 technologies at RAN#38.

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- 3GPP TSG-SA would like to inform 3GPP2 TSG-S that 3GPP Working Groups will develop stage 3 specifications on mobility interworking between 3GPP and 3GPP2 systems to complete in Release-8 timeframe.
conclusion: noted

6.3 TSG RAN WGs

RP-080014 Reply LS on Tests on receiving System Info 5bis (TSG RAN WG2, R2-080566)
discussion: Gert-Jan van Lieshout (RAN2 chairman) reported that RAN2 did not discover such problems as described in the LS from GSMA. Potential test would be very difficult to verify. Phil Brown (RAN5 chairman) reported that RAN5 came to the same conclusions as RAN2 which makes testing very difficult.
conclusion: The conclusion found in RAN2 shall be sent to GSMA. Janne Peisa (Ericsson) will draft an LS to GSMA, See RP-080222)

RP-080015 LS on GAN Iu mode (TSG RAN WG2, R2-080574)
RAN2 reply to GP-072032=RP-070995
conclusion: noted

RP-080021 LS on GAN Iu mode (TSG RAN WG3, R3-080429)
RAN3 reply to GP-072032=RP-070995
conclusion: noted

RP-080016 Reply LS on various aspects related to GERAN to E-UTRAN interworking (TSG RAN WG2, R2-080609)
RAN2 reply to GP-072030=RP-070994
conclusion: noted

RP-080017 Reply to LS on various aspects related to GERAN to E-UTRAN interworking (TSG RAN WG1, R1-080610)
RAN1 reply to GP-072030=RP-070994
discussion: Dirk Gerstenberger (RAN WG1 Chairman) reported that physical layer cell IDs are sufficient for neighbour cell identification and measurements. It was however stated that this may need to be checked further for certain cases. Han van Bussel (T-Mobile) asked to discuss the technical detail further in the WGs and not in the plenary.
conclusion: noted

RP-080018 LS on UE Test Loop Specification for LTE (TSG RAN WG5, R5-080328)
discussion: Hidetoshi Suzuki (Panasonic) asked if this is pure RAN5 responsibility and what is the LTE status of this aspect. Phil Brown (RAN5 chairman) explained that it was already practice that RAN5 suggested changes to the specification which were then send to RAN2 and that now is it only proposed to take official responsibility for the equivalent LTE version of TS34.109 over to RAN5. Gert-Jan van Lieshout (RAN2 chairman) confirmed that this is agreed from RAN2 point of view. However, concerns were raised because also core parts are affected. Francois Courau (Chairman) proposed to give the responsibility to RAN5 and to co-ordinate in TSG-RAN. On the activation it was commented that this also can be handled between RAN2 and RAN5 and only in case of problems this shall be send to RAN.
conclusion: RAN5 will assume the responsibility for the equivalent LTE version of TS 34.109 (TS number yet to be assigned)

RP-080019 Dependency of LTE/SAE Conformance Test Development on Completion of SAE Core Specifications (TSG RAN WG5, R5-080612 LS to CT1 final)
This was presented by Phil Brown (RAN5 chairman)
discussion: Takehiro Nakamura (TSG RAN vice-chairman, NTT DoCoMo) stated that the dependencies among the TSGs needs to be taken into account for the LTE workplan and be co-ordinated with SA. Francois Courau (Chairman) will mention is his report to SA that the identified dependencies not only to SA but also to CT shall be considered for co-ordination. He will check this with the CT chairman as CT may need input from RAN and vice versa before the SA plenary.
conclusion: noted

RP-080020 Response to LS on Proposed Areas of Responsibility for Inter RAT (GERAN-LTE) Test Cases (TSG RAN WG5, R5-080614 LS to GERAN3 final)
GERAN3new reply to this LS in RP-080127
conclusion: noted

RP-080127 LS on Response to LS on Proposed areas of Responsibility for Inter RAT Test cases (TSG GERAN WG3 new, GP-080325)
discussion: Stoyan Baev (MCC) stated that GERAN3new agrees with the LS in RP-080020.
conclusion: noted

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RP-080022 LS on status of study item “HS-PDSCH serving cell change enhancements (RAN1, R1-081149)
Dirk Gerstenberger (RAN WG1 Chairman) stated that more details will be given later when the SI report will be presented
conclusion: noted

7 Status Report and approval of contributions on Release '99, Release 4, Release 5, Release 6 and Release 7

7.1 ITU-R Ad Hoc

7.1.1 Status report

RP-080152 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS ON THE SCHEDULE FOR UPDATING RECOMMENDATION ITU-R M.1457 TO REVISION 9 (ITU)
discussion: Considering the "Final date" 4 February this would mean that that documents for the final update need to be provided in December 2008.
conclusion: noted

RP-080175 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS –REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R M.1801 (ITU)
discussion: Francois Courau (Chairman) stated that the ITU-ad hoc needs to be tasked to elaborate the update on M.1801 and that the input needs to be delivered in September. This was supported by the meeting
conclusion: noted

RP-080149 Status Report (ITU-R Ad Hoc Contact Person)
discussion: Takaharu Nakamura (RAN WG4 Chairman) stated that RAN4 will take care in the coming plenary period to provide the needed updates of the values. This was supported by the meeting.
conclusion: noted

7.1.2 Submission to ITU-R

no input.

7.2 TSG RAN WG1

7.2.1 Report from WG1 including report on actions required from the previous meeting

RP-080023 Status Report WG1 (RAN WG1 Chairman):
revised to RP-080214
RP-080214 Status Report WG1 (RAN WG1 Chairman):

exctract from the report:

Executive Summary:

Meetings
RAN1#51bis in Sevilla, RAN1#52 in Sorrento
Maintenance, TEI
UTRA FDD: 3 CRs Rel7, 1 CR Rel8
UTRA LCR TDD: 9 CRs Rel7
LTE
Good progress in most areas, focus on finalizing open issues
CRs to L1 specifications presented for approval
HSPA Evolution
Enhanced UL in Cell FACH
Work is on track

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DOB
CRs confirmed to be technically correct
SI on Synchronized E-DCH
SI concluded, TR 25.823 for information/approval
SI on HS-DSCH Serving Cell Change
RAN1 recommends to look at solutions for difficult scenarios
64 QAM for LCR TDD
Work progressing
Enhanced CELL_FACH for LCR TDD
Work progressing
SI on Scope of future HSPA Evolution for LCR TDD
WI on MIMO and on CPC recommended

Maintenance UTRA FDD

R99, Rel4, Rel5, Rel6

No CRs

Rel7

25.211: 1 CR
Transmit diversity corrections for SCH & P-CCPCH
25.214: 2 CRs
UE grant monitoring
HS-DSCH reception in PCH state

Rel8

25.212: 1 CR
RV-coding correction for both 64QAM & MIMO

TSG RAN is kindly requested to create Rel-8 versions of all RAN1 UTRA FDD core specifications that are still in Rel-7

Maintenance UTRA TDD

R99, Rel4, Rel5, Rel6

No CRs

Rel7

25.221: 4 CRs
Clarification of uplink multicode capability for 1.28Mcps TDD EUL
EUL power control improvement for 1.28Mcps TDD
E-AGCH timing for 1.28Mcps TDD EUL
Clarification of the description about E-PUCH for 1.28Mcps TDD EUL
25.222: 2 CRs
TFCI mapping for 1.28Mcps TDD MBMS
Corrections for 1.28Mcps TDD EUL
25.224: 3 CRs
EUL power control improvement for 1.28Mcps TDD
Improvement of the UL synchronisation of E-PUCH for 1.28Mcps TDD EUL
Clarification and correction of E-PUCH power control for LCR TDD

TSG RAN is kindly requested to create Rel-8 versions of all RAN1 UTRA ~~T~~FDD core specifications that are still in Rel-7

Maintenance E-UTRA

Rel8

36.211
1 CR to capture decisions from RAN1#51bis and RAN1#52
36.212
1 CR to capture decisions from RAN1#51bis and RAN1#52
36.213
1 CR to capture decisions from RAN1#51bis and RAN1#52
36.214
1 CR to capture decisions from RAN1#51bis and RAN1#52

36.306

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Text proposal agreed on UE capabilities and informed to RAN2

LTE Decisions:

Reference signals: No major issues left
- Downlink Reference signals:
  - No major issues left
    - UE specific RS details agreed (pattern, CQI estimation, UE category)
    - Removal of Orthogonal Cover
    - Pseudo-Random RS sequence agreed
- Uplink Reference signals:
  - No major issues left
    - Uplink DM RS grouping and hopping details agreed
    - SRS interaction with control information agreed

Further PBCH transmission details agreed

Channel coding: No major issues left
- 1st stage RM agreed
- CRC size for PDCCH agreed
- CQI channel coding scheme agreed
- RV definition for UL-SCH agreed
- Reuse RV definition as in DL-SCH for UL-SCH
- Keep the current WA on LBRM
- CRC Mask Selection for PBCH agreed
- CQI coding over PUCCH agreed

ICIC: DL ICIC left
- UL OI and HII details agreed
- To be discussed further: DL ICIC
  - Definition of eNB DL ICIC measurement

Random Access: No major issues left
- Agreements on PRACH timing and sequence selection

Power control: No major issues left
- PUSCH, PUCCH, SRS power control details agreed
  - Delta_mcs details for PUSCH and PUCCH PC agreed
  - PC for sounding RS agreed
  - Power control over retransmissions agreed
  - PRACH PC details agreed
  - Accumulative PC details agreed
  - Power headroom reporting details agreed
- DL power control
  - Some details agreed
  - PDSCH downlink power settings agreed
- Removal of some of the PC options agreed
  - Keep only [-1, 0, 1, 3] for accumulative PC
  - Keep absolute power control.
- UE specific Po parameter included in the PUCCH formula

L1/L2 DL control signaling
- PDCCH details
  - Subblock interleaver agreed
  - PDCCH contents endorsed
  - PDCCH CRC, timing, aggregation and blind decoding agreed
  - Resource allocation header for allocation type 1 agreed
  - Agreement on NDI and RV signalling in UL/DL
- PCFICH details
  - PCFICH to RE mapping for antenna port
  - PCFICH in MBSFN subframes (clarification of working assumption)
- PHICH details
  - PHICH mapping agreed
  - PHICH handling of 4Tx antennas and extended CP agreed
  - PHICH modulation agreed
  - PHICH sequences (Walsh sequences) agreed
  - PHICH linkage to UL transmission agreed
  - PHICH resource indication agreed
  - PHICH cell-specific mapping agreed
  - PHICH allocation signalling agreed

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- Rotational CDM not agreed
- Agreements on TBS signalling
  - Exact TBS tables to be decided next

L1/L2 UL control signaling

- Agreements on multiplexing of different control information
- Multiplexing of control and data on PUSCH
  - ACK/NACK mapping consecutive to RS, CQI time-first mapping agreed
- Coding for CQI on PUSCH agreed
- ACK/NAK channelization details agreed
  - ACK/NAK resource allocation, hopping details
- SR channelization agreed
- Multiplexing SR and ACK/NAK agreed
- Details for ACK/NAK+CQI in case of extended CP agreed
- Details for ACK/NACK subcode design agreed
- ACK/NAK repetition not agreed (yet)
- Multiple ACK/NAK for TDD agreed
- Exact number of CQI bits carried on PUCCH to be decided next

Virtual Resource Block mapping: No major issues left

- Agreements on details of VRB mapping
- Removal Nd=3 option; objection from Huawei noted
- Way Forward DVRB to PRB mapping agreed
- Agreement on details on UL hopping via grant agreed
- UL Hopping via pre-defined pattern agreed
- Way Forward on DVRB to PRB index mapping agreed
- Frequency Hopping Pattern for PUSCH agreed

Scrambling: No major issues left

- Specification details for Pseudo-Random sequences agreed
- Scrambling Sequence and RS sequence Initialization agreed

TDD, HD-FDD issues

- Text on LTE FS2 for stage 2 spec agreed
- SCH position moved to 3rd OFDM symbol within DwPTS
- UpPTS configurations and PRACH details agreed
- Special subframe configurations agreed
- 1 SRS symbol in UpPTS agreed
- Short PRACH sequence ordering agreed
- 4 – 15 HARQ processes in downlink for TDD
- 1 – 7 HARQ processes in uplink for TDD
- Way forward on HD-FDD agreed

CQI/PMI/RI and MIMO

- Agreement on 4 bit CQI table
  - CQI lengths for wideband and subband reporting agreed
- Agreements on CQI and PMI reporting modes
  - On PUCCH and PUSCH, periodic and aperiodic
  - WB CQI and SB CQI
  - To be discussed further:
    - Set of CQI reporting subbands
    - Relation of CQI to PMI and Rank
    - CQI estimation methodology
- Agreements on RI reporting
- Large Delay CDD MIMO
  - Further technical work on large delay CDD and related signalling follows the proposal in R1-080579.
  - The CRs submitted by RAN WG1 to RAN#39 are based on the proposal in R1-080579.
    - Sustained objection from Qualcomm noted

Measurements: No major issues left

- Inclusion of CDMA2000 1x RTT/HRPD Measurements for inter-RAT UE Handover
- Antenna connector for eNB measurements defined
- UE measurements for TDD asymmetry scenario agreed

UE capabilities

- Further agreements on
  - 64 QAM in UL for categories 2, 3 and 4 is not supported
  - 4x4 MIMO for category 4 is not supported
  - [FDD] Uplink physical layer parameter values set by UE Category
  - Total number of soft channel bits assumed for LBRM

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Most TDD capabilities aligned with of FDD
Same soft buffer size for TDD as for FDD
Apply LBRM to support different HARQ process numbers
Parameter in TS 36.306 to indicate whether UE supports UL transmit diversity agreed

SI HS-DSCH Serving Cell Change

RAN1 recommends to look at enhancements for some difficult scenarios to improve the cell change success rate

Enhanced UL in Cell FACH

Work is on track

Basic resource allocation mechanisms agreed, using AICH and E-AICH
Draft CRs endorsed for 25.211 and 25.215
E-AICH power setting

Remaining discussions

On interference handling, timing definition, etc.

SI Synchronised E-DCH

TR 25.823 presented for information/approval
Evaluation of CDM, TDM and IC performance and complexity aspects concluded
SI can be closed

Enhanced UE DRX

Second DRX cycle for cell_DCH is not recommended

DOB 3.84 Mcps TDD

Set of RAN1 CRs reviewed by RAN1 and confirmed to be technically correct
Included in RP-080086
IP Wireless document on PCG procedural aspects and concerns on DOB noted

64QAM for 1.28Mcps TDD

Agreements on

time slot formats
constallation point bit mapping
interleaver structure and constellation re-arrangement
64QAM indication and feedback signalling

Enhanced Cell_FACH state in 1.28Mcps TDD (UL/DL)

Basic Physical Layer considerations for Enhanced DL agreed
Link level control considerations for Enhanced DL agreed
Some consideration on HS-DSCH transmission in CELL_PCH/URA_PCH agreed

SI Scope of future HSPA Evolution for 1.28Mcps TDD

RAN1 recommends to start work items on

CPC for 1.28Mcps TDD
MIMO for 1.28Mcps TDD

Dirk Gerstenberger (RAN WG1 Chairman) highlighted that "TSG RAN is kindly requested to create Rel-8 versions of all RAN1 UTRA FDD and TDD core specifications that are still in Rel-7".

discussion: The RAN1 specs which are not in REL-8 yet shall be made available in REL-8. Giovanni Romano (Telecom Italia) asked for the status of stage 2 concerning interference ~~cancellation~~coordination. Dirk Gerstenberger (RAN WG1 Chairman) stated that the stage 2 status needs to be checked by RAN1. Edgar Fernandes (Motorola) asked for the future practice to submit one CR per specification in LTE. Dirk Gerstenberger (RAN WG1 Chairman) informed that this practice was intended only for this plenary period but primarily the focus shall be on the issues and then formulate the outcome clearly in CRs. Concerns were raised that text proposals which are not agreed in CRs and which are later re-discussed by email have unclear status. Edgar Fernandes (Motorola) further asked what is the way forward on half-duplex and if the question needs to be raised if it is really needed. Dirk Gerstenberger (RAN WG1 Chairman) answered that half-duplex is still on the Agenda and first RAN4 needs to decide.

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conclusion: noted, REL-8 specifications shall be created, no more RAN1 "rapporteur CRs" shall be send to the plenary

RP-080024 List of CRs from RAN WG1 (RAN WG1)
The document was noted

7.2.2 Discussions on decisions from WG1

No inputs.

7.2.3 Approval of CRs to R'99, Rel-4 , Rel-5, Rel-6 and Rel-7 with linked CRs

RP-080140 CRs to 25.221, 25.222 & 25.224 (Rel-7, F) for several clarifications/corrections for LCR TDD (RAN1)
conclusion: The CRs are approved

RP-080141 CR to 25.222 (Rel-7, F) clarifying TFCI mapping (RAN1)
conclusion: The CRs are approved

RP-080142 CR to 25.211 (Rel-7, F) clarifying transmit diversity (SCH, P-CCPCH) (RAN1)
conclusion: The CRs are approved

RP-080143 CRs to 25.214 for correction to UE grant monitoring (RAN1)
conclusion: The CRs are approved

RP-080144 CR to 25.214 (Rel-7, F) clarifying HS-DSCH reception in PCH state (RAN1)
conclusion: The CRs are approved

7.2.4 Approval of linked CRs where the leading one originated from WG1

No input.

7.3 TSG RAN WG2

7.3.1 Report from WG2 including report on actions required from the previous meeting

RP-080025 Status Report WG2 (RAN WG2 Chairman):

exctract from the report:

Release Independant
Introduction of UMTS 700 MHz (Bands XII – XIV)

Release 6:
CRs on
MBMS
E-DCH
TEI6
Correction to default configuration 17
Unavailable for Handover to UTRAN in Rel-6/7 (R2-081291 / 25.331 / 3268,R2-081292 / 25.331 / 3269, R2-081293 / 25.331 / 3270)
Corrected in Rel-8 (R2-081294 / 25.331 / 3271)

Release 7:
Category B
Supporting multi-frequency for 1.28 Mcps TDD MBMS (R2-081265 / 25.331 / 3258, R2-081266 / 25.331 / 3259

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Category C

Support of octet aligned HS-DSCH transport block sizes for non-64QAM (R2-081257 / 25.321 / 3254, R2-081258 / 25.321 / 3255)

Proposal to make two Rel-7 features optional without conclusion

E-DPCCH power boosting

E-DPDCH interpolation

ASN.1 review

Finished the review of tabular corrections that had no changes in the ASN.1 (R2-081235 / 25.331 / CR 3246, R2-081236 / 25.331 / CR 3247)

UMTS Work-Items:

Improved L2 for uplink

11 bit L field in MAC-i header

Stage-3 CR's agreed for MAC, RLC and RRC (R2-081316 / 25.321 / CR 0397, R2-081315 / 25.322 / CR 0324, R2-081317 / 25.331 / CR 3275)

Open issue on how to specify the radio awareness (different alternatives available)

CS voice service over HSDPA

Specification of rate control, special extension mechanism in order to allow early implementation (R2-081350 / 25.331 /CR3274)

Addition of a timing reference and a maximum delay to support dejitter buffer operation (R2-081344 / 25.331 / 3237, R2-081345 / 25.323 / 311)

Enhanced UE DRX

Applicable for UEs in CELL_FACH state

When UE has E-DCH resources allocated, it is not in DRX and can continuously receive on downlink, including during a timespan after the release

DRX activity is specified in terms of cycle length and gap and the cycle is synchronised to the SFN

Need RAN4s opinion on optimization of measurements

Enhanced Uplink for CELL_FACH State in FDD

Only MAC-i/MAC-is is used in enhanced UL in CELL_FACH; no MAC-e/es

Contention resolution

Usable in CELL_FACH, CELL_PCH and idle mode

MAC segmentation for CCCH

Possibility to use HS-DPCCH

Open issues

Mobility, measurements, interaction with RAN4 required

RRM issues

Enhanced CELL_FACH state in 1.28 Mcps TDD

Support of E-DCH transmission on primary and secondary frequency

E-DCH transmission, HS-DSCH transmission and control channel is on the same frequency

Further optimizations on the signalling to be discussed later

Mobility to LTE

Stage 2 finished, stage 3 work to be started in UMTS session during the next quarter

DOB

CR Proposals have been objected in RAN2

Set of CRs have been reviewed and technical correctness confirmed (R2-080571 / 25.346 / 0030, R2-080573 / 25.331 / 3045, R2-080572 / 25.304 / 0161, R2-080305 / 25.306 / 0162)

Proposed as Downlink Only Broadcast

Backwards compatibility with TDD terminals improved

UMTS Other:

WorkItems (other WG)

Agreed on a solution for PPAC based on request from CT1 (R2-081323 / 25.331 / CR 3276)

HS-PDSCH Serving Cell change enhancements

Problem has been discussed

Some support to work on potential solutions

First evaluation of potential solutions and impacts has been done

Other issues

Evaluation of the need for Inter-frequency reselection hysteresis due to bursty nature of HSDPA traffic (and impact on the

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use of Ec/N0 as a criteria)

Long Term Evolution:

Good progress focussing on Stage-3
Stage-2 kept up to date

Model of the physical layer (36.302)
No changes since the last RAN meeting

UE capabilities (36.306)
Kept up to date with RAN1 agreements on L1 capabilities
Introduction of CDMA2000 related capabilities
Agreed on some UE capabilities that are fixed over all 5 categories, and therefore not reflected in 36.306 but 36.331:
Support for 8 RB's
Support for 9 or 10 RLC-AM entities (depending on RLC mode for SRB2)

RRC (36.331):
System Information
Will have SI-M, SI-1 and SI (3 System Information messages), which contain different SIBs
The RRC System Information message fills the complete DL-SCH TB (i.e. transparent MAC/RLC/PDCP for BCCH). Also no RRC segmentation since 1200 bits should be sufficient
No mixing of SIB's with different periodicity in the same System Information message
Since all HARQ repetitions for one System Information message should be finalised before starting transmission for the next System Information message (i.e. no overlapping transmission windows), only 1 HARQ process required for all BCCH reception
Will have a scheduling window per System Information message
Measurements
A measurement gap pattern will always be activated if the UE needs to perform inter-freq/inter-RAT mobility measurements, regardless of the DRX situation
Gap patterns to be defined in RAN4 - RRC signaling will just point to one pattern
Measurement data model agreed:
Measurement Identities, Objects, Report Configuration, Quantity Configuration
UE capability
UE Capability Enquiry and Transfer procedures agreed - rel-8 RRC will not support procedures for UE autonomous change of UE capability (Detach and re-attach still possible)
UE capability (cont)
Set of UE capability containers, one per RAT Type
eNB will only use the E-UTRA capabilities: these capabilities will also indicate capabilities w.r.t. other RAT Types as far as is relevant to know for the eNB
RRC connection management
RRC Connection Establishment procedure: RRC Connection Setup Complete carrying the initial NAS message agreed; RRC Connection Reject with 'wait time' but no redirection to another freq/RAT agreed; Clarified the usage of identities at RRC connection establishment (still some questions to SA2)
At establishment, measurements and reselection evaluation will continue until entry into RRC connected mode (i.e. receipt of the connection setup).
In general in case of NAS message delivery, AS would like NAS to take the necessary action for retransmission. This both for RRC connection establishment and handover (to be confirmed by CT1)
For RRC Connection release: No layer 3 'complete' message - we will specify a time in RRC how long the UE should remain available allow RLC ACK for RRC Connection Release to be received by the eNB.
SRB2 is kept, mainly for having a mechanism for transporting larger NAS messages like for CDMA2000
Separate Security Mode Command dedicated for initial security activation. If new keys generated by NAS then RRC Connection Reconfiguration may take new keys into use at a handover.
Handover failure handling
The UE will apply a separate timer to monitor handover failure
At handover failure, the UE will always use the re-establishment procedure to enter another cell
At handover failure, the UE will apply a "restricted cell selection" to determine the next cell to access
CDMA2000
Started with the introduction of CDMA mobility related information
Inter-eNB interface
Have defined RRC messages to be carried in RAN3 containers
Include UE capabilities, AS configuration and RRM information (UE specific)
ASN.1 and specification structure

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Significant restructuring of content to ensure grouping of related requirements
Reworked tabular to include ASN.1
In order to limit consistency problems in the future
Including first set of parameters for L1, MAC, RLC and PDCP

Idle mode (36.304):
Cell Reselection
Continued to work on the priority mechanism, e.g:
If a UE does not have a priority for a certain layer, this layer shall not be considered for cell reselection
Qoffset_frequency only used for equal priority layers
Introduction of some CSG related functionality
Reselection to CDMA2000 RATs added
Paging
Paging occasions are equally distributed over DRX period
In some radio frames there might not be any paging
Will have tables in the spec, indicating for the cases of 1,2 and 4 subframes used, which subframes are used for paging (support for 3 subframes FFS)

MAC (36.321):
HARQ
Interaction between PHICH and PDCCH clarified
Continue to count HARQ transmission opportunities in case of "suspension"
DRX
Handling of DRX clarified after UL activity during DRX (UE wait for PDCCH and start Inactivity timer)
Agreed to have MAC CE to move UE to DRX
QOS
Removed MBR
Work ongoing to specify guidelines for UL prioritisation handling (e.g. w.r.t. segmentation)
Information for support of UL scheduling
Logical Channel Groups have no priority of their own, but work with priority of logical channels
Agreed on threshold based BSR trigger (details FFS)
RACH procedure
Inclusion of backoff parameter agreed for Msg2
DL data arrival
Agreed on use of PDCCH (no PDSCH)
Semi-persistent resource activation/de-activation
Agreed on use of PDCCH (no PDSCH)

RLC (36.322):
Simplifications
No RLC RESET procedure
No RLC MRW procedure
New poll triggers
Number of transmitted RLC PDU's
Number of transmitted Bytes
Cleanup of RLC-UM and RLC-AM re-ordering sections
Prioritisation within 1 RLC entity
RLC shall prioritise STATUS PDU's over RLC DATA PDU's for transmission.
RLC shall prioritise retransmission of RLC DATA PDU's over transmissions of new RLC DATA PDU's
Error handling
When the UE detects severe problems at RLC level, it shall initiate a RRC RE-ESTABLISHMENT
When the network detects severe problems, it can use a per-RB RLC re-establishment procedure

PDCP (36.323):
Mainly small corrections
Some problems identified related to the PDCP behaviour after handover
Work is ongoing to identify whether this should be best handled as updates to the current corresponding sections, or based on a more general update/simplification

Other:
Msg3 (first UL msg after RACH access)
Minimum allocation of 80 bits
For CCCH, no RLC/PDCP header, normal MAC header

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Msg4 (first DL msg after RACH access)
For CCCH, Company CR's expected proposing to move the UE-Id to MAC
SON
Have agreed to a mechanism for obtaining the GCI of a intra-freq or inter-freq neighbour. Support for Inter-RAT still FFS. FFS how the opportunities to read the GCI are created (e.g. DRX, gaps).
RAN2 agreed that PRB related load measurements seem feasible.
FFS how to handle the concatenation case (concatenation of different QOS)
RAN2 has agreed that some 6 eNB measurements look reasonable for performance monitoring
Final conclusion left to SA5 (outgoing LS)
MBMS
Due to SA prioritisation, only very limited time was spent on MBMS with only very few agreements
CS fallback
Discussion started w.r.t. LTE functionality required to support fallback to CS

discussion: Gert-Jan van Lieshout (RAN2 chairman) highlighted that it should be clarified with SA if eMBMS shall be kept in REL-8. This will be brought up by the RAN chairman during the SA plenary. Han van Bussel (T-Mobile) asked how far eMBMS is ready in stage2. There are requirements in certain countries to provide services which currently require MBMS. The support of these services will need to be discussed the if MBMS is not part of REL-8. Edgar Fernandes (Motorola) stated that minimum requirements need to be provided and details need to be checked before taking a decision. Francesco Grilli (Qualcomm) stated that may be difficult to introduce MBMS later on if signalling means are not implemented in the first place. Dirk Gerstenberger (RAN WG1 Chairman) considers the main issues regarding MBMS as completed in RAN1 and only minor issues need to be solved. Hidetoshi Suzuki (Panasonic) challenged that there are only minor issues left in RAN1. Takehiro Nakamura (TSG RAN vice-chairman, NTT DoCoMo) reminded that CBS shall be provided also in LTE and that CBS could be used for servi~~v~~ces which were forseen to use MBMS. Edgar Fernandes (Motorola) asked for the further need of the rapporteur CRs. Gert-Jan van Lieshout (RAN2 chairman) sses the need at least for the next plenary period. Hans van der Veen (NEC) asked to postpone the discussion on the CRs on the feature optionality as NEC has a documents raising concerns how features are made optional for REL-7 features. Gert-Jan van Lieshout (RAN2 chairman) clarified that the listed ad-hoc meeting in summer shall be finally decided in the next RAN2 meeting.
Rapporteur CRs will be kept only for the RRC, RLC and MAC specification for one meeting cycle. The other ones will be subject from now on to normal company CRs.
conclusion: noted

RP-080026 List of CRs from RAN WG2 (RAN WG2)
conclusion: noted

7.3.2 Discussions on decisions from WG2

RP-080215 Mandatory E-DCH enhancements in Release 8 (NEC)
discussion: Hans van der Veen (NEC) explained that in the last version of Rel-7 specifications, certain additions which were initially introduced as part of 16QAM for HSUPA, became separate from this feature. As a consequence, a significant addition initially intended only for 16QAM in HSUPA, has become mandatory for Rel-7 E-DCH UEs, while according to previous discussions in RAN, this was expected to be optional. Antti Toskala (Nokia Siemens Networks) stated that there may be implications on RAN1 also. However the power boosting was introduced as an enhancement for 64 QAM which was seen needed in RAN1. Serge Willenegger (Qualcomm) asked for a view from the RAN1 chairman on the implications. Dirk Gerstenberger (RAN WG1 Chairman) stated that he is afraid of dismantling the L1 as the priciple always was to have important features mandatory. Gert-Jan van Lieshout (RAN2 chairman) stated that this particular CR was agreed in RAN2 with consensus, however he understands the concerns raised by NEC. Dirk Gerstenberger (RAN WG1 Chairman) requested to see these kind of CRs first in RAN1 and he stated that decisions from the WGS should not be taken back by the plenary as a late change. Hans van der Veen (NEC) stated that the feature was optional in the first place and was only recently made mandatory in RAN2. Gert-Jan van Lieshout (RAN WG2 Chairman) defended NEC's decision to go via RAN2 and the plenary as it was a RAN2 (late) CR that had made this mandatory. The chairman asked to bring the CRs to the next RAN1 meeting for detailed review
conclusion: RAN1 was tasked to review the ~~CRs~~ issue in the next WG meeting and liaise with the other WGs.

RP-080216 CRs (Rel-7 cat F) to 25.306, 25.331, Signalling for optional support of E-DPCCH boosting (NEC)
conclusion: noted. CRs shall be reviewed in the WGs

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7.3.3 Approval of CRs to R'99, Rel-4 , Rel-5, Rel-6 and Rel-7 with linked CRs

RP-080176 REL-6 CRs for EDCH for 25.301 and 25.321 (incl. cat. A CRs) (RAN WG2)
conclusion: The CRs are approved

RP-080177 REL-6 CRs for MBMS for 25.304, 25.346 and 25.321 (incl. cat. A CRs) (RAN WG2)
conclusion: The CRs are approved

RP-080178 REL-6 TEI CRs to 25.322 and 25.331 (incl. cat. A CRs) (RAN WG2)
conclusion: The CRs are approved

RP-080179 REL-6 only TEI CR to 25.331 on Correction to SIB extension multiplexing (RAN WG2)
conclusion: The CRs are approved

RP-080180 REL-7 MBMS related CRs to 25.346 (incl. cat.A CR) and 25.993 (RAN WG2)
conclusion: The CRs are approved

RP-080181 REL-7 25.331 MBMS enhancement CR (incl. cat.A CR) on Use of "Cell selection and re-selection info" in the case that a cell is providing MBSFN only service (RAN WG2)
conclusion: The CRs are approved

RP-080182 REL-7 25.331 CR (incl. cat.A CR) on Supporting multi-frequency for 1.28 Mcps TDD MBMS (RAN WG2)
conclusion: The CRs are approved

RP-080134 On New Configuration Rule for Extended RNC ID Scheme (Nokia Siemens Networks, Nokia, T-Mobile),
Discussion:
conclusion: noted

RP-080183 REL-7 CR to 25.999s from RAN3 on on Introduction of new Configuration Rule for Extended RNC ID Scheme (RAN WG2)
RP-080116 Introduction of new Configuration Rule for Extended RNC ID Scheme (Nokia Siemens Networks, Nokia, T-Mobile) CR0001r1 TR 25.999
intends to replace RP-080183, Discussion document in RP-080134
discussion: TeliaSonera asked to postpone the decision to Wednesday to check back home.
conclusion: The CR is approved

RP-080184 REL-7 CRs (incl. cat.A CRs) to 25.319, 25.321 and 25.331 for 3.84/7.68 Mcps TDD E-DCH (RAN WG2)
conclusion: The CRs are approved

RP-080185 REL-7 25.306, 25.319, 25.321, 25.331 CRs (incl. cat.A CRs) for enhanced UL for 1.28Mcps TDD (RAN WG2)
conclusion: The CRs are approved

RP-080186 REL-7 25.331 CRs (incl. cat.A CRs) on MIMO (RAN WG2)
conclusion: The CRs are approved

RP-080187 REL-7 25.321 CR (incl. cat.A CRs) on Definition of Default-SG-in-DTX-Cycle-2 (RAN WG2)
conclusion: The CRs are approved

RP-080188 REL-7 25.306 & 25.331 CRs (incl. cat.A CRs) on 64QAM for HSDPA (FDD) (RAN WG2)
conclusion: The CRs are approved

RP-080189 REL-7 25.321 and 25.331 CRs (incl. cat.A CRs) for Enhanced CELL_FACH state in FDD (RAN WG2)
conclusion: The CRs are approved

RP-080190 REL-7 CRs to 25.308, 25.321, 25.322, 25.331 (incl. cat.A CRs) on Improved L2 support for high data rates plus 25.993 REL-7 CR (RAN WG2)
conclusion: The CRs are approved

RP-080191 REL-7 TEI CRs to 25.322 and 25.331 (RAN WG2)
conclusion: The CRs are approved

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7.3.4 Approval of linked CRs where the leading one originated from WG2

No input.

7.4 TSG RAN WG3

7.4.1 Report from WG3 including report on actions required from the previous meeting

RP-080027 Status Report WG3 (RAN WG3 Chairman):

exctract from the report:

Main Achievements Q1/08:

UTRAN Rel-6/7
FDD: usual maintenance work
TDD: further corrections for multi-frequency operation of LCR
UTRAN Rel-8
sufficient time for HSPA WIs like
Enhanc.s for SRNS Relocation - Enhanc.s for FDD HSPA Evolution
- Improved L2 for UL - Enhanced UL for CELL_FACH State
concluding work for Study on 3G HNB
E-UTRAN Rel-8
sufficient time for discussions on SON functions
further discussions on HeNB
only limited discussions on E-MBMS
full focus on stage 3 discussions for S1/X2AP covering
E-UTRAN / EPS identifiers - active mobility
S1/X2 setup - context management
etc.
not all documents treated this time

RAN3 CRs provided to RAN#38
46 RAN3 agreed CRs:
0 R99/R4/R5 CRs
2 Rel-6 CR (cat F)
29 Rel-7 (2*cat A, 27*cat F)
15 Rel-8 CR (5*cat B, 10*cat F)
2 Rel-8 cat B CRs technically endorsed (DOB)
Complete list of CRs in RP-080028

Tasks from RAN:
Study potential solutions improving the CS call support within the scope of [for solutions and deployment scenarios identified during] the SI on future HSPA evolution.
RAN3 agreed to study the improvements related work on WI "Enhancements for SRNS Relocation Procedure" gets mature. (see RP-080139)

Release 6 specific activities:
node sync to avoid data loss if SRB/TRBs are mapped to HS
was deferred to Rel-8 improvements but still needs discussions there
E-DCH Iur/Iub correction
presence of *UL DPDCH Indicator for E-DCH Operation* not always dependent on presence of *E-DPCH Information* in specific configurations

Release 7 specific activities:

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FDD
further correction work on HSPA features
Enhanced CELL_FACH Iur backwards compatibility problem with Enhanced RNC-Id was solved via (finally agreed) configuration rules described in TR 25.999
MAC-d PDU size corrections for E-DCH (8 bit steps) and HS (relation to indexed MAC-d PDU size and related abnormal conditions)
further abnormal condition handling for
identical cell on HSDPA/E-DCH Serving Cell
DL L2 Improvements
solving ambiguities and unspecified cases for
handling of E-DCH RL Set ID
Transport bearer replacement during HS-DSCH Modification
further correction work on HSPA features
correcting misalignments to other's WGs TSs
non existence of UL DPCCH Slot Format 5 clarified in tabular
addition of an "CPC HS-SCCH less Deactivate Indicator" on Iur/Iub
missing threshold definitions for „Received Scheduled E-DCH Power Share for Cell Portion" included in NBAP
and another RNSAP correction on top of an already agreed CR
GANSS
PCAP corrections to align with already agreed RNSAP/NBAP CRs

TDD
LCR TDD corrections
CRs on multi-frequency operation related CRs for MBMS and E-DCH
introduction of UE category for LCR E-DCH
additional specification text for E-DCH non scheduled grant related IEs

Long Term Evolution:

SON
around one day spent on SON
stage 2 work on ANR for intra-freq-LTE and inter-freq-LTE and inter-RAT
creation of TR 36.902 „Self-configuring and self-optimizing network use cases and solutions"
available as version 0.0.2
containing 6 use cases
LS to SA5 with RAN performance monitoring measurement proposals
home eNB
work on S1 connectivity
Discussion on Gateway/Proxy proposals and restricted pool connectivity
E-MBMS
limited discussions on
architectural topics in relation with ETWS/PWS
functional content and protocol stack for M1UP
S1 Location reporting
to provide current UE position on cell level – LS sent to SA2 and RANs
signalling transport layer
still open point whether more than one SCTP association should be allowed for TNL redundancy.
EPS and E-UTRAN identifiers
based on information from SA2
still some open issues
S1 user plane handling during HO (forwarding)
alignment of S1 and X2 triggered HO and some further findings/corrections
S1 Bearer and Context management
context release, key update, transfer of UE capabilities introduced
still a couple of open items (multiple PDN, NAS PDU presenence, AMBR, default bearer handling, ...)
S1 MME load balancing and overload handling
good chances to be finalised next quarter
S1&X2 common procedures (Setup, Reset)
update functionality of Setup procedure to be continued
partial Reset for S1 agreed, stage 3 tbc
S1 cdma2000 interworking
tunneling procedure introduced, HO functionality to be continued
X2 Load Balancing and ICIC

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first actual stage 3 proposals available, tbc
X2 HO
missing MME address and some cause values introduced
S1/X2: lots of coding details and references to be worked on
usage of Global Node Ids on xAPs to be continued

LTE TS wise
all E-UTRAN TSs were systematically further improved
open issue lists still maintained per TS by rapporteurs
stage 2 discussions will have to be continued for at least 1 quarter

non-LTE Rel-8 WIs & SIs:

Rel-8 WIs
(R3 WI) Enhancements for SRSN Relocation Procedure
work on identified open issues
expecting CR work to be done next quarter
(R3 WI) Enhancements for FDD HSPA Evolution
continuation on MBMS architecture, evaluation of proposals at next meeting(s)
one paper on ICIC handling was identified to be in the RAN1 domain and forwarded via LS
one input on UE history info alá LTE
(R2 WI) Improved L2 for Uplink
related CRs agreed
(R2 WI) Enhanced Uplink for CELL_FACH State in FDD
first concept papers treated
(R2 WI) Enhanced UE DRX for FDD
no input

Rel-8 WIs / SI
(R4 WI) UMTS in 700 Mhz Bands (FDD)
related CRs available
(R1 WI) MBSFN DOB
CRs technically endorsed
(R4 SI) 3G Home NodeB
was handled again in morning adhoc sessions and concluded in a TP for the TR that the preferred deployment option is *with Iu or Iu-based termination at the 3G HNB*

Alexander Vesely (Chairman) highlighted that any proposals to shift eMBMS to Rel-9 shall be checked with SA regarding stage 2 before decisions are taken.

discussion: It was clarified that the creation of new TR 36.902 for SON was liaised to all other involved WGs. It was asked for how long it is intended to continue to submit one CR per specification. Alexander Vesely (RAN3 Chairman) answered that he prefers to continue to merge agreed CRs into one big CR for the signalling specifications for the next plenary period.
conclusion: noted

RP-080028 List of CRs from RAN WG3 (RAN WG3)
conclusion: noted

7.4.2 Discussions on decisions from WG3

No input.

7.4.3 Approval of CRs to R'99, Rel-4 , Rel-5, Rel-6 and Rel-7 with linked CRs

RP-080071 CRs (Rel-6 cat F, Rel-7 cat A) to 25.423 and 25.433 (RAN WG3)
The CRS are revised in RP-080151~~withdrawn~~

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RP-080151 Correction of UL DPDCH Indicator for E-DCH Operation IE (NEC)
This package is intended to replace the CRs in RP-080071
conclusion: The CRs are approved

RP-080072 CRs (Rel-7 cat F) to 25.423 and 25.433, batch1 (RAN WG3)
conclusion: The CRs are approved

RP-080073 CRs (Rel-7 cat F) to 25.423 and 25.433, batch2 (RAN WG3)
conclusion: The CRs are approved

RP-080074 CRs (Rel-7 cat F) to 25.423, 25.425, 25.433 and 25.435 (RAN WG3)
conclusion: The CRs are approved

RP-080075 CRs (Rel-7 cat F) to 25.453 (RAN WG3)
conclusion: The CR is approved

RP-080076 CRs (Rel-7 cat F) to 25.423 and 25.433, 1.28 Mcps TDD (RAN WG3)
conclusion: The CRs are approved

7.4.4 Approval of linked CRs where the leading one originated from WG3

7.5 TSG RAN WG4

7.5.1 Report from WG4 including report on actions required from the previous meeting

RP-080029 Status Report WG4 (RAN WG4 Chairman):

exctract from the report:

Meeting statistics

Corrections to the specifications (cat B & F numbers)
Release 99, Rel-4: 2 CRs for TDD
Rel. 8: LTE has three CRs as three 'single combined CRs for three TSs.
RAN4 will have two WG meetings before the next plenary.

Home works

LS from ECC PT1 to ETSI BRAN et.al.:
RP-070992: LS from ECC PT1 to ETSI BRAN, ETSI TFES, WG SE and SE PT 42
Coexistence in the 2.6 GHz band and also the BRAN (EN 302 544 (draft)) and TFES (EN 301 908) harmonised standards ECC PT1.
Decision: RAN WG4 would investigate this.
RAN4 activity:
RAN4 confirmed that the LS from ERM/MSG TFES to ECC PT1 in R4-080268 below gives a full answer for all the questions in the original LS (RP-070992) above. Since no official action was asked to RAN4 in the original LS, no further response would be necessary.
R4-080268 "Coexistence in the 2.6 GHz band and also the BRAN and TFES harmonised standards (TFES-08-021 LS to ECC PT1 (2.6 GHz) Source: ERM/MSG TFES, To: ECC PT1, Cc: ECC WG SE)"
RAN4 work split:
Subject: "Which parts of RAN4 requirements should be completed prior to the completion of a WI?"
Principle in a joint contribution in R4-080518 was agreed.
-> See separate slides

UMTS/LTE in 3.5GHz (A new WI):
The WI was approved in principle at RAN#38 (RP-071012)
Frequency arrangements would be clarified by RAN#39 in March.
All regions would provide inputs on their potential use of this band in their regions: ARIB, TTA, ATIS, CCSA. RAN4

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would investigate these.

RAN4 activity:

Tow contributions were input as information papers:

R4-080136 3500 MHz band status in Europe Ericsson

R4-080214 Information on the future usage of the band, 3.4-4.2GHz in JapanARIB

These useful information will be captured in the UMTS/LTE3500 work.

Work load analysis

RAN4#46 handled 554 tdocs. (RAN4 record)

The workload would still be high for the next several meetings.

The meeting could handle all the submitted tdocs so far but some contributions (eg. Simulation results etc.) could not get enough time to discuss.

"Bis meetings" would help the situation in the future. In case more higher workload (or tdocs) would be foreseen, "parallel session" in the meeting would also be considered.

LTE is still one of the major job.

55% of the tdocs for LTE area, more than 2.5 day sessions allocated.

Evening, mid-night & Morning extra AdHoc sessions were held intensively.

Simulation works could not have enough time to discuss in the main meeting. AH sessions handled the results more detail and precisely.

CR summary:

Rel. 99 – Rel. 4: Two CRs for TDD area.

A set of CRs to fix CR implementation errors in release 4 and beyond with additional essential corrections. The same essential correction is applied for R99 as well.

Rel. 5: No CR except one Cat-A CR follows Rel-4 CR above.

Rel. 6: 10 Cat-F CRs

Corrections on requirements for blocking characteristics & power allocation for HS-SICH performance detection in TDD specs. (TS25.102,TS25.105, TS25.142)

Corrections on UE out-of-band emission limits for Band V (TS25.101)

BS RX spurious emissions (TS25.104,TS25.141).

Corrections in RRM specs. (TS25.133)

Rel. 7:12 Cat-F and Cat-B CRs

EVM requirement for UL 16QAM in LCR TDD. Requirements for MBSFN capable UE (dedicated carrier case) in TDD.

MIMO dual-stream channel model for MIMO CQI dual-stream requirements.

HS-SCCH Type nominator.

Nominal Peak Data Rate and redundancy versions in MIMO FRC Tests.

CQI testing for 64-QAM, Correction on ACRR for repeaters.

Necessary essential corrections as TEI-7

Rel. 8: Fifteen CRs including three 'combined' CRs

LTE:

Three 'single combined CR' are ready for T36.101, TS36.104 & TS36.133.

UMTS700:

A set of CRs are ready. The work will be completed by RAN#40 (June).

15 code HSDPA demodulation requirements for 16QAM and QPSK

CR for performance requirement is agreed. The work is completed.

Performance requirements type 3i for HSDPA based on receiver diversity and interference-aware chip level equaliser

CR for Enhanced performance requirements type 3i for HSDPA is ready. The work is completed.

Necessary essential corrections as TEI-8

Highlights - LTE:

UE

Combined CR for TS36.101(V8.0.0) in R4-080494 is agreed.

Further progress in EVM area, minimum TX power etc. are achieved.

BS

Combined CR for TS36.104(V8.0.0) in R4-080551 was agreed once, and further editorial correction was made and agreed in R4-080555 in correspondent basis.

Progress in BS output power, frequency error etc. are achieved.

EMC

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TS36.113 V0.1.0 (LTE BS EMC) is agreed and ready to become V2.0.0.
The work for TS36.124 (LTE UE EMC) will be started sooner.

BS conformance test

TS36.141 (LTE BS conf. test) still in version 0.1.0. V0.2.0 was prepared but needed re-arrangement. V0.2.1 (estimated completion level of more than 60%) will be ready at the beginning of R4#46bis in March.

RRM

Combined CR for TS36.133(V8.0.0) in R4-080478 is agreed.
Further progress in UE RSRP Measurement Accuracy, Handover from E-UTRA to UTRA(FDD/TDD), E-UTRA handover and Monitoring patterns and GSM measurements in RRC_CONNECTED etc. are achieved.

RF scenario

TR is being improved.

LTE Repeater (Separate WI)

Requirements for frequency bands, Output power, Out of band gain and ACRR were discussed and agreed. Good progress.

Highlights cont':

UE Antenna Performance Evaluation Method and Requirements

Discussions on tolerances continues. One contribution in R4-080394.

Further Improved Performance Requirements for UMTS/HSDPA UE (FDD) [Type 3i]

Performance requirements are finalized by CR in R4-080495 and the work is completed.

15-code HSDPA demodulation requirements for 16QAM and QPSK

Performance requirements are finalized by CR in R4-080548 and the work is completed.

Combination of 64QAM and MIMO for HSDPA (FDD)

Demodulation requirement scenario agreed (R4-080500)
Discussions on CQI requirement is progressing (R4-080146)

UMTS 700

Most of the requirements are settled. To be closed at RAN#40.

UMTS 2300

Fare progress. One contribution in R4-080499.

Home Node B

TR is finalized and the SI is completed with constructive outcomes.

Path Loss Based Technology for Location Services

TR skeleton is agreed. Actual work will be started.

LMU performance spec

CR correcting Multipath detection level in R4-080425 agreed.

DOB (Downlink Optimized Broadcast)

One technical contribution in R4-080362 was discussed.
Two discussion papers in R4-080361 and R4-080540 were presented.
Four CRs for TS25.102, TS25.105 and TS25.123 were proposed and some technical discussions took place.
Based on the technical suggestions in the meeting, three revised CRs that tried to capture the suggestions were presented as R4-080544, 545, 546. The CRs were for TS25.102 and TS25.105.
No consensus was reached on the revised CRs

RAN4 work for Core and Performance Requirements:

When a separate performance work item is considered, the following conditions should be satisfied:

The work would affect only to the sections for performance requirements listed in Table-1 or to the annex which is related to the performance work.

The work would not affect the outcome of the corresponding work item for core parts (or frame works). It should be noted that the work in the core parts and framework may affect performance requirements on the other hand.

If it turns out that the performance work outcome causes inevitable changes in the core parts or earlier done framework and if the core requirements are already in a certain release of the specification, these additional modifications or corrections on the core parts should be handled as a part of an enhancement for the consecutive release.

N.B.: No change would be needed for necessary essential corrections, as it stands.

The Performance work should be finalized in 6 months after the corresponding core parts are completed.

discussion: It was clarified by Takaharu Nakamura (RAN WG4 Chairman) that it is currently under discussion in RAN4 how to continue with the practice to submit only one CR per specification. On the table in slide 14 listing sections for performance work per specification it was asked to provide it in commonly comprehensible text as this would be required to take decisions on plenary level. This would however be a very difficult task for RAN4. The approach to list the performance parts separately was very much welcomed as this enables the split of future WIs in RAN1/2/3/4 core and RAN4 performance parts.
conclusion: noted

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RP-080211 List of CRs from RAN WG4 (RAN WG4)
conclusion: noted

7.5.2 Discussions on decisions from WG4

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7.5.3 Approval of CRs to Rel'99, Rel-4, Rel-5 and Rel 6 with linked CRs

RP-080117 25.101, 25.105: CRs on TEI, TEI4 and MBMSFN FDD UE demodulation requirement (RAN WG4)
discussion: It was clarified that notes in tables can be normative and therefore the CRs were needed.
conclusion: The CRs are approved

RP-080118 25.102: CRs for Rel-7 on LCR TDD (RAN WG4)
conclusion: The CRs are approved

RP-080119 25.102, 25.105, 25.142, 25.133: TEI6 Corrections (RAN WG4)
conclusion: The CRs are approved

RP-080120 25.101, 25.104, 25.141: TEI6 Corrections on out of band and spurious emissions (RAN WG4)
conclusion: The CRs are approved

RP-080121 25.101: CRs for Rel-7, Rel-8 on MIMO-RF (RAN WG4)
conclusion: The CRs are approved

RP-080122 25.101, 25.141, 25.956: TEI7 (RAN WG4)
conclusion: The CRs are approved

7.5.4 Approval of CRs to R'99, Rel-4 , Rel-5, Rel-6 and Rel-7 with linked CRs

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7.6 TSG RAN WG5

7.6.1 Report from WG5 including report on actions required from the previous meeting

RP-080031 Status Report WG5 (RAN WG5 Chairman)

exctract from the report:

Update since RP#38 part 1

RAN5#38 was held in Malaga, Spain hosted by AT4 Wireless over the period 28 Jan – 1 Feb 08 and 84 delegates registered

227 CRs agreed at the meeting; this does not include 84 TTCN CRs that were RAN5 agreed using the email agreement process

5 work items were completed at RAN5#38 and 3 more are being presented for approval

Majority of Rel 7 FDD work items completed at RAN5#38

RAN5 supports the RAN2 conclusions re Tests on receiving System info 5bis; RAN5 not planning any extra tests (R2-080566)

Update since RP#38 part 2

The OTA Antenna Performance WI has been delayed again due to additional work being conducted on measurement uncertainty (R5-080321)

RAN5 has agreed to a proposal by GERAN3 to a procedure to update TS 36.523-1 with the GERAN -LTE Inter RAT Handover tests (R5-080614)

Concerns being raised to ETSI MTS re the infrequency of TTCN3 ATS updates as well as lack of support from test tool

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vendors (R5-080613)
First LTE signalling test cases now drafted and overall LTE signalling list updated and looking to freeze in May 08 (R5-080635).
LTE bis meetings scheduled over the period of 9 – 11 Apr 08 in Sophia Antipolis covering a TTCN workshop and signalling; RF TBC
Concerns raised to CT1 re availability of SAE related specs but also priority list of features forwarded to focus CT1 delivery (R5-080612)

TF 160 status report will be presented in RP-080088 for approval

Current FDD Activities

Based on certification requirements
GCF WI-24, FDD Rel 6 Enhance TEI6_Test
17 protocol (DSAC & Network Sharing)
2 RF, 9 RRM & 15 HSDPA RF performance
GCF WI-25, FDD Enhance U/L Rel-6 TEI6_Test
51 protocol, 13 RF & 3 RRM
GCF WI-31, IMS CC Rel 5/ Rel6 TEI6_Test
26 protocol
GCF WI-49, MBMS (Broadcast) TEI6_Test
MBMS-RAN-RF_Test
43 protocol, 2 RF & 2 RRM
GCF WI-47, 51, 52, 53 Inter Band Testing TEI7_Test
11 protocol for WI
Bands I-V, I-VI, I-VIII & I-IX respectively

FDD Related Activity for which the GCF/PTCRB have yet to select tests

OTA Integral Antenna Measurements RInImp-UEAnt_Test
GCF WI now approved in principle
Awaiting completion of test specs
ROHC Performance TEI5_Test
Awaiting WI proposal/RFT
Possibly put back to 2009
MTSI MTSI-UEConfTest
Awaiting WI proposal/RFT
HSPA Evolution *various*
Awaiting WI proposal/RFT
Long Term Evolution LTE-UEConTest_RF
LTE-UEConTest_SIG
Awaiting WI proposal expected Mar 08

TDD Related Activities not yet associated with a Certification Body

LCR TDD TTCN development TEI4_Test & TEI5_Test
LCR TDD MBMS Sig TEI6_Test
LCR TDD MBMS RF/RRM TEI6_Test
HCR & VHCR TDD MBMS TEI6_Test
HCR & VHCR TDD Enh Uplink RANimp-UEConTest_EDCHTDH
LCR TDD Enhanced Uplink LCRTDD-EDCH-UEConTest

New Work Items for approval at RP#39

RP-080135 Network Selection Enhancements
Nokia planned completion RP#42
RP-080155 MBSFN for HCR & VHCR TDD
IPWireless planned completion RP#41
RP-080160 CS over HSPA*
Huawei planned completion RP#41
More Rel 8 non LTE specific WIs expected in 2008

Issues for RAN Plenary

RAN5 had prepared and approved the contents of an LS to be sent to LSTI in R5-080615
However a formal relationship does not exist between 3GPP and LSTI

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The RAN5 has been forwarded under company contributions directly
Further liaison needs are anticipated
RAN5 asks RAN for a formal relationship between 3GPP and the LSTI to be established

discussion: Phil Brown (RAN5 chairman) clarified that the TTCN workshop in April is confirmed. On slide 10 Document the WI proposal for CS over HSPA should be RP-080160 Phil Brown (RAN5 chairman) clarified that the intention of establishing the LS relationship with LSTI is to make the scope of the RAN5 work clearer to LSTI. The request to establish the LS relationship will be send by Francois Courau (Chairman) to the PCG who will need to approve the request.
conclusion: revised to RP-080217.
RP-080217 Status Report WG5 (RAN WG5 Chairman)
conclusion: noted

RP-080032 List of CRs from RAN WG5 (RAN WG5)
conclusion: noted

RP-080088 MCC TF160 Report (MCC TF160)
discussion: no comments were made. However it was noted that there was still some problems of voluntary budget to fulfil.
conclusion: approved

7.6.2 Discussions on decisions from WG5

7.6.3 Approval of CRs to Rel'99, Rel-4 , Rel-5 with linked CRs

RP-080089 CR to 34.229-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.229-3 (prose), Annex A (MCC TF160)
conclusion: The CR is approved

RP-080090 CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A (MCC TF160)
conclusion: The CR is approved

RP-080091 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 99 Conformance Testing(TEI_Test) (WG5)
conclusion: The CRs are approved

RP-080092 RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 99 Conformance Testing(TEI_Test) (WG5)
conclusion: The CRs are approved

RP-080093 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 5 Conformance Testing(TEI5_Test) (WG5)
conclusion: The CRs are approved

RP-080094 RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 5 Conformance Testing(TEI5_Test) (WG5)
conclusion: The CRs are approved

7.6.4 Approval of CRs for closed Rel-6 WIs and closed Rel-7 WIs

RP-080095 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 1 (WG5)
conclusion: The CRs are approved

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RP-080096 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 2 (WG5)
conclusion: The CRs are approved

RP-080097 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 3 (WG5)
conclusion: The CRs are approved

RP-080098 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 4 (WG5)
conclusion: The CRs are approved

RP-080099 RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 1 (WG5)
conclusion: The CRs are approved

RP-080100 RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 2 (WG5)
conclusion: The CRs are approved

RP-080101 RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 3 (WG5)
conclusion: The CRs are approved

RP-080102 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 7 Conformance Testing(TEI7_Test) (WG5)
conclusion: The CRs are approved

7.6.5 Approval of linked CRs where the leading one originated from WG5

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8 Open Release 8 WIs and beyond, Status update and approval of CRs, reports

8.1 3G Long Term Evolution

8.1.1 Status report of LTE

RP-080033 Status report for WI: 3G Long Term Evolution (NTT DoCoMo)
revised to RP-070207
RP-080207 Status report for WI: 3G Long Term Evolution (NTT DoCoMo)

extract from the report:

RAN1
LTE was discussed
for 5 days at the RAN1#51bis meeting in Seville in January, and
for 5 days at the RAN1#52 meeting in Sorrento in February.
Summary of discussions and agreements are described per topic below:

- 488 contributions for RAN1#51bis, and 417 contributions for RAN1#52 were submitted.
- Overall Status
  - All the speficification are almost finalized. Only minor open issues are still remained.
- The set of CRs to physical layer specifications on LTE
  - A CR to 36.211 was endorsed to be approved [R1_1]

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- A CR to 36.212 was endorsed to be approved [R1_2]
- A CR to 36.213 was endorsed to be approved [R1_3]
- A CR to 36.214 was endorsed to be approved [R1_4]

- TS36.211
  - The details of RS, control channel were agreed.
- TS36.212
  - Details of channel coding were agreed
- TS36.213
  - Details of power control, DL/UL-SCH procedure were agreed
- TS36.214
  - Measurement on CDMA2000 were agreed
- TS36.306
  - Details of UE category, physical UE capability were agreed

RAN2

LTE was discussed
for 2 days at the RAN2 RRC ad hoc meeting in Vienna in December,
for 5 days at the RAN2#60bis meeting in Seville in January, and
for 5 days at the RAN2#61 meeting in Sorrento in February.

Summary of discussions:

- Stage 2 (TS 36.300)
  - Stage 2 was kept up to date with the Stage 3 work;
  - Work progressed on RRM information at handover, ANR and eNB measurements;
  - A CR for the Stage 2 specification (TS 36.300) is presented to this RAN plenary meeting for approval [R2_1].
- MAC (TS 36.321)
  - Work progressed on e.g., MAC headers, HARQ operation, DRX control, UL logical channel prioritization, RACH backoff control, UL scheduling information reporting, and semi-persistent resource allocation;
  - The rapporteur CR for approval at RAN#39 in [R2_2].
- RLC (TS 36.322)
  - Work progressed on e.g., RLC SDU discard, RLC re-establishment, polling/ status reporting, RLC-UM and AM clean up, and error handling;
  - The rapporteur CR for approval at RAN#39 is presented in [R2_3].
- PDCP (TS 36.323)
  - Mainly small corrections;
  - The rapporteur CR for approval at RAN#39 is presented in [R2_4].
- UE capabilities (TS 36.306)
  - UE capabilities were kept up to date as per RAN1 agreements;
  - It was agreed that UE categories 1-5 shall support 8 DRB's and 9 or 10 RLC AM entities;
  - CDMA2000 related capabilities were introduced;
  - The rapporteur CR for approval at RAN#39 is presented in [R2_5].
- RRC (TS 36.331)
  - Work progressed on e.g., system information transmission procedure, measurement configuration, connection establishment/ release procedures, and handover failure recovery;
  - Methodology for RRC PDU/ IE documentation was agreed and initial ASN.1 covering the current specification was created;
  - The rapporteur CRs for approval at RAN#39 are presented in [R2_6] and [R2_7].
- Idle mode procedures (TS 36.304)
  - Work progressed on e.g., priority-based inter-frequency/RAT reselection control, CSG reselection, and paging;
  - The rapporteur CR for approval at RAN#39 is presented in [R2_8].
- Services provided by the physical layer (TS 36.302)
  - No progress was made since RAN Plenary #38.

RAN3

LTE was discussed
- for 5 days at the RAN3#59 meeting in Sorrento in February
  with intensive email work after the meeting (22 topics)

Summary of discussions are as follows:

- Clarification from RAN2 that stated the UE behaviour shall be the same during S1 and X2 Handover,

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resulted to a definition of eNB/MME Status Transfer procedure during S1 Handover to convey PDCP SN and its HFN, both for UL and DL.

- It was agreed to create a 3GPP TR 36.902 to capture the SON use cases and their solutions. The purpose of the CR is to capture and coordinate the SON use cases agreed by RAN WGs. An LS to inform the creation of the TR and its purpose was sent to the related WGs. [R3_1]
- Several new use cases were agreed to be captured in the SON TR are the followings:
  - Physical Cell ID automated configuration
  - Mobility Robustness Optimisation
  - Mobility Load Balancing Optimisation
  - Energy Saving and Interference Reduction
- The work on the already agreed usecases, i.e. ANR (Automatic Neighbor Relation) optimisation for intra RAT, inter RAT/frequency, RACH optimisation, etc. can be carried on in Stage 2 and Stage 3 TS.
  - An LS was sent to ask RAN2 and RAN4 opinion on the stage2 Text Proposal for ANR intra RAT, inter RAT/frequency.
- Clarification on the scope and the necessary measurements for RAN performance monitoring was sent to SA5.[R3_2]
- On Home eNB discussion, solution options to realise one S1-MME connectivity between Home eNB and MME were discussed. The two solution options, i.e. direct connectivity and indirect connectivity via proxy, are captured in the TR R3.020.
- A discussion to clarify the necessary EPS and E-UTRAN identities was conducted and some clarification questions, that are necessary to define those identities, was sent to SA2 and RAN2.
- A study on architecture for ETWS, comprising on both CBS and E-MBMS, were discussed. An LS to SA2 and RAN2 was sent in order to have a full overall picture of the architecture, in term of necessary functionalities, their impact and overall schedule.
- On MME load balancing, balancing using 'MME relative load' as a weight factor was discussed, but no decision can be achieved.
- S1 CDMA Tunneling procedure was defined to convey necessary message for handover support from E-UTRAN to CDMA2000 RATs.
- A set of CRs to the following RAN3 specifications were agreed during email work.
  - RAN3 agreed changes for TS36.401(Architectural description) [R3_3]
  - RAN3 agreed changes for TS36.413(S1AP) [R3_4]
  - RAN3 agreed changes for TS36.423(X2AP) [R3_5]
- On Signaling Transport specification (TS.36.412), the number of SCTP association that may be established between MME-eNB remains an open issues.
- Other RAN3 specification are quite stable.
  - TS36.411/36.421 (S1/X2 Layer 1 specifications) are stable.
  - TS36.410/36.420 (S1/X2 general aspect and principle specifications) are stable.
  - TS36.414/36.424 (S1/X2 Data Transport specifications) are quite stable with one CR for each TS.
- Little progress on E-MBMS specification work, due to focus on SON and stage 3 TSs.
  - Text proposal for E-MBMS M1UP specification (TS36.446) was discussed. It is still open whether SYNC protocol will be conveyed within GTP-U header or GTP-U payload.

RAN4

LTE was discussed
for 5 days at the RAN4 #46 meeting in Sorrento in February.

Summary of dicussions are described per topic below:

- The latest RAN4 TSs are listed as follows:
  - A CR to TS 36.101 was approved (R4-080494) [R4_1]
  - A CR to TS 36.104 was approved (R4-080551) [R4_2]
  - A CR to TS 36.133 was approved (R4-080478) [R4_3]
  - TS 36.141, v 0.2.0 was noted. Level of Completion = 45% (R4-080508) [R4_4]
- UE requirements
  - Most of core parts of TS 36.101 were finalized. Open issues on TS 36.101 are listed in the following:
    - Final requirement values on some requirements, such as Spectrum flatness, Reference sensitivity power level, Maximum input level and so on
    - Performance parts (Demodulation performance requirements)
- BS requirements
  - Most of core parts of TS 36.104 were finalized. Many parts of minimum requirements for PUSCH, PUCCH and PRACH were agreed with square brackets. Open issues on TS 36.104 are listed in the following:
    - Transmitted signal quality, such as EVM

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- Remaining issues in demodluation performance requirements, such as UL timing adjustment, Tests for ACK/NACK/CQI multiplexed into PUSCH

- RRM requirements
  - RRM ad-hoc sessions were held and good progress was observed. Ad-hoc minutes were provided in R4-080479 and R4-080498 [R4_5 and R4_6].
  - Summary was provided below:
    - It was agreed to use RSRQ as an intra-frequency measurement
    - It was agreed that channel BW should be signaled for potential UE power saving benefits in RRC_IDLE. Corresponding LS was agreed and sent to RAN2 [R4_7]
    - Handover and Cell Reselection Execution Requirements were discussed and text proposals for TS 36.133 were agreed.
    - Gap length of 6 ms and Gap periodicity of 40 ms and 120 ms were agreed. Other periodicity and gap length could be investigated in the future meetings.
    - It was agreed not to develop mobility performance requirements for LTE_RRC_CONNECTED mobility to UTRAN without neigbour cell list.
- BS conformance tests
  - Many text proposals were presented and agreed:
    - TS 36.141 v 0.2.0 was noted (R4-080508): Level of Completion (LoC) = 45%.
    - TS 36.141 v 0.2.1 will be presented at the RAN4 #46bis: Expected LoC = 70%.

RAN5 Terminal Protocol Conformance Test Specifications

- RAN5 has agreed the updated version of the workplan [R5_1]. It has been agreed to maintain the LTE Test specifications completion target to TSG RAN#42 (December 2008).
- The work item description has been updated (supporting companies added) [R5_2].
- RAN5 received input on LTE test cases selection list based on functionalities expected on LTE UEs from NGMN operators. This document lists the priority test cases in different batches [R5_3].
- An updated list of LTE Test Cases scenarios based on the fundamental features for Idle Mode, Layer 2 and RRC has been agreed [R5_4].This list does not yet include NAS Test cases.
- It was agreed to freeze LTE signalling test case selection/definition no later than RAN5#39 as a control point [R5_5].
- Six new LTE RRC Test cases have been agreed in principle and these have been included in the draft version 0.1.0 of TS 36.523-1 and TS 36.523-2 (prose and applicability).
- Concerns raised to CT1 re availability of SAE related specs but also priority list of features forwarded to focus CT1 delivery [R5_6]
- RAN5 has agreed to a proposal by GERAN3 to a procedure to update TS 36.523-1 with the GERAN -LTE Inter RAT Handover tests [R5_7]
- LTE signalling additional meetings scheduled over the period of 9 – 11 Apr 08 in Sophia Antipolis.

RAN5 Terminal Radio Transmission and Reception Conformance Test Specifications

- The latest version of the agreed draft test specification is TS 36.521-1 v0.0.7 [R5_8]
- In particular, progress has been made on the following areas:
  - General procedure when writing LTE RF test cases [R5_9]
  - TX: LTE RF transmission modulation initial EVM test case [R5_10]
  - RX: LTE Reference Sensitivity test case [R5_11]
  - RX: LTE Maximum Rx input level test case [R5_12]
  - RX: LTE Adjacent Channel Selectivity test case [R5_13]
  - RX: LTE RF Receiver tests, General section [R5_14]
- LS was sent from RAN5 to RAN4 to ask clarification on LTE RF test vectors for 36.521-1[R5_15].
- An agreement was reached within RAN5 RF group to define the initial conditions of test cases in a way to potentially concatenate future test cases if/when possible to decrease testing time.
- The LTE RF conformance test work plan [R5_16] has been updated and presented during RAN5#38.
- The LTE RF work item description has been updated [R5_17] during RAN5#38.
- LTE RF additional meetings scheduled over the period of 9 – 11 Apr 08 in Sophia Antipolis.

It is proposed to close the RAN1 part of the WI and keep it open for RAN 2~~1~~- RAN4. No change to the RAN5 part is proposed.

discussion: The decision taken on the test loop will be taken into account for a WID update in the next meeting for RAN5. Giovanni Romano (Telecom Italia) asked for the remaining open issues in RAN1 regarding interference coordination as the BB is proposed to be closed. Dirk Gerstenberger (RAN WG1 Chairman) clarified that the finalisation of the interference

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coordination is not considered a big issue. Edgar Fernandes (Motorola) asked if it helps the progress if the RAN1 part will be closed but the others are kept open. Alexander Vesely (RAN3 Chairman) stated that the following sequence shall be kept: 1 Placing the TS under change control, 2. Closing the WI, 3. Freezing the ASN.1. Antti Toskala (Nokia Siemens Networks) would like to see all WGs covered in future status report. It was asked if the specifications from all WGs can be considered as functionally frozen. Alexander Vesely (RAN3 Chairman) stated that this is not the case for the signalling specs in RAN3 considering the open issue list. Tim Moulsley (Phillips) stated that also the RAN1 part could not be closed as long as not all CRs are agreed. However, Dirk Gerstenberger (RAN WG1 Chairman) stated more CRs are expected in future meeting but it is well known what needs to be corrected and what are the consequences. Francois Courau (Chairman) summarized that in RAN2 and RAN3 the consequences of the solution of the open issues is not clear yet and therefore these parts can not be closed. Gert-Jan van Lieshout (Samsung) added that if closing means that open issues can not be re-visited after decisions are taken than one should close the WI rather later. Takaharu Nakamura (RAN WG4 Chairman) stated that in RAN4 no new open issues were found.
conclusion: RAN1 Building Block closed, RAN 2-4 Building Blocks remain open

RP-080136 E-UTRA main open issues in RAN WGs (LTE rapporteurs and WG chairmen)
conclusion: noted

8.1.2 CRs to LTE TRs

8.1.3 3G Long Term Evolution: Physical Layer

RP-080145 CRs to 36.211, 36.212, 36.213 & 36.214 (Rel-8, F) updates (RAN1)
discussion: The following statement was made by Qualcomm "Qualcomm has raised and sustained an objection regarding the way forward on large delay CDD MIMO captured in R1-080579. The way forward has been captured in CR 25.213-002 in RP-080145; Qualcomm is raising a sustained objection to clauses 7.1 & 7.2 of this CR as they relate to large delay CDD MIMO; we are concerned that the "correction" modifies earlier agreed, or at least, de facto extension of the zero delay CDD technique; we are also concerned that the performance of large delay CDD MIMO after the correction has not been properly evaluated before being approved by WG1 and that the updated large delay CDD mode of operation will result in non reliable performance in case of correlated antennas. We understand that in many cases the interpretation of technical data is somewhat subjective; we could thus have accepted the consensus, as we've done in past when necessary, had the proponents put forth credible technical data in support of their proposal. We are however concerned that consensus has not been generated based on technical evidence and/or technical interpretation and this is the primary reason for our sustained objection."
conclusion: The CRs to 36.212, 36.213 & 36.214 are approved, A revision of the CR0003 to 36.211 is in RP-080219

(revised to RP-080219)
RP-080219 CR to 36.211 (Rel-8, F) updates (RAN1), CR0003r1 to 36.219
discussion: Antti Toskala (NSN) raised concerns on the growing number of options and asked to considers to reduce the number of options in each WG before closing of the work item. Giovanni Romano (Telecom Italia) asked to task the WGs officially to reduce the number of options. This was supported. The tasks for all WGs is to reduce the number of options.
conclusion: The CR was approved

TSG-RAN tasked all WG to review all LTE specifications in order to reduce the number of options.

8.1.4 3G Long Term Evolution: Radio Interface Layer 2 and 3 Protocol Aspects

RP-080192 REL-8 CRs to 36.300 from RAN2 and RAN3 (RAN WG2)
conclusion: The CRs are approved

RP-080193 REL-8 CR to 36.304 (RAN WG2)
conclusion: The CRs are approved

RP-080194 REL-8 CR to 36.306 (RAN WG2)
conclusion: The CRs are approved

RP-080195 REL-8 CR to 36.321 (RAN WG2)
company contributions in RP-080130 for replacement of RP-080195 (R2-081389)
conclusion: This CR is withdrawn

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RP-080130 CR for contention resolution in 36.321 (Panasonic), CR0001r1 to 36.321
revised to 162 because co-signing company added
RP-080162 CR for contention resolution in 36.321 (Panasonic), CR0001r2 to 36.321
conclusion: The CR is approved

RP-080196 REL-8 CR to 36.322 (RAN WG2)
conclusion: The CR is approved

RP-080197 REL-8 CR to 36.323 (RAN WG2)
conclusion: The CR is approved

RP-080198 REL-8 CR to 36.331 (RAN WG2)
company contributions in RP-080131for replacement of RP-080198 (R2-081378)
conclusion: This CR is withdrawn

RP-080131 CR for contention resolution in 36.331, main body (Panasonic), CR0001r3 to 36.331
revised to 163 because co-signing company added
RP-080163 CR for contention resolution in 36.331, main body (Panasonic), CR0001r4 to 36.331
The CR is approved

RP-080199 REL-8 CR to 36.331 on ASN.1 (RAN WG2)
company contribution in RP-080132 for replacement of RP-080199 (R2-081379)
conclusion: This CR is withdrawn

RP-080132 CR for contention resolution in 36.331, ASN.1 (Panasonic), CR0002r1 to 36.331
revised to 164 because co-signing company added
RP-080164 CR for contention resolution in 36.331, ASN.1 (Panasonic), CR0002r2 to 36.331
conclusion: The CR is approved

8.1.5 3G Long Term Evolution: eUTRAN interfaces

RP-080077 CRs to 36.412/36.422 (RAN WG3)
conclusion: The CRs are approved

RP-080078 CRs to 36.414/36.424 (RAN WG3)
conclusion: The CRs are approved

RP-080079 CR to 36.401 (RAN WG3)
conclusion: The CR is approved

RP-080080 CR to 36.413 (RAN WG3)
conclusion: The CR is approved

RP-080081 CR to 36.423 (RAN WG3)
conclusion: The CR is approved

8.1.6 3G Long Term Evolution: RF Radio Transmission/ Reception, System Performance Requirements and Conformance Testing

RP-080123 36.101, 36.104, 36.133: LTE-RF (RAN WG4), CRs for approval
conclusion: The CRs are approved

RP-080129 3GPP TS 36.113 v.2.0.0 (Alcatel-Lucent), for approval
discussion: The TS is presented for the first time to TSG-RAN but due to the completion level it is presented for approval
conclusion: The TS is approved as v8.0.0 and will be placed under change control

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8.1.7 LTE FDD repeaters

RP-080034 Status Report for WI: LTE FDD Repeaters (Powerwave Technologies, Andrew Wireless Corporatio)
discussion: The level of completion is 20%, Level of completion remains September 2008.
conclusion: noted

8.1.8 3G Long-Term Evolution Testing

8.1.8.1 3G LTE - Terminal Protocol Conformance Test Specifications.

RP-080035 Status Report for WI 3G LTE - Terminal Protocol Conformance Test Specifications (NEC, Motorola):

Progress Report since the last TSG (for all involved WGs):

RAN5 has agreed the updated version of the workplan [1].
It has been agreed to maintain the LTE Test specifications completion target to TSG RAN#42 (December 2008).

The work item description [2] has been updated (supporting companies added).

RAN5 received input on LTE test cases selection list [5] based on functionalities expected on LTE UEs from NGMN operators. This document lists the priority test cases in different batches.

An updated list of LTE Test Cases scenarios based on the fundamental features for Idle Mode, Layer 2 and RRC has been agreed [3]. This list does not yet include NAS Test cases.
This list is obviously very dependent of the progress of Stage 3 core specifications mainly in CT1 and RAN2, and will have to be updated as much as possible based on the last changes in Stage 3 core specifications.

Six new LTE RRC Test cases have been agreed in principle and these will be included in the new versions of TS 36.523-1 and TS 36.523-2 (prose and applicability).

It has been agreed to consider holding additional RAN5 meetings in 2008 to assist LTE conformance test development. This has a direct dependency on the current planned completion target date for Stage 3. A LTE Adhoc meeting is planned mid-April and an additional RAN5#39bis meeting is planned in the second half of June.

List of Completed elements (for complex work items):
None

List of open issues:
Development of Test methodology.
Development of Test Scenarios and Requirements.
Development of Test cases and applicability.

Estimates of the level of completion (when possible):
10%

WI completion date review resulting from the discussion at the working group:
TSG RAN#42, December 2008

discussion: It was discussed how to handle the update of the supporting companies. It was required not to refer to NGMN in the report as the status of this organization is unknown. Phil Brown (RAN5 Chairman) thanked the departing rapporteur Catherine Salinoc (NEC) for her excellent job as rapporteur for LTE testing. The rapporteur task will be taken over by David Lecompte (NEC).
conclusion: noted

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8.1.8.2 3G LTE - Terminal Radio Transmission and Reception Conformance test Specifications

RP-080036 Status Report for WI 3G LTE Terminal Radio Transmission and Reception Conformance Test Specifications (Agilent):

Progress Report since the last TSG (for all involved WGs):

Various contributions and test case proposals were presented for TS 36.521-1 during RAN5#38.
In summary:

1) The latest version of the agreed draft test specification is TS 36.521-1 v0.0.7 [7]
   In particular, progress has been made on the following areas:

   - General procedure when writing LTE RF test cases [8]
   - TX: LTE RF transmission modulation initial EVM test case [5]
   - RX: LTE Reference Sensitivity test case [1]
   - RX: LTE Maximum Rx input level test case [2]
   - RX: LTE Adjacent Channel Selectivity test case [3]
   - RX: LTE RF Receiver tests, General section [4]

2) LS was sent from RAN5 to RAN4 to ask clarification on LTE RF test vectors for 36.521-1[10].

3) An agreement was reached within RAN5 RF group to define the initial conditions of test cases in a way to potentially concatenate future test cases if/when possible to decrease testing time.

4) The LTE RF conformance test work plan [6] has been updated and presented during RAN5#38. High priority test cases have been identified.

5) The LTE RF work item description has been updated [9] during RAN5#38.

6) To speed up progress on LTE-RF test cases RAN5 RF group will meet for a RAN5-LTE-RF workshop 9-11 April 2008, and over the period 23-27 June 2008.

List of Completed elements (for complex work items):
None.

List of open issues:

Estimates of the level of completion (when possible):
10%

WI completion date review resulting from the discussion at the working group:

TSG RAN #41, September 2008

The target date has been estimated to be two meeting cycles after the completion of the necessary parts of the core spec. The target date has been estimated given current available information about target dates of TS 36.101 (“frozen” date Mar 2008) and TS 36.133 (to be confirmed at this point).

Detail info:

TX requirement test cases: TSG RAN #41, September 2008
RX requirement test cases: TSG RAN #41, September 2008
Performance requirement test cases: TSG RAN #41, September 2008
RRM requirements test cases: TSG RAN #41, September 2008

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The above target dates are under constant review and will be tracked separately to give more granularity. Any modification of the core spec target dates might affect the target date of this work item.

discussion: no comments were received
conclusion: noted

8.2 Radio Interface Improvement Feature

8.2.1 UMTS in 700 MHz Bands (FDD)

RP-080037 Status Report for WI UMTS in 700 MHz Bands (FDD) (Nokia Siemens Networks)
discussion: Level of completion is 95%, Completion date remains June 2008.
conclusion: noted

RP-080200 R99 25.307 CR (incl. cat.A CRs) on Introduction of UMTS 700 MHz (Bands XII XIV) (FDD) and REL-8 25.331 CR (RAN WG2)
conclusion: The CRs are approved

RP-080082 CRs for introduction of UMTS in 700MHz Bands (RAN WG3)
conclusion: The CRs are approved

RP-080124 25.133, 25.104, 25.141, 25.113, 34.124, 25,101: Introduction of UMTS 700MHz (RAN WG4)
conclusion: CR 926 to TS 25.133 is ~~withdrawn~~revised, All other CRs are approved

RP-080128 Introduction of UMTS700 requirements in TS25.133 (Nokia Siemens Networks), CR0926r1 to 25.133 intended to replace CR926 agreed by RAN4 in RP-080124
conclusion: The CR is approved

8.2.2 UMTS in 2300 MHz Bands

RP-080038 Status Report for WI UMTS in 2300 MHz Bands (Cingular Wireless/AT&T)
discussion: Level of completion is 20%, Completion date remains June 2008. Phil Brown (RAN5 chairman) stated that RAN5 still needs input for this and the RAN5 part of the work is not considered yet. The completion level for all other groups is considered realistic
conclusion: noted

8.2.3 UMTS/LTE 3500 MHz

RP-080133 Regional 3500 MHz band arrangements and use (Rapporteur (Ericsson))
discussion: It was clarified that the situation in all regions were not taken into account
conclusion: noted

RP-080039 Status Report for WI UMTS/LTE 3500 MHz (Ericsson)
discussion: Level of completion is 10%, Completion date remains March 2009.
conclusion: noted

RP-080173 Revised WID for UMTS/LTE 3500 (Ericsson)
discussion: The chairman asked how the EU borders are taken into consideration. Ericsson clarified that this needs to be studied in RAN4. Edgar Fernandes (Motorola) thinks that this issue should be linked to the IMT advanced study item, respectively be extended to IMT advanced. Giovanni Romano (Telecom Italia) thinks that this is a different issue, since WRC 2007 identified the band for IMT use, so also for IMT-2000. There were various companies which asked to look at this from a broader perspective and take into account reginal arrangements. The chairman reminded that all possible arrangements were requested to be looked at before a decision is taken. It was clarified that it is not intended to stop the ongoing work but it is proposed to extend the scope.
conclusion: RAN4 is tasked to look at the proposed frequency arrangements, The revised WI is not approved, a new revision can be provided, The WI remains approved in principle.

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8.2.4 UMTS 2300 MHz TDD

RP-080040 Status Report for WI UMTS in 2300 MHz TDD (Datang Mobile)
discussion: Level of completion is 15%, Completion date remains March 2009.
conclusion: noted

8.2.5 Further Improved Minimum Performance Requirements for HSDPA UE (FDD) - Two-Branch Interference Cancellation

RP-080041 Status Report for WI Further Improved Minimum Performance Requirements for HSDPA UE (FDD) - Two-Branch Interference Cancellation (AT&T)
discussion: Level of completion is 100%, The WI is proposed to be closed.
conclusion: The WI is completed

RP-080125 25.101: Radio Interface Improvements (RAN WG4), CRs for approval
withdrawn (see 165,166,167)

RP-080166 CRs for 25.101: Radio Interface Improvements, further improved minimum performance requirements for HSDPA UE (FDD)- Two branch interference cancellation (RAN WG4), CRs for approval
conclusion: The CR is approved

8.2.6 CS voice service over HSPA

RP-080042 Status Report for WI CS voice service over HSPA (Nokia Siemens Networks)
discussion: The completion level is 100%, A RAN5 WI is proposed to be opened, see AI 11
conclusion: The WI is completed

RP-080201 REL-8 CRs to introduce CS Voice Service over HSPA (RAN WG2)
conclusion: The CR is approved

8.2.7 Performance requirements for 15 code reception with 16QAM/QPSK (FDD)

RP-080043 Status Report for WI Performance requirements for 15 code reception with 16QAM/QPSK (Vodafone)
discussion: The completion level is 100%, Tim Frost (Vodafone) clarified that a RAN5 WI needs to be proposed in the next meeting.
conclusion: The WI is completed

RP-080165 25.101: Radio Interface Improvements, performance requirements for 15 codes reception wit 16QAM/QPSK (FDD) (RAN WG4), CRs for approval
conclusion: The CR is approved

8.3 RAN Improvement Feature

8.3.1 RRM optimizations for Iur and Iub

8.3.2 Combination of 64QAM and MIMO in HSDPA (FDD)

RP-080044 Status Report for WI Combination of 64QAM and MIMO for HSDPA (FDD) (Ericsson)
discussion: The completion level for RAN4 is 50%, Completion date is June 2008, The work for all other WGs is completed.

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RP-080146 CR to 25.212 (Rel-8, F) for RV-coding correction for both 64QAM & MIMO (RAN1)
conclusion: The CR is approved

8.3.3 Improved L2 for uplink

RP-080045 Status Report for WI Improved L2 for Uplink (Ericsson)
discussion: Completion level is 95%, The WI is proposed to be closed. Etienne Chaponniere (Qualcomm) thinks the WI should be kept open because of the criticality of the open issue (Exact definition of the RLC PDU size selection). Janne Peisa (Ericsson) however thinks that this is a stage 3 detail. Francois Courau (Chairman) stated that then the wording of the open issue is misleading. It was finally decided to keep the WI open
conclusion: The WI remains open and the completion date is shiftet to June 2008.

RP-080202 REL-8 CRs to introduce Improved L2 for uplink (RAN WG2)
conclusion: The CRs are approved

RP-080083 CRs for Introduction of Improved L2 for Uplink (RAN WG3)
conclusion: The CRs are approved

8.3.4 Enhanced Uplink for CELL_FACH State in FDD

RP-080046 Status Report for WI Enhanced Uplink for CELL_FACH State in FDD (Nokia Siemens Networks)
discussion: Completion level is 50%, Completion Level remains June 2008. It was clarified that a testing WI needs to be opened later.
conclusion: noted

8.3.5 Enhanced UE DRX for FDD.

RP-080047 Status Report for WI Enhanced UE DRX for FDD (Nokia)
discussion: Completion level is 50%, Completion date remains June 2008. Any activities in RAN4 are likely be triggered by the LS from RAN2 send to RAN4 on this topic.
conclusion: noted

8.3.6 Enhancements for SRNS Relocation Procedure.

RP-080048 Status Report for WI Enhancements for SRNS relocation procedure (Nokia Siemens Networks)
discussion: Completion level is 75%, Completion Level is proposed to be shifted June 2008
conclusion: noted

RP-080139 Report to RAN on the task to study solutions for improving CS call support in the scope of the SI on future HSPA Evolution (Huawei)
discussion: RAN3 proposes the following way forward:

"Since the proposed solutions make use of the enhanced relocation and the related enhanced relocation is being discussed now in the WI “Enhancements for SRNS Relocation Procedure”, moreover it is stated in RAN3 internal TR that “*Application of Enhanced SRNS relocation to CS Core is FFS*”, RAN3 recommends to study the improvement after the enhanced relocation work for the WI “Enhancements for SRNS Relocation Procedure” gets mature."

The proposed way forwarded was endorsed by the plenary. Alexander Vesely (RAN3 Chairman) outlined that it may be difficult to complete the work until the next plenary but this shall be reviewed in June.
conclusion: The proposed way forward is endorsed

8.3.7 Enhancements for FDD HSPA Evolution

RP-080049 Status Report for WI Enhancements for FDD HSPA Evolution (Nokia Siemens Networks)

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discussion: Completion level is 30%, Completion Level will remain June 2008. However, the completion of the work in RAN1 - RAN3 was March 2008 and is shifted to June 2008.
conclusion: noted

8.3.8 64 QAM for 1.28 Mcps TDD HSPA

RP-080050 Status Report for WI 64QAM for 1.28 Mcps TDD HSPA (ZTE)
discussion: Completion level is 65%, Completion Level is shifted June 2008.
conclusion: noted

8.3.9 Enhanced CELL_FACH state in 1.28 Mcps TDD

RP-080051 Status Report for WI Enhanced CELL_FACH state in 1.28 Mcps TDD (ZTE)
discussion: Completion level is 40%, Completion Level remains September 2008
conclusion: noted

8.3.10 1.28 Mcps TDD Repeater

RP-080052 Status Report for WI 1.28 Mcps TDD Repeater specification (RITT)
discussion: Completion level is 5%, Completion Level is proposed to be shifted September 2008
conclusion: noted

8.4 Technical Small Enhancements and Improvements

RP-080203 REL-8 TEI CRs to 25.321 and 25.331 (RAN WG2)
conclusion: The CRs are approved

RP-080204 REL-8 CR to 25.331 on Introduction of Paging Permission with Access Control (PPAC) on request from CT1 (RAN WG2)
conclusion: The CR is approved

RP-080084 CR for Inclusion of Cell Id into common measurement report (RAN WG3)
conclusion: The CR is approved

RP-080126 25.141, 25.106, 25.143, 25.141: TEI8 (RAN WG4)
conclusion: The CRs are approved

RP-080167 25.101: Correct reference to H-Set for 64-QAM max input test. (RAN WG4),
conclusion: The CRs are approved

8.5 MBSFN Downlink Optimized Broadcast 3.84Mcps TDD: DOB

8.5.1 Vote : Do you reconfirm the MBSFN DOB Work Item ?

Total votes cast : 55
votes "yes" 40 (72,727 %)
votes "no" 15 (27,273%)
Abstain or spoiled: 11 (20 %)
Total returned papers:66

conclusion: The Work Item is reconfirmed

RP-080053 Status Report for WI MBSFN Downlink Optimized broadcast 3.84Mcps TDD (Ericsson)
revised to 218

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RP-080218 Status Report for WI MBSFN Downlink Optimized broadcast 3.84Mcps TDD (Ericsson)
discussion: A set of technically correct CRs for RAN1-RAN3 is submitted to RAN#39, RAN4 CRs are submitted by Ericsson. Nick Anderson (Next Wave Wireless) stated that his comments to this report were not taken into account. He outlined that the status report contains statements which are not correct, e.g. "The proponent of [15] argued that the DOB CRs could not be agreed since RAN had not yet confirmed the DOB WI". Joakim Bergström (Ericsson) stated that the comments were taken into account but these were not reflected in the status report. The report should contain what has happened in the meetings.

The following statement was made by Nextwave/IPWireless:
"Nextwave Wireless mentioned that the status report did not capture events from the WGs accurately or in a balanced way and reminded the meeting that the Rapporteur has an obligation to do so. It was stated that NextWave's previous comments raised via the RAN reflector had not been incorporated in the updated status report RP-080218.

In particular, the statement "The proponents of [15] argued that the DOB CRs could not be agreed since RAN had not yet confirmed the DOB WI" is not an accurate representation of the views raised in the WGs. The views raised in the WGs and believed to be of relevance to RAN plenary in the status report were as mentioned on the RAN email reflector and are summarised below:

The proponents of [15] argued that the DOB CRs could not be agreed as it was not clear that an additional physical layer was required or had been technically justified and was nowhere mentioned in the work item sheet. Concerns were also raised on the need for any RAN1 CRs to TDD specifications if the intent of the DOB proponents was to standardize FDD MBSFN in unpaired spectrum and it was stated that it may be more natural to do so via a band reassignment. It was stated that this would avoid setting a precedent of using cross-referencing of alternative technologies from RAN1 specifications in order to gain access to spectrum It was stated that the previously-mentioned technical concerns raised in the WGs on lack of support for multiple SFN areas, terminal power consumption, UE complexity and spectral efficiency have not been addressed in the CRs and therefore still remain."

conclusion: noted

RP-080086 endorsed CRs for DOB (RAN1, RAN2, RAN3)
discussion: Derek Richards (IPWireless) stated that "Downlink Only" is already provided as MBMS is downlink by nature. Nick Anderson no objective to introduce a new physical layer is mentioned. He asked where it is justified that a new physical layer needs to be introduced.
conclusion:

RP-080169 DOB CRs (Ericsson), CRs for RAN4 specs
discussion: This set of CR contains company contributions for the RAN specifications as no conlusion on technical corectness was made in the WG meeting.
conclusion:

RP-080154 Introduction of MBSFN DOB (Nextwave Wireless, IPWireless)
discussion: Nick Anderson (Next Wave Wireless) stated that these CRs were not brought to the WGs because the understanding of the PCG decision was that the issues shall be solved in RAN plenary level. Antti Toskala (Nokia Siemens Networks) stated that the DOB was clearly understood to be downlink only and therefore neither is TDD or FDD. Nick Anderson (Next Wave Wireless) answered that in the WGs the disadvantages of using FDD were brought up by Nextwave/IPWireless.
conclusion:

A vote on the two sets of CRs in RP-080086/RP-080169 and the set in RP-080154 will be organised during RAN#39

Questions:
Vote#1 Do you approve the CRs in T-Doc RP-080086 and RP-080169 as proposed by Ericsson?
Total votes cast : 58
votes "yes" 35 (60,345 %)
votes "no" 23 (39,655)
Abstain or spoiled: 9 (15,517 %)
Total returned papers:67

conclusion: The CRs are not approved

Vote#2 Do you approve the CRs in T-Doc RP-080154 as proposed by IPWireless/Nextwave?
Total votes cast : 60
votes "yes" 9 (15,0%)
votes "no" 51 (85,0)

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Abstain or spoiled: 7 (11,667 %)
Total returned papers:67

conclusion: The CRs are not approved

Summary: The chairman tasked the involved parties to come to a constructive solution until next TSG-RAN meeting. The status will be reviewed in RAN#40.

8.6 Support of WiMAX - LTE Mobility

RP-080223 WID : Support of WiMAX~~x~~ -LTE mobility (Samsung)
revised to:
RP-080232 WID: support of WiMAX~~x~~ -LTE mobility (Samsung)

Objective

The objectives of this work item are to:

- Support mobility between mobile WiMAX and LTE systems (bidirectional) in accordance with the SA1 requirements.
- To introduce the required functionality in the LTE specification to meet the above requirements for mobility between WiMAX and LTE.

discussion: Antti Toskala (Noki Siemens Networks) stated that dual radio was not yet concluded in SA. Joakim Bergström (Ericsson) added that SA2 also have not conluded on trheir work yet and therfore it is premature to start in RAN. There was an agreement that the SA work shall be aligned with RAN. Juho Lee (Samsung) answered that does not agreed that RAN needs to wait for the outcome in SA. Intel stated that the proposed mobility is needed as it is only proposed for the HPLMN now and in case of mixed technology deployment no mobility would be supported. Howard Benn (Motorola) supports the WI as he does not see why in this case a decision cannot be taken in RAN alone. The decision for CDMA2000 interworking also was taken in RAN. Antti Toskala (Noki Siemens Networks) considers this as a different issue as a new technology is considered. He further asked what the value of advertising other systems is. The chairman stated that there is a clear decision that service continuity is not supported in the first place (=handover) and that the discussion on single radio/dual radio is independant of this. Alexander Vesely (RAN3 Chairman) stated that it is clear from the SA2 WI who has the lead on the work. Juho Lee (Samsung) prefers to have some kind of guidance then from SA.
conclusion: The ~~WGs are tasked to review the~~documents shall be reviewed ~~WID~~ until RAN#40

8.7 Support of WiMAX - UMTS Mobility

RP-080224 WID : Support of WiMAX~~x~~ -UMTS mobility (Samsung)
revised to 233
RP-080233 WID: support of WiMAX~~x~~ -LTE mobility (Samsung)
The document was noted

9. Open conformance Testing WIs

9.1 RF/RRM Conformance Test aspects MBMS (FDD) (Rel-6)

RP-080054 Status Report for WI RF/RRM Conformance Test aspects - MBMS (FDD) (Ericsson)
discussion: The completion level is 100%, The WI is proposed to be closed
conclusion: The WI is closed

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RP-080103 RAN5 agreed non TTCN CR(s) under WI RF/RRM Conformance Test Aspects MBMS (FDD)(MBMS-RAN-RF_Test) (WG5)
conclusion: The CRs are approved

9.2 Conformance Test Aspects – UE Antenna Performance OTA

RP-080055 Status Report for WI UE antenna over the air conformance testing (Nokia)
discussion: The completion level is 70%, The completion date is proposed to be shifted to June 2008. Francois Courau (Chairman) reported that a methodology changes were proposed in ETSI/ERM which should have implied revisiting all performance specs from RAN4. After discussion at the Chairman coordination group (OCG) this was firmly rejected on the basis that such a decision requires consultation from all impacted parties to check the consequences. These changes were not agreed.
conclusion: noted

9.3 Conformance Test Aspects – Minimum UE performance requirement for downlink physical channels in support of MTCH and MCCH operation based on type 1 enhanced receiver (Rx-Diversity)

RP-080056 Status Report for WI Conformance Test Aspects - Minimum UE performance requirement for downlink physical channels in support of MTCH and MCCH operation based on type 1 enhanced receiver (Rx-Diversity) (Ericsson)
discussion: The completion level is 100%. There are no CRs for this WI. The needed changes are covered by CRs of other WIs (see RP-080106).
conclusion: The WI is completed

RP-080104 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Minimum UE performance requirement for downlink physical channels in support of MTCH and MCCH operation based on type 1 enhanced receiver (Rx-Diversity) (RANimp-UEConTest_RxDivMBMS) (WG5)
withdrawn because the relevant CRs were covered by CRs to other WIs (see RP-080103). Those CRs solved the remaining issues for this WI

9.4 Conformance Test Aspects – Multiple Input Multiple Output Antennas (MIMO) for FDD

RP-080057 Status Report for WI Conformance test aspects Multiple Input Multiple Output antennas (MIMO) for FDD (Qualcomm)
discussion: The completion level is 100%.
conclusion: The WI is closed

RP-080105 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Multiple Input Multiple Output Antennas (MIMO) for FDD(MIMO-UEConTest_FDD) (WG5)
The CRs are approved

9.5 Conformance Test Aspects – 3.84 Mcps and 7.68 Mcps TDD Enhanced Uplink

RP-080058 Status Report for WI Conformance Test Aspects - 3.84/7.68 Mcps TDD Enhanced Uplink (IPWireless)
discussion: Completion level is 45%, The completion date is shifted to September 2008.
conclusion: noted

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RP-080106 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects - 3.84 Mcps and 7.68 Mcps TDD Enhanced Uplink(RANimp-UEConTest_EDCHTDH) (WG5)
conclusion: The CRs are approved

9.6 Conformance Test Aspects – 64QAM for HSDPA (FDD)

RP-080059 Status Report for WI Conformance test aspects 64QAM for HSDPA (FDD) (Ericsson)
discussion: The completion level is 100%.
conclusion: The WI was closed

RP-080107 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects 64QAM for HSDPA (FDD)(RANimp-UEConTest_64QamDownlink) (WG5)
conclusion: The CRs are approved

9.7 Conformance Test Aspects – 16QAM for HSUPA (FDD)

RP-080060 Status Report for WI Conformance test aspects Introduction of 16QAM in HSUPA (FDD) (Motorola)
discussion: Completion level is 95%, The completion date is shifted to September 2008.
conclusion: noted

RP-080108 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects 16QAM for HSUPA (FDD)(RANimp-UEConTest_16QamUplink) (WG5)
conclusion: The CRs are approved

9.8 Conformance Test Aspects – Improved L2 support for high data rates

RP-080061 Status Report for WI Conformance test aspects Improved L2 support for high data rates (Ericsson)
discussion: The completion level is 100%
conclusion: The WI is closed

RP-080109 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Improved L2 support for high data rates(RANimp-UEConTest_L2DataRates) Batch 1 (WG5)
conclusion: The CRs are approved

RP-080110 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Improved L2 support for high data rates(RANimp-UEConTest_L2DataRates) Batch 2 (WG5)
conclusion: The CRs are approved

9.9 Conformance Test Aspects – Continuous connectivity for packet data users

RP-080062 Status Report for WI Conformance test aspects Continuous connectivity for packet data users (Nokia)
discussion: The completion level is 95%. The completion date is shifted to June 2008.
conclusion: noted

RP-080111 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Continuous connectivity for packet data users(RANimp-UEConTest_CPC) Batch 1 (WG5)
conclusion: The CRs are approved

RP-080112 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Continuous connectivity for packet data users(RANimp-UEConTest_CPC) Batch 2 (WG5)
conclusion: The CRs are approved

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9.10 Conformance Test Aspects – Enhanced CELL_FACH state in FDD

RP-080063 Status Report for WI Conformance test aspects Enhanced CELL_FACH State in FDD (Nokia)
discussion: The completion level is 5%. The completion date is shifted to September 2008. Phil Brown (RAN5 chairman) explained that the WI had low priority up to now which explains the little progress. However, September 2008 can be achieved.
conclusion: noted

9.11 Conformance Test Aspects – Multimedia Telephony Services for IMS (MTSI)

RP-080064 Status Report for WI Conformance Test Aspects - Multimedia Telephony Services for IMS (MTSI) (Ericsson, Motorola)
~~R3-080064 Dynamic Setup of HNBs (Mitsubishi Electric)~~
discussion: The completion level is 20%. The completion date remains September 2008.
conclusion: noted

RP-080113 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Multimedia Telephony Services for IMS (MTSI)(MTSI-UEConfTest) Batch 1 (WG5)
conclusion: The CRs are approved

RP-080114 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Multimedia Telephony Services for IMS (MTSI)(MTSI-UEConfTest) Batch 2 (WG5)
conclusion: The CRs are approved

9.12 UE conformance test aspects - 1.28Mcps TDD Enhanced Uplink

RP-080065 Status Report for WI UE conformance test aspect - 1.28 Mcps TDD Enhanced Uplink (CATT)
discussion: The completion level is 15%. The completion date remains September 2008.
conclusion: noted

RP-080115 RAN5 agreed non TTCN CR(s) under WI UE conformance test aspects - 1.28Mcps TDD Enhanced Uplink(LCRTDD-EDCH-UEConTest) (WG5)
conclusion: The CRs are approved

10 Study Items

10.1 Home NodeB/eNodeB

RP-080066 Status Report for SI Home NodeB/eNodeB (Motorola)
discussion: The WI is 100% complete for RAN1,2,4. The RAN3 part of the work remains open. It is mentioned that no solution considered in RAN2 regarding intra-frequency and inter-frequency mobility solutions and access control for UMTS Home-NodeBs is seen satisfying. Hannu Pirila (Nokia) raised concerns on the new requirement from SA1 on the HNB access. He asked the chairman to raise these concerns in the SA plenary as this puts strong constraints to the terminal and that would make it difficult to reach the same performance for HNB access as for other NBs. This was supported by Gert-Jan van Lieshout (RAN2 chairman). The chairman agreed to include in his report to the SA the conclusion presented for each of the subgroup.

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conclusion: SI closed for RAN1, RAN 2 and RAN4, it remains open for RAN3. The issues concerning the SA1 requirement will be reported to SA#39,

RP-080208 3G HNB Architecture Way Forward, Alternative to RP-080153 (Kineto Wireless)
discussion: It is proposed to evaluate the Iu based HNB proposals within a new WI for one plenary period. The chairman asked how the proposed architectures can be migrated to existing ones. Alexander Vesely (RAN3 Chairman) explained that so far Iu and Iub connectivity was considered in RAN3 and in the last meeting the GAN architecture proposal was made. Operator's view is that a pure Iu solution is preferable. This view was challenged by Patrick Tao (Kineto). Tim Frost (Vodafone) expressed the need to come to a fully multi-vendor interoperable interface. He asked to focus on the functionality first and then agree on a suitable architecture instead of discussing architecture option first.
conclusion: noted

RP-080225 Proposed way forward for further work to be conducted on 3G HNB architecture (Nokia Siemens Networks)
The following way forward is proposed:
The Feasibility Study on "Home NodeB/eNodeB" is closed for RAN2 and RAN4.
2) RAN3 is tasked to continue Feasibility Studies on the 3G HNB architecture
- within a scope limited to deployment scenarios that foresee the termination of the Iu-interface on both, the Core Network and on the 3G HNB side, avoiding impacts on the CN nodes.
- RAN3 is further tasked to continue further studies on functionalities necessary to operate 3G HNBs and outline necessary standardisation work to provide basic inter-vendor interoperability, including at least:
- automated registration of the 3G HNB at a "higher up" instance including methods for the setup of the Iu interface.
- trigger activities within 3GPP SA5 for basic 3G HNB configuration
- 3G HNB addressing methods and schemes to cope with the related scalability issues.
3) TSG RAN should report the current status of this Feasibility Study to SA#39 and request SA WG3 to provide the status of related security discussions to RAN3 and request for finalisation related work within the next quarter.

discussion: Patrick Tao (Kineto) stated that with this approach one would finally come back to the GAN architecture. ChengHock Ng (NEC) supported Kineto to study a GAN based architecture
conclusion: noted

RP-080170 TR 25.820 (Rapporteur (Motorola))
conclusion: The TR is approved as v8.0.0 and placed under change control

RP-080153 Results on "3G HNB architecture" and proposed activities (Nokia, Nokia Siemens Networks)
discussion: It is proposed to capture further work on 3G HNB Iu support as part of the ordinary specifications extension work, i.e. the Work Item TEI8. A new WI for the connectivity is not seen as justified by Nokia Siemens Networks regarding the new architecture proposal for GAN.
conclusion: revised in RP-080231

RP-080231 Results on "3G HNB architecture" and proposed activities (Nokia, Nokia Siemens Networks, Ericsson, Alcatel-Lucent, Vodafone, Huawei, TeliaSonera, Telecom Italia, AT&T)

The following way forward is proposed:
1) The Feasibility Study on "Home NodeB/eNodeB" is closed for RAN2 and RAN4.
2) RAN3 is tasked to continue Feasibility Studies on the 3G HNB architecture
- RAN3 is tasked to continue studies on functionalities necessary to operate 3G HNBs, on the location of those functions and outline necessary specification work within the scope of RAN3 ToRs to provide inter-vendor interoperability, including at least:
- automated registration of the 3G HNB at a "higher up" node including methods for the setup of the interface between the 3G HNB and the "higher up" node.
- trigger activities within 3GPP SA5 for basic 3G HNB configuration
- 3G HNB methods and schemes to cope with the related scalability issues.
3) based on the results of the study, TSG RAN decides on the way forward.
4) TSG RAN should report the current status of this Feasibility Study to SA#39 and request SA WG3 to provide the status of related security discussions to RAN3 and request for finalisation related work within the next quarter.
5) In the event that TSG RAN decides 3G HNB should be connected to the "higher up" node via an interface which is in the ToRs of another TSG, e.g. TSG GERAN, TSG RAN will ask the other TSG to perform related specification work.

discussion: Alexander Vesely (RAN3 Chairman) introduced the proposed way forward.Patrick Tao (Kineto) stated that they were invlolved in the dvelopment of the document, however, he stated that some ambiguity was incorporated in the text that Kineto would like to have clarified.

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This concerns the statement "RAN3 is tasked to continue studies on functionalities necessary to operate 3G HNBs, on the location of those functions and outline necessary specification work within the scope of RAN3 ToRs to provide inter-vendor interoperability, including at least"
If interworking with GERAN is needed that shall not be prevented by arguing that this is out of RAN3 scope.
Further the concept of "higher up" node would be too vague. Alexander Vesely (RAN3 Chairman) explained that this was well accepted by involved parties and this is the normal way of working.
Alexander Vesely (RAN3 Chairman) clarified that the RAN chairman is only asked to report bullet 4 to SA#39.

The following was requested to be minuted by Patrick Tao (Kineto):
"Mr Patrick Tao requested a clarification of the intent of the phrase "outline necessary specification work within the scope of RAN3 ToR"
Mr Alex Vesely stated that the RAN3 ToR allows all solutions to be examined in the study item. Nothing in the RAN3 ToR would limit the discussion of GAN or other solutions for HNB interface based on this statement. RAN3 ToR does not allow RAN3 to make changes to specifications under the control of other TSGs so in that sense RAN3 would need to trigger activities in other 3GPP TSGs (per statement #5 in RP-080231).
Mr Patrick Tao requested that the wording for "higher up" node be clarified since it is widely understood to mean a "HNB Gateway" or "Concentrator."
Mr Alex Vesely requested that the text remain as "higher up" node since it was clearly understood by RAN."

conclusion: The way forward is agreed, The RAN3 part of the HNB study item remains open

RP-080171 Proposed way forward for Home (e)NodeB (Motorola)
This document was not treated

10.2 Scope of future HSPA Evolution for 1.28 Mcps TDD

RP-080067 Status Report for SI Scope of Future HSPA Evolution for 1.28 Mcps TDD (RITT)
discussion: Completion level is 80%. Completion date remains June 2008.
conclusion: noted

10.3 Synchronised E-DCH for UTRA FDD

RP-080068 Status Report for SI Synchronised E-DCH for UTRA FDD (Nokia Siemens Networks)
discussion: Completion level is 100%. The WI is closed

RP-080087 TR25.823 v0.2.0 (Nokia Siemens Networks), for approval
conclusion: The TR is approved as v.8.0.0 and placed under change control

10.4 Evaluation of the inclusion of path loss based technology in the UTRAN

RP-080069 Status Report for SI Evaluation of the inclusion of Path Loss Based Technology in the UTRAN (Polaris Wireless, Inc.)
discussion: Completion level is 5%. Completion date remains September 2008
conclusion: noted

10.5 HS-PDSCH serving cell change enhancements

RP-080070 Status Report for SI HS-PDSCH serving cell change enhancements (Qualcomm Europe)
discussion: Completion level is 80%. Completion date remains June 2008. Dirk Gerstenberger (RAN WG1 Chairman) stated the listed of open issues could be better done in a WI rather than in a SI and therefore the SI could be closed.
conclusion: The SI is closed, a new WI is proposed in RP-080227

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11 New Work Items/Study Items

WIs Core:

RP-080085 Continuous Connectivity for packet data users for 1.28Mcps TDD (RITT, TD-TECH, ZTE, CATT, Spreadtrum Communications, Potevio):

Objective

The objective of this work item is to reduce the code consumption (e.g. overhead of physical control channels or related signaling messages) of packet data users for both real-time (e.g. VoIP) and non real-time services, e.g. for users which have temporarily no data transmission in either uplink or downlink. Packet data users as considered in this work item are using only HS-DSCH/E-DCH channels without UL DPCH and DL DPCH.

The aim is to increase the number of packet data users in the UMTS 1.28Mcps TDD system that can be kept efficiently in CELL_DCH state over a longer time period and that can restart transmission after a period of temporary inactivity with a much shorter delay (for example, <100ms) than would be necessary for reestablishment of a new connection.

Another aim is to reduce UE power consumption in CELL_DCH state over a long period by DTX and DRX.

Other Optimization for both real-time (e.g. VoIP) and non real-time services is not exclusive.

discussion: It needs to be clarified if the SI for HSPA Evolution for LCR is related to this WI. It was clarified that the CPC part of the SI is now completed and therefore the WI was proposed. The rapporteur is chenying@td-tech.com
conclusion: The WI is approved

RP-080147 HSPA VoIP to WCDMA/GSM CS continuity (Qualcomm, Orange)
revised to 226
RP-080226 HSPA VoIP to WCDMA/GSM CS continuity (Qualcomm, Orange, AT&T, Alcatel-Lucent):

Objective

The objective of this work item is to introduce the appropriate RAN enhancements that allow VoIP to WCDMA/GSM CS continuity within the Rel-7 VCC framework defined in TS 23.207. Such enhancements should include:

- The RRC signalling that allows a connected mode UE to switch from a VoIP call to a WCDMA/GSM CS call
- The broadcast information on network VoIP capability/preference that allows an idle mode UE to know that he has moved in/out of a VoIP-capable area

Additional enhancements to the Iucs interface should be evaluated in order to improve the latency of the VoIP to WCDMA/GSM CS handovers.

discussion: Hans van der Veen (NEC) stated that the proposal reads like a late REL-7 WI although not proposed for REL-7 but for REL-8. He further asked for the difference to earlier proposed WI. Also, the reference should probably be 23.206 instead of 23.207. Etienne Chaponniere (Qualcomm) answered this was not intended as a REL-7 WI and that the difference is less specific , the intention is to ask if a solution is needed. Etienne Chaponniere (Qualcomm) explained that 2nd bullet is intended for the UE to know whether a VoiP call or CS call is started. Antti Toskala (Nokia Siemens Networks) stated that this is no pure RAN related issue. Alexander Vesely (RAN3 Chairman) asked for the impact on the architecture which shall be evaluated first. The chairman proposed to report this to SA and task SA to evaluate the impact.
conclusion: revised in 229
RP-080229 HSPA VoIP to WCDMA/GSM CS continuity (Qualcomm, Orange)
discussion: Etienne Chaponniere (Qualcomm) explained that it was made now explicit that the RNC knows where the VoiP call is anchored and the sentence on additional enhancements on the Iuc interface was deleted.
conclusion: The WI is approved

RP-080159 Support of UTRA HNB (Huawei, T-Mobile, Teliasonera, Telecom Italia, Qualcomm)

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Objective

The objective of this work is to specify enhanced Rel-8 UTRA IDLE mode mobility and to consider enhancements to the ACTIVE mode mobility in order to support the CSG like cell concept (UTRA and LTE).
The work will investigate the adoption of agreed LTE CSG like concepts for UTRA. It is important that legacy mechanisms for UTRA Home NB co-exist with the concepts chosen by this WI to ensure pre-Rel-8 UTRAN UE will be supported. The WI shall not exclude the optimisation of UTRA Home NB concepts for the support of legacy terminals.

The WI will provide solutions for the following use case scenarios:

- The support of CSG (Closed Subscriber Group, or, restricted association) and of open access operations
- Minimise the impact to UEs camped on UTRA macro cells when they are in the coverage area of a non suitable UTRA Home NB
- Cell selection/reselection from UTRA macro cell to UTRA Home NB
- Cell selection/reselection from UTRA Home NB to UTRA
- Cell selection/reselection of UEs between UTRA Home NBs
- Handover of ACTIVE UE from UTRA Home NB to UTRA macro cell

The WI should consider solutions for the following use case scenarios:

- The support of semi-open access operation (or signalling association) where a UE can exchange signalling and limited data on non suitable UTRA Home NB
- Minimise impact on UEs camped on LTE/GERAN macro cells whey they are in the coverage area of a non suitable UTRA Home NB
- Cell selection/reselection from LTE macro cell to UTRA Home NB
- Cell selection/reselection from UTRA Home NB to GERAN/LTE
- Handover of ACTIVE UE from macro UTRA/LTE cell to UTRA CSG Home NB in coverage of UTRA Home NB
- Handover of ACTIVE UE from UTRA Home NB to GERAN/LTE macro cell
- Handover of ACTIVE UE between UTRA Home NB
- Handover of ACTIVE UE from macro LTE cell to UTRA hNB in coverage of UTRA hNB

discussion: Michael Roberts (Huawei) outlined that it is expected to have a linked WI with CT. Antti Toskala (Nokia Siemens Networks) stated that it is unrealistic in his understanding to complete the proposed scope in the REL-8 time frame. Therefore he proposed to let RAN2 evaluate what can be achieved within REL-8. Alexander Vesely (Chairman) asked for an explanation of the CSG like concept. Tim Moulsley (Phillips) asked if this feature is foreseen for HNB application only. Michael Roberts explained that this particular scenario is intended for HNB use only and he can't see how this could be applied for other NBs. ChengHock Ng (NEC) asked for the legacy terminal support. Han van Bussel (T-Mobile) explained that the legacy terminals would not see the CSG as they have to ignore CSG specific signalling. Tim Frost (Vodafone) supported to get HNB work done in REL-8 but if not the complete scope can be done than a prioritisation should be done. The link to WIs in SA and CT need to be checked and co-ordinated. Joakim Bergström (Ericsson) stated that this fact makes it complicated to see what exactly is required to be done in RAN.
conclusion: agreed in principle, RAN2 was tasked to review the WID.

RP-080172 Draft RAN4 work item description "FDD Home NodeB RF requirements" (Motorola)
revised to RP-080220
RP-080220 RAN4 work item description "FDD Home NodeB RF requirements" (Motorola)
revised to RP-080234
RP-080234 RAN4 work item description "FDD Home NodeB RF requirements" (Motorola)

Objective

Objective 1

TR 25.820 suggests that the existing UTRA BS classes do not fully address the RF requirements of the HNB application. TR 25.820 summarises the areas where changes to TS 25.104 are expected to transmitter characteristics and receiver characteristics respectively. Correspondingly, Objective 1 is to update the radio performance requirement specification TS

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25.104 as suggested by TR 25.820, in particular, the work shall cover but not be limited by the following,

- Where square bracketed values are suggested in 3GPP TR 25.820, to conduct further work as required to agree appropriate values
- Where it is suggested that performance values in 3GPP TS 25,104 may be subject to change to conduct further work as required to see if this is necessary

Furthermore, the test specification TS 25.141 would need to be updated accordingly.
It is foreseen that the HNB-specific additions to TS 25.104 / 25.141 can be accommodated in a manner similar to the already existing BS classes.

Objective 2

TS 25.802 showed that for the CSG HNB there are occasions where overall system performance may be enhanced by controlling the HNB output power dependent on the strength of signal from the macro cell layer and from other HNB. Control of CSG HNB output power mitigates interference to the macro layer and other CSG HNB. Correspondingly, Objective 2 is to ensure that operators have the ability to achieve control of HNB power; in particular, the work should cover but not be limited by the following,

- The operator has the means to obtain measurements of the strength of signals and the identity (to allow macro neighbour cell list building) from the macro cell layer and from other HNBs. Measurements may be made by the HNB or may make use of existing measurements defined for the UE; no new UE measurements will be defined.
- The operator has the means to set the maximum output power of the HNB, this is expected to introduce changes to TS 25.104. Square bracketed values are suggested in 3GPP TR 25.820, further work will be conducted as required to agree appropriate values.
- The operator has guidance on how to control HNB power and expected performance levels in the relevant scenarios, work will be conducted to investigate if the same mechanism may be used to for controlling HNB power versus the macro cell layer and versus other HNB. Additionally, similar mechanisms may be applied to control HNB coverage in the case of open access HNB, an issue that was not explored in the Study Item. A TR in the 900 series will be created in order to capture this guidance.

discussion: It was asked to add the impact on other work items. Howard Thomas (Motorola) explained that there is no strong need to co-ordinate with other WIs. However, this will be checked as there are other WIs on the HNB topic which may not be completely independent. These dependencies need to be reflected in the workplan. It was proposed to reference to TS 25.133 in the first bullet of the 2nd objective. Giovanni Romano (Telecom Italia) asked to add also an objective bullet for interference mitigation. It was clarified that LTE is not part of the scope of this WI.

Huawei and Samsung also support this WI in RP-080234
conclusion: RP-080234 is approved

RP-080227 WI: HS-DSCH serving cell change Enhancements (Ericsson, Nokia, Nokia Siemens Networks, Qualcomm Europe, 3)

Objective

The work item should aim at identifying and specifying necessary enhancements to the HS-DSCH serving cell change procedure, focusing on necessary modifications to the:

- Radio protocol procedures and structures
- Iub/Iur protocols
- UE, Basestation and RRM performance requirements

The amount of options as well as the impact on UE and network implementations should be minimized.

discussion: Dirk Gerstenberger (RAN WG1 Chairman) clarified that there was not much support to open a TR and he further stated that the remaining work of the SI in RP-080070 shall be continued in this WI.
conclusion: The WI is approved

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WIs Testing:

RP-080135 New work item proposal: Conformance Test Aspects - Network Selection Enhancements (Nokia):

Objective:
The core specifications for Release 7 have been updated for network selection enhancements and the associated conformance test specifications need to be produced.

CT approved their corresponding work item in meeting #32 in Warsaw, Poland. Document CP-060357 describes that the following areas were to be covered by the CT WI:

- enhancements to procedure to select the last registered PLMN
- time to select a network at power on
- HPLMN control of selected VPLMN
- mitigation of problem of accidental roaming in border areas
- PLMN selector list implementation in the UE
- various improvements to manual selection procedures
- enhancements to EHPLMN
- enhancements to REFRESH command
- consider introduction of new RATs in the PLMN selector lists.

The supporting companies have analyzed the CRs and are planning to provide test cases for the following areas in RAN5:

- Presentation of additional information in Manual Mode
- Steering of Roaming
- Displaying EHPLMNs in manual mode
- Last RPLMN
- Network selection mode at switch-on
- Exception in manual network selection mode when HPLMN is available at power-on

discussion: NEC also supports the WI and likes to be added to the list of supporting companies.
conclusion: The WI is approved

RP-080155 Proposal for new work item : Conformance Test Aspects – MBSFN for HCR and VHCR TDD (NextWave Wireless, IPWireless, Orange, Vodafone)

Objective
The technical objective of this work item is to provide for conformance testing of the MBSFN feature covering the signalling Layer 2 and 3 aspects, RF characteristics and Radio Resources Management aspects.

discussion: no comments were made
conclusion: The WI is approved

RP-080160 New work item Proposal: Conformance test aspects – CS Voice Service over HSPA (Huawei)

Objective
The technical objective of this work item is to provide for conformance test specifications covering the CS Voice Service over HSPA feature.

discussion: NEC supports the WI and Telecom Italia stated that they are in favour of the WI but did not support it directly due to impossibility to contribute to the activity~~also support the WIs~~
conclusion: The WI is approved

SIs

RP-080137 Proposed SID on LTE-Advanced (Alcatel-Lucent, AT&T, CATT, China Mobile, Ericsson, ETRI, Fujitsu, Huawei, InterDigital, LG Electronics, Mitsubishi Electric, Motorola, NEC, Nokia, Nokia Siemens Networks, Nortel, NTT

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DoCoMo, Orange, Panasonic, Philips, Qualcomm Europe, RIM, RITT, Rohde&Schwarz, Samsung, Sharp, Telecom Italia, Telefonica, Texas Instruments, T-Mobile Intl., Toshiba, Verizon, Vodafone, ZTE)

Objective

A) Define a framework for further advancements of LTE (to be referred to as LTE-Advanced) considering:
- The time schedule of ITU-R
- That the work on LTE-Advanced must not introduce any delay to the completion of the Release 8 specification of LTE
- That the general enhancements of LTE specifications are maintained and progressed in a focused and efficient manner.

B) Define requirements for of LTE-Advanced based on the ITU-R requirements for IMT-Advanced as well as 3GPP operators own requirements for advancing LTE considering:
- LTE radio technology and architecture improvements
- Support for all radio modes of operation
- Interworking with legacy RATs (scenarios and performance requirements)
- Backward compatibility of LTE-Advanced E-UTRA/E-UTRAN with E-UTRA/E-UTRAN i.e.
  - an LTE terminal can work in an LTE-Advanced E-UTRAN,
  - an LTE-Advanced terminal can work in an E-UTRAN and
  - non-backward compatible elements could be considered based on RAN decision
- Newly identified frequency bands and existing frequency bands, and their advantages and limitations, in particular, the consideration of the WRC-07 conclusions, to ensure that LTE-Advanced can accommodate radio channel bandwidths commensurate with the availability in parts of the world of wideband channels in the spectrum allocations (above 20 MHz) and at the same time being mindful on the need to accommodate those parts of the world where the spectrum allocations will not have availability of wideband channels

C) Identify potential solutions, technologies for the enhancements of E-UTRA (LTE-Advanced). The study areas include:
- Physical layer
- Radio interface layer 2 and RRC
- E-UTRAN architecture
- RF, including Aspects of wider channel bandwidth than 20 MHz
- Advanced system concepts

D) To develop documents that will serve as a basis for the documentation to be submitted to ITU-R to provide the 3GPP proposals for IMT-Advanced:
1. An "Early Proposal" submission that would be sent to ITU-R, to be agreed at RAN #41 (9-12 September 2008), for submission to WP 5D #3 (8-15 October 2008).

2. A "Complete Technology" submission that would be sent to ITU-R, to be agreed at RAN #44 (26-29 May 2009), for submission to WP 5D #5 (planned for 10-17 June 2009).

3. A "Final" submission to incorporate updates, additional specific details or feature additions, *and* the required self-evaluation that would be sent to ITU-R, to be agreed at RAN #45 (22-25 September 2009), for submission to WP 5D #6 (planned for 13-20 Oct 2009).

- 3GPP should take note, that by ITU-R convention, the formal submission deadline for ITU-R meetings has been established as 16:00 hours UTC, seven calendar days prior to the start of the meeting.

E) Make recommendations for future WIs

F) For reference, the Circular Letter as received from the ITU-R (and future Addendums to the same) are annexed to this Work Item and should become an integral part of the WI.

discussion: Takehiro Nakamura (TSG RAN vice-chairman, NTT DoCoMo) clarified that E-UTRA and E-UTRAN are considered. Details on this shall be studied in the forthcoming workshop
conclusion: The SI is approved

RP-080138 Proposed workplan for SI: LTE-Advanced (NTT DoCoMo, AT&T, Ericsson, Telecom Italia, T-Mobil)
discussion: The chairman stated that the work in 3GPP should not be restricted by ITU-R time plans. It was seen as pre-mature to discuss the target release for IMT advanced. The common understanding is not to start work in the WGs before the workshop. However, in May the WGs could already review the requirements which are provided as output from the workshop. It was stated that this should be limited to RAN1 due to the high workload in the other WGs for the stage 3 work in LTE. This

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shall however be up to the WG chairmen. An additional meeting day may be required before RAN#40 in order to co-ordinate among WGs. Alternatively the discussions could be included in the existing meeting days for RAN#40. It was clarified that the workshop cannot take any final decisions. But input for the WGs can be provided by the workshop.
conclusion: The timeplan is endorsed

RP-080148 FS on Dual Cell HSDPA Operation (Qualcomm Europe, 3, Vodafone, Ericsson, Nokia, Nokia Siemens Networks, Samsung)
revised to 228
RP-080228 FS on Dual Cell HSDPA Operation (Qualcomm Europe, 3, Vodafone, Ericsson, Nokia, Nokia Siemens Networks, Samsung)

Objective

The study should aim to fulfill the following objectives:

- Evaluate the feasibility and benefits of *dual* cell HSDPA operation with the primary focus on the following scenario:
    a. The dual cell operation only applies to downlink HS-DSCH
    b. The two cells belong to the same Node-B
    c. The two cells operate with a single TX antenna
    d. The two cells operate in the same frequency band
- Identify the enhancement to user throughput throughout the cell and in particular in the outer area of the cell coverage, considering:
    a. Any UE receiver impairments caused by the implementation of dual-cell operation.
    b. Node B scheduler architecture (per carrier or joint scheduler)
    c. Joint Scheduler vs. per carrier scheduler coupled with load balancing
- Identify the UE, UTRAN and system impacts of introducing downlink dual-cell operation to the existing UTRA system.
    a. Impacts on implementation within the UTRA and UE
    b. Impacts on the system such as: UL control channel coverage and capacity, and operation of legacy UEs.
    c. Impact to the core specifications, in particular:
        i. Impact on UL and DL control channel structure
        ii. Impact on L2/L3 protocols
        iii. Impact on the UTRAN network interfaces
        iv. Need & scope of additional UE performance requirements

discussion: It was clarified that RF performance requirements is also part of the SI proposal. Serge Willenegger (Qualcomm) clarified that the scope is on operation in the same frequence band.
conclusion: The SI is approved

RP-080161 Proposed Study Item for single, interoperable HNB Access Network Interface (Kineto Wireless, Motorola, NEC, TeliaSonera)
This document is withdrawn. See RP-080231

Objective

The objective of this Work Item is to determine, by way of a feasibility study of the three Iu-based HNB options, a solution for the support of HNBs with a fully interoperable control plane and user plane interface between the HNB and the operator network. The feasibility study should provide the following:

- A set of functional requirements for the support of HNBs with minimum impact to legacy Core Network elements
- Descriptions for the available HNB solutions in sufficient detail for the solutions to be compared
- Assessments for the available HNB solutions with respect to the functional requirements to understand the advantages and disadvantages of each HNB solution

Based on the conclusions reached in the study, recommend the creation of work item(s) to standardize control and user plane

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interface between HNB and the operator network.

12 Scope and Agenda of the IMT advanced Workshop

RP-080205 Agenda for IMT advanced Workshop (Chairman)
conclusion: noted

13 Technical co-ordination among WGs

no input

14 Outputs to other groups

RP-080222 Reply LS on Tests on receiving System Info 5bis (Ericsson)
discussion: Tdoc R2-080035 shall be attached
conclusion: Final LS with attachment in RP-080230
RP-080230 Reply LS on Tests on receiving System Info 5bis (Ericsson)
conclusion: agreed

15 Project management

RP-080156 CR ro 21.801: Correction of ambiguous text (MCC)
John Meredith presented this CR for information which is intended to be approved by SA#39.
conclusion: The CR is endorsed by TSG-RAN

RP-080157 CR to 21.900: Clarification of version nomenclature (MCC)
John Meredith presented this CR for information which is intended to be approved by SA#39. Howard Benn (Motorola) asked the WG chairmen to remind the delegates in the WGs that this TS exists and to take drafting rules into account.
conclusion: The CR is endorsed by TSG-RAN

RP-080158 Support Team Report (MCC)
discussion: John Meredith outlined the changes of personnel in the MCC. ITsupport for meetings with more than 400 will be at the meeting venue in the future in order to look after the meeting network.
conclusion: noted

RP-080206 WI/SI sheets after RAN#38 (MCC)
conclusion: noted

RP-080221 RAN5 active WI descriptions (RAN5)
conclusion: noted

RP-080209 Workplan pre-TSG 39 version (MCC)

RP-080210 workplan slides pre-TSG 39 version (MCC)
discussion: The chairman clarified that SA will be asked how to proceed with MBMS in LTE as this is low on the priority list. It nees to be clarified how required services e.g. Tsunami warning can be realised.
conclusion: noted

RP-080212 Rel-7 description document (MCC)
conclusion: noted

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16 Any other business

Phil Brown (RAN5 chairman) raised concerns on the dates for TSG meetings for 2009. That would require that the WG meetings in May take place during~~in~~ the Japanese Golden Week. Therefore he proposed to shift the meeting one week back. The meeting dates for the WGs shall be discussed as soon as possible.

17 Closing of the meeting (No later than Friday 13 p.m.)

The chairman thanked the host, the North American Friends of 3GPP, for organising the meeting and he closed the meeting on Friday, 7th March at 11:25 hrs.

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Annex A:
List of participants TSG RAN#39

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Annex B:
List of documents TSG RAN#39

Tdoc	Type	Title	Source
RP-080010	Approval	Agenda TSG-RAN #39, 04 - 07 March 2008	Chairman
RP-080011	Approval	revised meeting report for TSG-RAN#38	MCC
RP-080012	LS in	LS to TSG RAN ITU-R Ad-hoc on the documents to be considered for Revision 8 of Recommendation ITU-R M.1457	3GPP TSG CT
RP-080013	LS in	Follow-up to 3GPP2 LS on Mobility interworking between 3GPP and 3GPP2 systems.	TSG SA
RP-080014	LS in	Reply LS on Tests on receiving System Info 5bis	TSG RAN WG2
RP-080015	LS in	LS on GAN Iu mode	TSG RAN WG2
RP-080016	LS in	Reply LS on various aspects related to GERAN to E-UTRAN interworking	TSG RAN WG2
RP-080017	LS in	Reply to LS on various aspects related to GERAN to E-UTRAN interworking	TSG RAN WG1
RP-080018	LS in	LS on UE Test Loop Specification for LTE	TSG RAN WG5
RP-080019	LS in	Dependency of LTE/SAE Conformance Test Development on Completion of SAE Core Specifications	TSG RAN WG5
RP-080020	LS in	Response to LS on Proposed Areas of Responsibility for Inter RAT (GERAN-LTE) Test Cases	TSG RAN WG5
RP-080021	LS in	LS on GAN Iu mode	TSG RAN WG3
RP-080022	LS in	LS on status of study item “HS-PDSCH serving cell change enhancements	RAN1
RP-080023	Discussion	Status Report WG1	RAN WG1 Chairman
RP-080024	Information	List of CRs from RAN WG1	RAN WG1
RP-080025	Discussion	Status Report WG2	RAN WG2 Chairman
RP-080026	Information	List of CRs from RAN WG2	RAN WG2
RP-080027	Discussion	Status Report WG3	RAN WG3 Chairman
RP-080028	Information	List of CRs from RAN WG3	RAN WG3
RP-080029	Discussion	Status Report WG4	RAN WG4 Chairman
RP-080030	Information	List of CRs from RAN WG4	RAN WG4
RP-080031	Discussion	Status Report WG5	RAN WG5 Chairman
RP-080032	Information	List of CRs from RAN WG5	RAN WG5
RP-080033	WI/SI Status Report	Status report for WI: 3G Long Term Evolution	NTT DoCoMo

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Tdoc	Type	Title	Source
RP-080034	WI/SI Status Report	Status Report for WI: LTE FDD Repeaters	Powerwave Technologies, Andrew Wireless Corporatio
RP-080035	WI/SI Status Report	Status Report for WI 3G LTE - Terminal Protocol Conformance Test Specifications	NEC, Motorola
RP-080036	WI/SI Status Report	Status Report for WI 3G LTE Terminal Radio Transmission and Reception Conformance Test Specifications	Agilent
RP-080037	WI/SI Status Report	Status Report for WI UMTS in 700 MHz Bands (FDD)	Nokia Siemens Networks
RP-080038	WI/SI Status Report	Status Report for WI UMTS in 2300 MHz Bands	Cingular Wireless/AT&T
RP-080039	WI/SI Status Report	Status Report for WI UMTS/LTE 3500 MHz	Ericsson
RP-080040	WI/SI Status Report	Status Report for WI UMTS in 2300 MHz TDD	Datang Mobile
RP-080041	WI/SI Status Report	Status Report for WI Further Improved Minimum Performance Requirements for HSDPA UE (FDD) - Two-Branch Interference Cancellation	AT&T
RP-080042	WI/SI Status Report	Status Report for WI CS voice service over HSPA	Nokia Siemens Networks
RP-080043	WI/SI Status Report	Status Report for WI Performance requirements for 15 code reception with 16QAM/QPSK	Vodafone
RP-080044	WI/SI Status Report	Status Report for WI Combination of 64QAM and MIMO for HSDPA (FDD)	Ericsson
RP-080045	WI/SI Status Report	Status Report for WI Improved L2 for Uplink	Ericsson
RP-080046	WI/SI Status Report	Status Report for WI Enhanced Uplink for CELL_FACH State in FDD	Nokia Siemens Networks
RP-080047	WI/SI Status Report	Status Report for WI Enhanced UE DRX for FDD	Nokia
RP-080048	WI/SI Status Report	Status Report for WI Enhancements for SRNS relocation procedure	Nokia Siemens Networks
RP-080049	WI/SI Status Report	Status Report for WI Enhancements for FDD HSPA Evolution	Nokia Siemens Networks
RP-080050	WI/SI Status Report	Status Report for WI 64QAM for 1.28 Mcps TDD HSPA	ZTE
RP-080051	WI/SI Status	Status Report for WI Enhanced CELL_FACH state in 1.28 Mcps TDD	ZTE

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Tdoc	Type	Title	Source
	Report		
RP-080052	WI/SI Status Report	Status Report for WI 1.28 Mcps TDD Repeater specification	RITT
RP-080053	WI/SI Status Report	Status Report for WI MBSFN Downlink Optimized broadcast 3.84Mcps TDD	Ericsson
RP-080054	WI/SI Status Report	Status Report for WI RF/RRM Conformance Test aspects - MBMS (FDD)	Ericsson
RP-080055	WI/SI Status Report	Status Report for WI UE antenna over the air conformance testing	Nokia
RP-080056	WI/SI Status Report	Status Report for WI Conformance Test Aspects - Minimum UE performance requirement for downlink physical channels in support of MTCH and MCCH operation based on type 1 enhanced receiver (Rx-Diversity)	Ericsson
RP-080057	WI/SI Status Report	Status Report for WI Conformance test aspects Multiple Input Multiple Output antennas (MIMO) for FDD	Qualcomm
RP-080058	WI/SI Status Report	Status Report for WI Conformance Test Aspects - 3.84/7.68 Mcps TDD Enhanced Uplink	IPWireless
RP-080059	WI/SI Status Report	Status Report for WI Conformance test aspects 64QAM for HSDPA (FDD)	Ericsson
RP-080060	WI/SI Status Report	Status Report for WI Conformance test aspects Introduction of 16QAM in HSUPA (FDD)	Motorola
RP-080061	WI/SI Status Report	Status Report for WI Conformance test aspects Improved L2 support for high data rates	Ericsson
RP-080062	WI/SI Status Report	Status Report for WI Conformance test aspects Continuous connectivity for packet data users	Nokia
RP-080063	WI/SI Status Report	Status Report for WI Conformance test aspects Enhanced CELL_FACH State in FDD	Nokia
RP-080064	WI/SI Status Report	Status Report for WI Conformance Test Aspects - Multimedia Telephony Services for IMS (MTSI)	Ericsson, Motorola
RP-080065	WI/SI Status Report	Status Report for WI UE conformance test aspect - 1.28 Mcps TDD Enhanced Uplink	CATT
RP-080066	WI/SI Status Report	Status Report for SI Home NodeB/eNodeB	Motorola
RP-080067	WI/SI Status Report	Status Report for SI Scope of Future HSPA Evolution for 1.28 Mcps TDD	RITT
RP-080068	WI/SI Status	Status Report for SI Synchronised E-DCH for UTRA FDD	Nokia Siemens Networks

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Tdoc	Type	Title	Source
	Report		
RP-080069	WI/SI Status Report	Status Report for SI Evaluation of the inclusion of Path Loss Based Technology in the UTRAN	Polaris Wireless, Inc.
RP-080070	WI/SI Status Report	Status Report for SI HS-PDSCH serving cell change enhancements	Qualcomm Europe
RP-080071	Approval	CRs (Rel-6 cat F, Rel-7 cat A) to 25.423 and 25.433	RAN WG3
RP-080072	Approval	CRs (Rel-7 cat F) to 25.423 and 25.433, batch1	RAN WG3
RP-080073	Approval	CRs (Rel-7 cat F) to 25.423 and 25.433, batch2	RAN WG3
RP-080074	Approval	CRs (Rel-7 cat F) to 25.423, 25.425, 25.433 and 25.435	RAN WG3
RP-080075	Approval	CRs (Rel-7 cat F) to 25.453	RAN WG3
RP-080076	Approval	CRs (Rel-7 cat F) to 25.423 and 25.433, 1.28 Mcps TDD	RAN WG3
RP-080077	Approval	CRs to 36.412/36.422	RAN WG3
RP-080078	Approval	CRs to 36.414/36.424	RAN WG3
RP-080079	Approval	CR to 36.401	RAN WG3
RP-080080	Approval	CR to 36.413	RAN WG3
RP-080081	Approval	CR to 36.423	RAN WG3
RP-080082	Approval	CRs for introduction of UMTS in 700MHz Bands	RAN WG3
RP-080083	Approval	CRs for Introduction of Improved L2 for Uplink	RAN WG3
RP-080084	Approval	CR for Inclusion of Cell Id into common measurement report	RAN WG3
RP-080085	Approval	Continuous Connectivity for packet data users for 1.28Mcps TDD	RITT, TD-TECH, ZTE, CATT, Spreadtrum Communications, Potevio
RP-080086	Approval	endorsed CRs for DOB	RAN1, RAN2, RAN3
RP-080087	Approval	TR25.823	Nokia Siemens Networks
RP-080088	Approval	MCC TF160 Report	MCC TF160
RP-080089	Approval	CR to 34.229-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.229-3 (prose), Annex A	MCC TF160
RP-080090	Approval	CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A	MCC TF160
RP-080091	Approval	RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 99 Conformance Testing(TEI_Test)	WG5
RP-080092	Approval	RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 99 Conformance Testing(TEI_Test)	WG5

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Tdoc	Type	Title	Source
RP-080093	Approval	RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 5 Conformance Testing(TEI5_Test)	WG5
RP-080094	Approval	RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 5 Conformance Testing(TEI5_Test)	WG5
RP-080095	Approval	RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 1	WG5
RP-080096	Approval	RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 2	WG5
RP-080097	Approval	RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 3	WG5
RP-080098	Approval	RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 4	WG5
RP-080099	Approval	RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 1	WG5
RP-080100	Approval	RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 2	WG5
RP-080101	Approval	RAN5 agreed TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 6 Conformance Testing(TEI6_Test) Batch 3	WG5
RP-080102	Approval	RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 7 Conformance Testing(TEI7_Test)	WG5
RP-080103	Approval	RAN5 agreed non TTCN CR(s) under WI RF/RRM Conformance Test Aspects MBMS (FDD)(MBMS-RAN-RF_Test)	WG5
RP-080104	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Minimum UE performance requirement for downlink physical channels in support of MTCH and MCCH operation based on type 1 enhanced receiver (Rx-Diversity) (RANimp-UEConTest_RxDivMBMS)	WG5
RP-080105	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Multiple Input Multiple Output Antennas (MIMO) for FDD(MIMO-UEConTest_FDD)	WG5
RP-080106	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects - 3.84 Mcps and 7.68 Mcps TDD Enhanced Uplink(RANimp-UEConTest_EDCHTDH)	WG5
RP-080107	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects 64QAM for HSDPA (FDD)(RANimp-UEConTest_64QamDownlink)	WG5
RP-080108	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects 16QAM for HSUPA (FDD)(RANimp-UEConTest_16QamUplink)	WG5
RP-080109	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Improved L2 support for high data rates(RANimp-UEConTest_L2DataRates) Batch 1	WG5

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Tdoc	Type	Title	Source
RP-080110	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Improved L2 support for high data rates(RANimp-UEConTest_L2DataRates) Batch 2	WG5
RP-080111	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Continuous connectivity for packet data users(RANimp-UEConTest_CPC) Batch 1	WG5
RP-080112	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Continuous connectivity for packet data users(RANimp-UEConTest_CPC) Batch 2	WG5
RP-080113	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Multimedia Telephony Services for IMS (MTSI)(MTSI-UEConfTest) Batch 1	WG5
RP-080114	Approval	RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Multimedia Telephony Services for IMS (MTSI)(MTSI-UEConfTest) Batch 2	WG5
RP-080115	Approval	RAN5 agreed non TTCN CR(s) under WI UE conformance test aspects - 1.28Mcps TDD Enhanced Uplink(LCRTDD-EDCH-UEConTest)	WG5
RP-080116	Approval	Introduction of new Configuration Rule for Extended RNC ID Scheme	Nokia Siemens Networks, Nokia, T-Mobile
RP-080117	Approval	25.101, 25.105: CRs on TEI, TEI4 and MBMSFN FDD UE demodulation requirement	RAN WG4
RP-080118	Approval	25.102: CRs for Rel-7 on LCR TDD	RAN WG4
RP-080119	Approval	25.102, 25.105, 25.142, 25.133: TEI6 Corrections	RAN WG4
RP-080120	Approval	25.101, 25.104, 25.141: TEI6 Corrections on out of band and spurious emissions	RAN WG4
RP-080121	Approval	25.101: CRs for Rel-7, Rel-8 on MIMO-RF	RAN WG4
RP-080122	Approval	25.101, 25.141, 25.956: TEI7	RAN WG4
RP-080123	Approval	36.101, 36.104, 36.133: LTE-RF	RAN WG4
RP-080124	Approval	25.133, 25.104, 25.141, 25.113, 34.124, 25,101: Introduction of UMTS 700MHz	RAN WG4
RP-080125	Approval	25.101: Radio Interface Improvements	RAN WG4
RP-080126	Approval	25.141, 25.106, 25.143, 25.141: TEI8	RAN WG4
RP-080127	LS in	LS on Response to LS on Proposed areas of Responsibility for Inter RAT Test cases	TSG GERAN WG3 new
RP-080128	Approval	Introduction of UMTS700 requirements in TS25.133	Nokia Siemens Networks
RP-080129	Approval	3GPP TS 36.113 v.2.0.0	Alcatel-Lucent
RP-080130	Approval	CR for contention resolution in 36.321	Panasonic
RP-080131	Approval	CR for contention resolution in 36.331, main body	Panasonic
RP-080132	Approval	CR for contention resolution in 36.331, ASN.1	Panasonic
RP-080133	Information	Regional 3500 MHz band arrangements and use	Rapporteur (Ericsson)
RP-080134	Discussion	On New Configuration Rule for Extended RNC ID Scheme	Nokia Siemens Networks, Nokia, T-Mobile

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Tdoc	Type	Title	Source
RP-080135	Approval	New work item proposal: Conformance Test Aspects - Network Selection Enhancements	Nokia
RP-080136	Information	E-UTRA main open issues in RAN WGs	LTE rapporteurs and WG chairmen
RP-080137	Approval	Proposed SID on LTE-Advanced	NTT DoCoMo
RP-080138	Approval	Proposed workplan for SI: LTE-Advanced	NTT DoCoMo, AT&T, Ericsson, Telecom Italia, T-Mobil
RP-080139	Information	Report to RAN on the task to study solutions for improving CS call support in the scope of the SI on future HSPA Evolution	Huawei
RP-080140	Approval	CRs to 25.221, 25.222 & 25.224 (Rel-7, F) for several clarifications/corrections for LCR TDD	RAN1
RP-080141	Approval	CR to 25.222 (Rel-7, F) clarifying TFCI mapping	RAN1
RP-080142	Approval	CR to 25.211 (Rel-7, F) clarifying transmit diversity (SCH, P-CCPCH)	RAN1
RP-080143	Approval	CRs to 25.214 for correction to UE grant monitoring	RAN1
RP-080144	Approval	CR to 25.214 (Rel-7, F) clarifying HS-DSCH reception in PCH state	RAN1
RP-080145	Approval	CR to 36.211 (Rel-8, F) updates	RAN1
RP-080146	Approval	CR to 25.212 (Rel-8, F) for RV-coding correction for both 64QAM & MIMO	RAN1
RP-080147	Approval	HSPA VoIP to WCDMA/GSM CS continuity	Qualcomm, Orange
RP-080148	Approval	FS on Dual Cell HSDPA Operation	Qualcomm Europe, 3, Vodafone, Ericsson, Nokia, Nokia Siemens Networks, Samsung
RP-080149	Information	Status Report	ITU-R Ad Hoc Contact Person
RP-080150	LS in	LS on EPC Interworking with WiMAX access networks	WiMAXax Forum
RP-080151	Approval	Correction of UL DPDCH Indicator for E-DCH Operation IE	NEC
RP-080152	LS in	LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS ON THE SCHEDULE FOR UPDATING RECOMMENDATION ITU-R M.1457 TO REVISION 9	ITU
RP-080153	Approval	Results on “3G HNB architecture” and proposed activities	Nokia, Nokia Siemens Networks
RP-080154	Approval	Introduction of MBSFN DOB	Nextwave Wireless, IPWireless
RP-080155	Approval	Proposal for new work item : Conformance Test Aspects – MBSFN for HCR and VHCR TDD	NextWave Wireless, IPWireless, Orange, Vodafone
RP-080156	Information	CR ro 21.801: Correction of ambiguous text	MCC
RP-080157	Information	CR to 21.900: Clarification of version nomenclature	MCC
RP-080158	Information	Support Team Report	MCC

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Tdoc	Type	Title	Source
RP-080159	Approval	Support of UTRA HNB	Huawei, T-Mobile, Teliasonera, Telecom Italia, Qualcomm
RP-080160	Approval	New work item Proposal: Conformance test aspects – CS Voice Service over HSPA	Huawei, Qualcomm Europe, Nokia, T-Mobile, AT&T
RP-080161	Approval	Proposed Study Item for single, interoperable HNB Access Network Interface	Kineto Wireless, Motorola, NEC, TeliaSonera
RP-080162	Approval	CR for contention resolution in 36.321	Panasonic
RP-080163	Approval	CR for contention resolution in 36.331, main body	Panasonic
RP-080164	Approval	CR for contention resolution in 36.331, ASN.1	Panasonic
RP-080165	Approval	25.101: Radio Interface Improvements, performance requirements for 15 codes reception wit 16QAM/QPSK (FDD)	RAN WG4
RP-080166	Approval	25.101: Radio Interface Improvements, further improved minimum performance requirements for HSDPA UE (FDD)- Two branch interference cancellation	RAN WG4
RP-080167	Approval	25.101: Correct reference to H-Set for 64-QAM max input test	RAN WG4
RP-080168	Information	List of CRs from RAN WG4	RAN WG4
RP-080169	Approval	DOB CRs	Ericsson
RP-080170	Approval	TR 25.820	Rappateur (Motorola)
RP-080171	Discussion	Proposed way forward for Home (e)NodeB	Motorola
RP-080172	Approval	Draft RAN4 work item description "FDD Home NodeB RF requirements"	Motorola
RP-080173	Approval	Revised WID for UMTS/LTE 3500	Ericsson
RP-080174	LS in	WiMAX Forum Multimedia Session Continuity Requirements Release 2.0 version 1.0.0	WiMAXax Forum
RP-080175	LS in	LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS –REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R M.1801	ITU
RP-080176	Approval	REL-6 CRs for EDCH for 25.301 and 25.321 (incl. cat. A CRs)	RAN WG2
RP-080177	Approval	REL-6 CRs for MBMS for 25.304, 25.346 and 25.321 (incl. cat. A CRs)	RAN WG2
RP-080178	Approval	REL-6 TEI CRs to 25.322 and 25.331 (incl. cat. A CRs)	RAN WG2
RP-080179	Approval	REL-6 only TEI CR to 25.331 on Correction to SIB extension multiplexing	RAN WG2
RP-080180	Approval	REL-7 MBMS related CRs to 25.346 (incl. cat.A CR) and 25.993	RAN WG2
RP-080181	Approval	REL-7 25.331 MBMS enhancement CR (incl. cat.A CR) on Use of "Cell selection and re-selection info" in the case that a cell is providing MBSFN only service	RAN WG2
RP-080182	Approval	REL-7 25.331 CR (incl. cat.A CR) on Supporting multi-frequency for 1.28 Mcps TDD MBMS	RAN WG2
RP-080183	Approval	REL-7 CR to 25.999s from RAN3 on on Introduction of new Configuration Rule for Extended RNC ID Scheme	RAN WG2

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Tdoc	Type	Title	Source
RP-080184	Approval	REL-7 CRs (incl. cat.A CRs) to 25.319, 25.321 and 25.331 for 3.84/7.68 Mcps TDD E-DCH	RAN WG2
RP-080185	Approval	REL-7 25.306, 25.319, 25.321, 25.331 CRs (incl. cat.A CRs) for enhanced UL for 1.28Mcps TDD	RAN WG2
RP-080186	Approval	REL-7 25.331 CRs (incl. cat.A CRs) on MIMO	RAN WG2
RP-080187	Approval	REL-7 25.321 CR (incl. cat.A CRs) on Definition of Default-SG-in-DTX-Cycle-2	RAN WG2
RP-080188	Approval	REL-7 25.306 & 25.331 CRs (incl. cat.A CRs) on 64QAM for HSDPA (FDD)	RAN WG2
RP-080189	Approval	REL-7 25.321 and 25.331 CRs (incl. cat.A CRs) for Enhanced CELL_FACH state in FDD	RAN WG2
RP-080190	Approval	REL-7 CRs to 25.308, 25.321, 25.322, 25.331 (incl. cat.A CRs) on Improved L2 support for high data rates plus 25.993 REL-7 CR	RAN WG2
RP-080191	Approval	REL-7 TEI CRs to 25.322 and 25.331	RAN WG2
RP-080192	Approval	REL-8 CRs to 36.300 from RAN2 and RAN3	RAN WG2
RP-080193	Approval	REL-8 CR to 36.304	RAN WG2
RP-080194	Approval	REL-8 CR to 36.306	RAN WG2
RP-080195	Approval	REL-8 CR to 36.321	RAN WG2
RP-080196	Approval	REL-8 CR to 36.322	RAN WG2
RP-080197	Approval	REL-8 CR to 36.323	RAN WG2
RP-080198	Approval	REL-8 CR to 36.331	RAN WG2
RP-080199	Approval	REL-8 CR to 36.331 on ASN.1	RAN WG2
RP-080200	Approval	R99 25.307 CR (incl. cat.A CRs) on Introduction of UMTS 700 MHz (Bands XII XIV) (FDD) and REL-8 25.331 CR	RAN WG2
RP-080201	Approval	REL-8 CRs to introduce CS Voice Service over HSPA	RAN WG2
RP-080202	Approval	REL-8 CRs to introduce Improved L2 for uplink	RAN WG2
RP-080203	Approval	REL-8 TEI CRs to 25.321 and 25.331	RAN WG2
RP-080204	Approval	REL-8 CR to 25.331 on Introduction of Paging Permission with Access Control (PPAC) on request from CT1	RAN WG2
RP-080205	Information	Agenda for IMT advanced Workshop	Chairman
RP-080206	Information	WI/SI sheets after RAN#38	MCC
RP-080207	WI/SI Status Report	Status report for WI: 3G Long Term Evolution	NTT DoCoMo
RP-080208	Discussion	3G HNB Architecture Way Forward, Alternative to RP-080153	Kineto Wireless
RP-080209	Information	Workplan pre-TSG 39 version	MCC
RP-080210	Information	Workplan slides pre-TSG 39 version	MCC
RP-080211	Information	List of CRs from RAN WG4	RAN WG4

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Tdoc	Type	Title	Source
RP-080212	Information	Rel-7 description document	MCC
RP-080213	Approval	Final meeting report for TSG-RAN#38	MCC
RP-080214	Discussion	Status Report WG1	RAN WG1 Chairman
RP-080215	Discussion	Mandatory E-DCH enhancements in RELEase 8	NEC
RP-080216	Approval	CRs (Rel-7 cat F) to 25.306, 25.331, Signalling for optional support of E-DPCCH boosting	NEC
RP-080217	Discussion	Status Report WG5	RAN WG5 Chairman
RP-080218	WI/SI Status Report	Status Report for WI MBSFN Downlink Optimized broadcast 3.84Mcps TDD	Ericsson
RP-080219	Approval	CR to 36.211,(Rel-8, F) updates	RAN1
RP-080220	Approval	Draft RAN4 work item description "FDD Home NodeB RF requirements"	Motorola
RP-080221	Information	RAN5 active WI descriptions	RAN5
RP-080222	LS out	Reply LS on Tests on receiving System Info 5bis	Ericsson
RP-080223	Approval	WID: support of WiMA~~X~~X -LTE mobility	Samsung
RP-080224	Approval	WID: support of WiMAX~~X~~ -UMTS mobility	Samsung
RP-080225	Information	Proposed way forward for further work to be conducted on 3G HNB architecture	Nokia Siemens Networks
RP-080226	Approval	HSPA VoIP to WCDMA/GSM CS continuity	Qualcomm, Orange
RP-080227	Approval	WI: HS-DSCH serving cell change Enhancements	Ericsson, Nokia, Nokia Siemens Networks, Qualcomm Europe, 3
RP-080228	Approval	FS on Dual Cell HSDPA Operation	Qualcomm Europe, 3, Vodafone, Ericsson, Nokia, Nokia Siemens Networks, Samsung
RP-080229	Approval	HSPA VoIP to WCDMA/GSM CS continuity	Qualcomm, Orange
RP-080230	LS out	Reply LS on Tests on receiving System Info 5bis	Ericsson
RP-080231	Approval	Results on “3G HNB architecture” and proposed activities	Nokia, Nokia Siemens Networks, Ericsson, Alcatel-Lucent, Vodafone, Huawei, TeliaSonera, Telecom Italia, AT&T
RP-080232	Approval	WID: support of WiMAX~~X~~ -LTE mobility	Samsung
RP-080233	Approval	WID: support of WiMAX~~X~~ -LTE mobility	Samsung
RP-080234	Approval	RAN4 work item description "FDD Home NodeB RF requirements"	Motorola

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Annex C:
List of CRs presented at TSG RAN#39

Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080142	Approved	25.211	252	-	Rel-7	Correction to tie use of transmit diversity on SCH and P-CCPCH	F	RANimp
RP-080146	Approved	25.212	261	-	Rel-8	Correction to RV-coding in case of simultaneous usage of 64QAM and MIMO	F	RANimp-64QamMimoHsdpa
RP-080143	Approved	25.214	480	1	Rel-8	Correction to UE grant monitoring	A	RANimp-CPC
RP-080144	Approved	25.214	472	2	Rel-7	UE procedure for receiving HS-DSCH in the PCH state	F	RANimp-Enhstate
RP-080143	Approved	25.214	479	1	Rel-7	Correction to UE grant monitoring	F	RANimp-CPC
RP-080140	Approved	25.221	151	-	Rel-7	EUL power control improvement for 1.28Mcps TDD	F	LCRTDD-EDCH-Phys
RP-080140	Approved	25.221	150	-	Rel-7	Clarification of uplink multicode capability for 1.28Mcps TDD EUL	F	LCRTDD-EDCH-Phys
RP-080086	Rejected	25.221	149	-	Rel-8	Support for MBSFN DOB operations	B	MBSFN-DOB
RP-080140	Approved	25.221	152	-	Rel-7	E-AGCH timing for 1.28Mcps TDD EUL	F	LCRTDD-EDCH-Phys
RP-080140	Approved	25.221	153	-	Rel-7	Clarification of the description about E-PUCH for 1.28Mcps TDD EUL	F	LCRTDD-EDCH-Phys
RP-080141	Approved	25.222	145	1	Rel-7	Clarification on TFCI mapping for 1.28Mcps TDD MBMS	F	MBMSE-RANPhysLCRTDD
RP-080086	Rejected	25.222	142	-	Rel-8	Support for MBSFN DOB operations	B	MBSFN-DOB
RP-080140	Approved	25.222	144	1	Rel-7	Some corrections for 1.28Mcps TDD EUL	F	LCRTDD-EDCH-Phys
RP-080086	Rejected	25.223	50	-	Rel-8	Support for MBSFN DOB operations	B	MBSFN-DOB
RP-080140	Approved	25.224	176	-	Rel-7	Improvement of the UL synchronisation of E-PUCH for 1.28Mcps TDD EUL	F	LCRTDD-EDCH-Phys
RP-080140	Approved	25.224	177	1	Rel-7	Clarification and Correction of E-PUCH power control for LCR TDD	F	LCRTDD-EDCH-Phys
RP-080140	Approved	25.224	170	2	Rel-7	EUL power control improvement for 1.28Mcps TDD	F	LCRTDD-EDCH-Phys
RP-080086	Rejected	25.224	173	-	Rel-8	Support for MBSFN DOB operations	B	MBSFN-DOB
RP-080145	Revised	36.211	3		Rel-8	Update of uplink reference-signal hopping, downlink reference signals, scrambling sequences, DwPTS/UpPTS lengths for TDD and control channel processing	F	LTE-Phys
RP-080219	Approved	36.211	3	1	Rel-8	Update of uplink reference-signal hopping, downlink reference signals, scrambling sequences, DwPTS/UpPTS lengths for TDD and control channel processing	F	LTE-Phys
RP-080145	Approved	36.212	2	-	Rel-8	Update to 36.212 incorporating decisions from RAN1#51bis and	F	LTE-Phys

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
						RAN1#52		
RP-080145	Approved	36.213	2	-	Rel-8	Update of TS36.213 according to changes listed in cover sheet	F	LTE-Phys
RP-080145	Approved	36.214	3	1	Rel-8	Inclusion of agreements from RAN1#51bis and RAN1#52	F	LTE-Phys

Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080176	approved	25.301	0093	-	REL-6	Correction of figures	F	EDCH
RP-080176	approved	25.301	0094	-	REL-7	Correction of figures	A	EDCH
RP-080176	approved	25.301	0095	-	REL-8	Correction of figures	A	EDCH
RP-080202	approved	25.301	0096	-	REL-8	Correction of figures and addition of missing references to MAC-is/i	F	RANimp-UplinkL2dataRates
RP-080177	approved	25.304	0162	1	REL-6	Clarification on Treselection for MBMS	F	MBMS-RAN
RP-080177	approved	25.304	0163	1	REL-7	Clarification on Treselection for MBMS	A	MBMS-RAN
RP-080086	rejected	25.304	0161	2	REL-8	Support for DL only SFN operation for MBMS	B	MBSFN-DOB
RP-080177	approved	25.304	0164	1	REL-8	Clarification on Treselection for MBMS	A	MBMS-RAN
RP-080185	approved	25.306	0189	-	REL-7	Clarification of uplink multicode capability for 1.28Mcps TDD	F	LCRTDD-EDCH-L23
RP-080188	approved	25.306	0191	-	REL-7	Code rate limitations for HS-DSCH UE cat 13 and 15	F	RANimp-64QamDownlink
RP-080086	rejected	25.306	0162	3	REL-8	Support for DL only SFN operation for MBMS	B	MBSFN-DOB
RP-080185	approved	25.306	0190	-	REL-8	Clarification of uplink multicode capability for 1.28Mcps TDD	A	LCRTDD-EDCH-L23
RP-080188	approved	25.306	0192	-	REL-8	Code rate limitations for HS-DSCH UE cat 13 and 15	A	RANimp-64QamDownlink
RP-080200	approved	25.307	0067	-	R99	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.307	B	RInImp8-UMTS700
RP-080200	approved	25.307	0068	-	REL-4	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.307	B	RInImp8-UMTS700
RP-080200	approved	25.307	0069	-	REL-5	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.307	B	RInImp8-UMTS700
RP-080200	approved	25.307	0070	-	REL-6	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.307	B	RInImp8-UMTS700
RP-080200	approved	25.307	0071	-	REL-7	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.307	B	RInImp8-UMTS700
RP-080200	approved	25.307	0072	-	REL-8	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.307	B	RInImp8-UMTS700
RP-080190	approved	25.308	0028	-	REL-7	Correction of figure on UE side MAC architecture/MAC-ehs details	F	RANimp-L2dataRates
RP-080190	approved	25.308	0029	-	REL-8	Correction of figure on UE side MAC architecture/MAC-ehs details	A	RANimp-L2dataRates
RP-080201	approved	25.308	0030	1	REL-8	HS-DSCH applicability to CS bearers	F	RInImp8-CsHspa
RP-080185	approved	25.319	0010	-	REL-7	Clarification of Absolute Grant value for TDD E-DCH	F	LCRTDD-EDCH-L23
RP-080184	approved	25.319	0012	-	REL-7	Transmission and reliability of scheduling information for 3.84/7.68 Mcps TDD E-DCH	F	RANimp-VHCRTDD-EDCH, EDCHTDD

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080185	approved	25.319	0011	-	REL-8	Clarification of Absolute Grant value for TDD E-DCH	A	LCRTDD-EDCH-L23
RP-080184	approved	25.319	0013	-	REL-8	Transmission and reliability of scheduling information for 3.84/7.68 Mcps TDD E-DCH	A	RANimp-VHCRTDD-EDCH, EDCHTDD
RP-080176	approved	25.321	0382	-	REL-6	Correction to UTRAN side MAC-e depiction	F	EDCH
RP-080189	approved	25.321	0373	-	REL-7	Inconsistency of MAC header when BCCH mapped to HS-DSCH	F	RANimp-EnhState
RP-080189	approved	25.321	0375	-	REL-7	Correction to the operation of the timer Treset	F	RANimp-EnhState
RP-080176	approved	25.321	0383	-	REL-7	Correction to UTRAN side MAC-e depiction	A	EDCH
RP-080190	approved	25.321	0385	-	REL-7	Support of octet aligned HS-DSCH transport block sizes for non-64QAM	F	RANimp-L2dataRates
RP-080190	approved	25.321	0387	-	REL-7	transmission scheduling in MAC-ehs entity	F	RANimp-L2dataRates
RP-080185	approved	25.321	0389	-	REL-7	Clarification of Scheduling Infomation Fields for TDD E-DCH	F	LCRTDD-EDCH-L23
RP-080184	approved	25.321	0391	-	REL-7	Persistence scaling values and scheduling information for 3.84/7.68 Mcps TDD E-DCH	F	RANimp-VHCRTDD-EDCH, EDCHTDD
RP-080190	approved	25.321	0393	-	REL-7	Editorial corrections to MAC-ehs	F	RANimp-L2dataRates
RP-080187	approved	25.321	0395	-	REL-7	Definition of Default-SG-in-DTX-Cycle-2	F	RANimp-CPC
RP-080185	approved	25.321	0398	-	REL-7	Clarification of SI transmission priority over Non-scheduled MAC-e PDU	F	LCRTDD-EDCH-L23
RP-080189	approved	25.321	0374	-	REL-8	Inconsistency of MAC header when BCCH mapped to HS-DSCH	A	RANimp-EnhState
RP-080189	approved	25.321	0376	-	REL-8	Correction to the operation of the timer Treset	A	RANimp-EnhState
RP-080203	approved	25.321	0381	-	REL-8	Correction of the EUL relative grant from non-serving cell	F	TEI8
RP-080176	approved	25.321	0384	-	REL-8	Correction to UTRAN side MAC-e depiction	A	EDCH
RP-080190	approved	25.321	0386	-	REL-8	Support of octet aligned HS-DSCH transport block sizes for non-64QAM	A	RANimp-L2dataRates
RP-080190	approved	25.321	0388	-	REL-8	transmission scheduling in MAC-ehs entity	A	RANimp-L2dataRates
RP-080185	approved	25.321	0390	-	REL-8	Clarification of Scheduling Infomation Fields for TDD E-DCH	A	LCRTDD-EDCH-L23
RP-080184	approved	25.321	0392	-	REL-8	Persistence scaling values and scheduling information for 3.84/7.68 Mcps TDD E-DCH	A	RANimp-VHCRTDD-EDCH, EDCHTDD
RP-080190	approved	25.321	0394	-	REL-8	Editorial corrections to MAC-ehs	A	RANimp-L2dataRates
RP-080187	approved	25.321	0396	-	REL-8	Definition of Default-SG-in-DTX-Cycle-2	A	RANimp-CPC
RP-080202	approved	25.321	0397	-	REL-8	Introducing MAC-i/is	B	RANimp-UplinkL2dataRates
RP-080185	approved	25.321	0399	-	REL-8	Clarification of SI transmission priority over Non-scheduled MAC-e PDU	A	LCRTDD-EDCH-L23

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080178	approved	25.322	0317	-	REL-6	25.322 CR317 REL-6 on Correction to Reception of UM RLC	F	TEI6
RP-080178	approved	25.322	0318	-	REL-7	25.322 CR318 REL-7 on Correction to Reception of UM RLC	A	TEI6
RP-080191	approved	25.322	0320	-	REL-7	Proposed CR to 25.322 [Rel-7] Correction to Control Information transmission	F	TEI7
RP-080191	approved	25.322	0322	-	REL-7	Poll SUFI and Status Reporting	F	TEI7
RP-080190	approved	25.322	0325	-	REL-7	Correction to the RLC RESET and RESET ACK PDU with flexible RLC PDU size	F	RANimp-L2dataRates
RP-080178	approved	25.322	0319	-	REL-8	25.322 CR319 REL-8 on Correction to Reception of UM RLC	A	TEI6
RP-080191	approved	25.322	0321	-	REL-8	Proposed CR to 25.322 [Rel-8 Shadow] Correction to Control Information transmission	A	TEI7
RP-080191	approved	25.322	0323	-	REL-8	Poll SUFI and Status Reporting	A	TEI7
RP-080202	approved	25.322	0324	-	REL-8	Introducing flexible RLC PDU size in the uplink	B	RANimp-UplinkL2dataRates
RP-080190	approved	25.322	0326	-	REL-8	Correction to the RLC RESET and RESET ACK PDU with flexible RLC PDU size	A	RANimp-L2dataRates
RP-080201	approved	25.323	0311	1	REL-8	CS-HSPA UL AMR Rate and maximum jitter time	B	RInImp8-CsHspa
RP-080154	rejected	25.331	3277	-	Rel-10	CR to 25.331 on Introduction of MBSFN DOB	B	MBSFN-DOB
RP-080178	approved	25.331	3229	-	REL-6	Clarification on MAX_CID	F	TEI6
RP-080177	approved	25.331	3248	-	REL-6	L2-combining in MBMS CURRENT CELL P-T-M RB INFORMATION message	F	MBMS-RAN
RP-080179	approved	25.331	3251	-	REL-6	Correction to SIB extension multiplexing	F	TEI6
RP-080178	approved	25.331	3268	-	REL-6	Correction to default configuration 17	F	TEI6
RP-080178	approved	25.331	3230	-	REL-7	Clarification on MAX_CID	A	TEI6
RP-080189	approved	25.331	3232	-	REL-7	FACH measurement occasion Calculation	F	RANimp-EnhState
RP-080189	approved	25.331	3234	-	REL-7	Clarification on “Default DPCH offset value”	F	RANimp-EnhState
RP-080189	approved	25.331	3236	-	REL-7	Synchronised modification of system information blocks	F	RANimp-EnhState
RP-080189	approved	25.331	3238	-	REL-7	Clarification on “Measured Results on RACH” in enhanced CELL_FACH	F	RANimp-EnhState
RP-080186	approved	25.331	3240	-	REL-7	Correction to conditions for setting MIMO_STATUS variable	F	MIMO-L23
RP-080188	approved	25.331	3242	-	REL-7	Correction to HS-SCCH numbering assumption for 64QAM encoding	F	RANimp-64QamDownlink
RP-080181	approved	25.331	3244	-	REL-7	Use of cell selection and reslection info in the case that a cell is providing MBSFN only service	F	MBMSE-RANPhysFDD, MBMSE-RANPhysTDD, MBMSE-RANPhysLCRTDD

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080191	approved	25.331	3246	-	REL-7	Corrections due to the RRC Rel-7 ASN.1 review	F	TEI7
RP-080177	approved	25.331	3249	-	REL-7	L2-combining in MBMS CURRENT CELL P-T-M RB INFORMATION message	A	MBMS-RAN
RP-080189	approved	25.331	3252	-	REL-7	Traffic volum measurement for CELL_PCH UE	F	RANimp-EnhState
RP-080190	approved	25.331	3254	-	REL-7	Support of octet aligned HS-DSCH transport block sizes for non-64QAM	C	RANimp-L2dataRates
RP-080186	approved	25.331	3256	1	REL-7	Correction to MIMO with the message PHYSICAL CHANNEL RECONFIGURATION	F	MIMO-L23
RP-080182	approved	25.331	3258	-	REL-7	Supporting multi-frequency for 1.28 Mcps TDD MBMS	B	MBMSE-RANPhysLCRTDD
RP-080185	approved	25.331	3260	-	REL-7	Modification of variable E_DCH_TRANSMISSION setting	F	LCRTDD-EDCH-L23
RP-080185	approved	25.331	3262	-	REL-7	Correction and Clarification of non-scheduled E-PUCH allocation for LCR TDD	F	LCRTDD-EDCH-L23
RP-080185	approved	25.331	3264	-	REL-7	Modifications on the values of T-RUCCH timer for LCR TDD	F	LCRTDD-EDCH-L23
RP-080184	approved	25.331	3266	-	REL-7	Persistence scaling values for 3.84/7.68 Mcps TDD E-DCH	F	RANimp-VHCRTDD-EDCH, EDCHTDD
RP-080178	approved	25.331	3269	-	REL-7	Correction to default configuration 17	A	TEI6
RP-080086	rejected	25.331	3045	4	REL-8	Support for DL only SFN operation for MBMS	B	MBSFN-DOB
RP-080178	approved	25.331	3231	-	REL-8	Clarification on MAX_CID	A	TEI6
RP-080189	approved	25.331	3233	-	REL-8	FACH measurement occasion Calculation	A	RANimp-EnhState
RP-080189	approved	25.331	3235	-	REL-8	Clarification on “Default DPCH offset value”	A	RANimp-EnhState
RP-080189	approved	25.331	3237	-	REL-8	Synchronised modification of system information blocks	A	RANimp-EnhState
RP-080189	approved	25.331	3239	-	REL-8	Clarification on “Measured Results on RACH” in enhanced CELL_FACH	A	RANimp-EnhState
RP-080186	approved	25.331	3241	-	REL-8	Correction to conditions for setting MIMO_STATUS variable	A	MIMO-L23
RP-080188	approved	25.331	3243	-	REL-8	Correction to HS-SCCH numbering assumption for 64QAM encoding	A	RANimp-64QamDownlink
RP-080181	approved	25.331	3245	-	REL-8	Use of cell selection and reselection info in the case that a cell is providing MBSFN only service	A	MBMSE-RANPhysFDD, MBMSE-RANPhysTDD, MBMSE-RANPhysLCRTDD
RP-080191	approved	25.331	3247	-	REL-8	Corrections due to the RRC Rel-7 ASN.1 review	A	TEI7
RP-080177	approved	25.331	3250	-	REL-8	L2-combining in MBMS CURRENT CELL P-T-M RB INFORMATION message	A	MBMS-RAN
RP-080189	approved	25.331	3253	-	REL-8	Traffic volum measurement for CELL_PCH UE	A	RANimp-EnhState
RP-080190	approved	25.331	3255	-	REL-8	Support of octet aligned HS-DSCH transport block sizes for non-	C	RANimp-L2dataRates

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
						64QAM		
RP-080186	approved	25.331	3257	1	REL-8	Correction to MIMO with the message PHYSICAL CHANNEL RECONFIGURATION	A	MIMO-L23
RP-080182	approved	25.331	3259	-	REL-8	Supporting multi-frequency for 1.28 Mcps TDD MBMS	B	MBMSE-RANPhysLCRTDD
RP-080185	approved	25.331	3261	-	REL-8	Modification of variable E_DCH_TRANSMISSION setting	A	LCRTDD-EDCH-L23
RP-080185	approved	25.331	3263	-	REL-8	Correction and Clarification of non-scheduled E-PUCH allocation for LCR TDD	A	LCRTDD-EDCH-L23
RP-080185	approved	25.331	3265	-	REL-8	Modifications on the values of T-RUCCH timer for LCR TDD	A	LCRTDD-EDCH-L23
RP-080184	approved	25.331	3267	-	REL-8	Persistence scaling values for 3.84/7.68 Mcps TDD E-DCH	A	RANimp-VHCRTDD-EDCH, EDCHTDD
RP-080178	approved	25.331	3270	-	REL-8	Correction to default configuration 17	A	TEI6
RP-080203	approved	25.331	3271	-	REL-8	Signaling of default configuration 17 in HANDOVER TO UTRAN COMMAND message	F	TEI8
RP-080200	approved	25.331	3272	-	REL-8	Introduction of UMTS 700 MHz (Bands XII – XIV) in 25.331	B	RInImp8-UMTS700
RP-080201	approved	25.331	3273	1	REL-8	CS-HSPA UL AMR Rate and maximum jitter time	B	RInImp8-CsHspa
RP-080201	approved	25.331	3274	2	REL-8	Proposal for RRC based rate control	B	RInImp8-CsHspa
RP-080202	approved	25.331	3275	-	REL-8	Introducing Improved L2 for uplink	B	RANimp-UplinkL2dataRates
RP-080204	approved	25.331	3276	-	REL-8	Introduction of PPAC	B	PPACR
RP-080177	approved	25.346	0038	-	REL-6	Correction on Frequency Layer Dispersion (FLD) in MBMS stage 2	F	MBMS-RAN
RP-080177	approved	25.346	0039	-	REL-7	Correction on Frequency Layer Dispersion (FLD) in MBMS stage 2	A	MBMS-RAN
RP-080180	approved	25.346	0041	1	REL-7	Clarification of FLC flag in MBMS stage 2	F	MBMS-RAN
RP-080086	rejected	25.346	0030	4	REL-8	Support for DL only SFN operation for MBMS	B	MBSFN-DOB
RP-080177	approved	25.346	0040	-	REL-8	Correction on Frequency Layer Dispersion (FLD) in MBMS stage 2	A	MBMS-RAN
RP-080180	approved	25.346	0042	1	REL-8	Clarification of FLC flag in MBMS stage 2	A	MBMS-RAN
RP-080154	rejected	25.346	0043	-	Rel-9	CR to 25.346 on Introduction of MBSFN DOB	B	MBSFN-DOB
RP-080190	approved	25.993	0107	1	REL-7	RB combinations for flexible PDU sizes and MAC-ehs	F	RANimp-L2dataRates
RP-080180	approved	25.993	0108	-	REL-7	RAB combinations MBMS PTP on DPCH	F	MBMS-RAN
RP-080183	revised	25.999	0001	-	REL-7	25.999 REL-7 CR0001 on Introduction of new Configuration Rule for Extended RNC ID Scheme	F	RANFS-HSPAEvo
RP-080116	approved	25.999	0001	1	REL-8	Introduction of new Configuration Rule for Extended RNC ID Scheme	F	RANFS-HSPAEvo (TEI7 on CR cover)
RP-080192	approved	36.300	0010	-	REL-8	CR to 36.300 on NAS States, Persistent Scheduling, C-RNTI	F	LTE-L23

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
						Allocation at Handover…		
RP-080192	approved	36.300	0011	-	REL-8	RAN3 corrections to 36.300 (CR0011)	F	LTE-interfaces
RP-080193	approved	36.304	0001	1	REL-8	CR to 36.304 on Miscellaneous corrections	F	LTE-L23
RP-080194	approved	36.306	0001	1	REL-8	CR to 36.306 with Update to E-UTRA UE capabilities	F	LTE-L23
RP-080195	revised	36.321	0001	-	REL-8	CR to 36.321 with E-UTRA MAC protocol specification update	F	LTE-L23
RP-080130	revised	36.321	0001	1	Rel-8	CR to 36.321 with E-UTRA MAC protocol specification update	F	LTE-L23
RP-080162	approved	36.321	0001	2	Rel-8	CR to 36.321 with E-UTRA MAC protocol specification update	F	LTE-L23
RP-080196	approved	36.322	0001	-	REL-8	CR0001 for TS 36.322 E-UTRA RLC	F	LTE-L23
RP-080197	approved	36.323	0001	-	REL-8	CR to 36.323 with Update of E-UTRAN PDCP specification	F	LTE-L23
RP-080198	revised	36.331	0001	2	REL-8	CR to 36.331 with Miscellaneous corrections	F	LTE-L23
RP-080131	revised	36.331	0001	3	Rel-8	CR to 36.331 with Miscellaneous corrections	F	LTE-L23
RP-080163	approved	36.331	0001	4	Rel-8	CR to 36.331 with Miscellaneous corrections	F	LTE-L23
RP-080199	revised	36.331	0002	-	REL-8	CR to 36.331 to Convert RRC to agreed ASN.1 format	B	LTE-L23
RP-080132	revised	36.331	0002	1	Rel-8	CR to 36.331 to convert RRC to agreed ASN.1 format	B	LTE-L23
RP-080164	approved	36.331	0002	2	Rel-8	CR to 36.331 to convert RRC to agreed ASN.1 format	B	LTE-L23

Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080073	approved	25.423	1347		Rel-7	UL DPCCH Slot Format 5 undefined	F	TEI7
RP-080151	approved	25.423	1356	2	Rel-6	Correction the condition of UL DPDCH Indicator for E-DCH Operation	F	TEI6
RP-080072	approved	25.423	1341	1	Rel-7	Correction on MAC-d PDU Size for E-DCH	F	TEI7
RP-080073	approved	25.423	1342	1	Rel-7	Correction on Abnormal Condition for identical cell on HSDPA/E-DCH Serving Cell	F	TEI7
RP-080073	approved	25.423	1349	3	Rel-7	Addition of IE "Continuous Packet Connectivity HS-SCCH less Deactive Indicator"	F	TEI7
RP-080151	approved	25.423	1357	2	Rel-7	Correction the condition of UL DPDCH Indicator for E-DCH Operation	A	TEI6
RP-080083	approved	25.423	1354	1	Rel-8	Introduction of Improved L2 for Uplink	B	RANimp-UplinkL2dataRates
RP-080073	approved	25.423	1343	1	Rel-7	Correction on HS-DSCH MAC-d PDU Size Format IE in HS-DSCH Information to Modify	F	TEI7
RP-080072	approved	25.423	1345		Rel-7	E-DCH RL Set ID IE handling	F	TEI7
RP-080073	approved	25.423	1352		Rel-7	Correction of mistake in CR1243 and other similar wording mistakes	F	TEI7

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080076	approved	25.423	1351	1	Rel-7	Introduction of an additional UE Category for 1.28Mcps TDD E-DCH	F	TEI7
RP-080074	approved	25.423	1346		Rel-7	Transport bearer replacement during HS-DSCH Modification	F	TEI7
RP-080072	approved	25.423	1344		Rel-7	Abnormal Condition on DL L2 Improvement	F	TEI7
RP-080076	approved	25.423	1350		Rel-7	Clarification of E-DCH non-scheduled Grant Information for 1.28Mcps TDD	F	TEI7
RP-080074	approved	25.425	123		Rel-7	Transport bearer replacement during HS-DSCH Modification	F	TEI7
RP-080083	approved	25.427	144	1	Rel-8	Introduction of Improved L2 for Uplink	B	RANimp-UplinkL2dataRates
RP-080151	approved	25.433	1461	2	Rel-6	Correction the condition of UL DPDCH Indicator for E-DCH Operation	F	TEI6
RP-080084	approved	25.433	1460	2	Rel-8	Inclusion of Cell Id into common measurement report	F	TEI8
RP-080151	approved	25.433	1462	2	Rel-7	Correction the condition of UL DPDCH Indicator for E-DCH Operation	A	TEI6
RP-080083	approved	25.433	1457	1	Rel-8	Introduction of Improved L2 for Uplink	B	RANimp-UplinkL2dataRates
RP-080072	approved	25.433	1455		Rel-7	Event C and D for Received Scheduled E-DCH Power Share for Cell Portion	F	TEI7
RP-080076	approved	25.433	1454	1	Rel-7	Introduction of multi-frequency operation for HSUPA for 1.28Mcps TDD	F	TEI7
RP-080076	approved	25.433	1453	1	Rel-7	Introduction of an additional UE Category for 1.28Mcps TDD E-DCH	F	TEI7
RP-080076	approved	25.433	1452		Rel-7	Clarification of E-DCH non-scheduled Grant Information for 1.28Mcps TDD	F	TEI7
RP-080076	approved	25.433	1451	1	Rel-7	Supporting multi-frequency operation on MBMS for 1.28Mcps TDD	F	TEI7
RP-080073	approved	25.433	1450	3	Rel-7	Addition of IE "Continuous Packet Connectivity HS-SCCH less Deactive Indicator"	F	TEI7
RP-080074	approved	25.433	1447		Rel-7	Transport bearer replacement during HS-DSCH Modification	F	TEI7
RP-080072	approved	25.433	1446		Rel-7	E-DCH RL Set ID IE handling	F	TEI7
RP-080072	approved	25.433	1445		Rel-7	Abnormal Condition on DL L2 Improvement	F	TEI7
RP-080073	approved	25.433	1444	1	Rel-7	Correction on HS-DSCH MAC-d PDU Size Format IE in HS-DSCH Information to Modify	F	TEI7
RP-080073	approved	25.433	1443	1	Rel-7	Correction on Abnormal Condition for identical cell on HSDPA/E-DCH Serving Cell	F	TEI7
RP-080073	approved	25.433	1448		Rel-7	UL DPCCH Slot Format 5 undefined	F	TEI7
RP-080072	approved	25.433	1442	1	Rel-7	Correction on MAC-d PDU Size for E-DCH	F	TEI7
RP-080074	approved	25.435	178		Rel-7	Transport bearer replacement during HS-DSCH Modification	F	TEI7

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RP-080075	approved	25.453	112	1	Rel-7	Impacts of RRC GANSS changes	F	LCS3-GNSS-UTRAN
RP-080082	approved	25.461	049	1	Rel-8	Introduction of UMTS 700 MHz (Bands XII XIV) in 25.461	B	RInImp8-UMTS700
RP-080082	approved	25.466	016		Rel-8	Introduction of UMTS 700 MHz (Bands XII XIV) in 25.466	B	RInImp8-UMTS700
RP-080079	approved	36.401	009		Rel-8	RAN3 agreed changes for TS 36.401	F	LTE-interfaces
RP-080077	approved	36.412	001		Rel-8	Dedication of common streams over S1-MME	F	LTE-interfaces
RP-080080	approved	36.413	058		Rel-8	RAN3 agreed changes for TS 36.413	F	LTE-interfaces
RP-080078	approved	36.414	001	1	Rel-8	Data link layer proposal	F	LTE-interfaces
RP-080078	approved	36.414	002		Rel-8	Editorial correction on 36.414	F	LTE-interfaces
RP-080077	approved	36.422	001		Rel-8	Dedication of common streams over X2	F	LTE-interfaces
RP-080081	approved	36.423	041		Rel-8	RAN3 agreed changes for TS 36.423	F	LTE-interfaces
RP-080078	approved	36.424	001		Rel-8	Editorial correction on 36.424	F	LTE-interfaces
RP-080078	approved	36.424	002		Rel-8	Data link layer proposal	F	LTE-interfaces
RP-080086	rejected	25.402	072	1	Rel-8	Introduction of DOB for MBSFN operation	B	MBSFN-DOB
RP-080154	rejected	25.433	1463		Rel-8	Introduction of MBSFN DOB	B	MBSFN-DOB
RP-080086	rejected	25.433	1458		Rel-8	Introduction of DOB for MBSFN operation	B	MBSFN-DOB
RP-080071	revised	25.423	1357	1	Rel-7	Correction the condition of UL DPDCH Indicator for E-DCH Operation	A	TEI6
RP-080071	revised	25.423	1356	1	Rel-6	Correction the condition of UL DPDCH Indicator for E-DCH Operation	F	TEI6
RP-080071	revised	25.433	1461	1	Rel-6	Correction the condition of UL DPDCH Indicator for E-DCH Operation	F	TEI6
RP-080071	revised	25.433	1462	1	Rel-7	Correction the condition of UL DPDCH Indicator for E-DCH Operation	A	TEI6

Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080165	Approved	25.101	598		Rel-8	Addition of 15 code HSDPA demodulation requirements for 16QAM and QPSK	B	RInImp8-Hsdpa15codes
RP-080121	Approved	25.101	592	1	Rel-8	Nominal Peak Data Rate and redundancy versions in MIMO FRC Tests	A	MIMO-RF
RP-080166	Approved	25.101	582	1	Rel-8	Specification of enhanced performance requirements type 3i for HSDPA based on receiver diversity and interference-aware chip level equaliser	B	RInImp8-2BIC

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080121	Approved	25.101	588	1	Rel-7	HS-SCCH Type nominator	F	MIMO-RF
RP-080124	Approved	25.101	583	2	Rel-8	Introduction of UMTS700 UE minimum performance requirements	B	RInImp8-UMTS700
RP-080121	Approved	25.101	585	2	Rel-7	Nominal Peak Data Rate and redundancy versions in MIMO FRC Tests	F	MIMO-RF
RP-080121	Approved	25.101	586	1	Rel-7	Correct reference to MIMO dual-stream channel model for MIMO CQI dual-stream requirements	F	MIMO-RF
RP-080121	Approved	25.101	594		Rel-8	HS-SCCH Type nominator	A	MIMO-RF
RP-080167	Approved	25.101	587	1	Rel-7	Correct reference to H-Set for 64-QAM max input test	F	RANimp-64QamDownlink
RP-080122	Approved	25.101	597		Rel-8	Extension of static CQI testing for 64-QAM	A	TEI7
RP-080117	Approved	25.101	589		Rel-7	CR for TS25.101 for MBSFN FDD UE dem req	F	MBMSE-RANPhysFDD
RP-080120	Approved	25.101	590		Rel-6	Corrections on out-of-band emission limits for Band V	F	TEI6
RP-080120	Approved	25.101	591		Rel-7	Corrections on out-of-band emission limits for Band V	A	TEI6
RP-080121	Approved	25.101	593		Rel-8	Correct reference to MIMO dual-stream channel model for MIMO CQI dual-stream requirements	A	MIMO-RF
RP-080167	Approved	25.101	595		Rel-8	Correct reference to H-Set for 64-QAM max input test	A	RANimp-64QamDownlink
RP-080122	Approved	25.101	596		Rel-7	Extension of static CQI testing for 64-QAM	B	TEI7
RP-080119	Approved	25.102	248		Rel-6	Deleting redundant notes for receiver spurious emission	F	TEI6
RP-080119	Approved	25.102	247		Rel-7	Omissions of minimum requirements for blocking characteristics	F	TEI7
RP-080118	Approved	25.102	251	1	Rel-7	Adding requirements for MBSFN capable UE (dedicated carrier case)	F	MBMSE-RANPhysLCRTDD
RP-080119	Approved	25.102	249		Rel-7	Deleting redundant notes for receiver spurious emission	F	TEI7
RP-080118	Approved	25.102	250		Rel-7	Adding EVM requirement for UL 16QAM	F	LCRTDD-EDCH-RF
RP-080119	Approved	25.102	246		Rel-6	Omissions of minimum requirements for blocking characteristics	F	TEI6
RP-080120	Approved	25.104	307		Rel-8	Correction to RX spurious emissions	A	TEI
RP-080124	Approved	25.104	302	1	Rel-8	Introduction of UMTS700 requirements (Band XII, XIII and XIV) in TS 25.104	B	RInImp8-UMTS700
RP-080120	Approved	25.104	303		Rel-6	Corrections on out-of-band emission limits for Band V	F	TEI6
RP-080120	Approved	25.104	304		Rel-7	Corrections on out-of-band emission limits for Band V	A	TEI6
RP-080120	Approved	25.104	306		Rel-7	Correction to RX spurious emissions	A	TEI
RP-080120	Approved	25.104	305		Rel-6	Correction to RX spurious emissions	F	TEI

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080117	Approved	25.105	221		R99	Update of NOTE in Category B BS Spurious Emissions	F	TEI
RP-080117	Approved	25.105	220	1	Rel-7	Modifying category B spurious emission limits for UTRA TDD BS	A	TEI4
RP-080119	Approved	25.105	214		Rel-6	Correcting the power allocation for HS-SICH performance detection	F	TEI6
RP-080119	Approved	25.105	215	1	Rel-7	Correcting the power allocation for HS-SICH performance detection	A	TEI7
RP-080117	Approved	25.105	217	1	Rel-4	Modifying category B spurious emission limits for UTRA TDD BS	F	TEI4
RP-080117	Approved	25.105	218	1	Rel-5	Modifying category B spurious emission limits for UTRA TDD BS	A	TEI4
RP-080117	Approved	25.105	219	1	Rel-6	Modifying category B spurious emission limits for UTRA TDD BS	A	TEI4
RP-080126	Approved	25.106	058		Rel-8	Introduction of UMTS1500 requirements	B	RInImp8-UMTS1500
RP-080122	Approved	25.111	001		Rel-7	Correcting multipath detection level in LMU performance specification	F	TEI7
RP-080124	Approved	25.113	038	1	Rel-8	Introduction of UMTS700 requirements	B	RInImp8-UMTS700
RP-080119	Approved	25.133	929		Rel-8	Correction to Annex A.5.5.4	A	TEI6
RP-080128	Approved	25.133	926	1	Rel-8	Introduction of UMTS700 requirements	B	RInImp8-UMTS700
RP-080119	Approved	25.133	927		Rel-6	Correction to Annex A.5.5.4	F	TEI6
RP-080119	Approved	25.133	928		Rel-7	Correction to Annex A.5.5.4	A	TEI6
RP-080120	Approved	25.141	477		Rel-7	Correction to RX spurious emissions	A	TEI6
RP-080120	Approved	25.141	478		Rel-8	Correction to RX spurious emissions	A	TEI6
RP-080122	Approved	25.141	472	1	Rel-7	Editorial modifications of the test requirement table for the demodulation of E-DPDCH in multipath fading conditions and table and figure title in A.18 in 25.141	F	TEI7
RP-080120	Approved	25.141	475		Rel-7	Corrections on out-of-band emission limits for Band V	A	TEI6
RP-080120	Approved	25.141	474		Rel-6	Corrections on out-of-band emission limits for Band V	F	TEI6
RP-080122	Approved	25.141	473	1	Rel-8	Editorial modifications of the test requirement table for the demodulation of E-DPDCH in multipath fading conditions and table and figure title in A.18 in 25.141	A	TEI7
RP-080120	Approved	25.141	476		Rel-6	Correction to RX spurious emissions	F	TEI6
RP-080126	Approved	25.141	470		Rel-8	Corrections on spurious emissions limits for coexistence with CDMA850	F	TEI8
RP-080126	Approved	25.141	469		Rel-8	Correction of the note for Band XI BS ACLR	F	RInImp8-UMTS1500
RP-080124	Approved	25.141	471	1	Rel-8	Introduction of UMTS700 requirements (Band XII, XIII and XIV) in TS 25.141	B	RInImp8-UMTS700

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080119	Approved	25.142	228		Rel-6	Correcting the power allocation for HS-SICH performance detection	F	TEI6
RP-080119	Approved	25.142	229	1	Rel-7	Correcting the power allocation for HS-SICH performance detection	A	TEI7
RP-080126	Approved	25.143	069		Rel-8	Introduction of UMTS1500 requirements	B	RInImp8-UMTS1500
RP-080122	Approved	25.956	004		Rel-7	ACRR description	F	TEI7
RP-080124	Approved	34.124	030	1	Rel-8	Introduction of UMTS700 EMC requirements	B	RInImp8-UMTS700
RP-080123	Approved	36.101	003		Rel-8	TS:36.101: Combined updates of E-UTRA UE Requirement	B	LTE-RF
RP-080123	Approved	36.104	003	2	Rel-8	Combined updates of E-UTRA BS RF requirements	B	LTE-RF
RP-080123	Approved	36.133	002		Rel-8	CR updates of TS 36.133	B	LTE-RF
RP-080169	Rejected	25.102	252	1	Rel-8	MBSFN DOB UE demodulation requirement	B	MBSFN-DOB
RP-080169	Rejected	25.102	253	1	Rel-8	MBSFN DOB UE RF requirements	B	MBSFN-DOB
RP-080154	Rejected	25.102	254		Rel-8	Introduction of MBSFN DOB	B	
RP-080154	Rejected	25.105	222		Rel-8	Introduction of MBSFN DOB	B	
RP-080169	Rejected	25.105	216	1	Rel-8	CR to TS 25.105 for inclusion of MBSFN DOB	B	MBSFN-DOB

Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080095	Approved	34.108	641		Rel-8	Correction to RRC Connection setup and RB setup messages for 64kbps(Channel2)	F	TEI6_Test
RP-080103	Approved	34.108	642		Rel-8	Addition of default message contents for MBMS RF/RRM testing	F	MBMS-RAN-RF_Test
RP-080108	Approved	34.108	643		Rel-8	CR to 34.108: Introduction of the UE E-DCH 16-QAM feature	F	RANimp-UEConTest_16QamUplink
RP-080106	Approved	34.108	644		Rel-8	Addition of combinations on E-DCH to 6.11 of 34.108 for 3.84Mcps TDD	F	RANimp-UEConTest_EDCHTDH
RP-080106	Approved	34.108	645		Rel-8	Update of radio bearer setup in default message contents to include E-DCH conditions for 3.84Mcps and 7.68Mcps TDD	F	RANimp-UEConTest_EDCHTDH
RP-080115	Approved	34.108	646		Rel-8	CR for 34.108:Correction of CELL UPDATE CONFIRM default message contents for LCR TDD EDCH	F	LCRTDD-EDCH-UEConTest
RP-080115	Approved	34.108	647		Rel-8	CR for 34.108:Correction of PHYSICAL CHANNEL RECONFIGURATION default message contents for LCR TDD EDCH	F	LCRTDD-EDCH-UEConTest
RP-080115	Approved	34.108	648		Rel-8	CR for 34.108:Correction of RADIO BEARER RECONFIGURATION default message contents for LCR TDD EDCH	F	LCRTDD-EDCH-UEConTest

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080115	Approved	34.108	649		Rel-8	CR for 34.108:Correction of RADIO BEARER RELEASE default message contents for LCR TDD EDCH	F	LCRTDD-EDCH-UEConTest
RP-080115	Approved	34.108	650		Rel-8	CR for 34.108:Correction of RADIO BEARER SETUP default message contents for LCR TDD EDCH	F	LCRTDD-EDCH-UEConTest
RP-080115	Approved	34.108	651		Rel-8	CR for 34.108:Correction of TRANSPORT CHANNEL RECONFIGURATION default message contents for LCR TDD EDCH	F	LCRTDD-EDCH-UEConTest
RP-080115	Approved	34.108	652		Rel-8	Correction to the cotents of RRC CONNECTION SETUP message: UM (Transition to CELL_DCH) (1.28 Mcps TDD option)	F	LCRTDD-EDCH-UEConTest
RP-080108	Approved	34.108	653		Rel-8	Introduction of Default Radio Bearer Setup message contents for UL 16QAM	F	RANimp-UEConTest_16QamUplink
RP-080107	Approved	34.108	654		Rel-8	Addition of HARQ transmission parameters for 64QAM	F	RANimp-UEConTest_64QamDownlink
RP-080109	Approved	34.108	655		Rel-8	Update of the default RADIO BEARER SETUP message to support enhanced data rates	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.108	656		Rel-8	Addition of enhanced L2 configurations for DL SRBs on HS	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.108	657		Rel-8	Correction of physical layer parameters for radio bearer configuration 6.10.2.4.5 and HSPA	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.108	658		Rel-8	Addition of enhanced L2 configurations to conversational UM PS radio bearer 6.10.2.4.6.6	F	RANimp-UEConTest_L2DataRates
RP-080111	Approved	34.108	659		Rel-8	Addition of RB setup message contents for CPC	F	RANimp-UEConTest_CPC
RP-080105	Approved	34.108	660		Rel-8	Addition of HARQ transmission parameters for MIMO	F	MIMO-UEConTest_FDD
RP-080095	Approved	34.108	661		Rel-8	Correction to RB identity in RRC Connection Setup	F	TEI6_Test
RP-080095	Approved	34.108	662		Rel-8	Addition of new RB Combination for MBMS Testing	F	TEI6_Test
RP-080095	Approved	34.108	663		Rel-8	Corrections to default content of MBMS GENERAL INFORMATION message	F	TEI6_Test
RP-080095	Approved	34.108	664		Rel-8	Correction to MBMS selected service test procedure for MBMS Modification Request message	F	TEI6_Test
RP-080109	Approved	34.108	665		Rel-8	Update of the default RRC CONNECTION SETUP message to support enhanced data rates	F	RANimp-UEConTest_L2DataRates
RP-080091	Approved	34.121-1	1011		Rel-8	Correction to Spectrum emission mask	F	TEI_Test
RP-080095	Approved	34.121-1	1012		Rel-8	Correction to Test Procedure in 5.2B	F	TEI6_Test

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080091	Approved	34.121-1	1013		Rel-8	Correction to test case 6.5 for Band V operation	F	TEI_Test
RP-080095	Approved	34.121-1	1014		Rel-8	CR to 34.121-1: Correction to test case power control in the downlink, wind up effects	F	TEI6_Test
RP-080095	Approved	34.121-1	1015		Rel-8	Correction to DL RMC for Channel2(64kbps)	F	TEI6_Test
RP-080091	Approved	34.121-1	1016		Rel-8	Correction to SHO messages	F	TEI_Test
RP-080095	Approved	34.121-1	1017		Rel-8	Correction to target quality on DCCH	F	TEI6_Test
RP-080095	Approved	34.121-1	1018		Rel-8	Correction to TC 7.8.5 (F-DPCH power control test case)	F	TEI6_Test
RP-080095	Approved	34.121-1	1019		Rel-8	Correction to Table F6.1.10.3 for Power control in the downlink, constant BLER target	F	TEI6_Test
RP-080095	Approved	34.121-1	1020		Rel-8	Correction to test case 8.7.9 UE Transmission Power Headroom	F	TEI6_Test
RP-080091	Approved	34.121-1	1021		Rel-8	Correction to system uncertainty of RRM test cases	F	TEI_Test
RP-080095	Approved	34.121-1	1022		Rel-8	Correction to MEASUREMENT REPORT message in 8.7.6.1A	F	TEI6_Test
RP-080095	Approved	34.121-1	1023		Rel-8	Correction to 8.6.5.1	F	TEI6_Test
RP-080095	Approved	34.121-1	1024		Rel-8	Correction to RRM test cases 8.4.4.1 and 8.4.4.2	F	TEI6_Test
RP-080091	Approved	34.121-1	1025		Rel-8	TC 8.3.2.1 û Correction to Measurement Report	F	TEI_Test
RP-080091	Approved	34.121-1	1026		Rel-8	Uniform application of Annex F.6.2.8 (statistical annex) to all tests in clause 8.7	F	TEI_Test
RP-080091	Approved	34.121-1	1027		Rel-8	Completion and correction of Annex F.6.2.8 (Statistical testing)	F	TEI_Test
RP-080095	Approved	34.121-1	1028		Rel-8	Correction to table F.1.5 for test case 8.6.2.1A	F	TEI6_Test
RP-080095	Approved	34.121-1	1029		Rel-8	Correction to 9.4.2 and 9.4.2A channel levels	F	TEI6_Test
RP-080095	Approved	34.121-1	1030		Rel-8	Correction to 34.121-1 HSDPA testsÆ applicabilities for Enhanced Performance type 1 and type 3 terminals.	F	TEI6_Test
RP-080093	Approved	34.121-1	1031		Rel-8	Corrections to applicability of CQI test cases 9.3.1 to 9.3.6	F	TEI5_Test
RP-080103	Approved	34.121-1	1032		Rel-8	PICH power level for MBMS performance test	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1033		Rel-8	Clarification on MBMS MTCH reference channel for TC 11.3	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1034		Rel-8	Correction to TC 8.3.6.3	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1035		Rel-8	Correction to test procedure in 8.3.5.4 and 8.3.6.3	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1036		Rel-8	Addition the message exceptions to 8.3.6.3	F	MBMS-RAN-RF_Test

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RP-080103	Approved	34.121-1	1037		Rel-8	Correction to the time for sending valid MAC haders and RLS SDUs in 11.2 and 11.2A	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1038		Rel-8	Correction to cell update procedure in the transition from CELL_PCH to CELL_FACH.	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1039		Rel-8	Correction to the BCCH ARFCN for 8.3.6.3	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1040		Rel-8	Correction to MBMS testcase 11.3	F	MBMS-RAN-RF_Test
RP-080103	Approved	34.121-1	1041		Rel-8	Correction to 11.2 and 11.2A	F	MBMS-RAN-RF_Test
RP-080107	Approved	34.121-1	1042		Rel-8	Addition of downlink physical channels power definition for 64QAM performance tests	F	RANimp-UEConTest_64QamDownlink
RP-080107	Approved	34.121-1	1043		Rel-8	Correction of table captions in Annex F.6.3.4	F	RANimp-UEConTest_64QamDownlink
RP-080107	Approved	34.121-1	1044		Rel-8	Correction to Maximum input level 64QAM test case	F	RANimp-UEConTest_64QamDownlink
RP-080108	Approved	34.121-1	1045		Rel-8	CR to 34.121-1: Correction to UE Transmitter 16-QAM test cases	F	RANimp-UEConTest_16QamUplink
RP-080108	Approved	34.121-1	1046		Rel-8	CR to 34.121-1: Introduction of test tolerances for UE Transmitter 16-QAM test cases	F	RANimp-UEConTest_16QamUplink
RP-080111	Approved	34.121-1	1047		Rel-8	Introduction of continuous packet connectivity (CPC) to intrafrequency CPICH measurement requirements	F	RANimp-UEConTest_CPC
RP-080105	Approved	34.121-1	1048		Rel-8	Adding test tolerances for test case 9.2.4A: MIMO Performance û Fixed Reference Channel (FRC) H-Set 9	F	MIMO-UEConTest_FDD
RP-080105	Approved	34.121-1	1049		Rel-8	Adding test tolerances in the annex for MIMO test cases	F	MIMO-UEConTest_FDD
RP-080105	Approved	34.121-1	1050		Rel-8	Adding test procedure for MIMO CQI reporting test cases 9.3.7A and 9.3.7B	F	MIMO-UEConTest_FDD
RP-080105	Approved	34.121-1	1051		Rel-8	New MIMO Test case: HS-SCCH Detection Performance: HS-SCCH Type M Performance	F	MIMO-UEConTest_FDD
RP-080105	Approved	34.121-1	1052		Rel-8	Code allocation for HSDPA test cases	F	MIMO-UEConTest_FDD
RP-080103	Approved	34.121-1	1053		Rel-8	Correction to TC 8.3.5.4	F	MBMS-RAN-RF_Test
RP-080095	Approved	34.121-2	38		Rel-8	CR to 34.121-2: Introduction of power control in the downlink for F-DPCH Applicability	F	TEI6_Test
RP-080095	Approved	34.121-2	39		Rel-8	Correction to 34.121-2 HSDPA testsÆ applicabilities for Enhanced Performance type 1 and type 3 terminals.	F	TEI6_Test

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RP-080093	Approved	34.121-2	40		Rel-8	Corrections to applicability of CQI test cases 9.3.1 to 9.3.6	F	TEI5_Test
RP-080107	Approved	34.121-2	41		Rel-8	Addition of new testcases for 64QAM Single Link Performance	F	RANimp-UEConTest_64QamDownlink
RP-080108	Approved	34.121-2	42		Rel-8	CR to 34.121-2: Introduction of UE Transmitter 16-QAM Applicability	F	RANimp-UEConTest_16QamUplink
RP-080105	Approved	34.121-2	43		Rel-8	Applicability of new MIMO Test case: HS-SCCH Detection Performance: HS-SCCH Type M Performance	F	MIMO-UEConTest_FDD
RP-080102	Approved	34.122	267		Rel-7	Correcting the pass fail decision rule in annex F6.3.5 for 1.28Mcps TDD option	F	TEI7_Test
RP-080102	Approved	34.122	268		Rel-7	Adding the test tolerance of performance requiremet for 1.28Mcps TDD option	F	TEI7_Test
RP-080102	Approved	34.122	269		Rel-7	Adding the test parameter of midamble allocation for performance requiremet for LCR TDD	F	TEI7_Test
RP-080102	Approved	34.122	270		Rel-7	Adding the test case of maximum input level for HS-PDSCH reception for 1.28Mcps TDD option	F	TEI7_Test
RP-080115	Approved	34.122	271		Rel-7	Adding the test case of E-HICH detection parameter for 1.28Mcps TDD Option	F	LCRTDD-EDCH-UEConTest
RP-080115	Approved	34.122	272		Rel-7	Adding the test case of E-AGCH detection parameter for 1.28Mcps TDD Option	F	LCRTDD-EDCH-UEConTest
RP-080106	Approved	34.123-1	2135		Rel-8	Addition of MAC-es/e tests for 3.84Mcps and 7.68Mcps TDD to section 7 of 34.123-1	F	RANimp-UEConTest_EDCHTDH
RP-080106	Approved	34.123-1	2136		Rel-8	Update of Radio bearer control procedure tests to include E-DCH test for 3.84Mcps and 7.68Mcps TDD	F	RANimp-UEConTest_EDCHTDH
RP-080102	Approved	34.123-1	2137		Rel-8	New test case 8.1.2.1a addition to verify the UE supporting the features and operation of multi-frequency and UpPCH Shifting for LCR TDD.	F	TEI7_Test
RP-080102	Approved	34.123-1	2138		Rel-8	New test case addition to verify the UE supporting the features and operation of multi-frequency and UpPCH Shifting for LCR TDD.	F	TEI7_Test
RP-080102	Approved	34.123-1	2139		Rel-8	New test case addition to verify the UE supporting the features and operation of multi-frequency and UpPCH Shifting for LCR TDD.	F	TEI7_Test
RP-080102	Approved	34.123-1	2140		Rel-8	New test case addition to verify the UE supporting the feature of UpPCH Shifting for LCR TDD.	F	TEI7_Test
RP-080102	Approved	34.123-1	2141		Rel-8	NEW test case addition to verify the UE supporting the feature of UpPCH Shifting for LCR TDD.	F	TEI7_Test

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RP-080108	Approved	34.123-1	2142		Rel-8	New MAC Test Case for UL 16QAM	F	RANimp-UEConTest_16QamUplink
RP-080108	Approved	34.123-1	2143		Rel-8	New Radio Bearer Test Cases for UL 16 QAM	F	RANimp-UEConTest_16QamUplink
RP-080108	Approved	34.123-1	2144		Rel-8	Update of existing E-DCH radio bearer test cases in section 14.7 for Rel-7 UE HS_DSCH physical layer categories 13 to 18 and E-DCH category 7.	F	RANimp-UEConTest_16QamUplink
RP-080107	Approved	34.123-1	2145		Rel-8	Addition of MAC-ehs TB size selection test case for 64QAM	F	RANimp-UEConTest_64QamDownlink
RP-080107	Approved	34.123-1	2146		Rel-8	New Rel-7 HSPA IB radio bearer test case for enhanced L2 and 64QAM	F	RANimp-UEConTest_64QamDownlink
RP-080107	Approved	34.123-1	2147		Rel-8	New Rel-7 HSPA streaming radio bearer test case for enhanced L2 and 64QAM	F	RANimp-UEConTest_64QamDownlink
RP-080109	Approved	34.123-1	2148		Rel-8	Addition of a new test case for DL Improved Layer2: Reconfiguration between fixed and flexible AM RLC, Serving HS-DSCH cell change between MAC-hs and MAC-ehs.	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2149		Rel-8	Addition of generic test procedure for MAC-ehs TB size selection test cases	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2150		Rel-8	Addition of MAC-ehs TB size selection test case for QPSK and 16QAM	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2151		Rel-8	Update of RLC test case 7.2.3.36 for Flexible handling of RLC PDU sizes for AM RLC	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2152		Rel-8	Addition of RLC test case for Flexible handling of RLC PDU sizes for UM RLC in downlink	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2153		Rel-8	Correction to generic test procedure for Enhanced L2 radio bearer test cases	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2154		Rel-8	Update of existing HSDPA radio bearer test cases in section 14.6 for Rel-7 UE HS_DSCH physical layer categories 13 to 18.	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2155		Rel-8	New Rel-7 HSPA IB radio bearer test case for enhanced L2, QPSK and 16QAM	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2156		Rel-8	New Rel-7 HSPA streaming radio bearer test case for enhanced L2, QPSK and 16QAM	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-1	2157		Rel-8	New Rel-7 HSPA conversational radio bearer test case using SRBs with flexible RLC	F	RANimp-UEConTest_L2DataRates

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RP-080111	Approved	34.123-1	2158		Rel-8	Addition of a new test case for CPC: CQI reporting in UL.	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2159		Rel-8	Addition of a new test case for CPC: UL DPCCH slot format #4	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2160		Rel-8	New CPC test case for Radio Bearer Release for transition from CELL_DCH to CELL_DCH: Success (frequency modification, stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2161		Rel-8	New CPC test case for Physical Channel Reconfiguration for transition from CELL_DCH to URA_PCH: Success (frequency modification, stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2162		Rel-8	New CPC test case for Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (serving E-DCH cell change with discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2163		Rel-8	New CPC test case for Physical channel reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Timing re-initialized hard handover to another frequency, Serving E-DCH cell change with discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2164		Rel-8	New CPC test case for Physical Channel Reconfiguration for transition from CELL_DCH to CELL_DCH: Failure (Timing re-initialized hard handover, Serving E-DCH cell change with discontinuous uplink transmission, physical channel failure and reversion to old	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2165		Rel-8	New CPC test case for Cell Update: Transition from URA_PCH to CELL_DCH: Success (start of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2166		Rel-8	New CPC test case for Cell Update: Transition from CELL_PCH to CELL_DCH: Success (frequency modification, start of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2167		Rel-8	New CPC test case for Cell Update: Radio Link Failure, with active discontinuous uplink transmission	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2168		Rel-8	New CPC test case for Inter-RAT Cell Change Order from UTRAN to GPRS/CELL_DCH/Success (stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2169		Rel-8	Corrections to CPC RRC test cases	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2170		Rel-8	New CPC test case: RRC Connection Establishment for transition from Idle Mode to CELL_DCH: Success (start of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2171		Rel-8	New CPC test case: Radio Bearer Reconfiguration from CELL_DCH	F	RANimp-UEConTest_CPC

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						to CELL_DCH: Success (With active discontinuous uplink transmission)		
RP-080111	Approved	34.123-1	2172		Rel-8	New CPC test case: Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH and CELL_DCH to CELL_FACH: Success (start and stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2173		Rel-8	New CPC test case: Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (hard handover to another frequency, start and stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2174		Rel-8	New CPC test case: Radio Bearer Reconfiguration for transition from CELL_FACH to CELL_DCH and CELL_DCH to CELL_FACH: Success (frequency modification, start and stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080111	Approved	34.123-1	2175		Rel-8	New CPC test case: Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_DCH: Success (Start and stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080112	Approved	34.123-1	2176		Rel-8	New CPC test case: Radio Bearer Reconfiguration for transition from CELL_DCH to CELL_PCH: Success (stop of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080112	Approved	34.123-1	2177		Rel-8	New CPC test case: Radio Bearer Establishment for transition from CELL_DCH to CELL_DCH: Success (hard handover to another frequency, start of discontinuous uplink transmission)	F	RANimp-UEConTest_CPC
RP-080112	Approved	34.123-1	2178		Rel-8	New CPC test case: Active set update in soft handover: Radio Link addition and serving HS-DSCH / E-DCH cell change, with discontinuous uplink transmission.	F	RANimp-UEConTest_CPC
RP-080105	Approved	34.123-1	2179		Rel-8	New Rel-7 HSPA IB radio bearer test case for enhanced L2 and MIMO	F	MIMO-UEConTest_FDD
RP-080105	Approved	34.123-1	2180		Rel-8	New Rel-7 HSPA streaming radio bearer test case for enhanced L2 and MIMO	F	MIMO-UEConTest_FDD
RP-080096	Approved	34.123-1	2181		Rel-8	Correction to GCF WI-24 Network Sharing Testcase 6.2.2.4	F	TEI6_Test
RP-080096	Approved	34.123-1	2182		Rel-8	Correction to GCF WI 24 Idle Mode test cases 6.1.1.8 and 6.1.1.9	F	TEI6_Test
RP-080096	Approved	34.123-1	2183		Rel-8	Correction to GCF WI 24 Idle Mode test case 6.1.2.11, 6.2.1.10 and 6.2.1.11	F	TEI6_Test
RP-080096	Approved	34.123-1	2184		Rel-8	Correction to GCF WI 25 E-DCH MAC testcase 7.1.6.2.1	F	TEI6_Test
RP-080093	Approved	34.123-1	2185		Rel-8	Corrections to RoHC performance test cases	F	TEI5_Test

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RP-080096	Approved	34.123-1	2186		Rel-8	Correction to testcase 7.1.6.4.1	F	TEI6_Test
RP-080091	Approved	34.123-1	2187		Rel-8	Correction to 8.3.1.30	F	TEI_Test
RP-080096	Approved	34.123-1	2188		Rel-8	Correction in test case 8.2.3.36	F	TEI6_Test
RP-080096	Approved	34.123-1	2189		Rel-8	Removal of RRC Test Case 8.2.1.37	F	TEI6_Test
RP-080096	Approved	34.123-1	2190		Rel-8	Correction of Test Case 8.5.2.1	F	TEI6_Test
RP-080096	Approved	34.123-1	2191		Rel-8	Correction of MBMS Test Cases	F	TEI6_Test
RP-080096	Approved	34.123-1	2192		Rel-8	Correction to GCF WI-24 Network Sharing Testcase 8.3.3.4	F	TEI6_Test
RP-080096	Approved	34.123-1	2193		Rel-8	Correction to GCF WI-25 test cases 8.3.1.42 and 8.3.1.42a	F	TEI6_Test
RP-080096	Approved	34.123-1	2194		Rel-8	Correction to GCF WI 25 E-DCH RRC testcase 8.4.1.49	F	TEI6_Test
RP-080096	Approved	34.123-1	2195		Rel-8	Correction to GCF WI 25 E-DCH RRC test case 8.2.6.51	F	TEI6_Test
RP-080096	Approved	34.123-1	2196		Rel-8	Correction to GCF WI 25 E-DCH RRC test case 8.2.6.52	F	TEI6_Test
RP-080091	Approved	34.123-1	2197		Rel-8	Correction to the GCF WI 10 RRC testcase 8.3.2.12	F	TEI_Test
RP-080096	Approved	34.123-1	2198		Rel-8	Corrections to GCF WI 49 MBMS RRC test cases 8.5.1.2 and 8.5.1.13	F	TEI6_Test
RP-080096	Approved	34.123-1	2199		Rel-8	Corrections to GCF WI 49 MBMS RRC test case 8.5.1.12	F	TEI6_Test
RP-080096	Approved	34.123-1	2200		Rel-8	Correction to GCF WI 49 MBMS RRC test case 8.5.1.4	F	TEI6_Test
RP-080096	Approved	34.123-1	2201		Rel-8	Correction to MBMS RRC test case 8.5.2.2 and 8.5.2.2m	F	TEI6_Test
RP-080096	Approved	34.123-1	2202		Rel-8	Removal of MBMS test cases 8.5.1.7 and 8.5.1.7m	F	TEI6_Test
RP-080096	Approved	34.123-1	2203		Rel-8	Correction to GCF WI 49 MBMS RRC test case 8.5.3.2	F	TEI6_Test
RP-080097	Approved	34.123-1	2204		Rel-8	Corrections to GCF WI 49 MBMS RRC test case 8.5.4.2	F	TEI6_Test
RP-080097	Approved	34.123-1	2205		Rel-8	Corrections to GCF WI 49 MBMS RRC test case 8.5.4.3	F	TEI6_Test
RP-080097	Approved	34.123-1	2206		Rel-8	Corrections to MBMS RRC test case 8.5.5.4 and 8.5.5.4m	F	TEI6_Test
RP-080097	Approved	34.123-1	2207		Rel-8	Correction to MBMS test cases for INITIAL DIRECT TRANSFER message	F	TEI6_Test
RP-080097	Approved	34.123-1	2208		Rel-8	Minor corrections to MBMS RRC test cases	F	TEI6_Test
RP-080097	Approved	34.123-1	2209		Rel-8	Correction to MBMS test case 8.5.2.4	F	TEI6_Test
RP-080097	Approved	34.123-1	2210		Rel-8	Correction to E-DCH test case 8.2.2.49	F	TEI6_Test

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RP-080091	Approved	34.123-1	2211		Rel-8	Correction to testcase 8.4.1.40	F	TEI_Test
RP-080097	Approved	34.123-1	2212		Rel-8	Correction of MEASUREMENT REPORT in GCF WI-25 HSUPA test case 8.3.4.10	F	TEI6_Test
RP-080097	Approved	34.123-1	2213		Rel-8	Correction of Test Case 8.5.1.1	F	TEI6_Test
RP-080097	Approved	34.123-1	2214		Rel-8	Correction in DSAC test case 9.4.3.6	F	TEI6_Test
RP-080097	Approved	34.123-1	2215		Rel-8	Corrections to MBMS NAS test cases 11.8.2 and 11.8.2m	F	TEI6_Test
RP-080091	Approved	34.123-1	2216		Rel-8	Correction to the GCF WI 10 GMM test case 12.4.1.4b	F	TEI_Test
RP-080097	Approved	34.123-1	2217		Rel-8	Corrections to MBMS GMM test cases 12.9.16, 12.9.16m, 12.9.17 and 12.9.17m	F	TEI6_Test
RP-080091	Approved	34.123-1	2218		Rel-8	Correction in GMM testcase 12.9.9	F	TEI_Test
RP-080091	Approved	34.123-1	2219		Rel-8	Correction to test case 12.4.1.1b	F	TEI_Test
RP-080097	Approved	34.123-1	2220		Rel-8	Correction to generic test procedure for MBMS HS PTP radio bearer test cases	F	TEI6_Test
RP-080091	Approved	34.123-1	2221		Rel-8	Addition of clearing of stored data in 17.2.3.9 and 17.2.4.3	F	TEI_Test
RP-080097	Approved	34.123-1	2222		Rel-8	Correction to generic C1 procedure to handle MBMS Modification Request message in case of MBMS Selected Service	F	TEI6_Test
RP-080091	Approved	34.123-1	2223		Rel-8	Editorial correction to the procedure (C.1) for checking the UE in Idle mode state.	F	TEI_Test
RP-080091	Approved	34.123-1	2224		Rel-8	Correction to TestCase 6.2.2.3	F	TEI_Test
RP-080097	Approved	34.123-1	2225		Rel-8	Corrections to test case 7.1.6.2.6	F	TEI6_Test
RP-080097	Approved	34.123-1	2226		Rel-8	Create a new test case 8.3.7.1a with A5/3 usage	F	TEI6_Test
RP-080091	Approved	34.123-1	2227		Rel-8	Clarification of execution of radio bearer test cases in sections 14 and 18	F	TEI_Test
RP-080106	Approved	34.123-2	347		Rel-8	Update of Implementation conformance statement to include E-DCH tests for 3.84Mcps and 7.68Mcps TDD	F	RANimp-UEConTest_EDCHTDH
RP-080108	Approved	34.123-2	348		Rel-8	Applicability for new UL 16 QAM Test Cases	F	RANimp-UEConTest_16QamUplink
RP-080107	Approved	34.123-2	349		Rel-8	Applicability of MAC-ehs TB size selection test cases for 64QAM	F	RANimp-UEConTest_64QamDownlink
RP-080107	Approved	34.123-2	350		Rel-8	Applicability of New Rel-7 HSPA IB radio bearer test case for enhanced L2 and 64QAM	F	RANimp-UEConTest_64QamDownlink

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RP-080107	Approved	34.123-2	351		Rel-8	Applicability of new Rel-7 HSPA streaming radio bearer test case for enhanced L2 and 64QAM	F	RANimp-UEConTest_64QamDownlink
RP-080109	Approved	34.123-2	352		Rel-8	Applicability of a new test case for DL Improved Layer2: Reconfiguration between fixed and flexible AM RLC, Serving HS-DSCH cell change between MAC-hs and MAC-ehs.	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-2	353		Rel-8	Applicability of MAC-ehs TB size selection test cases for QPSK and 16QAM	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-2	354		Rel-8	Applicability of new UM RLC test case for Flexible handling of RLC PDU sizes	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-2	355		Rel-8	Applicability of new Rel-7 HSPA IB radio bearer test case for enhanced L2, QPSK and 16QAM	F	RANimp-UEConTest_L2DataRates
RP-080109	Approved	34.123-2	356		Rel-8	Applicability of new Rel-7 HSPA streaming radio bearer test case for enhanced L2, QPSK and 16QAM	F	RANimp-UEConTest_L2DataRates
RP-080110	Approved	34.123-2	357		Rel-8	Applicability of new Rel-7 HSPA conversational radio bearer test case using SRBs with flexible RLC	F	RANimp-UEConTest_L2DataRates
RP-080112	Approved	34.123-2	358		Rel-8	Applicability for new CPC test cases	F	RANimp-UEConTest_CPC
RP-080112	Approved	34.123-2	359		Rel-8	Applicability change for corrected CPC test case 8.2.6.55	F	RANimp-UEConTest_CPC
RP-080105	Approved	34.123-2	360		Rel-8	Applicability for New Rel-7 HSPA IB radio bearer test case for enhanced L2 and MIMO	F	MIMO-UEConTest_FDD
RP-080105	Approved	34.123-2	361		Rel-8	Applicability of new Rel-7 HSPA streaming radio bearer test case for enhanced L2 and MIMO	F	MIMO-UEConTest_FDD
RP-080093	Approved	34.123-2	362		Rel-8	Correction of test executions	F	TEI5_Test
RP-080097	Approved	34.123-2	363		Rel-8	Applicability updated after removal of TC 8.2.1.37	F	TEI6_Test
RP-080097	Approved	34.123-2	364		Rel-8	Changed applicability for test case 8.2.3.36	F	TEI6_Test
RP-080097	Approved	34.123-2	365		Rel-8	Addition of applicability for new TC 8.3.7.1a	F	TEI6_Test
RP-080097	Approved	34.123-3	2263		Rel-6	Update RLP and MBMS RLC test models	F	TEI6_Test
RP-080098	Approved	34.123-3	2264		Rel-6	Correction to AT commands used in 3GPP ATSs	F	TEI6_Test
RP-080091	Approved	34.123-3	2265		Rel-6	Corrections to the PIXIT items	F	TEI_Test
RP-080098	Approved	34.123-3	2266		Rel-6	Removal of PDF version in formal delivries	F	TEI6_Test
RP-080110	Approved	34.123-3	2267		Rel-6	Introducing Rel-7 test model	F	RANimp-UEConTest_L2DataRates

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080098	Approved	34.123-3	2268		Rel-6	Production of pointer version 6.6.0 of TS 34.123-3 with no technical contents	F	TEI6_Test
RP-080090	Approved	34.123-3	2269		Rel-6	CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A	F	TEI6_Test
RP-080099	Approved	34.123-3	2270		Rel-6	Summary of regression errors in MBMS wk03 ATS	F	TEI6_Test
RP-080092	Approved	34.123-3	2271		Rel-6	Correction to GCF WI-010 RRC test case 8.3.3.1	F	TEI_Test
RP-080094	Approved	34.123-3	2272		Rel-6	Correction to testcase 7.1.5.6	F	TEI5_Test
RP-080099	Approved	34.123-3	2273		Rel-6	Upgrade RRC asn.1 for tc 8.5.2.1 û UE supporting MBMS service change for a ptp RB	F	TEI6_Test
RP-080092	Approved	34.123-3	2274		Rel-6	Summary of regression errors in wk49 ATS	F	TEI_Test
RP-080092	Approved	34.123-3	2275		Rel-6	Correction to PDU definition DTMINFORMATION in IRU ATS	F	TEI_Test
RP-080099	Approved	34.123-3	2276		Rel-6	Correction to SIB5 in MBMS ATS	F	TEI6_Test
RP-080099	Approved	34.123-3	2277		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.3.2	B	TEI6_Test
RP-080099	Approved	34.123-3	2278		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.5.2	B	TEI6_Test
RP-080099	Approved	34.123-3	2279		Rel-6	Addition to MBMS RRC test case 8.5.5.1	B	TEI6_Test
RP-080099	Approved	34.123-3	2280		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.5.3	B	TEI6_Test
RP-080099	Approved	34.123-3	2281		Rel-6	Corrections to GCF WI-24 Network Sharing test case 6.2.2.4	F	TEI6_Test
RP-080099	Approved	34.123-3	2282		Rel-6	Addition of RRC test case 6.1.1.9 to HSU_ENH_r6 ATS V6.4.0	B	TEI6_Test
RP-080092	Approved	34.123-3	2283		Rel-6	TTCN Correction in 8.3.1.30	F	TEI_Test
RP-080099	Approved	34.123-3	2284		Rel-6	Addition of RRC test case 6.1.1.8 to HSU_ENH_r6 ATS V6.4.0	B	TEI6_Test
RP-080092	Approved	34.123-3	2285		Rel-6	Summary of regression errors in wk49 ATS	F	TEI_Test
RP-080092	Approved	34.123-3	2286		Rel-6	Summary of regression errors in wk49 ATS	F	TEI_Test
RP-080099	Approved	34.123-3	2287		Rel-6	Addition of RRC test case 8.3.3.4 to HSU_ENH_r6 ATS	B	TEI6_Test
RP-080099	Approved	34.123-3	2288		Rel-6	Addition of GCF WI-25 EDCH RRC test case 8.2.2.49	B	TEI6_Test
RP-080099	Approved	34.123-3	2289		Rel-6	Addition of GCF WI-024 test case 6.2.1.10 to HSU_ENH_r6 ATS V6.5.0.	B	TEI6_Test
RP-080099	Approved	34.123-3	2290		Rel-6	Addition to MBMS RRC test case 8.5.5.7	B	TEI6_Test
RP-080099	Approved	34.123-3	2291		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.1.12	B	TEI6_Test

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080099	Approved	34.123-3	2292		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.1.2	B	TEI6_Test
RP-080092	Approved	34.123-3	2293		Rel-6	Summary of regression errors in wk49 ATS	F	TEI_Test
RP-080099	Approved	34.123-3	2294		Rel-6	Addition of GCF WI-25 EDCH RRC test case 8.2.1.36a	B	TEI6_Test
RP-080099	Approved	34.123-3	2295		Rel-6	Addition of RRC test case 8.1.1.11 to HSU_ENH_r6 ATS	B	TEI6_Test
RP-080099	Approved	34.123-3	2296		Rel-6	Addition of GCF WI 49 MBMS NAS test case 12.9.17	B	TEI6_Test
RP-080099	Approved	34.123-3	2297		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.4.1	B	TEI6_Test
RP-080100	Approved	34.123-3	2298		Rel-6	Addition of GCF WI-25 EDCH RRC test case 8.2.6.52	B	TEI6_Test
RP-080100	Approved	34.123-3	2299		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.5.4	B	TEI6_Test
RP-080100	Approved	34.123-3	2300		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.1.13	B	TEI6_Test
RP-080100	Approved	34.123-3	2301		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.1.9	B	TEI6_Test
RP-080100	Approved	34.123-3	2302		Rel-6	Addition of GCF WI-25 EDCH RRC Testcase 8.1.2.18 to HSU_ENH_r6 ATS v6.5.0	B	TEI6_Test
RP-080092	Approved	34.123-3	2303		Rel-6	Summary of regression errors in wk47 ATS	F	TEI_Test
RP-080100	Approved	34.123-3	2304		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.1.11	B	TEI6_Test
RP-080100	Approved	34.123-3	2305		Rel-6	Addition of GCF WI 49 MBMS RRC test case 8.5.1.3	B	TEI6_Test
RP-080100	Approved	34.123-3	2306		Rel-6	Correction to GCF WI-25 Test Case 8.2.2.47	F	TEI6_Test
RP-080100	Approved	34.123-3	2307		Rel-6	Addition of GCF WI 25 EDCH RRC test case 8.3.1.42a	B	TEI6_Test
RP-080100	Approved	34.123-3	2308		Rel-6	Addition of GCF WI-25 EDCH RRC test case 8.3.1.43	B	TEI6_Test
RP-080100	Approved	34.123-3	2309		Rel-6	Addition of GCF WI 25 EDCH RAB test case 14.7.3	B	TEI6_Test
RP-080100	Approved	34.123-3	2310		Rel-6	Addition of GCF WI 25 EDCH RRC test case 8.2.2.47a	B	TEI6_Test
RP-080100	Approved	34.123-3	2311		Rel-6	Addition of GCF WI-25 EDCH RRC test case 8.3.1.42	B	TEI6_Test
RP-080094	Approved	34.123-3	2312		Rel-6	TTCN Correction in testcase 8.3.1.34	F	TEI5_Test
RP-080100	Approved	34.123-3	2313		Rel-6	Addition of GCF WI-25 EDCH RRC Testcase 8.1.2.17 to HSU_ENH_r6 ATS v6.4.0	B	TEI6_Test
RP-080100	Approved	34.123-3	2314		Rel-6	Addition of GCF WI 49 MBMS RRC test case 14.4.5	B	TEI6_Test
RP-080100	Approved	34.123-3	2315		Rel-6	Addition of GCF WI-24 Network Sharing test case 6.1.2.11 to HSU_ENH_r6 ATS v6.4.0	B	TEI6_Test
RP-080100	Approved	34.123-3	2316		Rel-6	Addition of GCF WI-25 EDCH RRC test case 8.2.2.44a	B	TEI6_Test

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080100	Approved	34.123-3	2317		Rel-6	Summary of regression errors in the wk43 InterRAT ATSs.	F	TEI6_Test
RP-080092	Approved	34.123-3	2318		Rel-6	TTCN Correction in testcase 8.4.1.42	F	TEI_Test
RP-080092	Approved	34.123-3	2319		Rel-6	Correction to the TTCN to update ASP G_CL1_ComingFN_REQ	F	TEI_Test
RP-080092	Approved	34.123-3	2320		Rel-6	Summary of regression errors in wk43 ATS	F	TEI_Test
RP-080100	Approved	34.123-3	2321		Rel-6	Corrections to GCF WI-24 Network Sharing test case 6.2.2.4	F	TEI6_Test
RP-080092	Approved	34.123-3	2322		Rel-6	Summary of regression errors in wk43 ATS	F	TEI_Test
RP-080092	Approved	34.123-3	2323		Rel-6	Correction to testcase 8.2.6.37, 8.2.6.37b & 8.3.4.3	F	TEI_Test
RP-080100	Approved	34.123-3	2324		Rel-6	Addition of MBMS RAB test case 14.4.7	B	TEI6_Test
RP-080101	Approved	34.123-3	2325		Rel-6	Addition of MBMS RAB test case 14.4.6	B	TEI6_Test
RP-080101	Approved	34.123-3	2326		Rel-6	Addition of MBMS RRC test case 8.5.1.5	B	TEI6_Test
RP-080101	Approved	34.123-3	2327		Rel-6	Addition of MBMS RRC test case 8.5.1.4	B	TEI6_Test
RP-080101	Approved	34.123-3	2328		Rel-6	Addition of MBMS RRC test case 8_5_4_3	B	TEI6_Test
RP-080101	Approved	34.123-3	2329		Rel-6	Addition of GCF WI 49 RRC MBMS test case 8.5.2.2	B	TEI6_Test
RP-080092	Approved	34.123-3	2330		Rel-6	Summary of regression errors in wk03 ATS	F	TEI_Test
RP-080092	Approved	34.123-3	2331		Rel-6	Correction to GCF WI-10 RRC Testcase 8.4.1.42	F	TEI_Test
RP-080101	Approved	34.123-3	2332		Rel-6	Addition of GCF WI 25 HSUPA RAB test case 14.7.7	B	TEI6_Test
RP-080101	Approved	34.123-3	2333		Rel-6	Addition of GCF WI 25 HSUPA RAB test case 14.7.6	B	TEI6_Test
RP-080092	Approved	34.123-3	2334		Rel-6	TTCN Correction in testcase 8.1.1.9	F	TEI_Test
RP-080094	Approved	34.123-3	2335		Rel-6	TTCN Correction in testcase 8.1.6.5	F	TEI5_Test
RP-080092	Approved	34.123-3	2336		Rel-6	Correction to testcase 8.4.1.42	F	TEI_Test
RP-080092	Approved	34.123-3	2337		Rel-6	Correction to testcase 8.3.4.1 & 8.3.4.2	F	TEI_Test
RP-080092	Approved	34.123-3	2338		Rel-6	Correction to Interband Testcase 8.3.1.1a	F	TEI_Test
RP-080092	Approved	34.123-3	2339		Rel-6	Correction to testcase 12.4.1.4c2	F	TEI_Test
RP-080098	Approved	34.171	14		Rel-7	Addition of test case applicability and ICS proforma to TS 34.171	F	TEI6_Test
RP-080113	Approved	34.229-1	88		Rel-7	Centralizing rules for dialog identifiers to common messages	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	89		Rel-7	Updating conformance requirements of registration test cases for Rel-7	F	MTSI-UEConfTest

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080113	Approved	34.229-1	90		Rel-7	Updating references of 34.229-1 to IETF RFCs related to MTSI	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	91		Rel-7	New Annex F for generic requirements of MTSI supplementary services	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	92		Rel-7	Update of common messages for MTSI communication service identifier	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	93		Rel-7	New MTSI test case 15.12 MT call hold	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	94		Rel-7	New MTSI test case 15.13 Incoming Communication Barring	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	95		Rel-7	New MTSI test case 15.23 MO Explicit Communication Transfer	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	96		Rel-7	IMS test case 8.3 / Supported Header and expire rule during de-registration	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	97		Rel-7	Align via header for early IMS	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	98		Rel-7	New MTSI test case MO MTSI Text call	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	99		Rel-7	New MTSI test case Speech AMR, indicate all codec modes	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	100		Rel-7	New MTSI test case Speech AMR-WB, indicate all codec modes	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	101		Rel-7	New MTSI test case MT Video, add speech remove speech	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	102		Rel-7	New MTSI test case MT Video, add speech remove video	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	103		Rel-7	Add generic secondary PDP context procedure	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	104		Rel-7	New MTSI test case for MO Consultative Explicit Communication Transfer	F	MTSI-UEConfTest
RP-080113	Approved	34.229-1	105		Rel-7	New MTSI test case for MT Consultative Explicit Communication Transfer	F	MTSI-UEConfTest
RP-080113	Approved	34.229-2	18		Rel-7	Applicability for new MTSI test cases 15.12, 15.13 and 15.23	F	MTSI-UEConfTest
RP-080113	Approved	34.229-2	19		Rel-7	Applicability for MTSI test case MO MTSI Text call	F	MTSI-UEConfTest
RP-080114	Approved	34.229-2	20		Rel-7	Applicability for MTSI test case Speech AMR, indicate all codec modes	F	MTSI-UEConfTest
RP-080114	Approved	34.229-2	21		Rel-7	Applicability for MTSI test case Speech AMR-WB, indicate all codec modes	F	MTSI-UEConfTest
RP-080114	Approved	34.229-2	22		Rel-7	Applicability for MTSI test case MT Video, add speech remove speech	F	MTSI-UEConfTest
RP-080114	Approved	34.229-2	23		Rel-7	Update SDP applicability tables	F	MTSI-UEConfTest

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Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Workitem
RP-080114	Approved	34.229-2	24		Rel-7	Update references in TS 34.229-2	F	MTSI-UEConfTest
RP-080114	Approved	34.229-2	25		Rel-7	Update key to status codes	F	MTSI-UEConfTest
RP-080114	Approved	34.229-2	26		Rel-7	Addition of Applicability Statement for new MTSI test cases	F	MTSI-UEConfTest
RP-080098	Approved	34.229-3	11		Rel-6	Update of MMI command strings	F	TEI6_Test
RP-080089	Approved	34.229-3	12		Rel-6	CR to 34.229-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.229-3 (prose), Annex A	F	TEI6_Test
RP-080094	Approved	34.229-3	13		Rel-6	Addition of IMS-CC test case 7.2 to IMS_CC ATS V5.3.0	B	TEI5_Test
RP-080094	Approved	34.229-3	14		Rel-6	Addition of IMS-CC test case 10.1 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	15		Rel-6	Addition of IMS-CC test case 8.3 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	16		Rel-6	Addition of IMS-CC test case 8.2 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	17		Rel-6	Addition of IMS-CC test case 7.6 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	18		Rel-6	Addition of IMS-CC test case 7.4 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	19		Rel-6	Addition of IMS-CC test case 11.1 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	20		Rel-6	Addition of IMS-CC test case 14.1 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	21		Rel-6	Addition of IMS-CC test case 13.1 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	22		Rel-6	Addition of IMS-CC test case 8.4 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	23		Rel-6	Addition of IMS-CC test case 8.1 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	24		Rel-6	Addition of IMS-CC test case 7.1 to IMS_CC ATS V5.1.0	B	TEI5_Test
RP-080094	Approved	34.229-3	25		Rel-6	Common corrections to IMS-CC test cases	F	TEI5_Test
RP-080094	Approved	34.229-3	26		Rel-6	IMS regression errors in wk47 ATS	F	TEI5_Test

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Annex D:
Summary of TSG RAN Work Items

RAN Work Items Update after meeting #39

Abbreviations used:
%: Estimated level of completion
Feat: Feature
WT: Work Task
WI: Work Item
BB: Building Block
WIDS: WI Description Sheet
SI: Study Item
FS: Feasibility Study

Type	Name	WI Code	WG	%	Completion	Remarks
~~BB~~	~~**UE positioning Rel-7**~~	~~LCS3-UEpos~~	~~RP~~			
~~WT~~	~~Inclusion of Uplink TDOA UE positioning method in the UTRAN specifications~~	~~LCS3-UEPos-UTDOA~~	~~R2~~	~~100~~	~~Closed~~	~~(Last) Status report in RP-070797~~
Feat	MBSFN Downlink Optimised Broadcast 3.84 Mcps TDD	MBSFN-DOB	R1			Status Report in RP-0870~~2~~28~~18~~
Feat	**Rel-8 Improvements of the Radio Interface**	RInImp8				
BB	UMTS in 700 MHz band (FDD)	RInImp8-UMTS700	R4	95~~70~~	June 2008	Status Report in RP-~~070794~~080037
BB	UMTS in 2300 MHz band	RInImp8-UMTS2300	R4	20~~10~~	June 2008	Status Report in RP-~~070795~~080038
BB	UMTS/LTE 3500 MHz	RInImp8-UMTSLTE3500	R4	10	March 2009	WI Description in RP-071012 Status Report in RP-080039
BB	UMTS 2300 MHz TDD	RInImp8-UMTS2300TDD	R4	15	March 2009	WI Description in RP-071016 Status Report in RP-080040
BB	Further Improved Minimum Performance Requirements for HSDPA UE (FDD) - Two-Branch Interference Cancellation	RInImp8-2BIC	R4	~~8~~100	~~March 2008~~closed	Status Report in RP-~~070796~~080041, WI closed in RP#39
BB	CS Voice Service over HSPA	RInImp8-CsHspa	R2	~~9~~100	~~March 2008~~closed	WI Description in RP-070823 Status Report in RP-080042, WI closed in RP#39
BB	Performance requirements for 15 code reception with 16QAM/QPSK (FDD)	RInImp8-Hsdpa15codes	R4	1003~~5~~	March~~June~~ 2008	WI Description in RP-070824 Status Report in RP-080043, WI closed in RP#39

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Type	Name	WI Code	WG	%	Completion	Remarks
Feat	**Rel-8 RAN improvements**	RANimp	RP			
BB	Combination of 64QAM and MIMO for HSDPA (FDD)	RANimp-64QamMimoHsdpa	R1	5082	~~December 2007 (March 2008 for RAN4)~~June 2008 for RAN4	Status Report in RP-~~070817~~080044, 50% complete for RAN4 (100 for other WGs)
BB	Improved L2 for uplink	RANimp-UplinkL2dataRates	R2	95~~0~~	~~March~~ June 2008	Status Report in RP-~~070822~~080045
BB	Enhanced Uplink for CELL_FACH State in FDD	RANimp-UplinkEnhState	R2	53~~0~~	June 2008	Status Report in RP-~~070825~~080046
BB	Enhanced UE DRX for FDD	RANimp-DRX	R2	~~20~~50	June 2008	Status Report in RP-~~070821~~080047
BB	Enhancements for SRNS Relocation Procedure	RANimp-SrnsReloc	R3	75~~30~~	June~~March~~ 2008	Status Report in RP-~~070820~~080048
BB	Enhancements for FDD HSPA Evolution	RANimp-HSPAEvo	R3	30~~-~~	~~March~~ June 2008	Status Report in RP-~~071007~~080049
BB	64QAM for 1.28 Mcps TDD HSDPA	RANimp-64Qam1.28TDD	R1	65	~~May~~ June 2008	WI Description in RP-~~070924~~080050
BB	Enhanced CELL_FACH state in 1.28 Mcps TDD	RANimp-EnhState1.28TDD	R2	40	Sept 2008	WI Description in RP-~~071038~~080051
BB	1.28 Mcps TDD TDD Repeater Specification	RANimp-Repeaters1.28TDD	R4	5	~~May~~ September 2008	WI Description in RP-071003 Status Report in RP-080052
BB	Continuous Connectivity for packet data users for 1.28Mcps TDD	RANimp-LCRCPC	R1	new	December 2008	WID in RP-080085
BB	HSPA VoIP to WCDMA/GSM CS continuity	RANimp-HSPAVoIP	R2	new	September 2008	WID in RP-080229
BB	HS-DSCH Serving Cell Change Enhancements	RANimp-HSDSCH	R2	new	December 2008	WID in RP-080227
Feat	**3G Long Term Evolution**	LTE	RP		March 2008	Status report in RP-070738
BB	3G Long Term Evolution – Physical Layer	LTE-Phys	R1	~~95~~10 0	~~September 2007~~closed	Status report in RP-~~080207070813~~
BB	3G Long Term Evolution – Radio Interface Layer 2 and 3 Protocol Aspect	LTE-L23	R2	~~80~~	~~December~~ June 200~~87~~	Status report in RP-~~070813~~080207
BB	3G Long Term Evolution – eUTRAN Interfaces	LTE-interfaces	R3	~~80~~	~~December~~ June 200~~87~~	Status report in RP-~~080207070813~~
BB	3G Long Term Evolution – RF Radio Transmission/Reception, System Performance Requirements and Conformance Testing	LTE-RF	R4	~~30~~	June~~March~~ 2008	Status report in RP-~~080207070813~~
BB	LTE FDD repeaters	LTE-Repeaters	R4	~~15~~20	September 2008	WI Description in RP-0~~08003470814~~
WT	3G Long Term Evolution - Terminal Protocol Conformance Test	LTE-UEConTest_SIG	R5	10~~5~~	December 2008	Status Report in RP-

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Type	Name	WI Code	WG	%	Completion	Remarks
	Specifications					070815080035
WT	3G Long Term Evolution – Terminal Radio Transmission and Reception Conformance Test Specifications	LTE-UEConTest_RF	R5	510	September 2008	Status Report in RP-080036070816
Feat	**Support of UTRA HNB**	HNB	R2	new	September 2008	approved in principle, WID in RP-080159, to be reviewed
BB	FDD Home NodeB RF requirements	HNB-RF	R4	new	September 2008	WID RP-080234
	Rel-9					
BB	Support of WiMAX - LTE Mobility	LTEWiMAXMob	R2		March 2009	WI Description in RP-071034
BB	Support of WiMAX - UMTS Mobility	UMTSWiMAXMob	R2		March 2009	WI Description in RP-071035
	Studies					
SI	Home NodeB/eNodeB	RANFS-HNBeNB	R4	6590	March June 2008 for RAN3	Status Report in RP-070826080066, complete for RAN1,2,4, remains open for RAN3
SI	Improved network controlled mobility between LTE and 3GPP2/mobile WiMAX radio technologies	RANFS-LTEmob	R2	100	Closed	Status Report in RP-070827
SI	Scope of future HSPA Evolution for 1.28Mcps TDD	RANFS-LCRTDDHSPAEvo	R1	840	June 2008	Status Report in RP-070828080067
SI	Synchronised E-DCH for UTRA FDD	RANFS-UplinkSync	R1	20100	March 2008closed	Status Report in RP-070829080068
SI	Evaluation of the inclusion of Path Loss Based Technology in the UTRAN	RANFS-Pathloss	R4	5	September 2008	SI Description in RP-071050080069
SI	HS-PDSCH serving cell change enhancements	RANFS-HSPDSCH	R1	100	June 2008closed	SI Description in RP-071044080070, new WI in RP-080227
SI	LTE-Advanced	RANFS-LTEA	R1	new	September 2009	WID in RP-080137
SI	Dual-Cell HSDPA operation	RANFS-DCHS	R1,R4	new	December 2008	WID in RP-080228
	Testing					
Test	RF/RRM Conformance Test Aspects MBMS (FDD) (Rel-6)	MBMS-RAN-RF_Test	R5	95100	March 2008 (was December 2007)closed	Status report in RP-070798080054
Test	Conformance Test Aspects – MBMS for 3.84 / 7.68Mcps TDD (Rel-6)	MBMS_HCRTDD_Test	R5	100	Closed	(Last) Status report in RP-070799

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Type	Name	WI Code	WG	%	Completion	Remarks
Test	Conformance Test Aspects – 3.84/7.68 Mcps TDD Enhanced Uplink	RANimp-HCRTDD-EDCH_Test	R5	2045	March September (was March) 2008	Status report in RP-070800080058
Test	Signalling Conformance Test Aspects – MBMS for LCR TDD (Rel-6)	MBMS_LCRTDD_Test	R5	100	Closed	(Last) Status report in RP-070801
Test	UE antenna over the air conformance testing	RInImp-UEAnt_Test	R5	70	March June 2008 (was December March 2008)	Status report in RP-070802080055
Test	Conformance test aspects – 64QAM for HSDPA (FDD)	RANimp-UEConTest_64QamDownlink	R5	6010 0	March 2008closed	Status Report in RP-070803080059
Test	Conformance test aspects – Improved L2 support for high data rates	RANimp-UEConTest_L2DataRates	R5	5010 0	March 2008 (was December 2007)closed	Status Report in RP-070804080061
Test	Conformance test aspects – Multiple Input Multiple Output antennas (MIMO) for FDD	MIMO-UEConTest_FDD	R5	6010 0	March 2008closed	Status Report in RP-070805080057
Test	Conformance test aspects – Introduction of 16QAM in HSUPA (FDD)	RANimp-UEConTest_16QamUplink	R5	2595	September 2008 (was MaArch 2008)	Status Report in RP-070806080060
Test	Conformance test aspects – Continuous connectivity for packet data users	RANimp-UEConTest_CPC	R5	3595	JuneMarch 2008	Status Report in RP-070807080062
Test	Conformance test aspects – Enhanced CELL_FACH State in FDD	RANimp-UEConTest_EnhancedCellFACHState	R5	5	September 2008 (was March 2008)	Status Report in RP-070808080063
Test	Conformance Test Aspects - 1.28Mcps TDD MBMS RF/RRM (Rel-6)	MBMS_UEConTest_RFTDL	R5	100	Closed	(Last) Status Report in RP-070809
Test	Conformance Test Aspects - Minimum UE performance requirement for downlink physical channels in support of MTCH and MCCH operation based on type 1 enhanced receiver (Rx-Diversity)	RANimp-UEConTest_RxDivMBMS	R5	9010 0	March 2008 (was December 2007)closed	Status Report in RP-070810080056
Test	Conformance Test Aspects - Multimedia Telephony Services for IMS (MTSI)	RANimp-UEConTest_MTSI-UEConfTest	R5	20	September 2008	Status Report in RP-080064
Test	Conformance test aspect - 1.28 Mcps TDD Enhanced Uplink	UEConTest_LCRTDD-EDCH	R5	15	September 2008	Status Report in RP-080065
Test	Conformance Test Aspects - Network Selection Enhancements	NSP-CR_UEConTest	R5	new	December 2008	WID in RP-080135
Test	Conformance Test Aspects – MBSFN for HCR and VHCR TDD	MBMSE-RANPhysTDD_UEConTest	R5	new	March 2008	WID in RP-080155
Test	Conformance test aspects – CS Voice Service over HSPA	RInImp8-CsHspa_UEConTest	R5	new	September 2008	WID in RP-080160

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Annex E:
Meeting schedule

TITLE	TYPE	DATES	LOCATION	CTRY
3GPPRAN5-3GPPRAN5-TTCN e-mail	AH	1 Jan - 31 Dec 2008	Electronic Meeting	FR
3GPPRAN5#38	OR	28 Jan - 1 Feb 2008	Malaga	ES
Feb-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN1#52	OR	11 - 15 Feb 2008	Sorrento	IT
3GPPRAN2#61	OR	11 - 15 Feb 2008	Sorrento	IT
3GPPRAN3#59	OR	11 - 15 Feb 2008	Sorrento	IT
3GPPRAN4#46	OR	11 - 15 Feb 2008	Sorrento	IT
Mar-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN#39	OR	4 - 7 Mar 2008	Puerto Vallarta	MX
3GPPRAN1#52-bis	OR	31 Mar - 4 Apr 2008	Shenzhen	CN
3GPPRAN2#61-bis	OR	31 Mar - 4 Apr 2008	Shenzhen	CN
3GPPRAN3#59-bis	OR	31 Mar - 3 Apr 2008	Shenzhen	CN
3GPPRAN4#46-BIS	OR	31 Mar - 4 Apr 2008	Shenzhen	CN
Apr-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN-3GPPRAN1-3GPPRAN2-3GPP	WS	7 - 8 Apr 2008	Shenzhen	CN
May-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN1#53	OR	5 - 9 May 2008	Kansas City	US
3GPPRAN2#62	OR	5 - 9 May 2008	Kansas City	US
3GPPRAN3#60	OR	5 - 9 May 2008	Kansas City	US
3GPPRAN4#47	OR	5 - 9 May 2008	Kansas City	US
3GPPRAN5#39	OR	5 - 9 May 2008	Kansas City	US
3GPPRAN#40	OR	27 - 30 May 2008	Prague	CZ
Jun-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN2#62-BIS	OR	30 Jun - 4 Jul 2008	Warsaw	PL

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3GPPRAN1#53-bis	OR	30 Jun - 4 Jul 2008	Warsaw	PL
Aug-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN1#54	OR	18 - 22 Aug 2008	South Korea	KR
3GPPRAN2#63	OR	18 - 22 Aug 2008	South Korea	KR
3GPPRAN3#61	OR	18 - 22 Aug 2008	South Korea	KR
3GPPRAN4#48	OR	18 - 22 Aug 2008	South Korea	KR
3GPPRAN5#40	OR	18 - 22 Aug 2008	South Korea	KR
Sep-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN#41	OR	9 - 12 Sep 2008	JP	JP
3GPPRAN2#63-BIS	OR	29 Sep - 3 Oct 2008	Prague	CZ
3GPPRAN3#61-BIS	OR	30 Sep - 3 Oct 2008	Prague	CZ
Nov-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN1#55	OR	10 - 14 Nov 2008	Prague	CZ
3GPPRAN2#64	OR	10 - 14 Nov 2008	Prague	CZ
3GPPRAN3#62	OR	10 - 14 Nov 2008	Prague	CZ
3GPPRAN4#49	OR	10 - 14 Nov 2008	Prague	CZ
3GPPRAN5#41	OR	10 - 14 Nov 2008	Prague	CZ
Dec-08				
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN#42	OR	2 - 5 Dec 2008	Athens	GR

MEETING TYPES

AH = Ad Hoc	CM = Chairmen's meeting
JM = Joint	OR = Ordinary
PL = Plenary	PM = Preparatory Meeting
RG = Rapporteurs Group	RM = Resolution Meeting
SG = Steering Group	ST = Startup Meeting
TG = Task Group	WG = Working Group
WS = Work	XO = Extraordinary

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Appendix 20

www.3gpp.org / ftp / Specs / archive / 36_series / 36.331

sort by name/desc	sort by date/desc	sort by size/desc
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36331-880.zip	2010/01/02 21:17	646,7 KB
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36331-f51.zip	2019/04/22 19:27	2327,1 KB
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36331-g10.zip	2020/07/24 15:32	2758,8 KB
36331-g11.zip	2020/07/26 22:34	2760,2 KB
36331-g20.zip	2020/10/06 17:47	4309,7 KB
36331-g21.zip	2020/10/07 22:04	2766,3 KB
36331-g30.zip	2021/01/06 22:31	2791 KB
36331-g40.zip	2021/03/30 10:27	3436,1 KB
36331-g50.zip	2021/07/06 23:04	3438,1 KB
36331-g60.zip	2021/09/29 20:17	3530,2 KB
36331-g70.zip	2021/12/23 15:34	3451,8 KB
36331-g80.zip	2022/04/14 9:28	3655,3 KB
36331-g90.zip	2022/07/17 21:27	3661,3 KB
36331-ga0.zip	2022/09/30 21:17	3663,3 KB
36331-gb0.zip	2023/01/13 9:29	3664,3 KB
36331-gc0.zip	2023/03/30 12:41	3665,5 KB
36331-gd0.zip	2023/09/28 12:30	3666,7 KB
36331-ge0.zip	2024/01/12 8:36	3670,1 KB
36331-gf0.zip	2024/04/05 6:25	3672,5 KB
36331-h00.zip	2022/04/13 23:20	3522,2 KB
36331-h10.zip	2022/07/20 9:02	3543,9 KB
36331-h20.zip	2022/10/04 6:46	3555,4 KB

sort by name/desc	sort by date/desc	sort by size/desc
36331-h30.zip	2023/01/13 19:01	3559,6 KB
36331-h40.zip	2023/03/30 23:05	3563,2 KB
36331-h50.zip	2023/07/04 15:29	3564,3 KB
36331-h60.zip	2023/09/28 18:43	3569,4 KB
36331-h70.zip	2024/01/15 8:57	3563,2 KB
36331-h80.zip	2024/04/04 21:07	3573 KB
36331-i00.zip	2024/01/14 23:18	3599 KB
36331-i10.zip	2024/04/01 23:21	3613,1 KB

208 items.

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Appendix 21

3GPP TSG RAN meeting #57 **RP-121389**
Chicago, USA, Sep. 4 – 7, 2012

Agenda Item:	3
Source:	ETSI MCC
Title:	Report of 3GPP TSG RAN meeting #56,
	Ljubljana, Slovenia, June 13 – 15, 2012
Document for:	Approval

Report of 3GPP TSG RAN meeting #56

held in Ljubljana, Slovenia
June 13 – 15, 2012



colour code:
green: approved new TSs/TRs/WIs/SIs/Report
grey: outgoing LSs
red: WI/SI closed or moved to next REL
purple: pendingTdocs

The present document has been developed within the 3rd Generation Partnership Project (3GPP ™) and it has not been subject to any approval process by the 3GPP Organizational Partners.

Keywords
RAN, UTRA, LTE

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Meeting Organisation

Meeting:	3GPP TSG RAN #56			
Meeting location:	Ljubljana, Slovenia			
Duration:	Wednesday 13.06.2012 - Friday 15.06.2012			
Host:	European Friends of 3GPP (EF3)			
TSG RAN Chairman:	Takehiro Nakamura (NTT DOCOMO)		email: nakamurata@nttdocomo.co.jp	
TSG RAN Vice chairman:	Marc Grant (AT&T)		email: MG6217@att.com	
TSG RAN Vice chairman:	Han van Bussel (Deutsche Telekom)		email: han.van.bussel@telekom.de	
TSG RAN Vice chairman:	Hai Tang (China Mobile)		email: tanghai@chinamobile.com	
TSG RAN MCC Support:	Joern Krause (ETSI MCC)		email: Joern.Krause@etsi.org	
Email reflector:	3GPP_TSG_RAN@LIST.ETSI.ORG			
Technical documents:	ftp://ftp.3gpp.org/tsg_ran/TSGR_56/Docs			
next meetings:	TSG RAN #57,	04.09. - 07.09.2012	Chicago, USA	host: NAF3
	TSG RAN #58,	04.12. - 07.12.2012	Barcelona, Spain	host: EF3

Executive Summary

3GPP TSG RAN meeting #56 was held in Ljubljana, Slovenia, June 13-15 (one day shorter than usual due to the REL-12 and onwards workshop on June 11-12 at the same location), hosted by the European Friends of 3GPP. The meeting had 223 participants (see Annex A) and 489 Technical Documents (see Annex B).

- Main topics/decisions:
  - **RELEASE 11 schedule** (REL-11 freeze planned for Sep.12 and ASN.1 freeze for Dec.12 were confirmed): In order to increase the probability of the completion the scope of some WIs was reduced:
    - RAN1 (see way forward RP-120856, see AI 11): WI LTE Carrier Aggregation Enhancements (LTE_CA_enh, RP-120861), WI Further Enhanced Non CA-based ICIC for LTE (eICIC_enh_LTE, RP-120860), WI Enhanced Downlink Control Channel(s) (LTE_enh_dl_ctrl, RP-120871); a reduced scope for WIs Coordinated Multi-Point Operation for LTE - UL/DL needs further RAN1 discussion.
    - RAN4 (see guidance from RAN4 chairman in RP-120596 & RP-120848, see AI 11.7.1): inter-band Carrier Aggregation WIs will use a common TR 36.850 and only 1 UL component carrier will be considered for REL-11, i.e. 2 UL aspects are/will be removed from REL-11 WIDs and considered after REL-11.
  - **RELEASE 12 schedule:**
    - A workshop on REL-12 and onwards was held June 11-12, 2012 at the same location with about 250 participants, 42 presentations and Q&A sessions; the RAN chairman's workshop summary was made available also to RAN #56 (RP-120838) and the way forward for REL-12 was discussed.
    - New WI/SI proposals can be provided to RAN #57 in Sep.12 (workshop summary should be taken into account and coordination to avoid multiple proposals on similar topics is requested) but the approval of new WIs/SIs will depend on workload situation in last quarter of 2012 as REL-11 completion has priority.
    - An email on requirements and deployment scenarios of small cell enhancements is scheduled between RAN #56 and RAN #57 (rapporteur: RAN chairman) to clarify the scope.

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  - RAN chairman will propose a 21 months time period for the REL-12 stage 3 freeze to SA #56.

- **SI Study on Provision of low-cost MTC UEs based on LTE** (FS_LC_MTC_LTE, see AI 12.4.6): The study item is kept on hold until Sep.12 and the approval of the corresponding TR 36.888 was postponed. A SID update to focus on coverage aspects will be considered in Sep.12.

- **VoLTE capability split between LTE FDD and TDD** (see AI 8.2.5.2): Following the request of SA2 LS S2-121016=R2-121026 RAN2 agreed CRs adding UE capability information for "Voice over UTRA PS" and "SR-VCC". However, some companies suggested to add another capability to indicate "UE supports VoLTE for TDD" due to concerns regarding IOT opportunities. After intense discussions a way forward (RP-120862) was agreed: all related CRs are postponed and will be discussed again in RAN2; an LS RP-120883 was sent to SA2 & CT1 to explain the status so that SA2 work can continue.

- **Support of bandwidth combinations for CA** (see AI 6.3 and AI 10.3): RAN approved the process to define bandwidth combination subsets suggested in RAN4 LS RP-120427. Also 25.331/36.331 company CRs RP-120731 - RP-120733 on Introduction of multiple frequency band indicator were approved (note: 25.307/36.307 CRs might follow in the future).

- **Company CRs on PSC/PCI range for CSG in shared networks** (see AI 8.2.2): Although RAN2 did not consider it necessary to specify a note ("up to network configuration"), RAN finally approved REL-11 CRs to 25.367 (RP-120880) and 36.300 (RP-120881).

- **Company CRs on Mandating setting of FGI bit 27 and 28 to "1"** on SRVCC and TTI bundling for VoLTE were postponed.

- **ITU-R** (see AI 7.2.2): 6 incoming LSs from WP5A treated, 2 of them forwarded to 3GPP ITU-R ad hoc for review until RAN #57: RP-120834 on PPDR and RP-120840 on BWA. More LSs from ITU-R expected in the future (work for WRC-15).

- **ITU-T**: Reply LS to RAN #55 LS RP-120006 sent on coordination between ITU-T and 3GPP on synchronization in RP-120884.

- **Asia Pacific Telecommunity (APT) Wireless Group**: LS forwarded from PCG #28 treated (RP-120673) and LS RP-120868 sent back on status of WIs on700 MHz band and E850 MHz bands.

- Incoming Liaison Statements: 18, see Annex C

- Outgoing Liaision Statements: 4, see Annex D

- 12 closed work items (WI) in June 2012:

  - RAN4:
    - Perf. part: Enh. ICIC for non-CA based deployments of heterog. networks for LTE, REL-10 (470207, eICIC_LTE-Perf)
    - Perf. part: Introduction of New Config. for 4C-HSDPA, REL-11 (510218, 4C_HSDPA_Config-Perf)
    - Core part: LTE-Adv. CA of Band 1 and Band 19 REL-11, (540122, LTE_CA_B1_B19-Core)
    - Perf. part: LTE-Adv. CA of Band 1 and Band 19, REL-11 (540222, LTE_CA_B1_B19-Perf) note: No CRs were needed.
    - Core part: LTE E850 - Lower Band for Region 2 (non-US), REL-11 (510132, LTE_e850_LB-Core)
    - Perf. part: LTE E850 - Lower Band for Region 2 (non-US), REL-11 (510232, LTE_e850_LB-Perf)
    - Core part: LTE for 700 MHz digital dividend, REL-11 (520117, LTE_APAC700-Core)
    - Perf. part: LTE for 700 MHz digital dividend, REL-11 (520217, LTE_APAC700-Perf)
    - Core part: Non-contiguous 4C-HSDPA operation, REL-11 (510119, NC_4C_HSDPA-Core)
  - RAN5 UE Conformance Test Aspects for:
    - CT1 aspects of IMS Emergency Calls over GPRS and EPSR, REL-9 (480029, IMS_EMER_GPRS_EPS_UEConTest)
    - Service Specific Access Control (SSAC), REL-9 (520014, SSAC_UEConTest)
    - UMTS 3500, REL-10 (420014, RInImp-UEConTest_UMTS3500)

- 6 closed REL-11 study items (SI) in June 2012:

  - RAN1: Study on Further Enhancements to LTE TDD for DL-UL Interference Management and Traffic Adaptation (510039, FS_LTE_TDD_eIMTA)
  - RAN1: Study on LTE Coverage Enhancements (530053, FS_Cov_Enh_LTE)
  - RAN1: Study on Enhanced Uplink Transmission for LTE (510035, FS_eUL_TX_LTE); SI stopped

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  - RAN3: Study on further enhancements for HNB and HeNB (510036, FS_EHNB_enh):
    Note: 2 related WIs were started for this SI.
  - RAN4: Study on UMTS/LTE in 900 MHz band (Japan, Korea) (520018, FS_UTRA_LTE_900MHz)
  - RAN4: Study on Interference analysis between 800~900 MHz bands (510038, FS_B800_B900_Interf_LTE)

- 12 new approved work items (WI):

  - RAN3 REL-11:

    - Core part: Further enhancements to H(e)NB mobility- Part 1 RP-120900
    - Core part: Further enhancements to H(e)NB mobility- Part 2 RP-120901
      Note: Both parts are follow up WIs to the completed SI FS_EHNB_enh, part 1 has higher priority than part 2. A part 3 will follow at RAN #57.

  - RAN4: core & performance parts:

    - LTE Advanced intra-band non-contiguous Carrier Aggregation for Band 4 RP-120593 REL-12
    - LTE-Advanced Intra-band Contiguous Carrier Aggregation in Band 1 RP-120826 REL-11
    - LTE Advanced inter-band Carrier Aggregation for Band 2 and Band 4 RP-120875 REL-12

  - RAN5 UE Conformance Test Aspects for:

    - Enhanced Downlink Multiple Antenna Transmission for LTE, REL-10 RP-120612
    - LTE for 700 MHz digital dividend, REL-11 RP-120600
    - LTE E850 - Lower Band for Region 2 (non-US), Band 27, REL-11 RP-120603
    - ZUC (EEA3 and EIA3) algorithm, REL-11 RP-120631

- 0 new approved REL-11 study items (SI)

- 1 new approved Technical Specification (TS), i.e. now under CR control:

  - RAN5 TS 37.571-4 v9.0.0 (AGNSSTest_UTRAN, LCS_LTE_UEConTest): RP-120614
    Note: REL-10 version of this TS will also be introduced after RAN #56.

- 7 new approved Technical Reports (TR), i.e. now under CR control:

  - RAN1 TR 36.824 v11.0.0 (FS_Cov_Enh_LTE): RP-120670
  - RAN1 TR 36.828 v11.0.0 (FS_LTE_TDD_eIMTA): RP-120693
  - RAN3 TR 37.803 v11.0.0 (FS_EHNB_enh): RP-120608
  - RAN4 TR 36.808 v10.0.0 (LTE_CA-Core): RP-120595
    Note: It was forgotten to put this TR under CR control at the end of REL-10.
  - RAN4 TR 36.807 v10.0.0 (LTE_CA-Core, LTE_eDL_MIMO-Core, LTE_UL_MIMO-Core): RP-120706
    Note: It was forgotten to put this TR under CR control at the end of REL-10.
  - RAN4 TR 37.804 v11.0.0 (FS_UTRA_LTE_900MHz): RP-120618
  - RAN4 TR 36.820 v11.0.0 (LTE_APAC700-Core): RP-120844

- 0 new Technical Specification (TS) provided for information

- 4 new Technical Reports (TR) provided for information:

  - RAN2 TR 36.822 v1.0.0 (LTE_eDDA-Core): RP-120615
  - RAN3 TR 36.836 v1.0.0 (FS_LTE_mobRelay): RP-120694
  - RAN4 TR 37.902 v1.0.0 (FS_LTE_OTA): RP-120671
  - RAN4 TR 37.809 v1.0.0 (medBS_class_LTE_MSR-Core): RP-120705

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- Change requests statistics (see also Annex E): 1409 CRs handled with 1352 approved CRs.

Phase	Cat	all CRs	Approved CRs	approved RAN1	approved RAN2	approved RAN3	approved RAN4	approved RAN5
Rel-8	B	4	4	0	1	0	3	0
Rel-8	F	35	33	0	8	0	25	0
Rel-9	A	36	34	0	9	0	25	0
Rel-9	B	69	69	0	0	0	1	68
Rel-9	F	222	206	0	9	0	29	168
Rel-10	A	79	64	0	17	0	47	0
Rel-10	B	14	14	0	1	0	13	0
Rel-10	C	7	5	0	2	3	0	0
Rel-10	D	2	2	0	1	0	1	0
Rel-10	F	563	561	8	18	11	96	428
Rel-11	A	157	148	0	19	5	124	0
Rel-11	B	110	101	0	14	13	74	0
Rel-11	C	5	5	0	4	0	1	0
Rel-11	D	1	1	0	1	0	0	0
Rel-11	F	105	105	6	11	16	21	51
sum		**1409**	**1352**	**14**	**115**	**48**	**460**	**715**

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1 Opening of the Meeting

TSG RAN chairman Mr. Takehiro Nakamura (NTT DOCOMO) opened the meeting 3GPP TSG RAN #56 on Wednesday June. 13th, .2012 at 09:00am.

On behalf of the host, the European Friends of 3GPP, Ravi Kuchibhotla (Motorola Mobility) welcomed the delegates to Ljubljana, Slovenia and explained organisational issues of the meeting.

2 Approval of the Agenda

RP-120420 Agenda for RAN #56 held in Ljubljana, Slovenia, 13.06.-15.06.2012 RAN chairman (NTT DOCOMO) Agenda
conclusion: approved

3 Approval of the meeting report of TSG-RAN #55

RP-120421 Draft report of RAN #55 held in Xiamen, China, 28.02.-02.03.2012 ETSI MCC Report
conclusion: revised in R2-12 before RAN #56

RP-120430 Revised Draft report of RAN #55 held in Xiamen, China, 28.02.-02.03.2012 ETSI MCC Report
conclusion: revised in RP-120843 which is the approved report

4 Reminder for IPR declaration

The RAN chairman made the following call for IPRs and reminded the delegates of their obligations with respect to IPRs:

> The attention of the delegates to the meeting of this Technical Specification Group is drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.
>
> The delegates are asked to take note that they are thereby invited:
>
> - to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.
> - to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Statement and the Licensing declaration forms (http://webapp.etsi.org/Ipr/).

5 RAN Chairman's Report of meetings

5.1 Report from TSG SA

RAN chairman reported from TSG SA #55 held in Xiamen, China, 5-7 March, 2012:

1. **RAN#55 report**: RAN#55 report was presented in SP-120141.

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2. **Updated CR cover sheet**: Approved by SA (SP-120115). It is recommended to use this updated CR cover sheet in RAN WGs and RAN plenary.

3. **New WI template**: NOT approved by SA, further discussion is needed.

4. **Rel-11 planning**:
   Stage 1 was frozen in September 2011 without exceptions (unchanged)
   Stage 2 was frozen in March 2012 without exceptions
   Stage 3 freezing target September 2012 (unchanged)
   RAN ASN.1 and equivalent CT formal interface specification freeze 3 months after freezing Stage 3. (unchanged)

5. **Rel-12 planning**:
   Stage 1 tentative freezing target March 2013 (at the earliest)
   Stage 2/3 freezing target tbd (RAN June 2012 Workshop input needed)

6. **ITU matters**: It was decided that a review of the full material required for Rev.11 of ITU-R M.1457 would be held on the SA plenary email reflector. SA approved the LS to PCG on handling Rev.1 of ITU-R M.2012 in SP-120178 and also approved the LS on Channelization scenarios for public protection and disaster relief operations in SP-120179.

7. **ETWS/PWS security**: SA approved removal from Rel-8 onward of PWS security requirements, including an alignment of ETWS, in SP-120172.

8. **Study on proximity-based services (D2D-related)**: SA concluded that SA1 should focus this study on LTE.

discussion:

5.2 Report from PCG and OP

RAN chairman reported from PCG#28/OP#27 held in Shanghai, China, April 26-27 2012:

1. **RAN management report**: RAN chairman provided RAN management report in PCG28_05r1.

2. **ITU-R submission**:

   - Documents related to M.1457 rev. 11 were provisionally approved in PCG28_31 & 32 toward creating the final edited ITU-R input submission. The final version should be provided by the ITU-R Ad Hoc Contact Person (working with the MCC and other experts) and distributed to PCG for confirmation of the approval. This confirmation should be completed no later than mid-June 2012.

   - "Planning 3GPP and the 3GPP Organizational Partners schedules for submission of material on LTE-Advanced toward Rev. 1 of Rec. ITU-R M.2012 (IMT-Advanced)" in RP-120243 was attached to the RAN management report. The PCG endorsed that the 3GPP update to Revision 1 of ITU-R M.2012 would be based on the March 2013 versions of 3GPP Release 11 specifications.

   - Document related to M.2012 rev. 1 in PCG28_14r1 contained in PCG28_25 sourced by ATIS was approved by the PCG. ATIS will submit PCG28_14r1 to ITU-R on behalf of OPs.

   - Document related to PPDR on Channelization for submission to ITU-R WP5A in PCG28_24 was approved by the PCG. PCG28_24 will be submitted to ITU-R by 3GPP individual members that are also members of ITU-R.

3. **Revised ToR for MCC TF160**:
   Revised ToR for MCC TF 160 (TTCN for 3GPP terminals) in PCG28_13 was approved by the PCG

4. **Marketing and Communications:**

   - A Communications Plan which contained an update on the marketing and communications activities for the remainder of 2012 was presented in PCG28_08.

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- The Marcoms Officer had proposed that, when the time came to evolve the current 3GPP system into a new direction, proper consideration should be given to appropriate branding at the outset of that work to become the de facto branding as was the case with LTE. (see section 7.2 in PCG28_08).

- The intention to introduce a 3GPP Awards Scheme was noted by the PCG. (see section 4.1 in PCG28_08)

5. **LSs from APT**: 3 LSs from Asia-Pacific Telecommunity (APT) were received and forwarded to TSG-RAN for proper action in 3GPP (see RP-120673).

discussion:

5.3 Report from other meetings

RAN chairman reported from "RAN REL-12 and onwards" workshop held in Ljubljana, Slovenia, June 11-12 2012:

RP-120838 Summary of the 3GPP Workshop on Release 12 and onward RAN chairman (NTT DOCOMO) Report REL-12 -
discussion: Telefonica: this is a chairman's view and we should have a RAN conclusion from the workshop; the report doesn't explicitly mention the discussed traffic types on slide 2 (MTC, Video, Smartphones and Emergency Services), also load balancing between the accesses (which we consider important) is missing, along with improving capacity over the entire coverage area.
RAN chair: we will discuss this further this week
conclusion: noted

6 Liaison activity of TSG RAN

6.1 Groups outside 3GPP

ITU-T SG2:

RP-120422 LS on Assignment of 3 digit MNCs (ITU-T COM2 LS129-E; to: 3GPP, 3GPP2, GSMA, CDMA Development Group; cc: -; contact: France Telecom) ITU-T SG2 LSin - -
no RAN action requested
discussion: RAN chair: CT and SA will look at this LS
conclusion: noted, no LS answer from RAN

ETSI TC EE & TC ATTM:

RP-120423 Reply LS to SP-110860 Global KPIs for energy efficiency of deployed broadband (EE(12)00005rev, ATTM(12)000017rev; to: 3GPP SA, 3GPP RAN; cc: -; contact: Alcatel-Lucent) ETSI TC EE & TC ATTM LSin - -
Note: RAN #54 received LSs RP-111409 (from ETSI TC ATTM) & RP-111410 (from ETSI TC EE) and provided proposal RP-111724 to SA #54 which finally was sent out from SA #54 as SP-110860;
no explicit RAN action requested
discussion: RAN chair: no immediate action rquested from RAN, i.e. we wait for the deliverable
conclusion: noted, no LS answer from RAN

ARIB:

RP-120604 Information on band usage in 2.5GHz band in Japan ARIB Info - -
conclusion: Tdoc will be treated under AI 8.4.2.

APT:

RP-120673 Liaison Statement to 3GPP related to the work of 3GPP RAN (PCG28_22; to: PCG; cc: RAN; contact: APT Secretary General) APT AWG LSin REL-11 LTE_APAC700
Note: APT = Asia Pacific Telecommunity, AWG = APT Wireless Group;
note: This LS was already treated at PCG #28 and it is forwarded to RAN for further handling;
RAN action requested; Ericsson has drafted an LS reply to part 3 of RP-120673 in RP-120611
discussion: RAN chair: PCG secretary has already replied that 3GPP wants to continue cooperation

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conclusion: noted, LS answer drafted by Ericsson in RP-120611

RP-120611 Draft Response LS to RP-120673 of APT Wireless Group on APT700 and other bands Ericsson LSout REL-11 LTE_APAC700
Draft response to the LS sent from APT Wireless Group to PCG (part 3), see RP-120673
discussion: "APAC700" to "APT700" in TR 36.820
NII: RAN4 will reply to RAN and RAN will reply to APT?
RAN chairman: yes, RAN will send a reply
Huawei: no urgency to send an LS as APT does not meet before Sep. RAN meeting
RAN chair: will see updated LS and see whether we can agree it this week
Fujitsu: RAN4 might have to look further into co-existence aspects, so it might be critical to prepare RAN4 aspects by Sep.
RAN chair: we also need to review completion of WIs mentioned in 1.2 of the LS
conclusion: revised draft LS in RP-120845 (no CR needed, TR 36.820 can be revised this week)

RP-120845 Draft Response LS to RP-120673 to APT Wireless Group on APT700 and other bands Ericsson LSout REL-11 LTE_APAC700
This is a draft response to the LS sent from APT Wireless Group to PCG (part 3), see RP-120673
discussion: No further comments
conclusion: revised in RP-120868 which will be the final LS

RP-120868 Response LS to RP-120673 on APT700 and other bands (to: APT Wireless Group; cc: RAN4; contact: Ericsson) RAN LSout REL-11 LTE_APAC700
conclusion: approved

RP-120844 TR 36.820 v 1.0.1 on LTE for 700 MHz digital dividend; provided for approval Rapporteur TR 36.820 REL-11 LTE_APAC700-Core
RAN4 TR 36.820 is provided for 1-step approval to v11.0.0;
revision of RP-120707 (see AI 11.7.3.3.1) after treating LSin RP-120673
conclusion: see AI 11.7.3.3.1

ITU-R WP5A:

RP-120831 LS on INVITATION TO SUBMIT CONTRIBUTIONS TO WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ITU-R [LMS.ATG] SYSTEMS FOR PUBLIC MOBILE COMMUNICATIONS WITH AIRCRAFT (ITU-R WP5A/TEMP/7; to: 3GPP, 3GPP RAN, 3GPP2, 4G Americas, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, WiMAX Forum, and XGP Forum; cc: -; contact: -) ITU-R WP5ALSin - -
conclusion: LS will be treated under AI 7.2.2

RP-120832 LS on INVITATION TO REVIEW THE PRELIMINARY DRAFT REVISION OF REPORT ITU-R M.2014: Digital land mobile systems for dispatch traffic (ITU-R WP5A/TEMP/13(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin - -
conclusion: LS will be treated under AI 7.2.2

RP-120833 LS on INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF RECOMMENDATION ITU-R M.2015: Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution 646 (Rev.WRC-12) (ITU-R WP5A/TEMP/15(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5ALSin - -
conclusion: LS will be treated under AI 7.2.2

RP-120834 LS on INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF RECOMMENDATION ITU-R M.2009: Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution 646 (Rev.WRC-12) (ITU-R WP5A/TEMP/17(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5ALSin - -

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conclusion: LS will be treated under AI 7.2.2

RP-120835 LS on INVITATION TO CONSIDER THE PROPOSED COURSE OF ACTION, TOWARDS THE REVIEW OF RECOMMENDATIONS AND REPORTS ASSOCIATED WITH WORK ON WRC-15 AGENDA ITEM 1.3 (ITU-R WP5A/TEMP/24(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin - -
conclusion: LS will be treated under AI 7.2.2

RP-120840 LS on THE REVISION WORK ON RECOMMENDATION ITU-R M.1801 AND REPORT ITU-R M.2116: Radio interface standards for BWA systems and characteristics for use in sharing studies (ITU-R WP5A/TEMP/6(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, 4G Americas, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, WiMAX Forum, and XGP Forum; cc: -; contact: -)" ITU-R WP5ALSin - -
conclusion: LS will be treated under AI 7.2.2

6.2 TSG SA, TSG CT, TSG GERAN

SA:

RP-120429 LS on selected PLMN-ID on A/Gb in FULL-MOCN-GERAN feature (S2-121897; to: GERAN; cc: RAN, SA, CT1; contact: Alcatel-Lucent) SA2 LSin REL-11 FULL-MOCN-GERAN
no RAN action requested
conclusion: noted, no LS answer from RAN

CT:

No contributions

GERAN:

RP-120424 Reply LS to S2-120933 = RP-120016 on the introduction of FULL-MOCN-GERAN feature (GP-120441; to: SA2; cc: RAN, SA, CT1; contact: Alcatel-Lucent) GERAN LSin REL-11 FULL-MOCN-GERAN
no RAN action requested
conclusion: noted, no LS answer from RAN

RP-120672 Reply LS to RP-120415 on Work Item on RF Requirements for Multi-band and Multi-standard radio (MB-MSR) Base Station (GP-120765; to: RAN4; cc: RAN; contact: Huawei) GERAN1 LSin REL-11 MB_MSR_RF
conclusion: LS will be treated under AI 11.5.5

6.3 TSG RAN WG1, WG2, WG3, WG4, WG5

Coordination between ITU-T and 3GPP on synchronization:

RP-120425 LS on ITU-T response LS (R1-120864 = RP-120006) to NGMN LS (RP-110476) on coordination between ITU-T and 3GPP on synchronization (R1-121911; to: RAN; cc: RAN3, RAN4; contact: Alcatel-Lucent) RAN1 LSin - -
no explicit RAN action requested
conclusion: noted, no LS answer from RAN to RAN1

RP-120426 Reply LS to R4-121987 = RP-120006 on Response on coordination between ITU-T and 3GPP on synchronization (R4-122024; to RAN; cc: -; contact: Ericsson) RAN4 LSin - -
no explicit RAN action requested
conclusion: noted, no LS answer from RAN to RAN4

RP-120674 LS on ITU-T response LS (R3-120470) to NGMN LS (RP-110476) on coordination between ITU-T and 3GPP on synchronization (R3-121330; to: RAN; cc: RAN1, RAN4; contact: Ericsson) RAN3 LSin - -

Note: RAN #55 received LS RP-120006 from ITU-T SG15 and asked RAN1/3/4 to review RP-120006 and provide feedback to RAN #56;

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RAN action requested (still need to answer RP-120006)
discussion: Orange: suggests that we take the RAN3 input as a reply to NGMN, ITU-T
Ericsson: we should include RAN1 and RAN4 conclusions as well
conclusion: noted, no LS answer from RAN to RAN3
Orange will draft reply LS to ITU-T, cc NGMN in RP-120846 including RAN1/3/4 conclusions

RP-120846 Draft reply LS on coordination between ITU-T and 3GPP on synchronization (to: NGMN, ITU-T SG15; cc: NGMN (P-OSB), RAN1, RAN3, RAN4; contact: Orange) Orange LSout LS02 - -
discussion: RAN1 chair: no need to include RAN1 cc as out-of-scope for RAN1
Orange: ok
Ericsson: but just from cc list not the RAN1 text
RAN4: you can also remove RAN4 from cc
conclusion: revised in RP-120884 removing RAN1 and RAN4 from cc list

RP-120884 Reply LS to ITU-T SG15/Q13/COM 15-LS 367 = RP-120006 on coordination between ITU-T and 3GPP on synchronization (to: ITU-T SG15/Q13; cc: NGMN (P-OSB), RAN3; contact: Orange) RAN LSout - -
Reply to RP-120006 based on RAN1/3/4 inputs in RP-120425, RP-120426, RP-120674;
note: RP-120006 was answering NGMN LS attached in RP-110476 that was not sent to RAN
conclusion: approved

Bandwidth combinations for CA:

RP-120427 LS on support of bandwidth combinations for CA (R4-122112; to: RAN2, RAN; cc: -; contact: Qualcomm) RAN4 LSin REL-10 -
compare RP-120335 of RAN #55; no explicit RAN action requested
discussion: RAN chair: was already treated in RAN2 and CRs are provided to RAN
Telecom Italia: There is also a RAN action
RAN chair: we will treat CRs from RAN2 later but we should agree on this procedure from RAN4
Sprint: what should the default be: all bands or subset?
Qualcomm: bandwidth combination subsets can be defined in RAN4
Panasonic: bandwidths are usually a REL independent manner so this is also REL independent?
Qualcomm: we have RAN2 REL-10 CR (in R2-123155 in RP-120812)
KDDI: should there be a WI?
Sharp: the 4 steps mentioned are anyway a RAN task
Sprint: agrees with overall procedure but different subsets could cause an IOT interoperability issue, so details need to be solved in RAN4
Qualcomm: this is a RAN4 agreed LS
Nokia: does not see IOT problems
conclusion: noted, no LS answer from RAN, proposed procedure of the LS is agreed by RAN
Telecom Italia, Sprint: are concerned that this decision will cause market fragmentation for the terminals
Vodafone: some serious discussion should take place before subsets are considered
RAN chair: we can discuss this at RAN whenever there is a corresponding WI proposal

MIMO OTA test method:

RP-120428 LS on UE measurements in support of the two-stage MIMO OTA test method (R4-122114; to: RAN1; cc: RAN; contact: Agilent) RAN4 LSin REL-11 HSPA_LTE_measRP_MIMO
conclusion: LS will be treated under AI 11.5.6

Low-Cost MTC UEs:

RP-120836 LS on Low-Cost MTC UEs based on LTE (R1-123060; to: RAN4, RAN2, RAN; cc: -; contact: Huawei) RAN1 LSin REL-11 FS_LC_MTC_LTE
conclusion: LS will be treated under AI 12.4.6

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7 ITU-R Ad hoc

7.1 Status report

RP-120431 Status Report ITU-R Ad hoc ITU-R Ad hoc Contact (Telecom Italia) Report
conclusion: status report is noted

7.2 Submission to ITU-R

7.2.1 ITU-R submission for IMT-Advanced

No contributions.

7.2.2 Other ITU-R submission

ITU-R WP5D:

RP-120729 M.1457 rev 11 final package ETSI MCC Info - -
discussion: MCC: was discussed after last TSGs and during and after PCG and this is the final result
conclusion: noted (for background information)

ITU-R WP5A:

RP-120831 LS on INVITATION TO SUBMIT CONTRIBUTIONS TO WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ITU-R [LMS.ATG] SYSTEMS FOR PUBLIC MOBILE COMMUNICATIONS WITH AIRCRAFT (ITU-R WP5A/TEMP/7; to: 3GPP, 3GPP RAN, 3GPP2, 4G Americas, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, WiMAX Forum, and XGP Forum; cc: -; contact: -) ITU-R WP5ALSin - -
no RAN action requested;
discussion: RAN chair: next WP5A meeting is in Oct.2012
conclusion: noted, no LS answer from RAN

RP-120832 LS on INVITATION TO REVIEW THE PRELIMINARY DRAFT REVISION OF REPORT ITU-R M.2014: Digital land mobile systems for dispatch traffic (ITU-R WP5A/TEMP/13(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin - -
no RAN action requested;
conclusion: noted, no LS answer from RAN

RP-120833 LS on INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF RECOMMENDATION ITU-R M.2015: Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution 646 (Rev.WRC-12) (ITU-R WP5A/TEMP/15(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5ALSin - -
no RAN action requested;
discussion: Telecom Italia: 3GPP is focused on technical aspects to make the band available to 3GPP technologies, band usage aspects are more for ITU-R and national regulators and therefore this LS can be considered for informationconclusion:noted, no LS answer from RAN

RP-120834 LS on INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF RECOMMENDATION ITU-R M.2009: Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution 646 (Rev.WRC-12) (ITU-R WP5A/TEMP/17(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA,

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GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5ALSin - -
no RAN action requested;
discussion: Telecom Italia: we should task 3GPP ITU-R ad hoc to review this Tdoc
conclusion: noted, **ACTION_ITEM_1**: 3GPP ITU-R ad hoc to review RP-120834 and come back to RAN #57 with review results (as usual: might involve also RAN WGs if needed); LS answer from RAN is postponed

RP-120835 LS on INVITATION TO CONSIDER THE PROPOSED COURSE OF ACTION, TOWARDS THE REVIEW OF RECOMMENDATIONS AND REPORTS ASSOCIATED WITH WORK ON WRC-15 AGENDA ITEM 1.3 (ITU-R WP5A/TEMP/24(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin - -
no RAN action requested;
discussion: Telecom Italia: no action needed for this at the moment
conclusion: noted, no LS answer from RAN

RP-120840 LS on THE REVISION WORK ON RECOMMENDATION ITU-R M.1801 AND REPORT ITU-R M.2116: Radio interface standards for BWA systems and characteristics for use in sharing studies (ITU-R WP5A/TEMP/6(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, 4G Americas, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, WiMAX Forum, and XGP Forum; cc: -; contact: -)" ITU-R WP5ALSin - -
no RAN action requested;
discussion: Telecom Italia: we should task 3GPP ITU-R ad hoc to review this Tdoc, might need RAN4 support
RAN chair: if we need to send an LS answer we will do this from RAN #57
conclusion: noted, **ACTION_ITEM_2**: 3GPP ITU-R ad hoc to review RP-120840 and come back to RAN #57 with review results (as usual: might involve also RAN WGs if needed); LS answer from RAN is postponed

ITU-R WP5D chairman (AT&T): increasing number of LSs to 3GPP expected from ITU-R WP5A and WP5D as ITU-R is currently working on the completion of some deliverables towards WRC-15 (e.g. on systems characteristics and sharing studies)

8 RAN WGs: WG Status Reports & CR Approvals Rel-4 to Rel-9

8.1 TSG RAN WG1

8.1.1 Report from RAN WG1 including report on actions required from the previous meeting

RP-120432 Status Report RAN WG1 RAN1 chairman (Alcatel-Lucent) Report
discussion: Huawei: slide 10: 1 item is listed that is not first priority in the WID
CMCC: if we do not reach consensus, do we throw it out?
RAN1 chair: features which are deprioritized do not need to be discussed at next RAN1 meeting; if no consensus is reached the usual procedures apply (e.g. working agreements), if no clear majority then we have no consensus and the feature will be out
Telefonica: slide 20: to MTC specific UE cat.: is it possible to produce an MTC UE which does not use this cat.?
RAN1 chair: yes
AT&T: slide 28: "recommended" means "not recommended"?
RAN1 chair: no, the slide is correct
AT&T: slide 18: merging CRs?
RAN1 chair: a proposal is being discussed on how to reduce scope

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Ericsson: in contrast to Huawei we think non-zero power ABS is part of the WID
RAN chair: asks RAN1 delegates to strongly consider a reduction of the scope of REL-11 WIs in order to be able to complete RAN1 work as soon as possible to give RAN2, RAN3 and RAN4 the possibility to complete their work
conclusion: noted

RP-120433 List of CRs from RAN WG1 ETSI MCC Info
conclusion: noted (for background information)

8.1.2 Discussions on decisions from RAN WG1

No contributions.

8.1.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

No contributions.

8.1.4 Approval of CRs to Rel-8 WIs

8.1.4.1 CRs for LTE [LTE-Phys]

RP-120736 CR to 36.211 to correct resource mapping for PDSCH RAN1 CR36.2110169 - F REL-10 LTE_Phys
conclusion: approved

8.1.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8]

No contributions.

8.1.5 Approval of CRs to Rel-9 WIs

8.1.5.1 CRs related to LTE

No contributions.

8.1.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

No contributions.

8.1.6 Approval of linked CRs where the leading one originated from RAN WG1

No contributions.

8.2 TSG RAN WG2

8.2.1 Report from RAN WG2 including report on actions required from the previous meeting

RP-120434 Status Report RAN WG2 RAN2 chairman (Ericsson) Report
discussion: CATT: slide 15: concerns regarding agreed CR R2-122959/R2-122960 in RP-120809, would like to reconsider the CR for an alternate

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RAN2 chair: there were 2 alternatives in RAN2 meeting; yes, there might be the problem that Node B configures something that is not tested by the UE; was not noticed before
CATT: would prefer the alternative CR to avoid backward compatility issues
Telecom Italia: slide 29: MDT: status of MDT for UMTS? no progress?
RAN2 chair: we had joint UMTS/LTE discussions first and for some issues there are still some ffs for UTRA, so UTRA is less mature than LTE; we will address them in the future meetings
LG: slide 35: what is the UE capability report for RRC handling?
RAN2 chair: UE will set a cap. bit and then the network can configure the parameters
LG: so UE will not have specific interference handling?
RAN2 chair: UE will know what to do with the signalling

conclusion: noted

RP-120435 List of CRs from RAN WG2 ETSI MCC Info
conclusion: noted (for background information)

8.2.2 Discussions on decisions from RAN WG2

RP-120621 On PSC/PCI range for CSG in shared networks TeliaSonera Disc REL-8 HNB-supp, LTE-L23
discussion: RAN chair:
Deutsche Telekom: has a problem to bring the CRs to RAN, should be treated in RAN2
TeliaSonera: we discussed it 3 times in RAN2 without conclusion so we need to solve it
RAN2 chair: first approach was to change functionality (not possible as already in the field) but functionality is not broken for shared networks, it works just requires appropriate network configuration (which we usually not specify)
TeliaSonera: PCI range does not work for shared networks, so configuration will not solve it; seems other companies could accept a note
RAN2 chair: so try to come to find a way forward during this week otherwise we have to reject the CRs
TeliaSonera: if CRs are not accepted then we should minute that RAN has no problem if shared networks do not work

conclusion: noted, offline discussion to see whether adding a note could be acceptable.
After offline discussion only REL-11 CRs are proposed in RP-120880 and RP-120881.

RP-120622 PSC range note on RAN sharing TeliaSonera CR 25.367 0023 - F REL-8 HNB-supp
resubmission of R2-121204 which was not agreed by RAN2 #77bis
conclusion: at first postponed, finally withdrawn, see RP-120880 instead

RP-120623 PSC range note on RAN sharing TeliaSonera CR 25.367 0024 - A REL-9 HNB-supp
conclusion: at first postponed, finally withdrawn, see RP-120880 instead

RP-120624 PSC range note on RAN sharing TeliaSonera CR 25.367 0025 - F REL-10 HNB-supp
note: SIB18 was added in Rel-10 => cat.F
conclusion: at first postponed, finally withdrawn, see RP-120880 instead

RP-120626 PCI range note on RAN sharing TeliaSonera CR 36.300 0467 - F REL-8 LTE-L23 (HNB)
conclusion: at first postponed, finally withdrawn, see RP-120881 instead

RP-120627 PCI range note on RAN sharing TeliaSonera CR 36.300 0468 - A REL-9 LTE-L23 (HNB)
conclusion: at first postponed, finally withdrawn, see RP-120881 instead

RP-120628 PCI range note on RAN sharing TeliaSonera CR 36.300 0469 - A REL-10 LTE-L23 (HNB)
conclusion: at first postponed, finally withdrawn, see RP-120881 instead

RP-120629 PCI range note on RAN sharing TeliaSonera CR 36.300 0470 - A REL-11 LTE-L23 (HNB)
conclusion: at first postponed, finally revised in RP-120881

RP-120881 PCI range note on RAN sharing TeliaSonera CR 36.300 0470 1 F REL-11 LTE-L23 (HNB)
company contribution;
only REL-11 CR considered now (compare RP-120626, RP-120627, RP-120628 and RP-120629)
discussion: ALU: specs affected checked?

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TeliaSonera: drafts were on the RAN2 reflector since yesterday and CRs were reviewed by RAN2 chairman and RAN2 vice-chairman
RAN2 chair: we could handle the CRs also in RAN2
TeliaSonera: we had it already 3 times in RAN2
ALU: would like to ask RAN2 to check
Samsung: situation is a bit strange as when we would send it back to RAN2 RAN2 will come back to the same conclusion
RAN chair: seems to be better to approve here
conclusion: approved

RP-120880 PSC range note on RAN sharing TeliaSonera CR 25.367 0026 - F REL-11 HNB-supp
company contribution;
only REL-11 CR considered now (compare RP-120622, RP-120623 and RP-120624)
discussion: NSN: has this been on RAN2 reflector?
TeliaSonera: yes, for 19hours
conclusion: approved

8.2.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

RP-120803 RAN2 REL-8 and shadow CRs to REL-7 WI on Continuous connectivity for packet data users RAN2 CR 25.331 set REL-8 RANimp-CPC, TEI8
conclusion: approved

RP-120804 RAN2 REL-9 CR (and shadow CRs) and REL-10 CR to REL-7 WI on Enhanced CELL_FACH State in FDD RAN2 CR 25.331 set REL-9 RANimp-Enhstate, TEI9
conclusion: approved

company CRs:

RP-120632 Adding the missing MAC-ehs window size values for 9bits TSN option in 1.28Mcps TDD CATT CR 25.331 5028 3 F REL-9 RANimp-L2DataRates, TEI9
RANimp-L2DataRates was a REL-7 WI;
RAN2 email discussion [78#14] did not manage to conclude about R2-123048 due to CR clashing
conclusion: withdrawn (will be resubmitted to next RAN2 meeting)

RP-120633 Adding the missing MAC-ehs window size values for 9bits TSN option in 1.28Mcps TDD CATT CR 25.331 5030 3 A REL-10 RANimp-L2DataRates, TEI9
RANimp-L2DataRates was a REL-7 WI;
RAN2 email discussion [78#14] did not manage to conclude about R2-123049 due to CR clashing
conclusion: withdrawn (will be resubmitted to next RAN2 meeting)

RP-120634 Adding the missing MAC-ehs window size values for 9bits TSN option in 1.28Mcps TDD CATT CR 25.331 5032 3 A REL-11 RANimp-L2DataRates, TEI9
RANimp-L2DataRates was a REL-7 WI;
RAN2 email discussion [78#14] did not manage to conclude about R2-123050 due to CR clashing
conclusion: withdrawn (will be resubmitted to next RAN2 meeting)

8.2.4 Approval of CRs to Rel-8 WIs

8.2.4.1 CRs for LTE [LTE-L23]

RP-120805 RAN2 REL-8 and shadow CRs for Long Term Evolution (LTE) RAN2 CR 36.331 set REL-8 LTE-L23, ETWS
conclusion: approved

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8.2.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8]

RP-120806 Collection of RAN2 REL-8 (and shadow) CRs for REL-8 WIs on Enhanced Uplink for CELL_FACH State in FDD, Enhanced CELL_FACH state in 1.28 Mcps TDD and Paging Permission with Access Control RAN2 CR set REL-8 RANimp-UplinkEnhState, RANimp-EnhState1.28TDD, PPACR
conclusion: approved

8.2.5 Approval of CRs to Rel-9 WIs

8.2.5.1 CRs related to LTE

RP-120807 RAN2 & RAN3 CRs to several releases for REL-9 WI on MBMS support in LTE RAN2 CR set REL-9 MBMS_LTE
conclusion: approved
After agreement of RP-120807 on Wed of RAN #56 it was detected that R2-122087 in RP-120807 had the wrong spec version on the CR cover so R2-122087 was revised in RP-120854.
RP-120807 is partly approved (i.e. all CRs except R2-122087)
R2-122087 is revised in RP-120854

RP-120854 Clarification of mch-SchedulingPeriod configuration Alcatel-Lucent, Ericsson, Nokia Siemens Networks, Samsung CR 36.331 0913 1 F REL-9 MBMS_LTE
conclusion: approved

RP-120808 Collection of RAN2 CRs to various LTE related REL-9 WIs RAN2 CR set REL-9 PWS-RAN, EHNB-RAN2, LCS_LTE, TEI9
conclusion: approved

company CRs:

RP-120689 Mandating setting of FGI bit 27 and 28 to "1" NTT DOCOMO, INC. Disc REL-9 TEI9, LTE-L23
discussion: NTT DOCOMO: GSMA profile might need an update if CRs are not acceptable; further offline discussion needed
NSN: we do not need to send an LS to GSMA, IR92 profile is based on REL-8; not all features have to be compliant with the profile; the profile is a minimum to make VoLTE happen but we do not need to update it all the time
Telecom Italia: GSMA does not look into the details of the radio part so it would be strange to ask them
Samsung: IR92 was a min set of optional features to be compliant with VoLTE, if we accept the CRs it would mean to add additional optional features in 3GPP which would be strange
NSN: would be strange to always ask GSMA when we do radio optimizations
Qualcomm: supports Samsung view, having minimum set in GSMA and then extend it in 3GPP is not a good approach
NSN: IR92 is based on REL-8, so in REL-9 you have of course to check 3GPP REL-9 specs
Ericsson: shares NSN view, if we ask GSMA to update to add TTI bundling then we would mandate that TTI bundling would become a minimum requirement which was so far not decided
Samsung: we have to decide whether to make TTI bundling mandatory and then we can see where to specify this (in GSMA or 3GPP)
RAN chair: would proposal 1 acceptable?
Samsung: would prefer to discuss this issue in a future RAN meeting (not necessarily the next RAN meeting)
RAN chair: some companies have concern to mandate FGI bits 26 and 27 to "1" and Samsung proposed to further discuss this and decide at RAN #57
AT&T: did NTT DOCOMO accept to discuss this further
NTT DOCOMO: yes, seems to be difficult to agree now
RAN chair: but we need to be careful that we do not postpone forever
Telecom Italia: would not involve GSMA here, if IOT can be done we should approve the NTT DOCOMO CRs, if not then we need discuss further

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NSN: manufacturer can implement VoLTE REL-9 UE acc. to June 2012 version and IR92 profile, if we change later UE might no longer be compliant; anyway we should avoid to involve GSMA
NSN: Samsung had concern with both bits?
Samsung: yes, IOT issue is valid for both
conclusion: noted, topic is postponed to RAN #57, companies are asked to discuss this topic offline

RP-120690 Rel-9 CR to 36.331 for Mandating setting of FGI bit 27 and 28 to "1" NTT DOCOMO, INC., Telecom Italia, KT Corp. CR 36.331 0974 - F REL-9 TEI9, LTE-L23
company contribution; CR is supported by AT&T
conclusion: postponed

RP-120691 Rel-10 CR to 36.331 for Mandating setting of FGI bit 27 and 28 to "1" NTT DOCOMO, INC., Telecom italia, KT Corp. CR 36.331 0975 - A REL-10 TEI9, LTE-L23
company contribution; CR is supported by AT&T
conclusion: postponed

8.2.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

RP-120809 Collection of RAN2 CRs to various UTRA related REL-9 WIs RAN2 CR set REL-9 RANimp-DC_HSUPA, RANimp-DC_MIMO, RANimp-MultiBand_DC_HSDPA, TEI9
discussion: CATT: we are ok to approve this set apart from R2-122959 and R2-122960 for which we want to consider the altenative
RAN2 chair: we could treat the alternative CRs in next RAN2 meeting
CMCC: would prefer to decide about the alternative CRs this week
conclusion: RP-120809 is partly approved, i.e. all CRs except R2-122959 and R2-122960 are approved, R2-122959 and R2-122960 are postponed until Friday.
on Friday:
CATT: several discussions ongoing on R2-122959 and R2-122960 and alternatives so we propose to postpone them to further RAN2 discussion
RAN2 chair: that's an acceptable way forward
concluded that R2-122959 and R2-122960 are postponed and RAN2 will look at this issue again

VoLTE:

alternative A (agreed RAN2 CRs with some proposed updates):

RP-120810 RAN2 REL-9 CRs (and shadow CRs) on Voice support Capabilities RAN2 CR set REL-9 TEI9
This is a RAN2 agreed CR set.
a. see company CRs in RP-120756 - RP-120760 which revise parts of RP-120810:
- 25.331 REL-9 CR: RP-120756 to revise R2-122952 (note: It is claimed that there is no impact on 25.331 REL-10 & REL-11 CRs.)
- 36.306 REL-9 CR: RP-120757 to revise R2-122955
- 36.306 REL-10 CR: RP-120758 to revise R2-122956
- 36.331 REL-9 CR: RP-120759 to revise R2-122957
- 36.331 REL-10 CR: RP-120760 to revise R2-122958

b. RP-120810 is also challenged by company CR set RP-120678 - RP-120687
conclusion: postponed after RP-120862

RP-120607 VoLTE capability and UE mode Nokia Siemens Networks Disc REL-9 TEI9
related to CRs R2-122949-R2-122958, see RP-120810;
discussion: RAN chair: let's see RP-120699 next
conclusion: noted

RP-120756 Voice support Capabilities Nokia Siemens Networks, Deutsche Telekom, CMCC, Clearwire, Sprint, CATT, ZTE, Huawei CR 25.331 4996 1 F REL-9 TEI9
company contribution to replace R2-122952 of RP-120810
conclusion: postponed after RP-120862

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RP-120757 Voice support Capabilities Nokia Siemens Networks, Deutsche Telekom, CMCC, Clearwire, Sprint, CATT, ZTE, Huawei CR 36.306 0084 1 F REL-9 TEI9
company contribution to replace R2-122955 of RP-120810
conclusion: postponed after RP-120862

RP-120758 Voice support Capabilities Nokia Siemens Networks, Deutsche Telekom, CMCC, Clearwire, Sprint, CATT, ZTE, Huawei CR 36.306 0085 1 A REL-10 TEI9
company contribution to replace R2-122956 of RP-120810
conclusion: postponed after RP-120862

RP-120759 Voice support Capabilities Nokia Siemens Networks, Deutsche Telekom, CMCC, Clearwire, Sprint, CATT, ZTE, Huawei CR 36.331 0928 1 F REL-9 TEI9
company contribution to replace R2-122957 of RP-120810
conclusion: postponed after RP-120862

RP-120760 Voice support Capabilities Nokia Siemens Networks, Deutsche Telekom, CMCC, Clearwire, Sprint, CATT, ZTE, Huawei CR 36.331 0929 1 A REL-10 TEI9
company contribution to replace R2-122958 of RP-120810
conclusion: postponed after RP-120862

alternative B (company CRs):

Note: This CR set could not be endorsed in RAN2 email discussion [78#01].

RP-120699 VoLTE capability split for LTE FDD and TDD Qualcomm Inc Disc REL-9 TEI9
discussion: Qualcomm: IOT possibility not available for both FDD and TDD, proposes VoLTE cap. for LTE TDD in AS (which can be combined with existing case)
CMCC: we could offer IOT possibilities and we could come back to the IOT issue in the future
Qualcomm: if we do not know whether we will have VoLTE LTE TDD in the future then NSN CRs are not complete in terms of functionality
AT&T: supports Qualcomm proposals
Vodafone: both solutions are feasible, with Qualcomm CRs operators would have to take alternatives like CS fallback until LTE TDD VoLTE is supported
Qualcomm: on the other hand you mind VoLTE TDD misbehaving UEs
ALU: when will VoLTE TDD UEs be available? if 3 months than we could keep FDD and TDD together
Qualcomm: we support this already in our chipset but IOT is the problem as there is no operator requirement for VoLTE TDD
Nokia: supports Qualcomm view
RAN chair: suggests offline discussion during this week (rapporteur: RAN2 chairman)
conclusion: noted, offline discussion on Wed evening after close of main session (rapporteur: RAN2 chairman), see RP-120862

RP-120678 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.331 5066 1 F REL-9 TEI9
it represents an alternative to RAN2 agreed CR R2-122952 (see RP-120810)
conclusion: revised in RP-120849

RP-120849 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.331 5066 2 F REL-9 TEI9
conclusion: postponed after RP-120862

RP-120679 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.331 5067 1 A REL-10 TEI9
it represents an alternative to RAN2 agreed CR R2-122953 (see RP-120810)
conclusion: revised in RP-120850

RP-120850 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.331 5067 2 A REL-10 TEI9
conclusion: postponed after RP-120862

RP-120680 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.331 5068 1 A REL-11 TEI9

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it represents an alternative to RAN2 agreed CR R2-122954 (see RP-120810)
conclusion: revised in RP-120850

RP-120851 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.331 5068 2 A REL-11 TEI9
conclusion: postponed after RP-120862

RP-120681 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.306 0368 1 F REL-9 TEI9
it represents an alternative to RAN2 agreed CR R2-122949 (see RP-120810)
conclusion: postponed after RP-120862

RP-120682 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.306 0369 1 A REL-10 TEI9
it represents an alternative to RAN2 agreed CR R2-122950 (see RP-120810)
conclusion: postponed after RP-120862

RP-120683 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 25.306 0370 1 A REL-11 TEI9
it represents an alternative to RAN2 agreed CR R2-122951 (see RP-120810)
conclusion: postponed after RP-120862

RP-120684 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 36.331 0938 1 F REL-9 TEI9
it represents an alternative to RAN2 agreed CR R2-122957 (see RP-120810)
conclusion: postponed after RP-120862

RP-120685 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 36.331 0939 1 A REL-10 TEI9
it represents an alternative to RAN2 agreed CR R2-122958 (see RP-120810)
conclusion: postponed after RP-120862

RP-120686 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 36.306 0086 1 F REL-9 TEI9
it represents an alternative to RAN2 agreed CR R2-122955 (see RP-120810)
conclusion: postponed after RP-120862

RP-120687 Voice over PS continuity Qualcomm Incorporated, Nokia Corporation, Renesas Mobile Europe Ltd, Motorola Mobility, Research In Motion UK Limited CR 36.306 0087 1 A REL-10 TEI9
it represents an alternative to RAN2 agreed CR R2-122956 (see RP-120810)
conclusion: postponed after RP-120862

After offline discussion:

RP-120862 Way forward on VoLTE CRs RAN2 chairman (Ericsson) Report REL-9 TEI9
conclusion: noted, way forward is approved, all related CRs are postponed and RAN2 will treat them in the next meeting

RP-120870 Draft Reply LS to S2-121919 on voice support indication (to: SA2, CT1; cc:RAN2, RAN3; contact: Ericsson) Ericsson LSout REL-9 TEI9
LS drafted in connection with way forward RP-120862
discussion: Samsung: doubts that last paragraph first sentence is really true
Ericsson: thinks this still applies
conclusion: revised in RP-120883
Ericsson: Samsung indicated that last paragraph might not be 100% clear but the intention will be clear
RAN chair: any concerns? none

RP-120883 Reply LS to S2-121919 on voice support indication (to: SA2, CT1; cc:RAN2, RAN3; contact: Ericsson) RAN LSout REL-9 TEI9
conclusion: approved

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8.2.6 Approval of linked CRs where the leading one originated from RAN WG2

No contributions.

8.3 TSG RAN WG3

8.3.1 Report from RAN WG3 including report on actions required from the previous meeting

RP-120436 Status Report RAN WG3 RAN3 chairman (Qualcomm) Report
conclusion: noted

RP-120437 List of CRs from RAN WG3 ETSI MCC Info
conclusion: noted (for background information)

8.3.2 Discussions on decisions from RAN WG3

No contributions.

8.3.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

No contributions.

8.3.4 Approval of CRs to Rel-8 WIs

8.3.4.1 CRs for LTE [LTE-interfaces]

to be presented by RAN2 chairman:
RP-120811 RAN3 CRs to RAN2 TS 36.300 for REL-10/11 of REL-8 WI LTE – eUTRAN Interfaces RAN2 CR 36.300set REL-10 TEI11, LTE-interfaces
conclusion: approved

8.3.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8]

No contributions.

8.3.5 Approval of CRs to Rel-9 WIs

8.3.5.1 CRs related to LTE

No contributions.

8.3.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

No contributions.

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8.3.6 Approval of linked CRs where the leading one originated from RAN WG3

No contributions.

8.4 TSG RAN WG4

8.4.1 Report from RAN WG4 including report on actions required from the previous meeting

RP-120438 Status Report RAN WG4 RAN4 chairman (NSN) Report
conclusion: noted

RP-120439 List of CRs from RAN WG4 ETSI MCC Info
conclusion: noted (for background information)

8.4.2 Discussions on decisions from RAN WG4

RP-120604 Information on band usage in 2.5GHz band in Japan ARIB Info - -
conclusion: noted

8.4.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

No contributions.

8.4.4 Approval of CRs to Rel-8 WIs

8.4.4.1 CRs for LTE [LTE-RF]

RP-120762 CRs for LTE – FDD repeaters RAN4 CR set REL-8 LTE-Repeaters
conclusion: approved

RP-120764 CRs for LTE Rel-8 RAN4 CR set REL-8 LTE-RF
conclusion: approved

8.4.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8]

RP-120763 CRs for Dual-Cell HSDPA operation on adjacent carriers RAN4 CR 25.101 set REL-8 RANimp-DCHSDPA
conclusion: approved

RP-120765 CRs for Small Technical Enhancements and Improvements Rel-8– Set1 RAN4 CR set REL-8 TEI8
conclusion: approved

RP-120766 CRs for Small Technical Enhancements and Improvements Rel-8– Set2 RAN4 CR set REL-8 TEI8
conclusion: approved

RP-120767 CRs for Small Technical Enhancements and Improvements Rel-8– Set3 RAN4 CR set REL-8 TEI8
conclusion: approved

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8.4.5 Approval of CRs to Rel-9 WIs

8.4.5.1 CRs related to LTE

No contributions.

8.4.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

RP-120768 CRs for the Support for different bands for Dual-Cell HSDPA RAN4 CR set REL-9 RANimp-MultiBand_DC_HSDPA
conclusion: approved

RP-120769 CRs for Small Technical Enhancements and Improvements Rel-9– Set1 RAN4 CR set REL-9 TEI9
conclusion: approved

RP-120770 CRs for Small Technical Enhancements and Improvements Rel-9– Set2 RAN4 CR set REL-9 TEI9
conclusion: approved

RP-120771 CRs for Small Technical Enhancements and Improvements Rel-9– Set3 RAN4 CR set REL-9 TEI9
conclusion: approved

8.4.6 Approval of linked CRs where the leading one originated from RAN WG4

No contributions.

8.5 TSG RAN WG5

8.5.1 Report from RAN WG5 including report on actions required from the previous meeting

RP-120440 Status Report RAN WG5 RAN5 Chairman (NTT DOCOMO) Report
conclusion: noted

RP-120441 List of CRs from RAN WG5 ETSI MCC Info
conclusion: noted (for background information)

RP-120442 Status Report MCC TF160 (for Approval) MCC TF160 Leader Report
discussion: Sharp: TTCN3 for REL-10 onwards, when will it start?
RAN5 chair: is already in use, question is when to transfer parts in TTCN2 into TTCN3; there are arguments for and against going for TTCN3, you will get the final decision in
conclusion: rescheduling from slide 7 and report is approved

8.5.2 Discussions on decisions from RAN WG5

8.5.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

RP-120635 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 99 Conformance Testing (TEI_Test) RAN5 CR set F R99 TEI_Test
conclusion: approved

RP-120636 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-4 Conformance Testing (TEI4_Test) RAN5 CR set F REL-4 TEI4_Test
conclusion: approved

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RP-120637 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-5 Conformance Testing (TEI5_Test) RAN5 CR set F REL-5 TEI5_Test
conclusion: approved

RP-120638 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-7 Conformance Testing (TEI6_Test) RAN5 CR set F REL-6 TEI6_Test
conclusion: approved

RP-120639 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-7 Conformance Testing (TEI7_Test) RAN5 CR set F REL-7 TEI7_Test
conclusion: approved

8.5.4 Approval of CRs to closed Rel-8 & REL-9 WIs

8.5.4.1 CRs for LTE [LTE-UEConTest_RF, LTE-UEConTest_SIG]

RP-120640 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 1) RAN5 CR set F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-120641 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 2) RAN5 CR set F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-120642 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 3) RAN5 CR set F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-120643 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 4) RAN5 CR set F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-120644 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 1) RAN5 CR set F REL-8 LTE-UEConTest_SIG
conclusion: approved

RP-120645 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 2) RAN5 CR set F REL-8 LTE-UEConTest_SIG
conclusion: approved

RP-120646 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 3) RAN5 CR set F REL-8 LTE-UEConTest_SIG
conclusion: approved

RP-120647 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 4) RAN5 CR set F REL-8 LTE-UEConTest_SIG
conclusion: approved

8.5.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8_Test, TEI9_Test]

RP-120648 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-8 Conformance Testing(TEI8_Test) RAN5 CR set F REL-8 TEI8_Test
conclusion: approved

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RP-120649 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-9 Conformance Testing(TEI9_Test) RAN5 CR set F REL-9 TEI9_Test
conclusion: approved

RP-120650 CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A RAN5 CR 34.123-3 2959 F REL-9 TEI9_Test
conclusion: approved

RP-120652 CR to 34.229-3 (prose) update to v9.4.0 RAN5 CR 34.229-3 0065 - F REL-9 TEI9_Test
conclusion: withdrawn

RP-120802 Correction to IMS CC test cases / IPv6 address handling RAN5 CR 34.229-3 0066 - F REL-9 TEI8_Test
conclusion: approved

8.5.5 Approval of linked CRs where the leading one originated from RAN WG5

RP-120651 CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (TTCN), Annex A RAN5 CR 34.123-3 set REL-9 TEI7_Test, TEI8_Test, TEI9_Test, TEI10_Test
TTCN batch, 18 Test Cases
conclusion: approved

RP-120653 CR to 36.523-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 36.523-3 (prose), Annex A RAN5 CR 36.523-3 0995 - F REL-9 LTE-UEConTest_SIG
conclusion: approved

RP-120654 CR to 36.523-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 36.523-3 (TTCN), Annex A RAN5 CR 36.523-3 set REL-9 LTE-UEConTest_SIG, TEI8_Test, TEI9_Test
TTCN batch, 161 Test Cases
conclusion: approved

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9 Conformance Testing Work Items

9.1 Closed Rel-10 work items

Note: For earlier releases see 8.5.

RP-120614 TS 37.571-4 v2.0.0 UTRA and E-UTRA and EPC; UE conformance specification for UE positioning; Part 4: Test suites; provided for approvalMCC TF160 TS 37.571-4 REL-10 AGNSSTest_UTRAN, LCS_LTE_UEConTest
RAN5 TR 37.571-4 is provided for approval to v10.0.0
discussion: Specifications manager: understood that the TS will be approved as v9.0.0 and immediately be promoted to v10.0.0
conclusion: TR 37.571-4 is approved as v9.0.0 and v10.0.0 will be made available after RAN #56

9.2 Open Rel-9 work items

9.2.1 Conformance Test Aspects - CT1 aspects of IMS Emergency Calls over GPRS and EPS
[480029, IMS_EMER_GPRS_EPS_UEConTest, 06/2012]

RP-120445 Status report for WI Conformance Test Aspects - CT1 aspects of IMS Emergency Calls over GPRS and EPS, rapporteur: Samsung RAN5 Report REL-9 IMS_EMER_GPRS_EPS_UEConTest
480029, WID: RP-100567; RAN #55: 85%, June 12;
conclusion: noted, approved: 100%, June 12; WI is completed

RP-120655 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects – CT1 aspects of IMS Emergency Calls over GPRS and EPS (IMS_EMER_GPRS_EPS_UEConTest) RAN5 CR set F REL-9 IMS_EMER_GPRS_EPS_UEConTest
conclusion: approved

9.2.2 Conformance Test Aspects – Dual-Cell HSUPA [510014, RANimp-DC_HSUPA_UEConTest, 06/2012]

RP-120446 Status report for WI Conformance Test Aspects – Dual-Cell HSUPA, rapporteur: Ericsson RAN5 Report REL-9 RANimp-DC_HSUPA_UEConTest
510014, WID: RP-110116; RAN #55: 80%, June 12;
conclusion: noted, approved: 90%, Sep.12

RP-120656 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects – Dual-Cell HSUPA (RANimp-DC_HSUPA_UEConTest)RAN5 CR set F REL-9 RANimp-DC_HSUPA_UEConTest
conclusion: approved

9.2.3 Conformance test aspects - Service Specific Access Control (SSAC)
[520014, SSAC_UEConTest, 06/2012]

RP-120447 Status report for WI Conformance test aspects - Service Specific Access Control (SSAC), rapporteur: NTT DOCOMO RAN5 Report REL-9 SSAC_UEConTest
520014, WID: RP-110765; RAN #55: 80%, June 12;
conclusion: noted, approved: 100%, June 12; WI is completed

RP-120657 RAN5 agreed non TTCN CR(s) under WI Conformance test aspects – Service Specific Access Control (SSAC) (SSAC_UEConTest) RAN5 CR set F REL-9 SSAC_UEConTest
conclusion: approved

9.2.4 UE Conformance Test Aspects – Public Warning System (PWS) – RAN aspects for LTE
[540005, PWS-RAN_UEConTest, 12/2012]

RP-120448 Status report for WI UE Conformance Test Aspects – Public Warning System (PWS) – RAN aspects for LTE, rapporteur: Qualcomm RAN5 Report REL-9 PWS-RAN_UEConTest
540005, WID: RP-111564; RAN #55: 15%, Dec.12;
conclusion: noted, approved: 70%, Dec.12

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RP-120658 RAN5 agreed non TTCN CR(s) under WI Conformance test aspects – Public Warning System (PWS) – RAN aspects for LTE (PWS-RAN_UEConTest) RAN5 CR set F REL-9 PWS-RAN_UEConTest
conclusion: approved

9.3 Open Rel-10 work items

9.3.1 Conformance test aspects – UMTS-LTE 3500

9.3.1.1 Conformance test aspects – LTE 3500 [420013, LTE-UEConTest_LTE3500, 06/2012]

RP-120449 Status report for WI Conformance test aspects – LTE 3500, rapporteur: Ericsson RAN5 Report REL-10 LTE-UEConTest_LTE3500
420013, WID: RP-080859; RAN #55: 90%, June 12;
conclusion: noted, approved: 91%, Dec.12

9.3.1.2 Conformance test aspects – UMTS 3500 [420014, RInImp-UEConTest_UMTS3500, 06/2012]

RP-120450 Status report for WI Conformance test aspects – UMTS 3500, rapporteur: Ericsson RAN5 Report REL-10 RInImp-UEConTest_UMTS3500
420014, WID: RP-110386; RAN #55: 80%, June 12;
conclusion: noted, approved: 100%, June 12; WI is completed

RP-120659 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects – UMTS3500 (RInImp-UEConTest_UMTS3500) RAN5 CR set F REL-10 RInImp-UEConTest_UMTS3500
conclusion: approved

9.3.2 UE Conformance test aspects - Expanded 1900MHz Band for UTRA and LTE

[520013, E1900-UEConTest, 06/2012]

RP-120451 Status report for WI UE Conformance test aspects - Expanded 1900MHz Band for UTRA and LTE, rapporteur: Sprint RAN5 Report REL-10 E1900-UEConTest
520013, WID: RP-110712; RAN #55: 55%, June 12;
conclusion: noted, approved: 65%, Sep.12

RP-120660 RAN5 agreed non TTCN CR(s) under WI Conformance test aspects Expanded 1900MHz Band for UTRA and LTE (E1900-UEConTest) RAN5 CR set F REL-10 E1900-UEConTest
conclusion: approved

9.3.3 UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN

[530041, MDT_UMTSLTE-UEConTest, 09/2012]

RP-120452 Status report for WI UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN, rapporteur: Ericsson RAN5 Report REL-10 MDT_UMTSLTE-UEConTest
530041, WID: RP-111128; RAN #55: 20%, Sep.12;
conclusion: noted, approved: 40%, Sep.12

RP-120598 Update of WID for WI UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN Ericsson WID rev RAN5 REL-10 MDT_UMTSLTE-UEConTest
revision of WID RP-111128; update to add 34.109 and 36.509 to list of affected specifications
conclusion: approved

RP-120661 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN (MDT_UMTSLTE-UEConTest) RAN5 CR set F REL-10 MDT_UMTSLTE-UEConTest
conclusion: revised in RP-120735 as RP-120661 was misused by another company

RP-120735 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN (MDT_UMTSLTE-UEConTest) RAN5 CR set F REL-10 MDT_UMTSLTE-UEConTest
conclusion: approved

9.3.4 UE Conformance Test Aspects – Carrier Aggregation for LTE

[530040, LTE_CA-UEConTest, 12/2012]

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RP-120453 Status report for WI UE Conformance Test Aspects – Carrier Aggregation for LTE, rapporteur: Nokia RAN5 Report REL-10 LTE_CA-UEConTest
530040, WID: RP-111221; RAN #55: 10%, Dec.12;
conclusion: noted, approved: 25%, Dec.12

RP-120662 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects – Carrier Aggregation for LTE (LTE_CA-UEConTest) RAN5 CR set F REL-10 LTE_CA-UEConTest
conclusion: approved

9.3.5 UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN
[530039, ANR_UTRAN-UEConTest, 06/2012]

RP-120454 Status report for WI UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN, rapporteur: Ericsson RAN5 Report REL-10 ANR_UTRAN-UEConTest
530039, WID: RP-111129; RAN #55: 5%, June 12;
conclusion: noted, approved: 55%, Sep.12

RP-120599 Update of WID for UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN Ericsson WID rev RAN5 REL-10 ANR_UTRAN-UEConTest
revision of WID RP-111129; update to add 36-series to list of affected specifications
conclusion: approved

RP-120663 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN (ANR_UTRAN-UEConTest) RAN5 CR set F REL-10 ANR_UTRAN-UEConTest
conclusion: approved

9.3.6 UE Conformance Test Aspects – Four carrier HSDPA
[540006, 4C_HSDPA-UEConTest, 12/2012]

RP-120455 Status report for WI UE Conformance Test Aspects – Four carrier HSDPA, rapporteur: Qualcomm RAN5 Report REL-10 4C_HSDPA-UEConTest
540006, WID: RP-111565; RAN #55: 5%, Dec.12;
conclusion: noted, approved: 30%, Dec.12

RP-120664 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects - Four carrier HSDPA (4C_HSDPA-UEConTest) RAN5 CR set F REL-10 4C_HSDPA-UEConTest
conclusion: approved

9.3.7 UE Conformance Test Aspects - UL multiple antenna transmission for LTE
[540007, LTE_UL_MIMO-UEConTest, 12/2012]

RP-120456 Status report for WI UE Conformance Test Aspects - UL multiple antenna transmission for LTE, rapporteur: Huawei RAN5 Report REL-10 LTE_UL_MIMO-UEConTest
540007, WID: RP-111614; RAN #55: 10%, Dec.12;
conclusion: noted, approved: 50%, Dec.12

RP-120665 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects - UL multiple antenna transmission for LTE (LTE_UL_MIMO-UEConTest) RAN5 CR set F REL-10 LTE_UL_MIMO-UEConTest
conclusion: approved

9.3.8 UE Conformance Test part - Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE [**New WI**: 550001, eICIC_LTE-UEConTest, 12/2012]

RP-120457 Status report for WI UE Conformance Test part - Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE, rapporteur: Qualcomm RAN5 Report REL-10 eICIC_LTE-UEConTest
550001, WID: RP-120217; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 5%, Dec.12

9.3.9 UE Conformance Test part - HeNB Mobility Enhancements
[**New WI**: 550002, HNB_HENB_mob_enh-UEConTest_LTE, 12/2012]

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RP-120458 Status report for WI UE Conformance Test part - HeNB Mobility Enhancements, rapporteur: Qualcomm RAN5 Report REL-10 HNB_HENB_mob_enh-UEConTest_LTE
550002, WID: RP-120218; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 5%, Dec.12

9.3.10 Conformance Test Aspects: Small Technical Enhancements and Improvements for Rel-10 [TEI10_Test]

RP-120666 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-10 Conformance Testing (TEI10_Test) RAN5 CR set F REL-10 TEI10_Test
conclusion: approved

9.4 Open Rel-11 work items

9.4.1 Conformance Test part: Extending 850 MHz Upper Band (814 – 849 MHz)

[510016, e850_UB-UEConTest, 06/2012]

RP-120459 Status report for WI Conformance Test part: Extending 850 MHz Upper Band (814 – 849 MHz), rapporteur: Sprint RAN5 Report REL-11 e850_UB-UEConTest
510016, WID: RP-110377; RAN #55: 5%, June 12;
conclusion: noted, approved: 63%, Sep.12

RP-120667 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Part: Extending 850 MHz Upper Band (814 – 849 MHz) (e850_UB-UEConTest) RAN5 CR set F REL-11 e850_UB-UEConTest
conclusion: approved

9.4.2 UE Conformance Test Aspects for UE Over the Air (Antenna) conformance testing methodology – Laptop Mounted Equipment Free Space Test

[520011, UEAnt_FSTest-UEConTest, 06/2012]

RP-120460 Status report for WI UE Conformance Test Aspects for UE Over the Air (Antenna) conformance testing methodology – Laptop Mounted Equipment Free Space Test, rapporteur: ZTE RAN5 Report REL-11 UEAnt_FSTest-UEConTest
520011, WID: RP-110629; RAN #55: 70%, June 12;
conclusion: noted, approved: 90%, Dec.12

RP-120668 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for UE Over the Air (Antenna) conformance testing methodology – Laptop Mounted Equipment Free Space Test (UEAnt_FSTest-UEConTest) RAN5 CR set F REL-11 UEAnt_FSTest-UEConTest
conclusion: approved

9.4.3 Conformance Test Aspects: Small Technical Enhancements and Improvements for Rel-11 [TEI11_Test]

RP-120669 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-11 Conformance Testing (TEI11_Test) RAN5 CR set F REL-11 TEI11_Test
conclusion: approved

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10 Work Items with target Rel-10 (not related to conformance testing)

10.1 Closed REL-10 work items

RP-120595 TR 36.808, V2.0.0 on Carrier Aggregation Base Station (BS) radio transmission and reception Nokia Siemens Networks TR 36.808 REL-10 LTE_CA-Core
RAN4 TR 36.808 is provided for approval to v10.0.0 (note: It was forgotten to put this TR under CR control at the end of REL-10)
conclusion: TR 36.808 is approved as v10.0.0

RP-120706 TR 36.807 v2.0.0 on E-UTRA; UE radio transmission and reception; provided for approval Motorola Solutions TR 36.807 REL-10 LTE_CA-Core, LTE_eDL_MIMO-Core, LTE_UL_MIMO-Core
RAN4 TR 36.807 is provided for approval to v10.0.0 (note: It was forgotten to put this TR under CR control at the end of REL-10)
This TR summarizes the study of radio requirements for the UE radio transmission and reception as part of the closed Rel-10 WIs on CA, UL MIMO and Enhanced DL MIMO. Required changes to TS 36.101 and corresponding conformance test specifications are already captured in Rel-10 specifications. The content of v2.0.0 is identical to latest v1.7.0 in R4-121501.
conclusion: TR 36.807 is approved as v10.0.0

RAN1:

RP-120737 CRs to 36.212 & 36.213 for corrections related to LTE CA RAN1 CR set REL-10 LTE_CA-Core
conclusion: approved

RP-120738 CRs to 36.211 & 36.213 for corrections related to enhanced DL MIMO transmission RAN1 CR set REL-10 LTE_eDL_MIMO-Core
conclusion: approved

RP-120739 CRs to 36.211 & 36.212 for corrections related to UL MIMO transmission RAN1 CR set REL-10 LTE_UL_MIMO-Core
conclusion: approved

RAN2:

RP-120812 Collection of RAN2 & RAN3 CRs to several REL-10 WIs RAN2 CR set REL-10 4C_HSDPA-Core, LTE_CA-Core, eICIC_LTE-Core, HNB_HENB_mob_enh, SONenh_LTE-Core
discussion: Telecom Italia: has a different Tdoc number for RAN for R2-123155
RAN2 chair: CR number had to be added
Telecom Italia: want to have minuted that Telecom Italia has a concern of market fragmentation that this CR will cause
ALU: disagrees with comment from Telecom Italia
conclusion: partly approved, i.e. all CRs of RP-120812 are approved except R2-122022 which is revised in RP-120855 to correct the version number on the CR cover

RP-120855 Correction to definition of enhanced inter-frequency measurements without CM ZTE Corporation CR 25.306 0356 1 F REL-10 4C_HSDPA-Core
Note: Company contribution as it was detected that R2-122022 of RP-120812 mentions wrong spec version 10.5.0 (instead of 10.6.0) on CR cover;
conclusion: approved

RP-120813 RAN2 CRs (& shadow CRs) for REL-10 WI Public Warning System (PWS) – RAN aspects addressing Korean Public Alert System (KPAS) and EU-Alert in relation to CMAS RAN2 CR set REL-10 PWS-RAN, TEI10
conclusion: approved

RAN3:

RP-120743 CRs to Closed Rel-10 WIs RAN3 CR set REL-10 ANR_UTRAN-Core, LIPA_SIPTO

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conclusion: approved

RP-120761 Updates of ANR Stage 2 Descriptions for EPLMN RAN3 CR 25.484 1 1 C REL-10 ANR_UTRAN-Core
Missed approval in RAN#53 and was then forgotten
conclusion: approved

RAN4:

RP-120772 CRs for Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE – Core part RAN4 CR 36.133 REL-10 eICIC_LTE-Core
conclusion: approved

RP-120773 CRs for LTE Carrier Aggregation RAN4 CR set REL-10 LTE_CA-Core, LTE_CA-Perf
conclusion: approved

RP-120774 CRs for Enhanced Downlink Multiple Antenna Transmission for LTE RAN4 CR 36.101 set REL-10 LTE_eDL_MIMO-Core, LTE_eDL_MIMO-Perf
conclusion: approved

RP-120775 CRs for Four carrier HSDPA RAN4 CR set REL-10 4C_HSDPA-Core, 4C_HSDPA-Perf
conclusion: approved

RP-120776 CRs for UMTS/LTE 3500 MHz RAN4 CR 36.101 set REL-10 RInImp8-UMTSLTE3500
conclusion: approved

10.2 Open LTE only related WIs

10.2.1 Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE

10.2.1.1 Performance part [470207, eICIC_LTE-Perf, 06/2012]

Note: Core part of this REL-10 WI was completed in June 11.

RP-120461 Status report for WI Perf. part: Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE, rapporteur: CMCC RAN4 Report REL-10 eICIC_LTE-Perf
470207, WID: RP-100383; RAN #55: 90%, June 12;
discussion: RAN4 chair: clarified that still some RI (rank indicator) work (test of rank adaptation is needed => continue RI requirements study) will continue under TEI
NEC: will this then still be REL-10 CRs
RAN4 chair: yes, at least in the next quarter
Note from MCC: Please use WI code eICIC_LTE-Perf for future CRs instead of TEIx.
conclusion: noted, approved: 100%, June 12; WI is completed

RP-120784 CRs for Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE – Perf part RAN4 CR set REL-10 eICIC_LTE-Perf
conclusion: approved

10.3 Small Technical Enhancements & Improvements for Rel-10 [TEI10]

RAN2:

RP-120753 RAN2 & RAN3 CR set on Carrier capability for two-carrier HSDPA for 1.28Mcps TDD RAN2 CR set REL-10 TEI10
conclusion: withdrawn, see RP-120815 instead

RP-120814 RAN2 CRs for Small Technical Enhancements and Improvements for Rel-10 RAN2 CR set REL-10 TEI10
conclusion: approved

RP-120815 Linked RAN2 & RAN3 CR set to Extend the carrier capability for two-carrier HSDPA for 1.28Mcps TDD RAN2 CR set REL-10 TEI10
conclusion: approved

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RAN3:

RP-120744 TEI10 CRs RAN3 CR set REL-10 TEI10
conclusion: approved

RAN4:

RP-120777 CRs for Small Technical Enhancements and Improvements Rel-10– Set1 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-120778 CRs for Small Technical Enhancements and Improvements Rel-10– Set2 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-120779 CRs for Small Technical Enhancements and Improvements Rel-10– Set3 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-120780 CRs for Small Technical Enhancements and Improvements Rel-10– Set4 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-120781 CRs for Small Technical Enhancements and Improvements Rel-10– Set5 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-120782 CRs for Small Technical Enhancements and Improvements Rel-10– Set6 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-120783 CRs for Small Technical Enhancements and Improvements Rel-10– Set7 RAN4 CR set REL-10 TEI10
conclusion: approved

company CRs:

RP-120730 Introduction of multiple frequency band indicator Ericsson, ST-Ericsson, Alcatel-Lucent, Nokia, eAccess, KDDI, Sprint, Qualcomm, Samsung and Renesas CR 25.331 5060 1 B REL-10 TEI10
company contribution; note: No consensus about this topic in RAN2 email discussion [78#00] by the deadline; Release independent feature, introduced to Rel-10 signalling for HSPA
discussion: Ericsson: NII also support th
Leap Wireless: supports the CRs
MCC: we will have future 25.307/36.307 CRs in the future?
Ericsson: correct, RAN4 will look at 36.307and RAN2 at 25.307
conclusion: approved

RP-120731 Introduction of multiple frequency band indicator Ericsson, ST-Ericsson, Alcatel-Lucent, Nokia, eAccess, KDDI, Sprint, Qualcomm, Samsung and Renesas CR 25.331 5063 1 A REL-11 TEI10
company contribution; note: No consensus about this topic in RAN2 email discussion [78#00] by the deadline; Release independent feature, introduced to Rel-10 signalling for HSPA
conclusion: approved

RP-120732 Introduction of multiple frequency band indicator Ericsson, ST-Ericsson, Alcatel-Lucent, Nokia, eAccess, KDDI, Sprint, Qualcomm, Samsung and Renesas CR 36.331 0976 - B REL-8 TEI8
company contribution; Release independent feature, introduced to Rel-8 signalling for LTE
conclusion: approved

RP-120733 Introduction of multiple frequency band indicator Ericsson, ST-Ericsson, Alcatel-Lucent, Nokia, eAccess, KDDI, Sprint, Qualcomm, Samsung and Renesas CR 36.331 0977 - A REL-9 TEI8
company contribution; Release independent feature, introduced to Rel-8 signalling for LTE
conclusion: approved

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RP-120734 Introduction of multiple frequency band indicator Ericsson, ST-Ericsson, Alcatel-Lucent, Nokia, eAccess, KDDI, Sprint, Qualcomm, Samsung and Renesas CR 36.331 0970 1 A REL-10 TEI8
company contribution; note: No consensus about this topic in RAN2 email discussion [78#00] by the deadline; Release independent feature, introduced to Rel-8 signalling for LTE
conclusion: approved

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11 Work Items with target Rel-11 and beyond (not related to conformance testing)

RP-120601 Release 11 contents and time plan Alcatel-Lucent, Alcatel-Lucent Shanghai Bell Disc REL-11 -
conclusion: not treated

RP-120692 Time Plan for Additional Carrier Types NTT DOCOMO, INC., Fujitsu, Hitachi, Panasonic Disc REL-11 -
conclusion: not treated

RP-120708 Views on Rel-11 completion Huawei Disc REL-11 -
conclusion: not treated

RP-120712 Release 11 content in LTE WIs Nokia Siemens Networks, Nokia Disc REL-11 -
conclusion: not treated

RP-120856 Way forward for Release 11 completion in RAN1 Alcatel-Lucent, Alcatel-Lucent Shanghai Bell, AT&T, CATT, China Telecom, CMCC, Deutsche Telekom, Dish Network, Ericsson, ETRI, Fujitsu, HiSilicon, Hitachi, Huawei, Intel, KDDI, LG Electronics, Mediatek, Motorola Mobility, NEC, Nokia, Nokia Siemens Networks, NTT Docomo, Orange, Panasonic, Qualcomm Incorporated, Renesas Mobile Europe Ltd, Samsung, ST-Ericsson, Texas Instruments, Verizon Wireless, Vodafone, ZTE Report REL-11 - Report of offline discussions held on Wed of RAN #56
The document was presented by the RAN1 chair.
discussion: RAN3 chair: "In relation to the 3 RAN3 LS..." means corresponding WI LTE_CA_HetNet_ICIC will be moved to REL-12. Just that everyone is aware of this. No objections will be raised
Qualcomm: can we then also take this from the RAN4 agenda?
RAN1 chair: suggests to not treat it in the next quarter
Sharp: Question for RAN1 chair: What about COMP? Will it finish in REL-11?
RAN1 chair: no consensus achieved in offline discussion about what could be removed from COMP WI, so we will have to discuss this in RAN1 again. It is likely that aspects for which we cannot achieve a quick consensus in the next RAN1 meeting will have to be postponed to Rel-12.
RAN chair: Please also take work in RAN2/3/4 into account
AT&T: new carrier type ("NCT"): still a lot to do in RAN4 for this so that RAN1 could progress?
Qualcomm: we are close to come to a conclusion but if RAN1 is postponing to REL-12 there is also no urgency for RAN4 anymore
conclusion: noted, way forward is approved
RAN1 chair: will we have to revise corresponding WIDs to reflect agreements?
MCC: yes, rapporteurs of the 3 WIs should revise the WIDs so that we can approve updates this week (see RP-120860, RP-120861, RP-120871:
LTE_CA_enh: last approved WID: RP-111749; to be revised in RP-120861 (Nokia)
eICIC_enh_LTE: last approved WID: RP-111369; to be revised in RP-120860 (CMCC)
LTE_enh_dl_ctrl: last approved WID: RP-111776; to be revised in RP-120871 (ALU))

RAN chair: so we not need to treat the 4 Tdocs above (RP-120601, RP-120692, RP-120708, RP-120712)
Huawei: enhanced UL TX SI (FS_eUL_TX_LTE) still on hold which could be stopped now?
RAN chair: we will see when we come to the corresponding agenda item
Huawei: so no space to approve new RAN1 SIs/WIs this week?
RAN chair: will be discussed on Fri, but REL-11 has clear priority compared to REL-12

11.1 Closed UTRA only related WIs

11.1.1 UE demodulation perf. requirements under multiple-cell scenario for 1.28Mcps TDD

11.1.1.1 Performance Part [500021, LCR_TDD_UE_demod_mc-Perf, 09/2011]

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No contributions.

11.1.2 UE Over the Air (Antenna) conformance testing methodology- Laptop Mounted Equipment Free Space test [450016, UEAnt_FSTest, 12/2011]

No contributions.

11.1.3 Introduction of New Configurations for 4C-HSDPA

11.1.3.1 Core part [510118, 4C_HSDPA_Config-Core, 12/2011]

No contributions.

11.2 Closed UTRA & LTE only related WIs

11.2.1 Extending 850 MHz Upper Band (814 – 849 MHz)

11.2.1.1 Core part [500120, e850_UB-Core, 03/2012]

RP-120816 RAN2 CR to REL-11 WI Core part: Extending 850 MHz Upper Band (814 – 849 MHz) RAN2 CR 25.307 0170 - B REL-11 e850_UB-Core
conclusion: approved

11.2.1.2 Performance part [500220, e850_UB-Perf, 03/2012]

No contributions.

11.3 Closed LTE only related WIs

11.3.1 LTE Advanced Carrier Aggregation in Band 41

11.3.1.1 Core part [520116, LTE_CA_B41-Core, 03/2012]

RP-120785 CRs for LTE Advanced Carrier Aggregation in Band 41 – Core part RAN4 CR set REL-11 LTE_CA_B41-Core
conclusion: approved

11.3.1.2 Performance part [520216, LTE_CA_B41-Perf, 03/2012]

No contributions.

11.4 Open UTRA only related WIs

11.4.1 Eight carrier HSDPA

11.4.1.1 Core part: [500119, 8C_HSDPA-Core, 06/2012]

RP-120469 Status report for WI Core Part: eight carrier HSDPA, rapporteur: Ericsson RAN1 Report REL-11 8C_HSDPA-Core
conclusion: 99% complete and target June 12 is not consistent; revised in RP-120841

RP-120841 Status report for WI Core Part: eight carrier HSDPA, rapporteur: Ericsson RAN1 Report REL-11 8C_HSDPA-Core
revision of RP-120469; 500119, WID: RP-101419; RAN #55: 85%, June 12;
discussion: Ericsson: only target date was changed to Sep.12
conclusion: noted, approved: 99%, Sep.12

RP-120740 CR to 25.212 for an addition on 8C_HSDPA RAN1 CR 25.212 0307 1 F REL-11 8C_HSDPA-Core
conclusion: approved

RP-120786 CRs for Eight carrier HSDPA – Core part RAN4 CR set REL-11 8C_HSDPA-Core
discussion: RAN4 chair: we could approve this in Sep.
Ericsson: prefers to approve it here, unclear whether further CRs will be needed
conclusion: approved

11.4.1.2 Performance part: [500219, 8C_HSDPA-Perf, 12/2012]

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RP-120470 Status report for WI Perf Part: eight carrier HSDPA, rapporteur: Ericsson RAN4 Report REL-11 8C_HSDPA-Per
500219, WID: RP-101419; RAN #55: 5%, Dec.12;
conclusion: noted, approved: 60%, Dec.12

11.4.2 Uplink Transmit Diversity for HSPA

11.4.2.1 Core Part: Closed Loop [500122, HSPA_UL_TxDiv-CL-Core, 06/2012]

RP-120471 Status report for WI Core part: Uplink Transmit Diversity for HSPA – Closed Loop, rapporteur: Huawei RAN1 Report REL-11 HSPA_UL_TxDiv-CL-Core
conclusion: revised in RP-120797

RP-120797 Status report for WI Core part: Uplink Transmit Diversity for HSPA – Closed Loop, rapporteur: Huawei RAN1 Report REL-11 HSPA_UL_TxDiv-CL-Core
500122, WID: RP-120367; RAN #55: 90%, June 12;
discussion: Huawei: completion level and target did not change but one RAN4 UE transmit time was also completed
conclusion: noted, approved: 93%, Sep.12

RP-120741 CRs to 25.212, 25.213 & 25.214 for corrections to Uplink Closed Loop TxD RAN1 CR set REL-11 HSPA_UL_TxDiv-CL-Core
conclusion: approved

RP-120745 Closed Loop Uplink Transmit Diversity CRs RAN3 CR set REL-11 HSPA_UL_TxDiv-CL-Core
conclusion: approved

11.4.2.2 Performance Part: Closed Loop [500222, HSPA_UL_TxDiv-CL-Perf, 09/2012]

RP-120472 Status report for WI Perf. part: Uplink Transmit Diversity for HSPA – Closed Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-CL-Perf
conclusion: revised in RP-120798

RP-120798 Status report for WI Perf. part: Uplink Transmit Diversity for HSPA – Closed Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-CL-Perf
500222, WID: RP-120367; RAN #55: 60%, Sep.12;
discussion: Huawei: overall completion level was updated and open issue mentioned
conclusion: noted, approved: 70%, Sep.12

11.4.2.3 Core part: Open Loop [500322, HSPA_UL_TxDiv-OL-Core, 06/2012]

RP-120473 Status report for WI Core part: Uplink Transmit Diversity for HSPA – Open Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-OL-Core
500322, WID: RP-120367; RAN #55: 85%, June 12;
conclusion: noted, approved: 90%, Sep.12

11.4.2.4 Performance part: Open Loop [500422, HSPA_UL_TxDiv-OL-Perf, 09/2012]

RP-120474 Status report for WI Perf. part: Uplink Transmit Diversity for HSPA – Open Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-OL-Perf
conclusion: revised in RP-120799

RP-120799 Status report for WI Perf. part: Uplink Transmit Diversity for HSPA – Open Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-OL-Perf
500422, WID: RP-120367; RAN #55: 60%, Sep.12;
discussion: Huawei: what need to be done in RAN4 to complete the perf. part was the difference here
conclusion: noted, approved: 60%, Sep.12

11.4.3 Introduction of New Configurations for 4C-HSDPA

11.4.3.1 Performance part [510218, 4C_HSDPA_Config-Perf, 06/2012]

RP-120475 Status report for WI Perf. part: Introduction of New Configurations for 4C-HSDPA, rapporteur: Telus Communications RAN4 Report REL-11 4C_HSDPA_Config-Perf
510218, WID: RP-110308; RAN #55: 0%, June 12;
discussion: RAN4: reusing existing specifications was agreed
conclusion: noted, approved: 100%, June 12; WI is closed (existing specs can be used)

11.4.4 Non-contiguous 4C-HSDPA operation

11.4.4.1 Core part [510119, NC_4C_HSDPA-Core, 06/2012]

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RP-120476 Status report for WI Core part: Non-contiguous 4C-HSDPA operation, rapporteur: Ericsson RAN4 Report REL-11 NC_4C_HSDPA-Core
conclusion: 80% complete and target June 12 is inconsistent; revised in RP-120842

RP-120842 Status report for WI Core part: Non-contiguous 4C-HSDPA operation, rapporteur: Ericsson RAN4 Report REL-11 NC_4C_HSDPA-Core
510119, WID: RP-110416; RAN #55: 60%, June 12;
discussion: Ericsson: reference [6] was added, previously target was June 12
RAN chair: with the 3 CR packages below can we close the WI?
Ericsson: specs have still some values in [ ] but this can be done under maintenance
MCC: if editorial we can do it this week
Ericsson: prefers to do this in RAN4 in August
RAN4 chair: also prefers to close the WI now
MCC: Please do not use TEI11 but the correct WI code NC_4C_HSDPA-Core for the CRs that you will continue under maintenance.
conclusion: noted, approved: 100%, June 12, WI is completed

RP-120610 Introduction of non-contiguous 4C-HSDPA core requirements definition Ericsson, ST-Ericsson CR 25.1010899 2 B REL-11 NC_4C_HSDPA-Core
conclusion: approved

RP-120746 Non-contiguous 4C-HSDPA CRs RAN3 CR set REL-11 NC_4C_HSDPA-Core
conclusion: approved

RP-120787 CRs for for Non-contiguous 4C-HSDPA operation – Core part RAN4 CR set REL-11 NC_4C_HSDPA-Core
conclusion: approved

11.4.4.2 Performance part [510219, NC_4C_HSDPA-Perf, 12/2012]

RP-120477 Status report for WI Perf. part: Non-contiguous 4C-HSDPA operation, rapporteur: Ericsson RAN4 Report REL-11 NC_4C_HSDPA-Perf
510219, WID: RP-110416; RAN #55: 5%, Dec.12;
conclusion: noted, approved: 50%, Dec.12

11.4.5 Further Enhancements to CELL_FACH

11.4.5.1 Core part [510120, Cell_FACH_enh-Core, 06/2012]

RP-120478 Status report for WI Core part: Further Enhancements to CELL_FACH, rapporteur: Qualcomm RAN2 Report REL-11 Cell_FACH_enh-Core
510120, WID: RP-111321; RAN #55: 44%, June 12;
conclusion: noted, approved: 75%, Sep.12

RP-120817 RAN2 stage 2 CRs for REL-11 WI Introduction of Further Enhancements to CELL_FACH RAN2 CR set REL-11 Cell_FACH_enh-Core
conclusion: approved

11.4.5.2 Performance part [510220, Cell_FACH_enh-Perf, 12/2012]

RP-120479 Status report for WI Perf. part: Further Enhancements to CELL_FACH, rapporteur: Qualcomm RAN4 Report REL-11 Cell_FACH_enh-Perf
510220, WID: RP-110913; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 20%, Dec.12

11.4.6 Four Branch MIMO transmission for HSDPA

11.4.6.1 Core part [530135, 4Tx_HSDPA-Core, 09/2012]

RP-120480 Status report for WI Core part: Four Branch MIMO transmission for HSDPA, rapporteur: Ericsson RAN1 Report REL-11 4Tx_HSDPA-Core
530135, WID: RP-111393; RAN #55: 10%, Sep.12;
conclusion: noted, approved: 50%, Sep.12

11.4.6.2 Performance part [530235, 4Tx_HSDPA-Perf, 03/2013]

RP-120481 Status report for WI Perf. part: Four Branch MIMO transmission for HSDPA, rapporteur: Ericsson RAN4 Report REL-11 4Tx_HSDPA-Perf
530235, WID: RP-111393; RAN #55: 0%, March 13;

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conclusion: noted, approved: 0%, March 13

11.4.7 HSDPA Multiflow Data Transmission

11.4.7.1 Core part [530134, HSDPA_MFTX-Core, 09/2012]

RP-120482 Status report for WI Core part: HSDPA Multiflow Data Transmission, rapporteur: NSN RAN2 Report REL-11 HSDPA_MFTX-Core
530134, WID: RP-111375; RAN #55: 50%, Sep.12;
conclusion: noted, approved: 70%, Sep.12

RP-120818 RAN2 stage 2 CR for REL-11 WI Core part: HSDPA Multiflow Data Transmission RAN2 CR 25.308 0123 - B REL-11 HSDPA_MFTX-Core
conclusion: approved

11.4.7.2 Performance part [530234, HSDPA_MFTX-Perf, 03/2013]

RP-120483 Status report for WI Perf. part: HSDPA Multiflow Data Transmission, rapporteur: NSN RAN4 Report REL-11 HSDPA_MFTX-Perf
530234, WID: RP-111375; RAN #55: 0%, March 13;
conclusion: noted, approved: 15%, March 13

11.4.8 UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA

11.4.8.1 Core part [530801, rSRVCC-RAN_UTRA-Core, 09/2012]

RP-120484 Status report for WI Core part: UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA, rapporteur: Huawei RAN3 Report REL-11 rSRVCC-RAN_UTRA-Core
conclusion: revised in RP-120828 (before presentation)

RP-120828 Status report for WI Core part: UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA, rapporteur: Huawei RAN3 Report REL-11 rSRVCC-RAN_UTRA-Core
530801, WID: RP-111334; RAN #55: 30%, Sep.12;
discussion: Huawei: difference to RP-120484 was just a typo on CR source
conclusion: noted, approved: 70%, Sep.12

11.4.9 MIMO with 64QAM for HSUPA

11.4.9.1 Core part [540109, MIMO_64QAM_HSUPA-Core, 12/2012]

RP-120485 Status report for WI Core part: MIMO with 64QAM for HSUPA, rapporteur: Nokia Siemens Networks RAN1 Report REL-11 MIMO_64QAM_HSUPA-Core
540109, WID: RP-111642; RAN #55: 20%, Dec.12;
conclusion: noted, approved: 60%, Dec.12

11.4.9.2 Performance part [540209, MIMO_64QAM_HSUPA-Perf, 06/2013]

RP-120486 Status report for WI Perf. part: MIMO with 64QAM for HSUPA, rapporteur: Nokia Siemens Networks RAN4 Report REL-11 MIMO_64QAM_HSUPA-Perf
540209, WID: RP-111642; RAN #55: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.4.10 HSDPA Dual-Band Multi-Carrier Combinations

11.4.10.1 Core part [540124, HSDPA_DB_MC-Core, 09/2012]

RP-120487 Status report for WI Core part: HSDPA Dual-Band Multi-Carrier Combinations, rapporteur: Ericsson RAN4 Report REL-11 HSDPA_DB_MC-Core
540124, WID: RP-111746; RAN #55: 30%, Sep.12;
conclusion: noted, approved: 60%, Sep.12

11.4.10.2 Performance part [540224, HSDPA_DB_MC-Perf, 12/2012]

RP-120488 Status report for WI Perf. part: HSDPA Dual-Band Multi-Carrier Combinations, rapporteur: Ericsson RAN4 Report REL-11 HSDPA_DB_MC-Perf
540224, WID: RP-111746; RAN #55: 20%, Dec.12;
conclusion: noted, approved: 20%, Dec.12

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11.5 Open UTRA & LTE related WIs

11.5.1 Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN

11.5.1.1 Core Part [530133, eMDT_UMTSLTE-Core, 09/2012]

RP-120489 Status report for WI Core part: Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN, rapporteur: MediaTek RAN2 Report REL-11 eMDT_UMTSLTE-Core
530133, WID: RP-120277; RAN #55: 20%, Sep.12;
conclusion: noted, approved: 60%, Sep.12

RP-120819 RAN2 stage2 CRs for REL-11 WI Core part: Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN RAN2 CR set REL-11 eMDT_UMTSLTE-Core
conclusion: approved

11.5.2 RAN overload control for Machine-Type Communications

11.5.2.1 Core Part [530109, SIMTC-RAN_OC-Core, 06/2012]

RP-120490 Status report for WI Core part: RAN overload control for Machine-Type Communications, rapporteur: Huawei RAN2 Report REL-11 SIMTC-RAN_OC-Core
530109, WID: RP-111373; RAN #55: 65%, June 12;
conclusion: noted, approved: 90%, Sep.12

11.5.3 Further Self Optimizing Networks (SON) enhancements

11.5.3.1 Core Part [530130, SONenh2_LTE_UTRA-Core, 09/2012]

RP-120491 Status report for WI Core part: Further Self Optimizing Networks (SON) enhancements, rapporteur: NSN RAN3 Report REL-11 SONenh2_LTE_UTRA-Core
530130, WID: RP-120314; RAN #55: 25%, Sep.12;
conclusion: noted, approved: 40%, Sep.12

11.5.4 E-UTRA medium range and MSR medium range/local area BS class requirements

11.5.4.1 Core Part [530137, medBS_class_LTE_MSR-Core, 06/2012]

RP-120492 Status report for WI Core part: E-UTRA medium range and MSR medium range/local area BS class requirements, rapporteur: Ericsson RAN4 Report REL-11 medBS_class_LTE_MSR-Core
530137, WID: RP-111383; RAN #55: 40%, June 12;
conclusion: noted, approved: 70%, Sep.12

RP-120705 Presentation of TR 37.809 v1.0.0 to TSG RAN, for information Ericsson TR 37.809 REL-11 medBS_class_LTE_MSR-Core
RAN4 TR 37.809 is provided for information
conclusion: TR 37.809 v1.0.0 is noted

11.5.4.2 Performance Part [530237, medBS_class_LTE_MSR-Perf, 09/2012]

RP-120493 Status report for WI Perf. part: E-UTRA medium range and MSR medium range/local area BS class requirements, rapporteur: Ericsson RAN4 Report REL-11 medBS_class_LTE_MSR-Perf
530237, WID: RP-111383; RAN #55: 0%, Sep.12;
conclusion: noted. approved: 0%, Sep.12

11.5.5 RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station

RP-120710 Proposed WI update: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station Huawei WID rev REL-11 MB_MSR_RF
revision of WID RP-120260
discussion: Huawei: TDD changes, further update will be needed
NSN: extension of the scope while it is 10% complete and we plan to complete in Dec.12, does not sound convincing?
Huawei: is a valid concern, was an outcome of the last RAN4 meeting, TDD aspect will require only very minor additional work; we are working on a note that in case of time limitation the original FDD part will have priority compared to new TDD part
NSN: Dec.12 would be more resonable for the Core part
ALU: any further extensions of the scope intended?
Huawei: no, TDD part was discussed in RAN4 and there was consensus about it
conclusion: revised in RP-120857; Core part target date will be changed to Dec.12

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RP-120857 Proposed WI update: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station Huawei WID rev REL-11 MB_MSR_RF
discussion: Telecom Italia: if moved to Dec.12 is it still in REL-11?
MCC: all core WIs not completed in Sep.12 will need exception sheet and if completed in Dec. it will be in REL-11
conclusion: approved

RP-120672 Reply LS to RP-120415 on Work Item on RF Requirements for Multi-band and Multi-standard radio (MB-MSR) Base Station (GP-120765; to: RAN4; cc: RAN; contact: Huawei) GERAN1 LSin REL-11 MB_MSR_RF
no RAN action requested;
discussion: Huawei: LS was discussed in last RAN4 meeting and since next GERAN meeting is in Sep. we decided that RAN4 can reply in August
conclusion: noted, no LS answer from RAN (RAN4 will reply from August meeting)

11.5.5.1 Core Part [**New WI**: 550115, MB_MSR_RF-Core, 09/2012]

RP-120494 Status report for WI Core part: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station, rapporteur: Huawei RAN4 Report REL-11 MB_MSR_RF-Core
550115, WID: RP-120260; RAN #55: 0%, Sep.12;
discussion: NSN: 10% complete and complete for Sep.12, realistic?
Huawei: yes
conclusion: noted, approved: 10%, Dec.12 (note: Due to WID update RP-120857 the target was shifted from Sep.12 to Dec.12)

11.5.5.2 Performance Part [**New WI**: 550215, MB_MSR_RF-Perf, 12/2012]

RP-120495 Status report for WI Perf. part: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station, rapporteur: Huawei RAN4 Report REL-11 MB_MSR_RF-Perf
550215, WID: RP-120260; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, ~~Dec.12~~ March 13
(note: Following WID update RP-120857 the target is corrected from status report target Dec.12 to March 13).

11.5.6 Verification of radiated multi-antenna reception performance of UEs in LTE/UMTS

11.5.6.1 Perf. Part [**New WI**: 550116, HSPA_LTE_measRP_MIMO-Perf, 12/2012]

RP-120496 Status report for WI Perf. part: Verification of radiated multi-antenna reception performance of UEs in LTE/UMTS, rapporteur: Vodafone RAN4 Report REL-11 HSPA_LTE_measRP_MIMO-Perf
550116, WID: RP-120368; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 20%, Dec.12

RP-120428 LS on UE measurements in support of the two-stage MIMO OTA test method (R4-122114; to: RAN1; cc: RAN; contact: Agilent) RAN4 LSin REL-11 HSPA_LTE_measRP_MIMO
no RAN action requested
discussion: RAN4 chair: is more for RAN1
RAN1 chair: RAN1 has already replied to RAN4
conclusion: noted, no LS answer

11.6 Open LTE only related WIs (non spectrum related)

11.6.1 Network-Based Positioning Support for LTE

RP-120703 Revised WID NB Positioning Support in LTE TruePosition WID rev RAN2 REL-11 LCS_LTE-NBPS
revision of WID RP-101446
discussion: Ericsson: would like to remove "(if required)" and new specifications should be in the upper part of a table
TruePosition: agrees with the changes
Ericsson: 36.111 should also be under new
MCC: correct, "new" means introduced by this WI; which WG is responsible
Ericsson: 36.133 was removed, we should still discuss this in RAN4 as it is not yet clear that it will not be affected
TruePosition: Ok with 36.111 and 36.133 comments

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TruePosition: removal of the 3 specs from perf. part is ok?
Ericsson: prefers to keep them
TruePosition: ok
Ericsson: to core part: did we not have a 36.300 change? Then we should keep it listed
TruePosition: will keep 36.300 as well on the core part
conclusion: revised in RP-120859

RP-120859 Revised WID NB Positioning Support in LTE TruePosition WID rev RAN2 REL-11 LCS_LTE-NBPS
discussion: RAN chair: so 4 new TS numbers have to be allocated
conclusion: approved

11.6.1.1 Core Part [430111, LCS_LTE-NBPS-Core, 06/2012]

RP-120497 Status report for WI Core Part: Network-Based Positioning Support for LTE, rapporteur: TruePosition RAN2 Report REL-11 LCS_LTE-NBPS-Core
conclusion: revised in RP-120801

RP-120801 Status report for WI Core Part: Network-Based Positioning Support for LTE, rapporteur: TruePosition RAN2 Report REL-11 LCS_LTE-NBPS-Core
430111, WID: RP-101446; RAN #55: 75%, June 12;
discussion: TruePosition: some updates were made: 2 withdrawn contributions, SRS update related changes, remaining RAN4 work (one bullet point highlighted where no consensus was possible so far)
Ericsson: RAN4 part open issue (bullet 5): "RAN4 core requirements missing" is sufficient, RAN4 can then discuss what is needed
TruePosition: ok, to revise it
conclusion: revised in RP-120858 to correct the open RAN4 issue acc. to the comment above

RP-120858 Status report for WI Core Part: Network-Based Positioning Support for LTE, rapporteur: TruePosition RAN2 Report REL-11 LCS_LTE-NBPS-Core
conclusion: noted, approved: 80%, Dec.12

RP-120820 RAN2 stage 2 CR for REL-11 WI Core part: Network-Based Positioning Support in LTE RAN2 CR 36.3050034 1 B REL-11 LCS_LTE-NBPS-Core
conclusion: approved

RP-120704 NBPS Support in LTE TruePosition Disc REL-11 LCS_LTE-NBPS-Core
"Recommendations:

1) *The RAN Plenary should give guidance to the RAN WGs to defer to and build upon, as opposed to redo, the work already done in RAN1 during the evaluation period.*
2) *The evaluations used a high number of SRS transmissions for hearability in order to meet the FCC Requirements. The E-SMLC should indicate to the eNB the number of SRS transmissions needed during a given positioning attempt.*
3) *Support of the standalone LMUs which share antenna equipment with the eNB should move forward, protecting carriers' investments already in the field.*
4) *RAN4 should focus on node-level minimum performance requirements only. These are separate from the system-level requirements needed to meet the FCC Requirements—the primary goal of this work item.*"

discussion: Andrew Corp.: similar view for 1), eNB would know what is required from the application side; for 2) we are also agreeing, for discussion point 3) we fully agree
Ericsson: Andrew is addressing discussion points and not recommendations?, ESMLC can request a certain bandwidth from eNB is not agreed in WGs and in general WGs should look into it
NSN: not eager to mandate 1), other points can be open for discussion
Ericsson: 3) and 4) are related to RAN4: should be RAN4 decision
TruePosition: is fine to discuss in the WGs but discussions have shown that decisions on WG level is not possible so some guidance from RAN is needed; if not possible to solve this in next WG meetings we would like to see a decision at RAN #57 for a guidance to WGs
RAN chair: will allow time for offline discussion and come back on Friday
conclusion: noted
on Friday:
TruePosition: will try to solve the points in the WGs and if that cannot be solved then we will raise them in RAN #57 for decision

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11.6.1.2 Performance Part [430211, LCS_LTE-NBPS-Perf, 09/2012]

RP-120498 Status report for WI Perf Part.: Network-Based Positioning Support for LTE, rapporteur: TruePosition RAN4 Report REL-11 LCS_LTE-NBPS-Perf
430211, WID: RP-101446; RAN #55: 0%, Sep.12;
conclusion: noted, approved: 0%, Dec.12

11.6.2 Service continuity in connected mode and location information for MBMS for LTE

11.6.2.1 Core part [480126, MBMS_LTE_SC-Core, 06/2012]

RP-120499 Status report for WI Core part: Service continuity improvements for MBMS for LTE, rapporteur: Huawei RAN2 Report REL-11 MBMS_LTE_SC-Core
480126, WID: RP-120258; RAN #55: 60%, June 12;
conclusion: noted, approved: 80%, Sep.12

RP-120821 RAN2 stage 2 CR for REL-11 WI Core part: Service continuity improvements for MBMS for LTE RAN2 CR 36.300 0439 3 B REL-11 MBMS_LTE_SC-Core
conclusion: approved

11.6.3 Further Enhanced Non CA-based ICIC for LTE

RP-120619 Revised WID for Further Enhanced Non CA-based ICIC for LTE CMCC WID rev RAN1 REL-11 eICIC_enh_LTE
revision of WID RP-111369
discussion: CMCC: rapporteur and completion date changed; scope needs to be revised acc. to agreements of offline session
conclusion: revised in RP-120860 to adapt to scope reduction of offline discussion led by RAN1 chairman this week

RP-120860 Revised WID for Further Enhanced Non CA-based ICIC for LTE CMCC WID rev RAN1 REL-11 eICIC_enh_LTE
conclusion: approved

11.6.3.1 Core part [510121, eICIC_enh_LTE-Core, 06/2012]

RP-120500 Status report for WI Core part: Further Enhanced Non CA-based ICIC for LTE, rapporteur: CMCC RAN1 Report REL-11 eICIC_enh_LTE-Core
510121, WID: RP-111369; RAN #55: 60%, June 12;
conclusion: noted, approved: 65%, Sep.12

11.6.3.2 Performance part [510221, eICIC_enh_LTE-Perf, 06/2012]

RP-120501 Status report for WI Perf. part: Further Enhanced Non CA-based ICIC for LTE, rapporteur: CMCC RAN4 Report REL-11 eICIC_enh_LTE-Perf
510221, WID: RP-111369; RAN #55: 5%, June 12;
conclusion: noted, approved: 20%, Dec.12

11.6.4 LTE Carrier Aggregation Enhancements

RP-120688 Default Carrier Aggregation Channel bandwidths Sprint Disc REL-11 LTE_CA_enh-Core
conclusion: withdrawn

RP-120861 Revised WID for LTE Carrier Aggregation Enhancements Nokia WID rev RAN1 REL-11 LTE_CA_enh-Core
last approved WID RP-111749; will address changes of way forward in RP-120856
discussion: RAN1 chair: on TX div scheme: it says now "schemes" but there will be only one scheme
Huwei: "until RAN #54": removal of bullet could cause misunderstandings
Nokia: hopes we are beyond this point
RAN1 chair: no need to spend time on this historic part
conclusion: approved

11.6.4.1 Core part [510130, LTE_CA_enh-Core, 09/2012]

RP-120502 Status report for WI Core part: LTE Carrier Aggregation Enhancements, rapporteur: Nokia RAN1 Report REL-11 LTE_CA_enh-Core
510130, WID: RP-111749; RAN #55: 35%, Sep.12;
conclusion: noted, approved: 55%, Sep.12

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RP-120788 CRs for LTE Carrier Aggregation Enhancements – Core part RAN4 CR set REL-11 LTE_CA_enh-Core
conclusion: approved

11.6.4.2 Performance part [510230, LTE_CA_enh-Perf, 03/2013]

RP-120503 Status report for WI Perf. part: LTE Carrier Aggregation Enhancements, rapporteur: Nokia RAN4 Report REL-11 LTE_CA_enh-Perf
510230, WID: RP-111749; RAN #55: 0%, March 13;
conclusion: noted, approved: 0%, March 13

11.6.5 LTE RAN Enhancements for Diverse Data Applications

11.6.5.1 Core part [510131, LTE_eDDA-Core, 09/2012]

RP-120504 Status report for WI Core part: LTE RAN Enhancements for Diverse Data Applications, rapporteur: RIM RAN2 Report REL-11 LTE_eDDA-Core
510131, WID: RP-120256; RAN #55: 30%, Sep.12;
conclusion: noted, approved: 60%, Sep.12

RP-120615 TR 36.822 v1.0.0 on LTE RAN Enhancements for Diverse Data Applications, provided for information Research in Motion TR 36.822 REL-11 LTE_eDDA-Core
RAN2 TR 36.822 is provided for information
conclusion: TR 36.822 is noted

RP-120822 RAN2 stage 2 CR for REL-11 WI Core part: LTE RAN Enhancements for Diverse Data Applications RAN2 CR 36.300 0450 3 B REL-11 LTE_eDDA-Core
conclusion: approved

11.6.6 Carrier based HetNet ICIC for LTE

11.6.6.1 Core part [510133, LTE_CA_HetNet_ICIC-Core, 06/2012]

RP-120505 Status report for WI Core part: Carrier based HetNet ICIC for LTE, rapporteur: Nokia Siemens Networks RAN3 Report REL-11 LTE_CA_HetNet_ICIC-Core
510133, WID: RP-111111; RAN #55: 30%, June 12;
discussion: RAN chair: following RAN1 offline discussion this will now be REL-12 (see RP-120856 discussion)
NSN: we could do this in Sep.
Huawei: what will change in Sep.?
NSN: difficult to say new dates as we do not know when REL-12 will finish
RAN chair: so we keep target as it is and shift the WI then in Sep.12
conclusion: noted, approved: 40%, Sep.12

RP-120847 RAN3 LSs to RAN1 on Carrier-based HetNet/eICIC WI RAN3 chairman (Qualcomm) Info REL-11 LTE_CA_HetNet_ICIC-Core
includes 3 RAN3 LSs to RAN1 for RAN information
discussion: RAN chair: as the topic is postponed to REL-12 and RAN1 will not address the LSs in Aug. we do not need to have a closer look here at the moment
conclusion: noted

11.6.7 Relays for LTE (part 2)

Note: Not yet completed REL-10 RAN4 core aspects were taken over into WI LTE_Relay2-Core at RAN #52 and REL-10 performance part was completely moved to REL-11 LTE_Relay2-Perf.

11.6.7.1 Core part [520119, LTE_Relay2-Core, 06/2012]

RP-120506 Status report for WI Core part: Relays for LTE (part 2), rapporteur: Ericsson RAN4 Report REL-11 LTE_Relay2-Core
520119, WID: RP-110914; RAN #55: 70%, June 12;
conclusion: noted, approved: 85%, Sep.12

11.6.7.2 Performance part [520219, LTE_Relay2-Perf, 09/2012]

RP-120507 Status report for WI Perf. part: Relays for LTE (part 2), rapporteur: EricssonRAN4 Report REL-11 LTE_Relay2-Perf
520219, WID: RP-110914; RAN #55: 75%, Sep.12;
conclusion: noted, approved: 80%, Sep.12

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11.6.8 Signalling and procedure for interference avoidance for in-device coexistence

11.6.8.1 Core part [530131, SPIA_IDC_LTE-Core, 06/2012]

RP-120508 Status report for WI Core part: Signalling and procedure for interference avoidance for in-device coexistence, rapporteur: CMCC RAN2 Report REL-11 SPIA_IDC_LTE-Core
530131, WID: RP-111355; RAN #55: 20%, June 12;
conclusion: noted, approved: 60%, Sep.12

RP-120823 RAN2 stage 2 CR for REL-11 WI Core part: Signalling and Procedure for Interference Avoidance for in-device coexistence RAN2 CR 36.300 0446 1 B REL-11 SPIA_IDC_LTE-Core
conclusion: approved

11.6.8.2 Performance part [530231, SPIA_IDC_LTE-Perf, 09/2012]

RP-120509 Status report for WI Perf. part: Signalling and procedure for interference avoidance for in-device coexistence, rapporteur: CMCC RAN4 Report REL-11 SPIA_IDC_LTE-Perf
conclusion: revised in RP-120800

RP-120800 Status report for WI Perf. part: Signalling and procedure for interference avoidance for in-device coexistence, rapporteur: CMCC RAN4 Report REL-11 SPIA_IDC_LTE-Perf
530231, WID: RP-111355; RAN #55: 0%, Sep.12;
discussion: CMCC: % complete changed
Ericsson: seems discussion took place in RAN2 although this is RAN4 topic?
CMCC: might happen that at the end there is no work for RAN4, depends on RAN2 discussions
Ericsson: it should be a RAN4 decision as RAN4 is responsible for performance issues
CMCC: some guidance from RAN2/RAN4 chairmen would help
RAN4 chair: could reserve an agenda item for RAN4 for August
RAN2 chair: from RAN2 point we concluded that no perf. part is needed but assumes RAN4 will come to a similar conclusions
conclusion: noted, approved: 60%, Sep.12

11.6.9 Coordinated Multi-Point Operation for LTE – Uplink

11.6.9.1 Core part [530132, COMP_LTE_UL-Core, 09/2012]

RP-120510 Status report for WI Core part: Coordinated Multi-Point Operation for LTE – Uplink, rapporteur: Huawei RAN1 Report REL-11 COMP_LTE_UL-Core
530132, WID: RP-111365; RAN #55: 20%, Sep.12;
conclusion: noted, approved: 70%, Sep.12

11.6.9.2 Performance part [530232, COMP_LTE_UL-Perf, 12/2012]

RP-120511 Status report for WI Perf. part: Coordinated Multi-Point Operation for LTE – Uplink, rapporteur: Huawei RAN4 Report REL-11 COMP_LTE_UL-Perf
530232, WID: RP-111365; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.6.10 Coordinated Multi-Point Operation for LTE – Downlink

11.6.10.1 Core part [530332, COMP_LTE_DL-Core, 09/2012]

RP-120512 Status report for WI Core part: Coordinated Multi-Point Operation for LTE – Downlink, rapporteur: Samsung RAN1 Report REL-11 COMP_LTE_DL-Core
530332, WID: RP-111365; RAN #55: 40%, Sep.12;
conclusion: noted, approved: 70%, Sep.12

11.6.10.2 Performance part [530432, COMP_LTE_DL-Perf, 12/2012]

RP-120513 Status report for WI Perf. part: Coordinated Multi-Point Operation for LTE – Downlink, rapporteur: Samsung RAN4 Report REL-11 COMP_LTE_DL-Perf
530432, WID: RP-111365; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.6.11 Network Energy Saving for E-UTRAN

RP-120620 Revised WID for Network Energy Saving for E-UTRAN CMCC WID rev RAN3 REL-11 Netw_Energy_LTE-Core revision of WID RP-111376
conclusion: approved

11.6.11.1 Core part [530136, Netw_Energy_LTE-Core, 06/2012]

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RP-120514 Status report for WI Core part: Network Energy Saving for E-UTRAN, rapporteur: CMCC RAN3 Report REL-11 Netw_Energy_LTE-Core
530136, WID: RP-111376; RAN #55: 30%, June 12;
conclusion: noted, approved: 95%, Sep.12

RP-120747 Network Energy Saving for E-UTRAN CRs RAN3 CR set REL-11 Netw_Energy_LTE-Core
conclusion: approved

RP-120824 RAN3 CR to RAN2 stage 2 TS 36.300 for REL-11 WI Core part: Network Energy Saving for E-UTRAN RAN2 CR 36.300 0464 - B REL-11 Netw_Energy_LTE-Core
conclusion: approved

11.6.12 Enhanced downlink control channel(s) for LTE

RP-120871 Revised WID for Enhanced downlink control channel(s) for LTE Alcatel-Lucent WID rev REL-11 LTE_enh_dl_ctrl
revision of WID RP-111776; to include changes of RP-120856
conclusion: approved

11.6.12.1 Core part [540125, LTE_enh_dl_ctrl-Core, 09/2012]

RP-120515 Status report for WI Core part: Enhanced downlink control channel(s) for LTE, rapporteur: Alcatel-Lucent RAN1 Report REL-11 LTE_enh_dl_ctrl-Core
540125, WID: RP-111776; RAN #55: 12%, Sep.12;
conclusion: noted, approved: 48%, Sep.12

11.6.12.2 Performance part [540225, LTE_enh_dl_ctrl-Perf, 03/2013]

RP-120516 Status report for WI Perf. part: Enhanced downlink control channel(s) for LTE, rapporteur: Alcatel-Lucent RAN4 Report REL-11 LTE_enh_dl_ctrl-Perf
540225, WID: RP-111776; RAN #55: 0%, March 13;
conclusion: noted, approved: 0%, March 13

11.6.13 Additional special subframe configuration for LTE TDD

11.6.13.1 Core part [**New WI**: 550114, LTE_TDD_add_subframe-Core, 06/2012]

RP-120517 Status report for WI Core part: Additional special subframe configuration for LTE TDD, rapporteur: CMCC RAN1 Report REL-11 LTE_TDD_add_subframe-Core
550114, WID: RP-120384; RAN #55: 0%, June 12;
conclusion: noted, approved: 95%, Sep.12

RP-120742 CRs to 36.211 & 36.213 for introduction of additional special subframe - LTE TDD RAN1 CR set REL-11 LTE_TDD_add_subframe-Core
discussion: RAN1 chair: proposes to wait for complete package (RAN2 parts pending)
conclusion: postponed, will wait for complete package

RP-120748 Additional special subframe configuration for LTE TDD CRs RAN3 CR set REL-11 LTE_TDD_add_subframe-Core
conclusion: postponed, will wait for complete package

11.6.14 Public Safety Broadband High Power UE for Band 14 for Region 2

11.6.14.1 Core part [**New WI**: 550112, LTE_B14_PSBB_HPUE-Core, 12/2012]

RP-120518 Status report for WI Core Part: Public Safety Broadband High Power UE for Band 14 for Region 2, rapporteur: Motorola Solutions RAN4 Report REL-11 LTE_B14_PSBB_HPUE-Core
550112, WID: RP-120362; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 25%, Dec.12

11.6.15 Improved Minimum Performance Requirements for E-UTRA: Interference Rejection

11.6.15.1 Perf. part [**New WI**: 550113, LTE_Interf_Rej-Perf, 12/2012]

RP-120519 Status report for WI Perf. part: Improved Minimum Performance Requirements for E-UTRA: Interference Rejection, rapporteur: Renesas RAN4 Report REL-11 LTE_Interf_Rej-Perf
550113, WID: RP-120382; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 30%, Dec.12

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11.7 Open LTE only related WIs (spectrum related)

11.7.1 Inter-band CA related WIs

RP-120596 TR approach for Rel-11 LTE CA related Work Items RAN4 chairman (NSN) Disc 36.850 REL-11 -
for approval
conclusion: noted, proposal is approved (taking into account that RP-120848 will request earlier preparation of revised WIDs, i.e. for Friday this week)

RP-120848 LTE Inter-band CA Work Item DescriptionsRAN4 chairman (NSN) Disc REL-11 -
removal of 2UL from WIDs in order to be able to complete WIs in REL-11
discussion: KDDI: was this proposed in RAN4?
RAN4 chair: this is the first time
SK Telecom: we splitted already into 2 WIs, 1 UL for REL-11 and 2UL for REL-12?
RAN4 chair: will see what can be completed in
T-Mobile: 2UL can be proposed when 1UL is completed, prefers "when it x % complete"
SK Telecom: need to revise their WID?
Sprint: 36.850 for REL-11?
RAN4 chair: when REL-11 is completed we will bring TR 36.850 under CR control and we can decide in Sep. how to handle the TR in the future
RAN4 chair: we will also use TR 36.850 for 2 UL
KDDI: do we need to decide this week to use this proposal?
RAN4 chair: cleaner approach as target date can be indicated properly in Sep. based on new WID i.e. 1 UL
MCC: RAN4 chairman's proposal is not a fully new approach, at the end of a REL you check what can be completed of a WI and you take out what is not complete; this is just a coordinated approach
RAN chair: plans to treat revised WIDs on Fri afternoon so revised WIDs should be provided by Fri lunch time
Panasonic: will have impact on multiple TA case in RAN1/RAN2?
Deutsche Telekom: suggests to keep multiple TA work running in REL-11
RAN1 & RAN2 chair: support this view
Panasonic: We support such view. The reason I asked was RAN1 work is waiting for some RAN4 work
RAN1 chair: RAN4 LS reply to CA enh. WI is independent from the 1UL/2UL approach here
Panasonic: Agrees that WI is independent. But depending on the answer, it could have signalling impact.
RAN chair: discuss this in RAN1 offline please
MCC: Tdoc numbers for existing and new inter-band CA WIDs will be distributed Thursday evening
conclusion: noted, proposal approved, existing and new inter-band CA WIDs have to be revised by Fri, MCC allocated the following Tdocs (*: allocated on request), see corresp. agenda items.

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1UL, 2UL	UID	WI code	agenda item	Inter-band LTE-A CA WIs	CA class	Rapporteur	Tdoc
1UL, 2UL?	510024	LTE_CA_B7_B20	11.7.1.6	Band 7 and Band 20	A1	Huawei	RP-120889
	510025	LTE_CA_B2_B17	11.7.1.7	Band 2 and Band 17	A1	AT&T	RP-120890
	510026	LTE_CA_B4_B5	11.7.1.8	Band 4 and Band 5	A1	AT&T	RP-120891
	530023	LTE_CA_B3_B20	11.7.1.13	Band 3 and Band 20	A1	Vodafone	RP-120887
	540221	LTE_CA_B1_B18	11.7.1.16	Band 1 and Band 18	A1	KDDI	RP-120892
	500018	LTE_CA_B4_B13	11.7.1.3	Band 4 and Band 13	A1	Ericsson	RP-120879
	500017	LTE_CA_B4_B17	11.7.1.2	Band 4 and Band 17	A2	AT&T	RP-120893
	510022	LTE_CA_B4_B12	11.7.1.4	Band 4 and Band 12	A2	Leap Wireless	RP-120877
	550018	LTE_CA_B3_B8	11.7.1.20	Band 3 and Band 8	A2	KT	RP-120894
	480023	LTE_CA_B3_B7	11.7.1.1	Band 3 and Band 7	A3	TeliaSonera	RP-120830
	510023	LTE_CA_B5_B12	11.7.1.5	Band 5 and Band 12	A3	US Cellular	RP-120895
	530027	LTE_CA_B4_B7	11.7.1.12	Band 4 and Band 7	A3	Rogers Wireless	RP-120896
	510027	LTE_CA_B5_B17	11.7.1.9	Band 5 and Band 17	A3	AT&T	RP-120897
	530024	LTE_CA_B8_B20	11.7.1.14	Band 8 and Band 20	A4	Vodafone	RP-120888
	540020	LTE_CA_B11_B18	11.7.1.15	Band 11 and Band 18	A5	KDDI	RP-120898
	new WI	LTE_CA_B2_B4	13.1	Band 2 and Band 4		T-Mobile	RP-120875
	new WI	LTE_CA_B25_B26	13.1	Band 25 and Band 26		Sprint	RP-120876
1UL	530026	LTE_CA_B3_B5	11.7.1.11	Band 3 and Band 5	A1	SK Telecom	RP-120899 *
	540022	LTE_CA_B1_B19	11.7.1.17	Band 1 and Band 19	A1	NTT DOCOMO	RP-120866 *
	530025	LTE_CA_B1_B7	11.7.1.10	Band 1 and Band 7	A3	China Telecom	RP-120886 *
	540023	LTE_CA_B1_B21	11.7.1.18	Band 1 and Band 21	A5	NTT DOCOMO	- *
2UL	550010	LTE_CA_B3_B5_2UL	11.7.1.19	Band 3 and Band 5, 2UL	A1	SK Telecom	RP-120867 *

11.7.1.1 LTE-Advanced Carrier Aggregation of Band 3 and Band 7

RP-120675 Revised WID for WI LTE-Advanced Carrier Aggregation of Band 3 and Band 7 TeliaSonera WID (rev) RAN4 REL-11 LTE_CA_B3_B7
not based on last approved WID RP-100668 and lists 36.850 twice as new;
conclusion: revised in RP-120755

RP-120755 Revised WID for WI LTE-Advanced Carrier Aggregation of Band 3 and Band 7 TeliaSonera WID (rev) RAN4 REL-11 LTE_CA_B3_B7
last approved WID RP-100668;
conclusion: revised in RP-120830

RP-120830 Revised WID for WI LTE-Advanced Carrier Aggregation of Band 3 and Band 7 TeliaSonera WID rev RAN4 REL-11 LTE_CA_B3_B7
last approved WID RP-100668; revision of RP-120755 with the intention to limit WI to 1 UL
discussion: RAN chair: this will be a reference example for the 2UL removal and TR 36.850 addition
conclusion: approved
Note: It was detected after RAN #56 that the revised WID RP-120830 indicates Sep.12 as target date for WI LTE_CA_B3_B7-Perf in contrast to what was approved under RP-120521: Dec.12. It was decided that the target date of LTE_CA_B3_B7-Perf remains: Dec.12.

11.7.1.1.1 Core part [480123, LTE_CA_B3_B7-Core, 09/2012]

RP-120520 Status report for WI Core part: LTE-Advanced Carrier Aggregation of Band 3 and Band 7, rapporteur: TeliaSonera RAN4 Report REL-11 LTE_CA_B3_B7-Core
480123, WID: RP-100668; RAN #55: 45%, Sep.12;
discussion: RAN chair: due to the revision of the WIDs removing 2 UL case the completion level will jump up next time
conclusion: noted, approved: 45%, Sep.12

11.7.1.1.2 Performance part [480223, LTE_CA_B3_B7-Perf, 12/2012]

RP-120521 Status report for WI Perf. part: LTE-Advanced Carrier Aggregation of Band 3 and Band 7, rapporteur: TeliaSonera RAN4 Report REL-11 LTE_CA_B3_B7-Perf
480223, WID: RP-100668; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.2 LTE Advanced Carrier Aggregation of Band 4 and Band 17

RP-120893 Revised WID for WI LTE Advanced Carrier Aggregation of Band 4 and Band 17 AT&T WID rev RAN4 REL-11 LTE_CA_B4_B17
revision of WID RP-111750 to follow RAN4 chairman's guidance in RP-120848
AT&T: there was no intention to include 2 UL in this WI;

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conclusion: withdrawn, will be provided in Sep.12 to clarify this and TR 36.850 handling

11.7.1.2.1 Core part [500117, LTE_CA_B4_B17-Core, 09/2012]

RP-120522 Status report for WI Core Part: LTE Advanced Carrier Aggregation of Band 4 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B17-Core
500117, WID: RP-111750; RAN #55: 30%, Sep.12;
conclusion: noted, approved: 50%, Sep.12

11.7.1.2.2 Performance part [500217, LTE_CA_B4_B17-Perf, 12/2012]

RP-120523 Status report for WI Perf Part: LTE Advanced Carrier Aggregation of Band 4 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B17-Perf
500217, WID: RP-111750; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.3 LTE Advanced Carrier Aggregation of Band 4 and Band 13

RP-120702 Revised WID: LTE Advanced Carrier Aggregation of Band 4 and Band 13 Verizon WID rev REL-11 LTE_CA_B4_B13
revision of WID RP-111678; note: rapporteur: Ericsson
conclusion: revised in RP-120879

RP-120879 Revised WID: LTE Advanced Carrier Aggregation of Band 4 and Band 13 Verizon WID rev REL-11 LTE_CA_B4_B13
last approved WID RP-111678; revision of RP-120702 to follow RAN4 chairman's guidance in RP-120848
conclusion: revised in RP-120905

RP-120905 Revised WID: LTE Advanced Carrier Aggregation of Band 4 and Band 13 Verizon WID rev RAN4 REL-11 LTE_CA_B4_B13
conclusion: approved

11.7.1.3.1 Core part [500118, LTE_CA_B4_B13-Core, 09/2012]

RP-120524 Status report for WI Core Part: LTE Advanced Carrier Aggregation of Band 4 and Band 13, rapporteur: Ericsson RAN4 Report REL-11 LTE_CA_B4_B13-Core
500118, WID: RP-111678; RAN #55: 40%, Sep.12;
conclusion: noted, approved: 40%, Sep.12

11.7.1.3.2 Performance part [500218, LTE_CA_B4_B13-Perf, 12/2012]

RP-120525 Status report for WI Perf. Part: LTE Advanced Carrier Aggregation of Band 4 and Band 13, rapporteur: Ericsson RAN4 Report REL-11 LTE_CA_B4_B13-Perf
500218, WID: RP-111678; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.4 LTE Advanced Carrier Aggregation of Band 4 and Band 12

RP-120613 Revised WID on LTE Advanced Carrier Aggregation of Band 4 and Band 12 Leap Wireless International WID (rev) RAN4 REL-11 LTE_CA_B4_B12
last approved WID RP-111316; revised in RP-120837; note: rapporteur of the WI is Cox Communications;
conclusion: revised in RP-120837 (as no revision marks used)

RP-120837 Revised WID on LTE Advanced Carrier Aggregation of Band 4 and Band 12 Leap Wireless International WID rev RAN4 REL-11 LTE_CA_B4_B12
conclusion: revised in RP-120877

RP-120877 Revised WID on LTE Advanced Carrier Aggregation of Band 4 and Band 12 Leap Wireless International WID rev RAN4 REL-11 LTE_CA_B4_B12
last approved WID RP-111316; note: rapporteur of the WI is (so far) Cox Communications
conclusion: approved
Note: It was detected after RAN #56 that the revised WID RP-120877 indicates Sep.12 as target date for WI LTE_CA_B4_B12-Perf in contrast to what was approved under RP-120527: Dec.12. It was decided that the target date of LTE_CA_B4_B12-Perf remains: Dec.12.

11.7.1.4.1 Core part [510122, LTE_CA_B4_B12-Core, 09/2012]

RP-120526 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 4 and Band 12, rapporteur: Cox Communications RAN4 Report REL-11 LTE_CA_B4_B12-Core

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510122, WID: RP-111316; RAN #55: 35%, Sep.12;
conclusion: noted, approved: 35%, Sep.12

11.7.1.4.2 Performance part [510222, LTE_CA_B4_B12-Perf, 12/2012]

RP-120527 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 4 and Band 12, rapporteur: Cox Communications RAN4 Report REL-11 LTE_CA_B4_B12-Perf
510222, WID: RP-111316; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.5 LTE Advanced Carrier Aggregation of Band 5 and Band 12

RP-120895 Revised WID for WI LTE Advanced Carrier Aggregation of Band 5 and Band 12 US Cellular WID rev RAN4 REL-11 LTE_CA_B5_B12
revision of WID RP-120221 to follow RAN4 chairman's guidance in RP-120848
conclusion: withdrawn, revised WID to be provided in Sep.12

11.7.1.5.1 Core part [510123, LTE_CA_B5_B12-Core, 09/2012]

RP-120528 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 5 and Band 12, rapporteur: US Cellular RAN4 Report REL-11 LTE_CA_B5_B12-Core
510123, WID: RP-120221; RAN #55: 35%, Sep.12;
conclusion: noted, approved: 75%, Sep.12

11.7.1.5.2 Performance part [510223, LTE_CA_B5_B12-Perf, 12/2012]

RP-120529 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 5 and Band 12, rapporteur: US Cellular RAN4 Report REL-11 LTE_CA_B5_B12-Perf
510223, WID: RP-120221; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.6 LTE Advanced Carrier Aggregation of Band 7 and Band 20

RP-120889 Revised WID for WI LTE Advanced Carrier Aggregation of Band 7 and Band 20 Huawei, Orange WID rev RAN4 REL-11 LTE_CA_B7_B20
revision of WID RP-110403 to follow RAN4 chairman's guidance in RP-120848
conclusion: approved
Note: It was detected after RAN #56 that the revised WID RP-120889 indicates Sep.12 as target date for WI LTE_CA_B7_B20-Perf in contrast to what was approved under RP-120531: Dec.12. It was decided that the target date of LTE_CA_B7_B20-Perf remains: Dec.12.

11.7.1.6.1 Core part [510124, LTE_CA_B7_B20-Core, 09/2012]

RP-120530 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 7 and Band 20, rapporteur: Huawei RAN4 Report REL-11 LTE_CA_B7_B20-Core
510124, WID: RP-110403; RAN #55: 45%, Sep.12;
conclusion: noted, approved: 45%, Sep.12

11.7.1.6.2 Performance part [510224, LTE_CA_B7_B20-Perf, 12/2012]

RP-120531 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 7 and Band 20, rapporteur: Huawei RAN4 Report REL-11 LTE_CA_B7_B20-Perf
510224, WID: RP-110403; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.7 LTE Advanced Carrier Aggregation Band 2 and Band 17

RP-120890 Revised WID for WI LTE Advanced Carrier Aggregation of Band 2 and Band 17 AT&T WID rev RAN4 REL-11 LTE_CA_B2_B17
revision of WID RP-110432 to follow RAN4 chairman's guidance in RP-120848
AT&T: there was no intention to include 2 UL in this WI;
RAN chair: so this will be clarified in a WID revision in Sep.12
conclusion: withdrawn, will be provided in Sep.12 (also to clarify TR 36.850 handling)

11.7.1.7.1 Core part [510125, LTE_CA_B2_B17-Core, 09/2012]

RP-120532 Status report for WI Core part: LTE Advanced Carrier Aggregation Band 2 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B2_B17-Core
510125, WID: RP-110432; RAN #55: 20%, Sep.12;

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conclusion: noted, approved: 30%, Sep.12

11.7.1.7.2 Performance part [510225, LTE_CA_B2_B17-Perf, 12/2012]

RP-120533 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Band 2 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B2_B17-Perf
510225, WID: RP-110432; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.8 LTE Advanced Carrier Aggregation Band 4 and Band 5

RP-120891 Revised WID for WI LTE Advanced Carrier Aggregation of Band 4 and Band 5 AT&T WID rev RAN4 REL-11 LTE_CA_B4_B5
revision of WID RP-110433 to follow RAN4 chairman's guidance in RP-120848
AT&T: there was no intention to include 2 UL in this WI;
conclusion: withdrawn, will be provided in Sep.12 to clarify this and TR 36.850 handling

11.7.1.8.1 Core part [510126, LTE_CA_B4_B5-Core, 09/2012]

RP-120534 Status report for WI Core part: LTE Advanced Carrier Aggregation Band 4 and Band 5, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B5-Core
510126, WID: RP-110433; RAN #55: 20%, Sep.12;
conclusion: noted, approved: 30%, Sep.12

11.7.1.8.2 Performance part [510226, LTE_CA_B4_B5-Perf, 12/2012]

RP-120535 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Band 4 and Band 5, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B5-Perf
510226, WID: RP-110433; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.9 LTE Advanced Carrier Aggregation Band 5 and Band 17

RP-120897 Revised WID for WI LTE Advanced Carrier Aggregation of Band 5 and Band 17 AT&T WID rev RAN4 REL-11 LTE_CA_B5_B17
revision of WID RP-110434 to follow RAN4 chairman's guidance in RP-120848
AT&T: there was no intention to include 2 UL in this WI;
conclusion: withdrawn, will be provided in Sep.12 to clarify this and TR 36.850 handling

11.7.1.9.1 Core part [510127, LTE_CA_B5_B17-Core, 09/2012]

RP-120536 Status report for WI Core part: LTE Advanced Carrier Aggregation Band 5 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B5_B17-Core
510127, WID: RP-110434; RAN #55: 20%, Sep.12;
conclusion: noted, approved: 30%, Sep.12

11.7.1.9.2 Performance part [510227, LTE_CA_B5_B17-Perf, 12/2012]

RP-120537 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Band 5 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B5_B17-Perf
510227, WID: RP-110434; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.10 LTE-Advanced Carrier Aggregation of Band 1 and Band 7

RP-120886 Revised WID for LTE-Advanced Carrier Aggregation of Band 1 and Band 7 China Telecom WID (rev) RAN4 REL-11 LTE_CA_B1_B7
revision of WID RP-111357 to follow RAN4 chairman's guidance in RP-120848
conclusion: revised in RP-120904

RP-120904 Revised WID for LTE-Advanced Carrier Aggregation of Band 1 and Band 7 China Telecom WID rev RAN4 REL-11 LTE_CA_B1_B7
conclusion: approved
Note: It was detected after RAN #56 that the revised WID RP-120904 indicates no target date for WI LTE_CA_B1_B7-Perf in contrast to what was approved under RP-120539: Dec.12. It was decided that the target date of LTE_CA_B1_B7-Perf remains: Dec.12.

11.7.1.10.1 Core part [530125, LTE_CA_B1_B7-Core, 09/2012]

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RP-120538 Status report for WI Core part: LTE-Advanced Carrier Aggregation of Band 1 and Band 7, rapporteur: China Telecom RAN4 Report REL-11 LTE_CA_B1_B7-Core
530125, WID: RP-111357; RAN #55: 35%, Sep.12;
conclusion: noted, approved: 45%, Sep.12

11.7.1.10.2 Performance part [530225, LTE_CA_B1_B7-Perf, 12/2012]

RP-120539 Status report for WI Perf. part: LTE-Advanced Carrier Aggregation of Band 1 and Band 7, rapporteur: China Telecom RAN4 Report REL-11 LTE_CA_B1_B7-Perf
530225, WID: RP-111357; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.1.11 LTE Advanced Carrier Aggregation of Band 3 and Band 5

RP-120700 Revised WID: LTE Advanced Carrier Aggregation of Band 3 and Band 5 SK Telecom WID rev RAN4 REL-11 LTE_CA_B3_B5
revision of WID RP-111603
conclusion: revised in RP-120899

RP-120899 Revised WID for WI LTE Advanced Carrier Aggregation of Band 3 and Band 5 SK Telecom WID rev RAN4 REL-11 LTE_CA_B3_B5
last approved WID RP-111603; revision of RP-120700 to follow RAN4 chairman's guidance in RP-120848
conclusion: approved

11.7.1.11.1 Core part [530126, LTE_CA_B3_B5-Core, 09/2012]

RP-120540 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 3 and Band 5, rapporteur: SK TelecomRAN4 Report REL-11 LTE_CA_B3_B5-Core
530126, WID: RP-111603; RAN #55: 60%, Sep.12;
conclusion: note, approved: 80%, Sep.12

11.7.1.11.2 Performance part [530226, LTE_CA_B3_B5-Perf, 12/2012]

RP-120541 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 3 and Band 5, rapporteur: SK TelecomRAN4 Report REL-11 LTE_CA_B3_B5-Perf
530226, WID: RP-111603; RAN #55: 0%, Dec.12;
conclusion: note, approved: 0%, Dec.12

11.7.1.12 LTE Carrier Aggregation Band 4 and Band 7

RP-120896 Revised WID for WI LTE Advanced Carrier Aggregation of Band 4 and Band 7 Rogers Wireless WID rev RAN4 REL-11 LTE_CA_B4_B7
revision of WID RP-111358 to follow RAN4 chairman's guidance in RP-120848;
provided by Ericsson on behalf of Rogers Wireless
conclusion: approved

11.7.1.12.1 Core part [530127, LTE_CA_B4_B7-Core, 09/2012]

RP-120542 Status report for WI Core part: LTE Carrier Aggregation Band 4 and Band 7, rapporteur: Rogers Wireless RAN4 Report REL-11 LTE_CA_B4_B7-Core
530127, WID: RP-111358; RAN #55: 20%, Sep.12;
conclusion: note, approved: 25%, Sep.12

11.7.1.12.2 Performance part [WI: 530227, LTE_CA_B4_B7-Perf, 12/2012]

RP-120543 Status report for WI Perf. part: LTE Carrier Aggregation Band 4 and Band 7, rapporteur: Rogers Wireless RAN4 Report REL-11 LTE_CA_B4_B7-Perf
530227, WID: RP-111358; RAN #55: 0%, Dec.12;
conclusion: note, approved: 0%, Dec.12

11.7.1.13 LTE Advanced Carrier Aggregation Bands 3 and Band 20

RP-120716 Revised WID for WI LTE Advanced Carrier Aggregation Bands 3 and Band 20 Vodafone Group WID rev REL-11 LTE_CA_B3_B20
revision of WID RP-120372; rapporteur missing, title to be revised
conclusion: revised in

RP-120887 Revised WID for WI LTE Advanced Carrier Aggregation Bands 3 and Band 20 Vodafone Group WID rev RAN4 REL-11 LTE_CA_B3_B20
revision of RP-120716 to follow RAN4 chairman's guidance in RP-120848

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conclusion: approved

11.7.1.13.1 Core part [530123, LTE_CA_B3_B20-Core, 09/2012]

RP-120544 Status report for WI Core part: LTE Advanced Carrier Aggregation Bands 3 and Band 20, rapporteur: Vodafone RAN4 Report REL-11 LTE_CA_B3_B20-Core
530123, WID: RP-120372; RAN #55: 45%, Sep.12;
conclusion: note, approved: 50%, Sep.12

11.7.1.13.2 Performance part [530223, LTE_CA_B3_B20-Perf, 12/2012]

RP-120545 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Bands 3 and Band 20, rapporteur: Vodafone RAN4 Report REL-11 LTE_CA_B3_B20-Perf
530223, WID: RP-120372; RAN #55: 0%, Dec.12;
conclusion: note, approved: 10%, Dec.12

11.7.1.14 LTE Advanced Carrier Aggregation Bands 8 and Band 20

RP-120717 Revised WID for WI LTE Advanced Carrier Aggregation Bands 8 and Band 20 Vodafone Group WID rev REL-11 LTE_CA_B8_B20
revision of WID RP-111213, rapporteur missing; title to be revised
conclusion: revised in RP-12

RP-120888 Revised WID for WI LTE Advanced Carrier Aggregation Bands 8 and Band 20 Vodafone Group WID rev RAN4 REL-11 LTE_CA_B8_B20
last approved WID RP-111213; revision of RP-120717 to follow RAN4 chairman's guidance in RP-120848
conclusion: approved

11.7.1.14.1 Core part [530124, LTE_CA_B8_B20-Core, 09/2012]

RP-120546 Status report for WI Core part: LTE Advanced Carrier Aggregation Bands 8 and Band 20, rapporteur: Vodafone RAN4 Report REL-11 LTE_CA_B8_B20-Core
530124, WID: RP-111213; RAN #55: 10%, Sep.12;
conclusion: note, approved: 10%, Sep,12

11.7.1.14.2 Performance part [530224, LTE_CA_B8_B20-Perf, 12/2012]

RP-120547 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Bands 8 and Band 20, rapporteur: Vodafone RAN4 Report REL-11 LTE_CA_B8_B20-Perf
530224, WID: RP-111213; RAN #55: 0%, Dec.12;
conclusion: note, approved: 0%, Dec.12

11.7.1.15 LTE Advanced Carrier Aggregation of Band 11 and Band 18

RP-120898 Revised WID for WI LTE Advanced Carrier Aggregation of Band 11 and Band 18 KDDI WID rev RAN4 REL-11 LTE_CA_B11_B18
revision of WID RP-111634 to follow RAN4 chairman's guidance in RP-120848
conclusion: approved

11.7.1.15.1 Core part [540120, LTE_CA_B11_B18-Core, 09/2012]

RP-120548 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 11 and Band 18, rapporteur: KDDI RAN4 Report REL-11 LTE_CA_B11_B18-Core
540120, WID: RP-111634; RAN #55: 20%, Sep.12;
conclusion: note, approved: 45%, Sep.12

11.7.1.15.2 Performance part [540220, LTE_CA_B11_B18-Perf, 12/2012]

RP-120549 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 11 and Band 18, rapporteur: KDDI RAN4 Report REL-11 LTE_CA_B11_B18-Perf
540220, WID: RP-111634; RAN #55: 0%, Dec.12;
conclusion: note, approved: 0%, Dec.12

11.7.1.16 LTE Advanced Carrier Aggregation of Band 1 and Band 18

RP-120892 Revised WID for WI LTE Advanced Carrier Aggregation of Band 1 and Band 18 KDDI WID rev RAN4 REL-11 LTE_CA_B1_B18
revision of WID RP-111635 to follow RAN4 chairman's guidance in RP-120848
conclusion: approved

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11.7.1.16.1 Core part [540121, LTE_CA_B1_B18-Core, 09/2012]

RP-120550 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 1 and Band 18, rapporteur: KDDI RAN4 Report REL-11 LTE_CA_B1_B18-Core
540121, WID: RP-111635; RAN #55: 20%, Sep.12;
conclusion: note, approved: 45%, Sep.12

11.7.1.16.2 Performance part [540221, LTE_CA_B1_B18-Perf, 12/2012]

RP-120551 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 1 and Band 18, rapporteur: KDDI RAN4 Report REL-11 LTE_CA_B1_B18-Perf
540221, WID: RP-111635; RAN #55: 0%, Dec.12;
conclusion: note, approved: 0%, Dec.12

11.7.1.17 LTE Advanced Carrier Aggregation of Band 1 and Band 19

RP-120616 Update of WID LTE Advanced Carrier Aggregation of Band 1 and Band 19 NTT DOCOMO WID rev RAN4 REL-11 LTE_CA_B1_B19
last approved WID RP-111765revision of WID RP-111765
conclusion: revised in RP-120866 to remove 36.850 from perf. part

RP-120866 Update of WID LTE Advanced Carrier Aggregation of Band 1 and Band 19 NTT DOCOMO WID rev RAN4 REL-11 LTE_CA_B1_B19
revision of RP-120616 in line with RAN4 chairman's guidance in RP-120848
conclusion: RP-120866 is approved unseen.

11.7.1.17.1 Core part [540122, LTE_CA_B1_B19-Core, 09/2012]

RP-120552 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 1 and Band 19, rapporteur: NTT DOCOMO RAN4 Report REL-11 LTE_CA_B1_B19-Core
540122, WID: RP-111765; RAN #55: 80%, Sep.12;
conclusion: note, approved: 100%, June 12; WI is completed

RP-120789 CRs for LTE Advanced Carrier Aggregation of Band 1 and Band 19 – Core part RAN4 CR 36.307 set REL-11 LTE_CA_B1_B19-Core
conclusion: approved

11.7.1.17.2 Performance part [540222, LTE_CA_B1_B19-Perf, 12/2012]

RP-120553 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 1 and Band 19, rapporteur: NTT DOCOMO RAN4 Report REL-11 LTE_CA_B1_B19-Perf "540222, WID: RP-111765; RAN #55: 0%, Dec.12;
discussion: RAN chair: completed without CR?
NTT DOCOMO: as class 1 no perf. part needed
MCC: does this apply to all inter-band CA cases of class 1?
NTT DOCOMO: depends on affected specs
NTT DOCOMO: 36.850 has RRM changes included that's why it is listed
RAN4 chair: as this is related to core part of RRM no need to list TR 36.850 in perf. part
conclusion: note, approved: 100%, June 12; WI is closed

11.7.1.18 LTE Advanced Carrier Aggregation of Band 1 and Band 21

Note: According RP-120848 the last approved WID RP-111764 for this WI is addressing only 1 UL. Nevertheless in order to reflect the RAN4 chairman's guidance of RP-120848 and RP-120596 regarding TR 36.850 the rapporteur is requested to revise the WID at RAN #57.

11.7.1.18.1 Core part [540123, LTE_CA_B1_B21-Core, 09/2012]

RP-120554 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 1 and Band 21, rapporteur: NTT DOCOMO RAN4 Report REL-11 LTE_CA_B1_B21-Core
540123, WID: RP-111764; RAN #55: 20%, Sep.12;
conclusion: noted, approved: 80%, Sep.12

11.7.1.18.2 Performance part [540223, LTE_CA_B1_B21-Perf, 12/2012]

RP-120555 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 1 and Band 21, rapporteur: NTT DOCOMO RAN4 Report REL-11 LTE_CA_B1_B21-Perf
540223, WID: RP-111764; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

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11.7.1.19 LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL

RP-120701 Revised WID: LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL SK Telecom
WID rev RAN4 REL-11 LTE_CA_B3_B5_2UL
revision of WID RP-120364
conclusion: revised in RP-120867

RP-120867 Revised WID: LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL SK Telecom
WID rev RAN4 REL-11 LTE_CA_B3_B5_2UL
conclusion: approved
Note: It was detected after RAN #56 that the revised WID RP-120867 indicates March 13 as target date for WI LTE_CA_B3_B5_2UL-Core in contrast to what was approved under RP-120556: June 13. It was decided that the target date of LTE_CA_B3_B5_2UL-Core remains: June 13.

11.7.1.19.1 Core part [**New WI**: 550110, LTE_CA_B3_B5_2UL-Core, 03/2013]

RP-120556 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL, rapporteur: SK Telecom RAN4 Report REL-11 LTE_CA_B3_B5_2UL-Core
550110, WID: RP-120364; RAN #55: 0%, March 13;
conclusion: noted, approved: 20%, June 13

11.7.1.19.2 Performance part [**New WI**: 550210, LTE_CA_B3_B5_2UL-Perf, 06/2013]

RP-120557 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL, rapporteur: SK Telecom RAN4 Report REL-11 LTE_CA_B3_B5_2UL-Perf
550210, WID: RP-120364; RAN #55: 0%, June 13;
conclusion: approved: 0%, June 13

11.7.1.20 LTE Advanced Carrier Aggregation of Band 3 and Band 8

RP-120894 Revised WID for WI LTE Advanced Carrier Aggregation of Band 3 and Band 8 KT WID (rev)
RAN4 REL-11 LTE_CA_B3_B8
revision of WID RP-120388 to follow RAN4 chairman's guidance in RP-120848;
conclusion: revised in RP-120907

RP-120907 Revised WID for WI LTE Advanced Carrier Aggregation of Band 3 and Band 8 KT WID rev RAN4
REL-11 LTE_CA_B3_B8
conclusion: approved; note: WID changes target date of perf. part to Dec.12, so decision in RP-120558 was updated accordingly.

11.7.1.20.1 Core part [**New WI**: 550118, LTE_CA_B3_B8-Core, 03/2013]

RP-120558 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 3 and Band 8, rapporteur: KT RAN4 Report REL-11 LTE_CA_B3_B8-Core
550118, WID: RP-120388; RAN #55: 0%, March 13;
conclusion: noted, approved: 25%, ~~March 13~~ Dec.12
(note: Following WID update RP-120907 the target is corrected from status report target March 13 to Dec.12).

11.7.1.20.2 Performance part [**New WI**: 550118, LTE_CA_B3_B8-Perf, 06/2013]

RP-120559 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 3 and Band 8, rapporteur: KT RAN4 Report REL-11 LTE_CA_B3_B8-Perf
550118, WID: RP-120388; RAN #55: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.7.2 Intra-band CA related WIs

11.7.2.1 LTE Advanced Carrier Aggregation in Band 38

11.7.2.1.1 Core part [520115, LTE_CA_B38-Core, 09/2012]

RP-120560 Status report for WI Core part: LTE Advanced Carrier Aggregation in Band 38, rapporteur: Huawei
RAN4 Report REL-11 LTE_CA_B38-Core
520115, WID: RP-110862; RAN #55: 50%, Sep.12;
discussion: RAN chair: do we also need to consider removal of 2UL from WID for intra-band cases
RAN4 chairman: no, was only considered for inter-band cases
conclusion: note, approved: 90%, Sep.12

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RP-120790 CRs for LTE Advanced Carrier Aggregation in Band 38 – Core part RAN4 CR set REL-11 LTE_CA_B38-Core
discussion: RAN chair: as we will not complete the WI this week, do we need to approve them now?
RAN4 chair: can also be done in Sep.
conclusion: postponed

11.7.2.1.2 Performance part [520215, LTE_CA_B38-Perf, 12/2012]

RP-120561 Status report for WI Perf. part: LTE Advanced Carrier Aggregation in Band 38, rapporteur: Huawei RAN4 Report REL-11 LTE_CA_B38-Perf
520215, WID: RP-110862; RAN #55: 80%, Dec.12;
conclusion: noted, approved: 80%, Dec.12

11.7.2.2 LTE Advanced Carrier Aggregation in Band 7

11.7.2.2.1 Core part [530128, LTE_CA_B7-Core, 09/2012]

RP-120562 Status report for WI Core part: LTE Advanced Carrier Aggregation in Band 7, rapporteur: China Unicom RAN4 Report REL-11 LTE_CA_B7-Core
530128, WID: RP-111356; RAN #55: 40%, Sep.12;
conclusion: noted, approved: 70%, Sep.12

11.7.2.2.2 Performance part [530228, LTE_CA_B7-Perf, 12/2012]

RP-120563 Status report for WI Perf. part: LTE Advanced Carrier Aggregation in Band 7, rapporteur: China Unicom RAN4 Report REL-11 LTE_CA_B7-Perf
530228, WID: RP-111356; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 70%, Dec.12

11.7.2.3 Intra-band, Non-contiguous CA for Band 25 for LTE

11.7.2.3.1 Core part [530129, LTE_CA_NC_B25-Core, 06/2013]

RP-120564 Status report for WI Core part: Intra-band, Non-contiguous CA for Band 25 for LTE, rapporteur: Sprint RAN4 Report REL-11 LTE_CA_NC_B25-Core
530129, WID: RP-120366; RAN #55: 5%, June 13;
conclusion: noted, approved: 10%, June 13

11.7.2.3.2 Performance part [530229, LTE_CA_NC_B25-Perf, 06/2013]

RP-120565 Status report for WI Perf. part: Intra-band, Non-contiguous CA for Band 25 for LTE, rapporteur: Sprint RAN4 Report REL-11 LTE_CA_NC_B25-Perf
530229, WID: RP-120366; RAN #55: 5%, June 13;
conclusion: noted, approved: 10%, June 13

11.7.2.4 Intra-band, Non-contiguous CA for Band 3 for LTE Advanced

11.7.2.4.1 Core part [**New WI**: 550111, LTE_CA_NC_B3-Core, 03/2013]

RP-120566 Status report for WI Core part: Intra-band, Non-contiguous CA for Band 3 for LTE Advanced, rapporteur: SK Telecom RAN4 Report REL-11 LTE_CA_NC_B3-Core
550111, WID: RP-120383; RAN #55: 0%, March 13;
conclusion: noted, approved: 20%, June 13

11.7.2.4.2 Performance part [**New WI**: 550211, LTE_CA_NC_B3-Perf, 06/2013]

RP-120567 Status report for WI Perf. part: Intra-band, Non-contiguous CA for Band 3 for LTE Advanced, rapporteur: SK Telecom RAN4 Report REL-11 LTE_CA_NC_B3-Perf
550211, WID: RP-120383; RAN #55: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.7.3 Other WIs

11.7.3.1 New Band LTE Downlink FDD 716-728MHz

11.7.3.1.1 Core part [510128, LTE_DL_FDD700-Core, 12/2012]

RP-120568 Status report for WI Core part: New Band LTE Downlink FDD 716-728 MHz, rapporteur: AT&T RAN4 Report REL-11 LTE_DL_FDD700-Core
conclusion: revised in RP-120719 as Tdoc RP-120568 was misused by another company

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RP-120719 Status report for WI Core part: New Band LTE Downlink FDD 716-728 MHz, rapporteur: AT&T RAN4 Report REL-11 LTE_DL_FDD700-Core
510128, WID: RP-110710; RAN #55: 20%, Dec.12;
conclusion: noted, approved: 30%, Sep.12

11.7.3.1.2 Performance part [510228, LTE_DL_FDD700-Perf, 12/2012]

RP-120569 Status report for WI Perf. part: New Band LTE Downlink FDD 716-728 MHz, rapporteur: AT&T RAN4 Report REL-11 LTE_DL_FDD700-Perf
510228, WID: RP-110435; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.7.3.2 LTE E850 - Lower Band for Region 2 (non-US)

RP-120602 Updated WID for LTE E850 Lower Band for Region 2 (non-US) NII Holdings WID rev RAN4 REL-11 LTE_e850_LB
revision of WID RP-110439, updates to reflect the change to the lower edge of the band
conclusion: approved

11.7.3.2.1 Core part [510132, LTE_e850_LB-Core, 06/2012]

RP-120570 Status report for WI Core part: LTE E850 - Lower Band for Region 2 (non-US), rapporteur: NII Holdings RAN4 Report REL-11 LTE_e850_LB-Core
510132, WID: RP-110439; RAN #55: 40%, June 12;
conclusion: noted, approved: 100%, June 12, WI is completed

RP-120749 LTE 850 CRs RAN3 CR set REL-11 LTE_e850_LB-Core
conclusion: approved

RP-120791 CRs for Lower Band for Region 2 (non-US) – Core part RAN4 CR set REL-11 LTE_e850_LB-Core
conclusion: approved

11.7.3.2.2 Performance part [510232, LTE_e850_LB-Perf, 06/2012]

RP-120571 Status report for WI Perf. part: LTE E850 - Lower Band for Region 2 (non-US), rapporteur: NII Holdings RAN4 Report REL-11 LTE_e850_LB-Perf
510232, WID: RP-110439; RAN #55: 20%, June 12;
conclusion: noted, approved: 100%, June 12, WI is completed

RP-120792 CRs for Lower Band for Region 2 (non-US) – Perf part RAN4 CR set REL-11 LTE_e850_LB-Perf
conclusion: approved

11.7.3.3 LTE for 700 MHz digital dividend

11.7.3.3.1 Core part [520117, LTE_APAC700-Core, 06/2012]

RP-120572 Status report for WI Core part: LTE for 700 MHz digital dividend, rapporteur: Ericsson RAN4 Report REL-11 LTE_APAC700-Core
520117, WID: RP-110875; RAN #55: 65%, June 12;
conclusion: noted, approved: 100%, June 12; WI is completed

RP-120707 TR 36.820 v 1.0.0 on LTE for 700 MHz digital dividend; provided for approval Ericsson TR 36.820 REL-11 LTE_APAC700-Core
RAN4 TR 36.820 is provided for 1-step approval to v11.0.0 (it was not presented to RAN before)
conclusion: revised in RP-120844 after treating LSin RP-120673

RP-120844 TR 36.820 v 1.0.1 on LTE for 700 MHz digital dividend; provided for approval Ericsson TR 36.820L REL-11 LTE_APAC700-Core
conclusion: TR 36.820 is approved as v11.0.0

RP-120750 LTE for 700 MHz CRs RAN3 CR set REL-11 LTE_APAC700-Core
conclusion: approved

RP-120793 CRs for LTE for 700 MHz Digital Dividend – Core part RAN4 CR set REL-11 LTE_APAC700-Core
conclusion: approved

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11.7.3.3.2 Performance part [520217, LTE_APAC700-Perf, 06/2012]

RP-120573 Status report for WI Perf. part: LTE for 700 MHz digital dividend, rapporteur: Ericsson RAN4 Report REL-11 LTE_APAC700-Perf
520217, WID: RP-110875; RAN #55: 0%, June 12;
conclusion: noted, approved: 100%, June 12; WI is completed

RP-120794 CRs for LTE for 700 MHz Digital Dividend – Perf part RAN4 CR set REL-11 LTE_APAC700-Perf
conclusion: approved

11.7.3.4 LTE in the 1670-1675MHz Band for US

11.7.3.4.1 Core part [**New WI**: 550117, LTE_FDD_1670_US-Core, 12/2012]

RP-120574 Status report for WI Core part: LTE in the 1670-1675MHz Band for US, rapporteur: LightSquared RAN4 Report REL-11 LTE_FDD_1670_US-Core
550117, WID: RP-120360; RAN #55: 0%, Dec.12;
conclusion: noted, approved: 5%, Dec.12

11.7.3.4.2 Performance part [**New WI**: 550217, LTE_FDD_1670_US-Perf, 03/2013]

RP-120575 Status report for WI Perf. part: LTE in the 1670-1675MHz Band for US, rapporteur: LightSquared RAN4 Report REL-11 LTE_FDD_1670_US-Perf
550217, WID: RP-120360; RAN #55: 0%, March 13;
conclusion: noted,
Error in status report: it says target Dec. 12 although RAN #55 decided March 13
RAN #56 status: approved: 5%, March 13

11.8 Open Small Technical Enhancements and Improvements for Rel-11 [TEI11]

RAN2:

RP-120825 RAN2 CRs for Small Technical Enhancements and Improvements for Rel-11 and other REL-11 topics for which no RAN WIs exist RAN2 CR set REL-11 TEI11, Sec11, EEA3_EIA3, vSRVCC-CT, SAES-SRVCC
conclusion: approved

RAN3:

RP-120751 TEI11 CRs, set 1 RAN3 CR set REL-11 TEI11
including EEA3_EIA3 (ZUC) CRs
conclusion: approved

RP-120752 TEI11 CRs, set 2 RAN3 CR set REL-11 TEI11
conclusion: approved

RAN4:

RP-120795 CRs for Small Technical Enhancements and Improvements Rel-11 RAN4 CR set REL-11 TEI11
conclusion: approved

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12 Study Items

12.1 Closed study items

No contributions.

12.2 Open UTRA only related SIs

12.2.1 REL-11 Study on UE OTA test method with Head and Hand Phantoms

[530057, FS_OTA_phantoms_UTRA, 06/2012]

RP-120576 Status report for SI Study on UE OTA test method with Head and Hand Phantoms, rapporteur: Nokia RAN4 Report REL-11 FS_OTA_phantoms_UTRA
530057, SID: RP-120208; RAN #55: 25%, June 12;
conclusion: noted, approved: 95%, Sep.12

RP-120796 CRs for UE Over The Air (OTA) test method with Head and Hand Phantoms RAN4 CR 25.914 set REL-11 FS_OTA_phantoms_UTRA
discussion: RAN chair: can we approve them now (as SI is ongoing)?
RAN4 chair: no problem to approve CR set now
conclusion: at first approved then revised in RP-120874 to add CAD files
874
discussion: RAN4 chair: CAD files are for hand phantoms
conclusion: approved

12.2.2 Study on HSPA feedback and signalling efficiency enhancements for LCR TDD

[540026, FS_LCRTDD_HSPAenh, 09/2012]

RP-120577 Status report for SI Study on HSPA feedback and signalling efficiency enhancements for LCR TDD, rapporteur: TD Tech RAN1 Report REL-11 FS_LCRTDD_HSPAenh
540026, SID: RP-111766; RAN #55: 5%, Sep.12;
conclusion: noted, approved: 30%, Sep.12

12.3 Open UTRA & LTE related SIs

12.3.1 REL-11 Study on Extending 850MHz [440016, FS_e850, 06/2012]

RP-120578 Status report for SI Study on Extending 850MHz, rapporteur: Ericsson RAN4 Report REL-11 FS_e850
440016, SID: RP-090666; RAN #55: 80%, June 12;
discussion: RAN chair: why should SI continue as WI is done?
Ericsson: TR still needs to be revised
conclusion: noted, approved: 90%, Sep.12

12.3.2 REL-11 Study on further enhancements for HNB and HeNB [510036, FS_EHNB_enh, 06/2012]

RP-120579 Status report for SI Study on further enhancements for HNB and HeNB, rapporteur: Alcatel-Lucent RAN3 Report REL-11 FS_EHNB_enh
510036, SID: RP-120373; RAN #55: 70%, June 12;
conclusion: noted, approved: 100%, June 12; SI is completed.

RP-120608 Presentation of Specification to TSG: TR 37.803 v2.0.0 "Mobility Enhancements for H(e)NB" for approval Alcatel-Lucent TR 37.803 REL-11 FS_EHNB_enh
RAN3 TR 37.803 is provided for approval to v11.0.0
conclusion: TR 37.803 is approved as v.11.0.0

12.3.3 REL-11 Study on UMTS/LTE in 900 MHz band (Japan, Korea)

[520018, FS_UTRA_LTE_900MHz, 06/2012]

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RP-120580 Status report for SI Study on UMTS/LTE in 900 MHz band (Japan, Korea), rapporteur: NTT DOCOMO RAN4 Report REL-11 FS_UTRA_LTE_900MHz
520018, SID: RP-111751; RAN #55: 55%, June 12;
conclusion: noted, approved: 100%, June 12; SI is completed.

RP-120617 Updated SID for Study on UMTS/LTE in 900 MHz band (Japan, Korea) NTT DOCOMO SID rev RAN4 REL-11 FS_UTRA_LTE_900MHz
revision of SID RP-111751
discussion: NTT DOCOMO: completion date updated
conclusion: approved

RP-120618 TR 37.804 v1.0.0 on "Study on UMTS/LTE in 900 MHz band and coexistence with 850 MHz band"; for approval NTT DOCOMO TR 37.804 REL-11 FS_UTRA_LTE_900MHz
RAN4 TR 37.804 is provided for 1-step approval to v11.0.0
conclusion: TR 37.804 approved as v.11.0.0

12.3.4 REL-11 Study of RF and EMC Requirements for Active Antenna Array System (AAS) Base Station [530056, FS_AAS_BS_LTE_UTRA, 09/2012]

RP-120581 Status report for SI Study of RF and EMC Requirements for Active Antenna Array System (AAS) Base Station, rapporteur: Huawei RAN4 Report REL-11 FS_AAS_BS_LTE_UTRA
530056, SID: RP-111349; RAN #55: 20%, Sep.12;
conclusion: noted, approved: 55%, Sep.12

12.3.5 REL-11 Study on Passive InterModulation (PIM) handling for for UTRA & LTE Base Stations [**New SI**: 550021, FS_BS_PIM, 09/2012]

RP-120582 Status report for SI Study on Passive InterModulation (PIM) handling for for UTRA & LTE Base Stations, rapporteur: Ericsson RAN4 Report REL-11 FS_BS_PIM
550021, SID: RP-120268; RAN #55: 0%, Sep.12;
conclusion: noted, approved: 35%, Sep.12

12.4 Open LTE only related SIs

12.4.1 REL-11 Study on Inclusion of RF Pattern Matching as a positioning method in the E-UTRAN [500016, FS_LCS_LTE_RFPMT, 06/2012]

RP-120583 Status report for SI Study on Inclusion of RF Pattern Matching Technologies as a positioning method in the E-UTRAN, rapporteur: Polaris Wireless RAN4 Report REL-11 FS_LCS_LTE_RFPMT
500016, SID: RP-120374; RAN #55: 50%, June 12;
conclusion: noted, approved: 55%, Dec.12

RP-120597 Revised SID for SI Study on Inclusion of RF Pattern Matching Technologies as a positioning method in the E-UTRAN Polaris Wireless SID rev RAN4 REL-11 FS_LCS_LTE_RFPMT
revision of SID RP-120374
discussion: Polaris Wireless: still some offline discussion, might need a revision
RAN chair: ok, we come back on Friday
conclusion: revised in RP-120873

RP-120873 Revised SID for SI Study on Inclusion of RF Pattern Matching Technologies as a positioning method in the E-UTRAN Polaris Wireless SID rev RAN4 REL-11 FS_LCS_LTE_RFPMT
discussion: NEC: completion date still says June 2012
conclusion: revised in RP-120885

RP-120885 Revised SID for SI Study on Inclusion of RF Pattern Matching Technologies as a positioning method in the E-UTRAN Polaris Wireless SID rev RAN4 REL-11 FS_LCS_LTE_RFPMT
last approved SID RP-120374; revision of RP-120873
conclusion: approved

12.4.2 REL-11 Study on HetNet mobility improvements for LTE [510034, FS_HetNet_eMOB_LTE, 09/2012]

RP-120584 Status report for SI Study on HetNet mobility enhancements for LTE, rapporteur: Alcatel-Lucent RAN2 Report REL-11 FS_HetNet_eMOB_LTE

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510034, SID: RP-110709; RAN #55: 45%, Sep.12;
conclusion: noted, approved: 85%, Sep.12

12.4.3 REL-11 Study on Enhanced Uplink Transmission for LTE
[510035, FS_eUL_TX_LTE, 09/2012]

RP-120585 Status report for SI Study on Enhanced Uplink Transmission for LTE, rapporteur: Huawei RAN1 Report REL-11 FS_eUL_TX_LTE
510035, SID: RP-120259; RAN #55: 5%, Sep.12
discussion: RAN chairman: this SI is supposed to stop (see RP-120856 discussion)
most of the content was moved to UL COMP and RAN1 has no time to look at it
conclusion: noted, approved: 5%, June 12, SI is closed

12.4.4 REL-11 Study on Interference analysis between 800~900 MHz bands
[510038, FS_B800_B900_Interf_LTE, 06/2012]

RP-120586 Status report for SI Study on Interference analysis between 800~900 MHz bands, rapporteur: LG Uplus RAN4 Report REL-11 FS_B800_B900_Interf_LTE
510038, SID: RP-111752; RAN #55: 50%, June 12;
discussion: RAN chair: why is there no TR?
LG plus: covered in TR 37.804 (see RP-120618 under 12.3.3)
conclusion: noted, approved: 100%, June 12, SI is completed

12.4.5 REL-11 Study on Further Enhancements to LTE TDD for DL-UL Interference Management and Traffic Adaptation [510039, FS_LTE_TDD_eIMTA, 06/2012]

RP-120587 Status report for SI Study on Further Enhancements to LTE TDD for DL-UL Interference Management and Traffic Adaptation, rapporteur: CATT RAN1 Report REL-11 FS_LTE_TDD_eIMTA
510039, SID: RP-110450; RAN #55: 30%, June 12;
conclusion: noted, approved:100%, June 12, SI is completed

RP-120693 Presentation of Specification to TSG: TR 36.828 v2.0.0 " Further Enhancements to LTE TDD for DL-UL Interference Management and Traffic Adaptation " for approval CATT TR 36.828 REL-11 FS_LTE_TDD_eIMTA
RAN1 TR 36.828 is provided for approval to v11.0.0
conclusion: TR 36.828 is approved as v11.0.0

12.4.6 REL-11 Study on Provision of low-cost MTC UEs based on LTE
[530052, FS_LC_MTC_LTE, 06/2012]

RP-120588 Status report for SI Study on Provision of low-cost MTC UEs based on LTE, rapporteur: Vodafone RAN1 Report REL-11 FS_LC_MTC_LTE
530052, SID: RP-111112; RAN #55: 50%, June 12;
conclusion: noted, after discussion of RP-120715:
approved: 90%, Dec.12; SI will be kept on hold until Sep.12

RP-120836 LS on Low-Cost MTC UEs based on LTE (R1-123060; to: RAN4, RAN2, RAN; cc: -; contact: Huawei) RAN1 LSin REL-11 FS_LC_MTC_LTE
no RAN action requested; LS includes TR 36.888 v2.0.0 as attachment (see RP-120714)
conclusion: noted, no LS answer from RAN

RP-120714 Presentation of TR 36.888 v2.0.0 on Study on provision of low-cost Machine-Type Communications (MTC) UEs based on LTE; for approval Vodafone Group TR 36.888 REL-11 FS_LC_MTC_LTE
RAN1 TR 36.888 is provided for approval to v11.0.0
conclusion: After discussion of RP-120715 TR 36.888 is postponed, i.e. it will not be put under change control.

RP-120676 Conclusions and next steps for SI on Provision of low-cost MTC UEs based on LTE Telecom Italia Disc REL-11 FS_LC_MTC_LTE
Proposal 1: clearly indicate in TR36.888 that the techniques such as "uplink transmit power reduction" and "single receive antenna" do not satisfy the SI objectives in terms of coverage requirements
Proposal 2: the techniques such as "uplink transmit power reduction" and "single receive antenna" and related combinations shall not be included in the WI activity, when started, due to their impact on coverage

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Proposal 3: send an LS to SA to ensure that solutions derived for implementing low cost MTC devices are limited to MTC applicable services
Proposal 4: the start of a WI on low cost MTC devices should start not before the completion of Rel 11
(proposal 4 not releavant for RAN #56 as there is no WI proposal)
discussion: Huawei: several points are already covered by the TR
Telecom Italia: does not agree, TR includes that single RX chain can cause about to 10dB loss; so cannot accept the conclusion
conclusion: noted

RP-120715 Way forward for "Low-cost LTE for MTC" work Vodafone Group Disc REL-11 FS_LC_MTC_LTE
discussion: Qualcomm: cost reduction requires a lot of standards changes; further studies needed?
Vodafone: a lot of MTC devices will come on the market which creates economy of scale so this can be recovered, no business case to transfer traffic to LTE that's why we make this effort
Qualcomm: cost reduction should be based on what it costs to deploy the MTC devices but it was agreed that it would be too difficult; but we think this aspect is missing so we might waste a lot of effort here in standardardisation and implementation but it will not be sure that we gain something at the end
Vodafone: a lot of things we do in 3GPP are based on predictions
Huawei: agrees with Qualcomm that doing cost studies in RAN1 would be too difficult; a lot of techniques will not have coverage reductions; what we could further look at is the single receive chain aspect
Telecom Italia: supports activities to reduce coverage gap and do some further evaluations
NSN: what to do with the study? seems already a lot of work is done and nothing is wrong in the TR (pros and cons are listed), the conclusion of the TR does not limit us regarding the WI scope; we should focus on what to do next on this MTC; prefers to not further study in RAN1 in the busy next months
AT&T: how do we insure that we improve or at least maintain coverage in MTC devices while reducing costs is the question to solve; MTC have a long life time in the networks so it is critical; we should focus on this in a WI phase
Ericsson: supports NSN and AT&T view
Telefonica: maintaining GSM and LTE networks in parallel will costing a lot so reducing cost of MTC device and putting them on the network would not be useful
RAN chair: close SI and start WI or continue SI?
RAN1 chair: cost aspect is covered enough but there is a request for studying coverage aspects, suggests to keep SI on hold until Sep. and decide in Sep. about a scope modification to address this issue in a revised SID;
Vodafone: sounds reasonable
Huawei: some of the bandwidths reductions have different understanding among proponents, how should the TR continue?
RAN1 chairman: keep existing sections of the TR as they are and capture further results in a new section
Qualcomm: impact on specifications was not studied enough, would like to keep this open
Huawei: supports RAN1 chairman's proposal on TR and Qualcomm concern could be considered in WI phase later
Vodafone: wants to avoid to restart cost studies in SI phase on existing techniques
RAN chair: proposing to approve TR
Telecom Italia: would have a problem to approve the TR
MCC: a TR can be brought under CR control when 80% complete
Telefonica: treating coverage aspect means shifting the costs to the network so would be in favour to look at other aspects
RAN1 chair: main concern was on coverage aspects; no concern to not yet bring TR under CR control
Telecom Italia: we want to keep the TR open i.e. not yet under CR control
NSN: would have preferred to approve the TR but as long as scope will be limited to coverage aspects we are fine
RAN chair: completion date can be shifted to Dec.12, 90% complete
MCC: with shift after REL-11 freeze will the TR be in REL-12
conclusion: noted, SI will be kept open and on hold until Sep.12, approved: 90%, target: Dec.12
TR will not be approved at RAN #56, i.e. TR is postponed
SID update to focus on coverage aspects will be considered in Sep.12

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RP-120677 Draft LS on SI on Provision of low-cost MTC UEs based on LTE (to: SA; cc: -; contact:Telecom Italia) Telecom Italia LSout REL-11 FS_LC_MTC_LTE
discussion: RAN chair: is this LS proposal still relevant/needs to be treated?
Telecom Italia: we do not need to treat this LS proposal now but we do not withdraw it
conclusion: not treated

12.4.7 REL-11 Study on LTE Coverage Enhancements [530053, FS_Cov_Enh_LTE, 06/2012]

RP-120589 Status report for SI Study on LTE Coverage Enhancements, rapporteur: China Telecom RAN1 Report REL-11 FS_Cov_Enh_LTE
530053, SID: RP-120225; RAN #55: 70%, June 12;
conclusion: noted, approved: 100%, June 12; SI is completed

RP-120670 TR 36.824 v2.0.0 LTE Coverage Enhancements China Telecom TR 36.824 REL-11 FS_Cov_Enh_LTE
RAN1 TR 36.824 is provided for approval to v11.0.0
conclusion: TR 36.824 is approved as v11.0.0

12.4.8 REL-11 Study on Mobile Relay for E-UTRA [530054, FS_LTE_mobRelay, 09/2012]

RP-120590 Status report for SI Study on Mobile Relay for E-UTRA, rapporteur: CATT RAN3 Report REL-11 FS_LTE_mobRelay
530054, SID: RP-111377; RAN #55: 35%, Sep.12;
conclusion: noted, approved: 60%, Sep.12

RP-120694 Presentation of Specification to TSG: TR 36.836 v1.0.0 " Mobile Relay for E-UTRA " for information CATT TR 36.836 REL-11 FS_LTE_mobRelay
RAN3 TR 36.836 is provided for information
conclusion: TR 36.836 is noted

RP-120695 Clarification on the scope of RAN1/2/4 in mobile relay for EUTRA SI CATT Disc REL-11 FS_LTE_mobRelay
Proposal: It's proposed to agree in RAN that RAN1/2/4 will not be involved in the SI of mobile relay.
discussion: RAN chair: if scope does not include RAN1/2/4 aspects there is no problem
NSN: 2.2.1 talking about air interface, 2.2.2 involves RAN1
Ericsson: some aspects nicely summarized by CATT but to other aspects we do not agree
AT&T: supports Ericsson and NSN; why is there a need to take such a decision
ALU: we had same discussion at last RAN meeting and concluded that we do not short-cut the SI by removing RAN1/2/4 so what did change since then?
CATT: RAN3 did a lot of studies on comparison of mobile relay with existing solutions and we do not put further load to RAN1
Huawei: still some open questions in RAN3 to reduce number of architecture options
Ericsson: in Aug. RAN1 will not have time to look at this SI so RAN3 can use the time interval to further work on the SI
RAN1 chair: agrees
RAN3 chair: so we need to get one mobile relay architecture option?
Huawei: there are several architecture options so far and we should at least reduce the number
conclusion: noted, RAN3 will continue work on the SI to reduce architecture options,
RAN1 will not work on this SI before Sep.12,
in Sep.12 RAN #57 will decide whether RAN1 and other WGs should be involved (if not and RAN3 work is complete, SI will be closed; if yes: scope of work in other WGs will be decided)

12.4.9 REL-11 Study on LTE-HRPD inter RAT SON
[**New SI**: 550020, FS_LTE_HRPD_SON, 12/2012]

RP-120591 Status report for SI Study on LTE-HRPD inter RAT SON, rapporteur: China Telecom RAN3 Report REL-11 FS_LTE_HRPD_SON
550020, SID: RP-120380; RAN #55: 0%, Dec.12;
discussion: noted, approved: 15%, Dec.12

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12.4.10 REL-11 Study on Measurements of radio performances for LTE terminals - TRP and TRS test methodology

[**New SI**: 550022, FS_LTE_OTA, 06/2012]

RP-120592 Status report for SI Study on Measurements of radio performances for LTE terminals - TRP and TRS test methodology, rapporteur: CATR RAN4 Report REL-11 FS_LTE_OTA

550022, SID: RP-120412; RAN #55: 0%, June 12;

discussion: MCC: you said that UTRA is also covered by the SI?
CATR: yes
MCC: but this is not visible in the SI title/WI and in the workplan where it says LTE only
Qualcomm: applies for UMTS FDD and/or TDD?
CATR: both
RAN chair: CATR and MCC should discuss how to cleanup this problem

conclusion: noted, approved: 70%, Sep.12

RP-120671 Presentation of Specification to TSG: TR 37.902 v1.0.0 "Measurements of radio performances for LTE terminals - TRP and TRS test methodology" for information CATR TR 37.902 REL-11 FS_LTE_OTA

RAN4 TR 37.902 is provided for information

discussion: MCC: you changed to title and cover UTRA?
CATR: yes
Specifications Manager: no problem to change title as long as not yet under CR control and allocated a 37 series TR number

conclusion: TR 37.902 is noted

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13 New Work Items/Study Items

Note: As agreed at RAN#55, submissions to this agenda item should be limited to:
- Spectrum related aspects,
- UE conformance testing aspects,
- WI/SI proposals endorsed/postponed at past RAN plenary meetings,
- all SIs that are completed at RAN #55 in June 2012 could bring a follow-up WID for June 2012 (whether it can be approved or not will be decided in June 2012).

Thursday morning
RAN chair: way forward for REL-12 in RAN #57:

- we will open the door for new WI/SI proposal in Sep. 12
- please take into account workshop presentations/summary and try to coordinate so that we can avoid multiple proposals on the same topic
- the fact that we will look at new REL-12 WIs/SIs does not mean that we will approve them/them all, this will depend also on workload situation in the WGs to complete REL-11 work in the last quarter of 2012, esp. RAN2/3/4 will be busy with ASN.1 review and core part completion
- small cell enhancement is a wide area where the scope is not yet clear, so we will have an email discussion on requirements and deployment scenarios for the small cell enhancements after RAN #56 on the RAN reflector (rapporteur for this email discussion: RAN chairman) ACTION_ITEM_3.

CATT: if we proceed this way then output of email discussion will be a RAN agreement?
RAN chair: we will have a summary to RAN #57 where we will agree on the way forward, details will be captured in TRs when we start SIs
ZTE: does it mean we will only have a SI for REL-12 for small cell enhancements?
RAN chair: we will see in Sep.12, will provide a summary to RAN #57 on small cell enhancements
Samsung: so new WIs/SIs not limited to small cell enhancements?
RAN chair: correct
AT&T: postponed WI for further DL MIMO enhancements will still be considered
RAN chair: yes
CATT: have some requirements for the small cell enhancements would be useful
RAN chair: will consider this in email discussion and will probably close email discussion a bit earlier to allow for SI proposal preparation

RAN chairman's way forward for REL-12 in RAN #57 listed above is approved.

13.1 New Work Items

A first quick review of new WIs took place on Thu morning.

LTE only:
RAN5 WIs:

RP-120600 New work item proposal: UE Conformance Test Aspects for LTE for 700 MHz digital dividend Ericsson WID new RAN5 REL-11 -
new WI for LTE only; leading WG: RAN5; core part: LTE_APAC700-Core;
WI code to be used: LTE_APAC700-UEConTest
conclusion: approved

RP-120603 New WI proposal: UE Conformance Test Aspects for LTE E850 - Lower Band for Region 2 (non-US), Band 27 NII Holdings WID new RAN5 REL-11 -
new WI for LTE only; leading WG: RAN5; core part: LTE_e850_LB-Core;
WI code to be used: LTE_e850_LB-UEConTest
conclusion: approved

RP-120612 New work item proposal: UE Conformance Test Aspects – Enhanced Downlink Multiple Antenna Transmission for LTE ZTE WID new RAN5 REL-10 -

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new WI for LTE only; leading WG: RAN5; core part: LTE_eDL_MIMO-Core;
WI code to be used: LTE_eDL_MIMO-UEConTest
discussion: NEC: we are also supporting the WI
conclusion: approved

RP-120631 New work item proposal: Conformance Test Aspects - ZUC (EEA3 and EIA3) algorithm CATR WID new RAN5 - - REL-11 -
new WI for LTE only; leading WG: RAN5; core part: EEA3_EIA3 (SA3 WI);
WI code to be used: EEA3_EIA3-UEConTest
discussion: RAN5 chair: NEC also supports this WI
conclusion: approved

spectrum related WIs:

RP-120593 New WI proposal: LTE Advanced intra-band non-contiguous Carrier Aggregation for Band 4 T-Mobile USA WID new RAN4 REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_NC_B4
discussion: RAN4 chair: my proposal to revise WID was just for inter-band CA WIs so this here is an intra-band CA WI case, so this will have a separate TR; if you plan to limit to 1 UL here this is ok but it is not related to my guidance
MCC: remind that 800 or 900 series reports should be indicated
RAN4 chair: 800 series applies here
conclusion: approved

RP-120594 New WI proposal: LTE Advanced inter-band Carrier Aggregation for Band 2 and Band 4 T-Mobile USA WID new RAN4 REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B2_B4
discussion: T-Mobile USA: plans to revise the WID to align with RAN4 chairman's guidance
conclusion: revised in RP-120875 to align with RAN4 chairman's guidance in RP-120875

RP-120875 New WI proposal: LTE Advanced inter-band Carrier Aggregation for Band 2 and Band 4 T-Mobile USA WID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B2_B4
conclusion: approved

RP-120605 New WI Proposal : Introduction of LTE Band 8 to Japan SOFTBANK MOBILE WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_B8_JP; no perf. part needed
band 8 (FDD UL: 880–915MHz; DL: 925–960MHz) exists already but further regulatory requirements /limitations to be added for Japan
discussion: RAN chair: if can be concluded in single WG in a single quarter then it could be considered under TEI, so can you clarify whether this is the case?
Softbank: There might be some impact on RAN5
Sharp: in case we go for TEI, we need a note in the minutes to make sure that WG can start but maybe a WI is safer
RAN chair: any views from RAN5 chair?
RAN5 chair: is an existing band
MCC: so can be solved in RAN4 in next quarter? note: If there is RAN5 impact, then this would be anyway solved under a different WI.
Softbank: yes
RAN chair: this WI proposal is for LTE, what about UTRA?
Softbank: UTRA was done under TEI
RAN chair: any concerns to treat this under TEI in RAN4?
RAN4 chair: no concern
conclusion: withdrawn, work for LTE will be addressed under TEI11 in RAN4 in the next quarter, if there is RAN5 impact a future RAN5 WI will be created

RP-120696 New WI proposal: LTE-Advanced Intra-band Contiguous Carrier Aggregation in Band 1 KDDI WID (new) RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_C_B1
conclusion: revised in RP-120826 (before presentation)

RP-120826 New WI proposal: LTE-Advanced Intra-band Contiguous Carrier Aggregation in Band 1 KDDI WID new RAN4 s REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_C_B1

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conclusion: approved

RP-120711 Proposed new WID for LTE Advanced Carrier Aggregation of Band 25 and Band 26 Sprint WID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B25_B26
discussion: Sprint: class 1 combinations to be treated under TEI?
RAN4 chair: no under inter-band WIs
Dish Networks: co-existence with band 23 needs to be clarified
Sprint: we studied co-existence with band 25 carriers in detail so does not see a difference here
conclusion: revised in RP-120876 to align with RAN4 chairman's guidance in RP-120876

RP-120876 Proposed new WID for LTE Advanced Carrier Aggregation of Band 25 and Band 26 Sprint WID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B25_B26
discussion: Sprint: Dish networks would like to add additional coexistance studies but we think this is not needed
Dish Networks: we wanted to clarify the objectives, we proposed a sentence to be added
RAN chair: so what is the sentence?
Dish Networks: coexistence with band 23 should be studied and added to the objectives
Ericsson: for co-located base stations we have already a requirement, if antennas are shared among different bands then this should be addressed under passive intermod. SI
Dish Networks: would like to add the sentence this time as next time it will be difficult
RAN4 chair: we have studied band 23 and band25 coexstence extensively in the past and it is unclear what the additional sentence would mean
RAN chair: please discuss offline
After offline discussion: no progess
RAN chair: can we postpone the WID?
Sprint: Dish Networks was the only company objecting but ok we can postpone
Dish Networks: was discussing offline to agree the additonal sentence
conclusion: postponed

UTRA only:

RP-120609 New Work Item: Further enhancements to HNB mobility Alcatel-Lucent WID (new) RAN3 REL-11 -
new WI for UMTS only; leading WG: RAN3; WI code to be used: HNB_mob_enh2
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2 but the WI is for UTRA only; compare also REL-10 WI HNB_HENB_mob_enh RP-110183;
note: WID was postponed to June12 at RAN #55 in RP-120278;
conclusion: revised in RP-120827

RP-120827 New Work Item: Further enhancements to HNB mobility Alcatel-Lucent WID new RAN3 REL-11 -
new WI for UMTS only; leading WG: RAN3; WI code to be used: HNB_mob_enh2
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2 but the WI is for UTRA only; compare also REL-10 WI HNB_HENB_mob_enh RP-110183;
note: WID was postponed to June12 at RAN #55 in RP-120278
conclusion: revised in RP-120853 before presentation, see UTRA & LTE proposals below (Tdoc used wrong title and WI code, furthermore WID needs to be extended to also address LTE).

RP-120709 New WI proposal on Enhancement of hand-over to HNB cells for Legacy UEs Huawei WID (new) RAN3 REL-11 -
new WI for UMTS only; leading WG: RAN3; WI code to be used: HNB_HO_enh
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2 but the WI is for UTRA only;
conclusion: revised in RP-120829

RP-120829 New WI proposal on Enhancement of hand-over to HNB cells for Legacy UEs Huawei WID new RAN3 REL-11 -
new WI for UMTS only; leading WG: RAN3; WI code to be used: HNB_HO_enh
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2 but the WI is for UTRA only;
conclusion: withdrawn

UTRA & LTE:

RP-120853 New Work Item: Further enhancements to H(e)NB mobility Alcatel-Lucent WID new RAN3 REL-11 -

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revision of RP-120827; new WI for UMTS and LTE; leading WG: RAN3; WI code to be used: HNB_HENB_mob_enh2;
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2; compare also REL-10 WI HNB_HENB_mob_enh RP-110183;
note: WID was postponed to June12 at RAN #55 in RP-120278
discussion: NSN: RP-120853 is high priority WI and RP-120852 WI is a low priority WI (intention is that only if high priority part is done, low priority part will be considered)
RAN chair: target Dec.12?
NEC: criteria of high and low priority is confusing
RAN chair: can be discussed offline until Fri
NSN: just additional companies
Samsung: SA has agreed a CR on shared network for REL-11 which is put not into low priority also gateway solution was almost agreed, so we should discuss what is put under low priority
Ericsson: has a different view: gateway solution was not yet really agreed
conclusion: revised in RP-120865

RP-120865 New Work Item: Further enhancements to H(e)NB mobility Alcatel-Lucent WID new RAN3 REL-11 -
new WI for UMTS and LTE; leading WG: RAN3; WI code to be used: HNB_HENB_mob_enh2;
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2; compare also REL-10 WI HNB_HENB_mob_enh RP-110183;
note: WID was postponed to June12 at RAN #55 in RP-120278
discussion: ALU: this is the so-called "high priority" part
conclusion: revised in RP-120900

RP-120718 Proposed WI Further enhancements for HNB and HeNB Nokia Siemens Networks WID (new) RAN3 REL11 -
new WI for LTE and UMTS; leading WG: RAN3; WI code to be used: EHNB_enh
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2;
conclusion: revised in RP-120839

RP-120839 Proposed WI Further enhancements for HNB and HeNB Nokia Siemens Networks WID new RAN3 REL11 -
new WI for LTE and UMTS; leading WG: RAN3; WI code to be used: EHNB_enh
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2;
conclusion: revised in RP-120852 before presentation (note: RP-120839 used wrong WI code on WID)

RP-120852 Proposed WI Further enhancements for HNB and HeNB Nokia Siemens Networks WID new RAN3 REL-11 -
new WI for LTE and UMTS; leading WG: RAN3; WI code to be used: EHNB_enh
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2;
discussion: NSN: captures 4 aspects
Deutsche Telekom: why feature and core part?
NSN: no strong view, could
RAN3 chair: high prio part is intended to be completed in REL-11, for low priority we might end up in REL-12
conclusion: revised in RP-120864

RP-120864 Proposed WI Further enhancements for HNB and HeNB Nokia Siemens Networks WID new RAN3 REL-11 -
new WI for LTE and UMTS; leading WG: RAN3; WI code to be used: EHNB_enh
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2
discussion: ALU: is the "lower prio" WI
Ericsson: unconfortable to agree a WI that we will not work on in next quarter
MCC: any reason why 2 WIDs were provided?
Huawei: because lower prio part is not likely to end up in same REL as higher prio part
conclusion: split into 2 WIDs RP-120901/RP-120902 as explained in RP-120878

RP-120863 Way forward for HNB and HeNB Wis in Rel-11 NSN Report REL-11 -
see RP-120864 and RP-120865
discussion: ZTE: so for next RAN3 meeting high and lower prio WIs will be on the RAN3 agenda
NSN: lower priority will most probably not be addressed in Aug.
ZTE: so will this be postponed to REL-12?
NSN: if we make good progress on high priority, it is possible that lower priority aspects can also finish in REL-11

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Ericsson: at least one company did not agree so we cannot consider it a consensus
RAN3 chair: most likely in Aug. we will not treat any of the low priority topics
Samsung: we had the agreement to agree high prio and low prio WIs both or none of them
AT&T: proposes to approve both WIs now (for REL-11)
RAN3 chair: proposes to call them part 1 and part 2
conclusion: noted

RP-120878 Way forward for HNB and HeNB Wis in Rel-11 NSN Report REL-11 -
discussion: ZTE: so you plan to have 3 WIs now?
NSN: no guarantee that part 2 WI aspects will be treated in August.
conclusion: noted, their is consensus to go for this proposal

RP-120900 New Work Item: Further enhancements to H(e)NB mobility- Part 1 Alcatel-Lucent WID new RAN3 REL-11 -
revision of RP-120865; new WI for UMTS and LTE; leading WG: RAN3;
WI code to be used: EHNB_enh1;
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2; compare also REL-10 WI HNB_HENB_mob_enh RP-110183;
note: WID was postponed to June12 at RAN #55 in RP-120278"
discussion: RAN chair: is high priority part
conclusion: approved

RP-120901 New Work Item: Further enhancements to H(e)NB mobility- Part 2 Alcatel-Lucent WID new RAN3 REL-11 -
revision of RP-120864; new WI for LTE and UMTS; leading WG: RAN3;
WI code to be used: EHNB_enh2
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2;
conclusion: approved

RP-120902 New Work Item: Further enhancements to H(e)NB mobility- Part 3 Alcatel-Lucent WID new RAN3 REL-11 -
revision of RP-120864; new WI for LTE and UMTS; leading WG: RAN3;
WI code to be used: EHNB_enh3
note: Follow up WI to a part of SI FS_EHNB_enh under AI 12.3.2;
discussion: RAN chair: what is the intention?
NSN: to endorse with the intention to approve the WID in Sep.12
conclusion: postponed, will be approved in Sep.12 without changes

13.2 New Study Items

UTRA only:
No contributions

LTE only:
RP-120697 New Study on LTE Device to Device Proximity Discovery Qualcomm Inc SID new RAN1 REL-11 -
new WI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_DProxD
target: RAN #61 = Sep.13 i.e. clearly REL-12 and not REL-11 as in Tdoc request
discussion: Sharp: so REL-11 or REL-12
RAN chair: target RAN #61 is in REL-12 time frame
Vodafone: wants to clearly separate public safety aspects from other aspects
conclusion: revised RP-120872
RP-120872 New Study on LTE Device to Device Proximity Discovery Qualcomm Inc SID new RAN1 REL-11 -
new WI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_DProxD
discussion: RIM: "always-on low power manner" unclear, wording could be improved; impact on operator services should be avoid impact
Ericsson: would like to split commercial and public safety aspects
Renesas: "always-on" aspect not relevant here; no requirement from SA1 that applications have to discover each other (only UEs so far); out of scope how other technologies behave; premature to start RAN study before SA has completed

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Huawei: to be clarify whether commercial and public safety aspects have same requirements from SA1
Vodafone: supports to ask SA for guidance
RAN chair: so seems we need to ask for SA guidance i.e. probably postpone the approval of a SI to Sep.
Vodafone: should send LS to SA
ALU: SA is already working on this so right place would be SA1
Renesas: SA1 can work on the topic and inform us when they have done their work
Ericsson: would be good to have guidance from SA on public safety requirements
US. dep. of commerce: we should not work on incomplete requirements in RAN
Renesas: note in RAN meeting report to SA is sufficient
Qualcomm: SA1 study covers direct communication; can continue discussion in the next 3 months
Vodafone: maybe it is better to send an LS to SA
Ericsson: drafting a simple LS to indicate that RAN needs guidance for public safety
Deutsche Telekom: LS would have to cover public safety and commercial usage as well
ALU: ask SA1 when requirements on

conclusion: postponed till Sep.12, Ericsson will draft LS to SA, SA1 in RP-120882

RP-120882 Draft LS on organization of the work on public safety (to: SA; cc: SA1; contact: Ericsson) Ericsson LSout REL-12 -

discussion: RAN chair: answer requested from SA next week?
Ericsson: yes
Telecom Italia: premature to send the LS as we know that SA1 is working on this
Ericsson: we will have SI proposals in Sep. again and the LS makes sure that we have more information by then

conclusion: revised in RP-120908 to provide the final LS

RP-120908 LS on organization of the work on public safety (to: SA; cc: SA1; contact: Ericsson) RAN LSout REL-12 -

conclusion: approved

RP-120698 New Study on LTE Direct Communication Qualcomm Inc SID new RAN1 REL-11 -
new WI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_DirCom
target: RAN #62 = Dec.13 i.e. clearly REL-12 and not REL-11 as in Tdoc request
discussion: RAN chair: so no change compared to previous version
conclusion: postponed till Sep.12

UTRA & LTE:

RP-120713 New study item proposal for LTE and HSDPA Carrier Aggregation Nokia Siemens Networks, Nokia Corporation SID new RAN1 - - REL-12 -
new SI for LTE & UTRA; leading WG: RAN1; WI code to be used: FS_LTE_HSPA_CA;
note: SID RP-111125 was postponed till March 2012 at RAN #53 and then SID RP-120220 was postponed till June 2012 at RAN #55
conclusion: revised in RP-120869

RP-120869 New study item proposal for LTE and HSDPA Carrier Aggregation Nokia Siemens Networks, Nokia Corporation SID new RAN1 - - REL-12 -
new SI for LTE & UTRA; leading WG: RAN1; WI code to be used: FS_LTE_HSPA_CA;
discussion: NSN: no changes just more supporting companies but there seems to be no chance that RAN1 can look at this in Aug. so we could accept to postpone the SI proposal to Sep.
conclusion: postponed to Sep.12

RP-120606 Study Item Proposal: UMTS/LTE FDD in 2GHz Band KT SID new RAN4 REL-11 -
new SI for UMTS and LTE; leading WG: RAN4; WI code to be used: FS_UMTS_LTE_2GHz;
note: RAN #55 postponed RP-120396 to allow email discussion on RAN reflector;
conclusion: wants to present TR for information at RAN #56 => revised in RP-120754

RP-120754 Study Item Proposal: UMTS/LTE FDD in 2GHz Band KT SID new RAN4 REL-11 -
new SI for UMTS and LTE; leading WG: RAN4; WI code to be used: FS_UMTS_LTE_2GHz;
target: RAN #59 = March 13 i.e. REL-12 and not REL-11 as in Tdoc request
discussion: Sprint: concerns about operation of this band in the US, asks to remove roaming bullet
Orange: wants to remove region 1 consideration, even regulatory plan in Korea is not yet clear so too early for a SI

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KT: so far no decision for a timeline to allocate this band to Korean operators but this is just a SI proposal
RAN chair: so this would be more a study for KT
Vodafone: in SI we do not develop RF requirements, also objective is going beyond a SI
Dish Networks: co-existence issues should not be removed from SIs as this is what SIs are for
conclusion: postponed

14 Technical co-ordination among WGs

No contributions.

15 Outputs to other groups

For all outgoing LSs see Annex D.

16 Project management

RP-120443 3GPP Work Plan review at Plenary #56 ETSI MCC Workplan
discussion: NSN: femto WIs should be in REL-11 not in REL-12
conclusion: noted

RP-120444 3GPP Support Team Report ETSI MCC Report
conclusion: noted

RP-120720 3GPP Releases Descriptions – Rel-10 to Rel-12 ETSI MCC Info REL-10
conclusion: noted (provided for background information)

RP-120721 3GPP work items on HN(e)B ETSI MCC Info
RP-120722 3GPP work items on Self-Organizing Networks (SON) ETSI MCC Info
RP-120723 3GPP Green activities / Energy Saving ETSI MCC Info
RP-120724 3GPP activities on Emergency Services ETSI MCC Info
RP-120725 3GPP activities on Location Services ETSI MCC Info
RP-120726 Standardization of Machine-type Communications ETSI MCC Info
conclusion: noted (provided for background information)

RP-120727 Page breaks before annex ETSI MCC CR 21.801 0033 - D REL-11 TEI11
for information to RAN, CT; for approval at SA
discussion: no comments
conclusion: endorsed

RP-120728 Removal of invalid referece ETSI MCC CR 21.905 0107 - F REL-11 TEI11
for information to RAN, CT; for approval at SA
discussion: no comments
conclusion: endorsed

17 Future meeting schedule

Meeting schedule 2010/2011/2012/2013/2014:

MEETING	DATES	LOCATION	HOST
RAN #47	16 March – 19 March 2010	Vienna, Austria	EF3
RAN #48	1 June – 4 June 2010	Seoul, Korea	TTA
RAN #49	14 Sep. – 17 Sep. 2010	San Antonio, USA	NAF3
RAN #50	7 Dec. – 10 Dec. 2010	Istanbul, Turkey	EF3
RAN #51	15 March – 18 March 2011	Kansas City, USA	Sprint Nextel
RAN #52	31 May – 3 June 2011	Bratislava, Slovakia	EF3

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MEETING	DATES	LOCATION	HOST
RAN #53	13 Sep. – 16 Sep. 2011	Fukuoka, Japan	ARIB & TTC
RAN #54	6 Dec. – 9 Dec. 2011	Berlin, Germany	EF3
RAN #55	28 Feb. – 2 March 2012	Xiamen, China	ZTE, CMCC
Workshop***	11 June - 12 June 2012	Ljubljana, Slovenia	EF3
RAN #56	13 June – 15 June 2012	Ljubljana, Slovenia	EF3
RAN #57	4 Sep. – 7 Sep. 2012	Chicago, USA	NAF3
RAN #58	4 Dec. – 7 Dec. 2012	Barcelona, Spain	EF3
RAN #59	26 Feb. – 1 March 2013	Vienna, Austria	EF3
RAN #60	11 June – 14 June 2013	USA	NAF3
RAN #61	3 Sep. – 6 Sep. 2013	Porto, Portugal	EF3
RAN #62	3 Dec. – 6 Dec. 2013	Korea	?
RAN #63	25 Feb. – 28 Feb. 2014	Singapore	JDSU
RAN #64	10 June – 13 June 2014	EU	EF3
RAN #65	9 Sep. – 12 Sep. 2014	EU	EF3
RAN #66	9 Dec. – 12 Dec. 2014	US	NAF3

***: RAN Workshop on REL-12 and onwards

18 Any other business

REL-12 stage 3 freeze:

RAN chair: plans to indicate to SA: 21 months after Sep.12 REL-12 stage3 should take place
RIM: how many WG meetings are these
RAN chair: 6 WG meetings per year
CMCC: 21 months means REL and not ASN.1 freeze?
RAN chair: correct
Sprint: we proposed 18 months in our presentation
AT&T: were also preferring 18 months to keep pace with fast moving market
RAN chair: can we have a show of hands
Samsung: 21 months is independent from a potential slip of REL-11 ASN.1 freeze from Dec.12 to March 13
RAN chair: same understanding
RAN chairman: show of hands:
18 months: 7 companies
21 months: more than 20 companies
24 months: 1 company

=> RAN chairman will report that majority in RAN is for 21 months REL freeze

RAN chairman: special thanks to Etienne Chaponnière (Qualcomm) who is leaving 3GPP after many years and great support esp. on the UMTS aspects

RAN chair: what about the SI/WI status report handling without presentations?
NEC: it was difficult to follow this time and a presentation was always useful
CMCC: supporting NEC's view, so maybe we can use the non-presentation mode for CA aspects only
Sprint: fine with skipping presentations and focussing on a few that need presentations
RAN1 chair: skipping presentations means that status reports have to be provided in time
RAN4 chair: in RAN4 chairman's report I combine already all reports so more detailed reports will not be possible from chairman side
Deutsche Telekom: next time we have exception sheets and it will be important that ALL open issues are listed
Sharp: listing open issues in status reports is very helpful
RAN chair: so we will discuss the future status reporting in RAN leaders team

RAN chairman: if WI cannot be completed in Sep.12 an exception sheet has to be provided to RAN #57 (not needed for performance parts, RAN5 testing WIs and SIs)

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19 Closing of the meeting

The TSG RAN chairman Takehiro Nakamura (NTT DOCOMO) thanked the delegates for participating and contributing to RAN meeting #56 and RAN vice chairmen and MCC for their support of the meeting. He thanked the European Friends of 3GPP for hosting this meeting and closed the meeting on Friday June 15th, 2012 at about 16:30.

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Annex A:
List of participants

The list of participants of this RAN meeting #56 is attached to this report.

Total number of participants: 223 (registered before the meeting: 259)

Annex B:
List of Tdocs

The list of Tdocs of this RAN meeting #56 is attached to this report.

Total number of Tdocs: 489 (RP-120420 - RP-120908) of which 468 Tdocs are available, i.e. 21 are not available.

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Annex C:
Incoming liaison statements (LSin)

In total 18 LSs were received for RAN #56 (none of them received during the meeting). All 18 LSs were treated.

RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-120422	LS on Assignment of 3 digit MNCs (ITU-T COM2 LS129-E; to: 3GPP, 3GPP2, GSMA, CDMA Development Group; cc: -; contact: France Telecom)	ITU-T SG2	-	-	no	noted	none	
RP-120423	Reply LS to SP-110860 Global KPIs for energy efficiency of deployed broadband (EE(12)00005rev, ATTM(12)000017rev; to: 3GPP SA, 3GPP RAN; cc: -; contact: Alcatel-Lucent)	ETSI TC EE & TC ATTM	-	-	not explicitly	noted	none	Note: RAN #54 received LSs RP-111409 (from ETSI TC ATTM) & RP-111410 (from ETSI TC EE) and provided proposal RP-111724 to SA #54 which finally was sent out from SA #54 as SP-110860
RP-120424	Reply LS to S2-120933 = RP-120016 on the introduction of FULL-MOCN-GERAN feature (GP-120441; to: SA2; cc: RAN, SA, CT1; contact: Alcatel-Lucent)	GERAN	REL-11	FULL-MOCN-GERAN	no	noted	none	
RP-120425	LS on ITU-T response LS (R1-120864 = RP-120006) to NGMN LS (RP-110476) on coordination between ITU-T and 3GPP on synchronization (R1-121911; to: RAN; cc: RAN3, RAN4; contact: Alcatel-Lucent)	RAN1	-	-	not explicitly	noted	none	
RP-120426	Reply LS to R4-121987 = RP-120006 on Response on coordination between ITU-T and 3GPP on synchronization (R4-122024; to RAN; cc: -; contact: Ericsson)	RAN4	-	-	not explicitly	noted	none	
RP-120427	LS on support of bandwidth combinations for CA (R4-122112; to: RAN2, RAN; cc: -; contact: Qualcomm)	RAN4	REL-10	-	not explicitly	noted	none	compare RP-120335 of RAN #55
RP-120428	LS on UE measurements in support of the two-stage MIMO OTA test method (R4-122114; to: RAN1; cc: RAN; contact: Agilent)	RAN4	REL-11	HSPA_LTE_measRP_MIMO	no	noted	none	
RP-120429	LS on selected PLMN-ID on A/Gb in FULL-MOCN-GERAN feature (S2-121897; to: GERAN; cc: RAN, SA, CT1; contact: Alcatel-Lucent)	SA2	REL-11	FULL-MOCN-GERAN	no	noted	none	
RP-120672	Reply LS to RP-120415 on Work Item on RF Requirements for Multi-band and Multi-standard radio (MB-MSR) Base Station (GP-120765; to: RAN4; cc: RAN; contact: Huawei)	GERAN1	REL-11	MB_MSR_RF	no	noted	none	RAN4 will send a reply

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-120673	Liaison Statement to 3GPP related to the work of 3GPP RAN (PCG28_22; to: PCG; cc: RAN; contact: APT Secretary General)	APT AWG	REL-11	LTE_APAC700	yes	noted	RP-120868	APT = Asia Pacific Telecommunity, AWG = APT Wireless Group; note: This LS was already treated at PCG #28 and it is forwarded to RAN for further handling
RP-120674	LS on ITU-T response LS (R3-120470) to NGMN LS (RP-110476) on coordination between ITU-T and 3GPP on synchronization (R3-121330; to: RAN; cc: RAN1, RAN4; contact: Ericsson)	RAN3	-	-	yes still need to answer RP-120006)	noted	none	note: RAN #55 received LS RP-120006 from ITU-T SG15 and asked RAN1/3/4 to review RP-120006 and provide feedback to RAN #56; no LS answer to RAN3 but ITU-T LS (see RP-120006) was answered in RP-120884
RP-120831	LS on INVITATION TO SUBMIT CONTRIBUTIONS TO WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ITU-R [LMS.ATG] SYSTEMS FOR PUBLIC MOBILE COMMUNICATIONS WITH AIRCRAFT (ITU-R WP5A/TEMP/7; to: 3GPP, 3GPP RAN, 3GPP2, 4G Americas, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, WiMAX Forum, and XGP Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	none	
RP-120832	LS on INVITATION TO REVIEW THE PRELIMINARY DRAFT REVISION OF REPORT ITU-R M.2014: Digital land mobile systems for dispatch traffic (ITU-R WP5A/TEMP/13(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	none	

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-120833	LS on INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF RECOMMENDATION ITU-R M.2015: Frequency arrangements for public protection and disaster relief radiocommunication systems in UHF bands in accordance with Resolution 646 (Rev.WRC-12) (ITU-R WP5A/TEMP/15(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	none	
RP-120834	LS on INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF RECOMMENDATION ITU-R M.2009: Radio interface standards for use by public protection and disaster relief operations in some parts of the UHF band in accordance with Resolution 646 (Rev.WRC-12) (ITU-R WP5A/TEMP/17(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	postponed	3GPP ITU-R ad hoc is tasked to review this LS
RP-120835	LS on INVITATION TO CONSIDER THE PROPOSED COURSE OF ACTION, TOWARDS THE REVIEW OF RECOMMENDATIONS AND REPORTS ASSOCIATED WITH WORK ON WRC-15 AGENDA ITEM 1.3 (ITU-R WP5A/TEMP/24(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, APCO, APT Preparatory Group (APG) , ARIB, ATIS, AWG, CDG, ETSI, ETSI SC EMTEL, ETSI TC ERM, ETSI TC TETRA, GSMA, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, and WiMAX Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	none	
RP-120836	LS on Low-Cost MTC UEs based on LTE (R1-123060; to: RAN4, RAN2, RAN; cc: -; contact: Huawei)	RAN1	REL-11	FS_LC_MTC_LTE	no	noted	none	includes TR 36.888 v2.0.0 as attachment (see RP-120714)

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-120840	LS on THE REVISION WORK ON RECOMMENDATION ITU-R M.1801 AND REPORT ITU-R M.2116: Radio interface standards for BWA systems and characteristics for use in sharing studies (ITU-R WP5A/TEMP/6(Rev.1); to: 3GPP, 3GPP RAN, 3GPP2, 4G Americas, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, WiMAX Forum, and XGP Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	postponed	3GPP ITU-R ad hoc is tasked to review this LS

***: uses Letter to ITU template (LTI)

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Annex D:
Outgoing liaison statements (LSout)

Only final outgoing LSs are listed here.
4 outgoing LSs (0 of them approved by email after RAN #56):

final LS Tdoc	title	to	cc	contact	reply to	release	WI	comments
RP-120868	APT700 and other bands	APT Wireless Group	RAN4	Ericsson	RP-120673	REL-11	LTE_APAC700	APT Wireless Group LSs have no numbering scheme.
RP-120883	Voice support indication	SA2, CT1	RAN2, RAN3	Ericsson	S2-121919	REL-9	TEI9	note: S2-121919 was sent to RAN2 but not to/cc RAN
RP-120884	Coordination between ITU-T and 3GPP on synchronization	ITU-T SG15/Q13	NGMN (P-OSB), RAN3	Orange	ITU-T SG15/Q13/COM 15-LS 367 = RP-120006	-	-	
RP-120908	Organization of the work on public safety	SA	SA1	Ericsson	-	REL-12	-	

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Annex E:
List of Change Requests (CRs)

This list of 1409 CRs includes all CRs submitted to RAN #56.

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.101	0863	-	Rel-8	F	RP-120768	R4-121374	approved	Correction to H-Set 8	8.15.0	8.16.0	R4	RANimp-MultiBand_DC_HSDPA
25.101	0864	-	Rel-9	A	RP-120768	R4-121375	approved	Correction to H-Set 8	9.8.0	9.9.0	R4	RANimp-MultiBand_DC_HSDPA
25.101	0865	-	Rel-10	F	RP-120775	R4-121376	approved	Correction to H-Set 8	10.5.0	10.6.0	R4	4C_HSDPA-Perf
25.101	0866	-	Rel-11	A	RP-120775	R4-121377	approved	Correction to H-Set 8	11.1.0	11.2.0	R4	4C_HSDPA-Perf
25.101	0872	1	Rel-9	F	RP-120771	R4-123436	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R9)	9.8.0	9.9.0	R4	TEI9
25.101	0873	1	Rel-10	A	RP-120771	R4-123437	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R10)	10.5.0	10.6.0	R4	TEI9
25.101	0874	1	Rel-11	A	RP-120771	R4-123438	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R11)	11.1.0	11.2.0	R4	TEI9
25.101	0876	2	Rel-11	B	RP-120786	R4-123665	approved	Introduction of 8C-HSDPA operation in 25.101 and rx core requirements	11.1.0	11.2.0	R4	8C_HSDPA-Core
25.101	0881	-	Rel-11	B	RP-120793	R4-122957	approved	Introduction of Band 28	11.1.0	11.2.0	R4	LTE_APAC700-Core
25.101	0882	-	Rel-10	F	RP-120779	R4-122990	approved	Correction to HS-DPCCH TX power step size requirement	10.5.0	10.6.0	R4	TEI10
25.101	0883	-	Rel-11	A	RP-120779	R4-122991	approved	Correction to HS-DPCCH TX power step size requirement	11.1.0	11.2.0	R4	TEI10
25.101	0884	1	Rel-11	B	RP-120793	R4-123662	approved	Introduction of Band 44	11.1.0	11.2.0	R4	LTE_APAC700-Core
25.101	0885	-	Rel-8	F	RP-120763	R4-123133	approved	Correction to numbers of HS-SCCH for DC-HSDPA	8.15.0	8.16.0	R4	RANimp-DCHSDPA
25.101	0886	-	Rel-9	A	RP-120763	R4-123134	approved	Correction to numbers of HS-SCCH for DC-HSDPA	9.8.0	9.9.0	R4	RANimp-DCHSDPA
25.101	0887	-	Rel-10	A	RP-120763	R4-123140	approved	Correction to numbers of HS-SCCH for DC-HSDPA	10.5.0	10.6.0	R4	RANimp-DCHSDPA
25.101	0888	-	Rel-11	A	RP-120763	R4-123144	approved	Correction to numbers of HS-SCCH for DC-HSDPA	11.1.0	11.2.0	R4	RANimp-DCHSDPA
25.101	0889	2	Rel-11	B	RP-120791	R4-123600	approved	Introduction of e850_LB Band 27 to TS 25.101	11.1.0	11.2.0	R4	LTE_e850_LB-Core
25.101	0892	-	Rel-8	F	RP-120766	R4-123345	approved	Correction of PHS protection requirements for TS 25.101	8.15.0	8.16.0	R4	TEI8
25.101	0893	-	Rel-9	A	RP-120766	R4-123346	approved	Correction of PHS protection requirements for TS 25.101	9.8.0	9.9.0	R4	TEI8
25.101	0894	-	Rel-10	A	RP-120766	R4-123347	approved	Correction of PHS protection requirements for TS 25.101	10.5.0	10.6.0	R4	TEI8
25.101	0895	-	Rel-11	A	RP-120766	R4-123348	approved	Correction of PHS protection requirements for TS 25.101	11.1.0	11.2.0	R4	TEI8
25.101	0899	2	Rel-11	B	RP-120610	-	approved	Introduction of non-contiguous 4C-HSDPA core requirements definition	11.1.0	11.2.0	R4	NC_4C_HSDPA
25.102	0362	-	Rel-8	F	RP-120765	R4-122713	approved	Clarification of the scope of Band a for 1.28 Mcps TDD	8.11.0	8.12.0	R4	TEI8

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								option				
25.102	0363	-	Rel-9	A	RP-120765	R4-122714	approved	Clarification of the scope of Band a for 1.28 Mcps TDD option	9.5.0	9.6.0	R4	TEI8
25.102	0364	-	Rel-10	A	RP-120765	R4-122715	approved	Clarification of the scope of Band a for 1.28 Mcps TDD option	10.3.0	10.4.0	R4	TEI8
25.102	0365	-	Rel-11	A	RP-120765	R4-122716	approved	Clarification of the scope of Band a for 1.28 Mcps TDD option	11.1.0	11.2.0	R4	TEI8
25.102	0366	-	Rel-11	B	RP-120793	R4-123006	approved	Introduction of Band 44	11.1.0	11.2.0	R4	LTE_APAC700-Core
25.102	0367	-	Rel-8	F	RP-120765	R4-123202	approved	Additional spurious emissions requirements for PHS	8.11.0	8.12.0	R4	TEI8
25.102	0368	-	Rel-9	A	RP-120765	R4-123204	approved	Additional spurious emissions requirements for PHS	9.5.0	9.6.0	R4	TEI8
25.102	0369	-	Rel-10	A	RP-120765	R4-123205	approved	Additional spurious emissions requirements for PHS	10.3.0	10.4.0	R4	TEI8
25.102	0370	-	Rel-11	A	RP-120765	R4-123207	approved	Additional spurious emissions requirements for PHS	11.1.0	11.2.0	R4	TEI8
25.104	0614	-	Rel-11	B	RP-120787	R4-121144	approved	Corrections related to non-contiguous operation for 4C-HSDPA	11.1.0	11.2.0	R4	NC_4C_HSDPA-Core
25.104	0615	1	Rel-11	B	RP-120786	R4-122109	approved	8C-HSDPA introduction in BS specifications TS 25.104	11.1.0	11.2.0	R4	8C_HSDPA-Core
25.104	0616	1	Rel-10	F	RP-120783	R4-122027	approved	Update to Regional Requirements table in 25.104	10.5.0	10.6.0	R4	TEI10
25.104	0617	1	Rel-11	A	RP-120783	R4-122029	approved	Update to Regional Requirements table 25.104	11.1.0	11.2.0	R4	TEI10
25.104	0619	-	Rel-9	F	RP-120771	R4-122420	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R9)	9.7.0	9.8.0	R4	TEI9
25.104	0620	-	Rel-10	A	RP-120771	R4-122421	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R10)	10.5.0	10.6.0	R4	TEI9
25.104	0621	-	Rel-11	A	RP-120771	R4-122422	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R11)	11.1.0	11.2.0	R4	TEI9
25.104	0622	1	Rel-11	F	RP-120795	R4-123439	approved	CR for co-location spurious emission in TS25.104	11.1.0	11.2.0	R4	TEI11
25.104	0623	1	Rel-11	B	RP-120793	R4-123618	approved	Introduction of Band 28	11.1.0	11.2.0	R4	LTE_APAC700-Core
25.104	0624	-	Rel-11	B	RP-120793	R4-122964	approved	Introduction of Band 44	11.1.0	11.2.0	R4	LTE_APAC700-Core
25.104	0625	1	Rel-11	B	RP-120791	R4-123432	approved	Introduction of e850_LB (Band 27) to TS 25.104	11.1.0	11.2.0	R4	LTE_e850_LB-Core
25.104	0626	-	Rel-8	F	RP-120766	R4-123357	approved	Correction of PHS protection requirements for TS 25.104	8.13.0	8.14.0	R4	TEI8
25.104	0627	-	Rel-9	A	RP-120766	R4-123358	approved	Correction of PHS protection requirements for TS 25.104	9.7.0	9.8.0	R4	TEI8
25.104	0628	-	Rel-10	A	RP-120766	R4-123359	approved	Correction of PHS protection requirements for TS 25.104	10.5.0	10.6.0	R4	TEI8
25.104	0629	-	Rel-11	A	RP-120766	R4-123360	approved	Correction of PHS protection requirements for TS 25.104	11.1.0	11.2.0	R4	TEI8
25.105	0281	1	Rel-11	F	RP-120795	R4-122063	approved	TDD blocking for co-location	10.3.0	11.0.0	R4	TEI11
25.105	0282	1	Rel-11	F	RP-120795	R4-122065	approved	WA co-existence/co-location	10.3.0	11.0.0	R4	TEI11
25.105	0283	1	Rel-11	F	RP-120795	R4-122190	approved	Co-existence between TDD systems	10.3.0	11.0.0	R4	TEI11
25.105	0284	-	Rel-10	F	RP-120783	R4-122546	approved	Update to regional requirement table	10.3.0	10.4.0	R4	TEI10
25.105	0285	-	Rel-11	F	RP-120795	R4-122936	approved	LA co-existence/co-location	10.3.0	11.0.0	R4	TEI11
25.105	0286	-	Rel-11	F	RP-120795	R4-122945	approved	Co-existence/co-location between LA TDD systems	10.3.0	11.0.0	R4	TEI11

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25.105	0287	-	Rel-11	B	RP-120793	R4-123007	approved	Introduction of Band 44	10.3.0	11.0.0	R4	LTE_APAC700-Core
25.105	0288	-	Rel-8	F	RP-120765	R4-123209	approved	Additional spurious emissions requirements for PHS	8.7.0	8.8.0	R4	TEI8
25.105	0289	-	Rel-9	A	RP-120765	R4-123210	approved	Additional spurious emissions requirements for PHS	9.2.0	9.3.0	R4	TEI8
25.105	0290	-	Rel-10	A	RP-120765	R4-123211	approved	Additional spurious emissions requirements for PHS	10.3.0	10.4.0	R4	TEI8
25.106	0082	2	Rel-10	F	RP-120783	R4-123620	approved	Update of the Definition clause with repeaters operating band definition and introduction of minor editorial changes for better alignment with BS core specification	10.1.0	10.2.0	R4	TEI10
25.106	0085	-	Rel-10	A	RP-120765	R4-123230	approved	Additional spurious emissions requirements for PHS	10.1.0	10.2.0	R4	TEI8
25.106	0086	-	Rel-8	F	RP-120765	R4-123219	approved	Additional spurious emissions requirements for PHS	8.5.0	8.6.0	R4	TEI8
25.106	0087	-	Rel-9	A	RP-120765	R4-123223	approved	Additional spurious emissions requirements for PHS	9.2.0	9.3.0	R4	TEI8
25.123	0530	-	Rel-10	F	RP-120779	R4-121891	approved	CR for 25.123: Aligning requirements in TS 25.123 with TS 36.133 regarding the modification of B41 REFSENS	10.5.0	10.6.0	R4	TEI10
25.123	0531	-	Rel-11	B	RP-120794	R4-122958	approved	Introduction of Band 28	10.5.0	11.0.0	R4	LTE_APAC700-Perf
25.123	0532	-	Rel-11	B	RP-120794	R4-122996	approved	Introduction of Band 44	10.5.0	11.0.0	R4	LTE_APAC700-Perf
25.123	0533	-	Rel-11	B	RP-120792	R4-123184	approved	Introduction of e850_LB (Band 27) to TS 25.123	10.5.0	11.0.0	R4	LTE_e850_LB-Perf
25.133	1169	-	Rel-10	F	RP-120781	R4-121171	approved	Inter-RAT E-UTRA RSRP, RSRQ band 41 side conditions change	10.5.0	10.6.0	R4	TEI10
25.133	1170	-	Rel-11	A	RP-120781	R4-121172	approved	Inter-RAT E-UTRA RSRP, RSRQ band 41 side conditions change	11.0.0	11.1.0	R4	TEI10
25.133	1173	-	Rel-11	B	RP-120786	R4-121750	approved	Requirements for transport format combination selection for 8C-HSDPA	11.0.0	11.1.0	R4	8C_HSDPA-core
25.133	1174	-	Rel-9	F	RP-120768	R4-121763	approved	Requirements for transport format combination selection in DC-HSDPA	9.11.0	9.12.0	R4	RANimp-MultiBand_DC_HSDPA
25.133	1175	-	Rel-10	F	RP-120775	R4-121770	approved	Requirements for transport format combination selection in 3/4C-HSDPA	10.5.0	10.6.0	R4	4C_HSDPA-Core
25.133	1178	-	Rel-8	F	RP-120767	R4-122367	approved	Correction on idle state RSRP filter requirement on inter-RAT measurement from UTRAN to E-UTRAN	8.15.0	8.16.0	R4	TEI8
25.133	1179	-	Rel-9	A	RP-120767	R4-122368	approved	Correction on idle state RSRP filter requirement on inter-RAT measurement from UTRAN to E-UTRAN	9.11.0	9.12.0	R4	TEI8
25.133	1180	-	Rel-10	A	RP-120767	R4-122371	approved	Correction on idle state RSRP filter requirement on inter-RAT measurement from UTRAN to E-UTRAN	10.5.0	10.6.0	R4	TEI8
25.133	1181	-	Rel-11	A	RP-120767	R4-122372	approved	Correction on idle state RSRP filter requirement on inter-RAT measurement from UTRAN to E-UTRAN	11.0.0	11.1.0	R4	TEI8
25.133	1184	-	Rel-9	F	RP-120771	R4-122620	approved	Radio conditions for SI acquisition in UTRA FDD	9.11.0	9.12.0	R4	TEI9
25.133	1185	-	Rel-10	A	RP-120771	R4-122625	approved	Radio conditions for SI acquisition in UTRA FDD	10.5.0	10.6.0	R4	TEI9
25.133	1186	-	Rel-11	A	RP-120771	R4-122628	approved	Radio conditions for SI acquisition in UTRA FDD	11.0.0	11.1.0	R4	TEI9
25.133	1187	-	Rel-11	B	RP-120794	R4-122959	approved	Introduction of Band 28	11.0.0	11.1.0	R4	LTE_APAC700-Perf
25.133	1188	1	Rel-11	F	RP-120795	R4-123447	approved	Clarification of cell FACH measurement requirements	11.0.0	11.1.0	R4	TEI11

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25.133	1189	-	Rel-11	B	RP-120794	R4-122997	approved	Introduction of Band 44	11.0.0	11.1.0	R4	LTE_APAC700-Perf
25.133	1190	-	Rel-11	B	RP-120792	R4-123186	approved	Introduction of e850_LB (Band 27) to TS 25.133	11.0.0	11.1.0	R4	LTE_e850_LB-Perf
25.141	0609	-	Rel-11	B	RP-120787	R4-121133	approved	Introduction of non-contiguous operation for 4C-HSDPA	11.1.0	11.2.0	R4	NC_4C_HSDPA-Core
25.141	0610	1	Rel-11	B	RP-120786	R4-122110	approved	8C-HSDPA introduction in BS specifications TS 25.141	11.1.0	11.2.0	R4	8C_HSDPA-Core
25.141	0611	1	Rel-10	F	RP-120783	R4-122028	approved	Update to Regional Requirements table in 25.141	10.5.0	10.6.0	R4	TEI10
25.141	0612	1	Rel-11	A	RP-120783	R4-122061	approved	Update to Regional Requirements table 25.141	11.1.0	11.2.0	R4	TEI10
25.141	0614	-	Rel-9	F	RP-120771	R4-122424	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R9)	9.8.0	9.9.0	R4	TEI9
25.141	0615	-	Rel-10	A	RP-120771	R4-122425	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R10)	10.5.0	10.6.0	R4	TEI9
25.141	0616	-	Rel-11	A	RP-120771	R4-122426	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R11)	11.1.0	11.2.0	R4	TEI9
25.141	0619	-	Rel-11	B	RP-120793	R4-122955	approved	Introduction of Band 28	11.1.0	11.2.0	R4	LTE_APAC700-Core
25.141	0620	-	Rel-11	B	RP-120793	R4-122965	approved	Introduction of Band 44	11.1.0	11.2.0	R4	LTE_APAC700-Core
25.141	0621	2	Rel-11	B	RP-120792	R4-123615	approved	Introduction of e850_LB (Band 27) to TS 25.141	11.1.0	11.2.0	R4	LTE_e850_LB-Perf
25.141	0622	-	Rel-8	F	RP-120766	R4-123361	approved	Correction of PHS protection requirements for TS 25.141	8.14.0	8.15.0	R4	TEI8
25.141	0623	-	Rel-9	A	RP-120766	R4-123362	approved	Correction of PHS protection requirements for TS 25.141	9.8.0	9.9.0	R4	TEI8
25.141	0624	-	Rel-10	A	RP-120766	R4-123363	approved	Correction of PHS protection requirements for TS 25.141	10.5.0	10.6.0	R4	TEI8
25.141	0625	-	Rel-11	A	RP-120766	R4-123364	approved	Correction of PHS protection requirements for TS 25.141	11.1.0	11.2.0	R4	TEI8
25.142	0283	1	Rel-11	F	RP-120795	R4-122064	approved	TDD blocking for co-location	10.3.0	11.0.0	R4	TEI11
25.142	0284	1	Rel-11	F	RP-120795	R4-122066	approved	WA co-existence/co-location	10.3.0	11.0.0	R4	TEI11
25.142	0285	1	Rel-11	F	RP-120795	R4-122191	approved	Co-existence between TDD systems	10.3.0	11.0.0	R4	TEI11
25.142	0286	-	Rel-10	F	RP-120783	R4-122550	approved	Update to regional requirement table	10.3.0	10.4.0	R4	TEI10
25.142	0287	-	Rel-11	F	RP-120795	R4-122939	approved	LA co-existence/co-location	10.3.0	11.0.0	R4	TEI11
25.142	0288	-	Rel-11	F	RP-120795	R4-122948	approved	Co-existence/co-location between LA TDD systems	10.3.0	11.0.0	R4	TEI11
25.142	0289	-	Rel-11	B	RP-120793	R4-123009	approved	Introduction of Band 44	10.3.0	11.0.0	R4	LTE_APAC700-Core
25.142	0290	-	Rel-8	F	RP-120765	R4-123213	approved	Additional spurious emissions requirements for PHS	8.7.0	8.8.0	R4	TEI8
25.142	0291	-	Rel-9	A	RP-120765	R4-123215	approved	Additional spurious emissions requirements for PHS	9.4.0	9.5.0	R4	TEI8
25.142	0292	1	Rel-10	A	RP-120765	R4-123425	approved	Additional spurious emissions requirements for PHS	10.3.0	10.4.0	R4	TEI8
25.143	0099	2	Rel-10	F	RP-120783	R4-123621	approved	Update of the Definition clause with repeaters operating band definition and introduction of minor editorial changes for better alignment with BS core specification	10.1.0	10.2.0	R4	TEI10
25.143	0102	-	Rel-8	F	RP-120765	R4-123233	approved	Additional spurious emissions requirements for PHS	8.6.0	8.7.0	R4	TEI8
25.143	0103	-	Rel-9	A	RP-120765	R4-123235	approved	Additional spurious emissions requirements for PHS	9.2.0	9.3.0	R4	TEI8
25.143	0104	-	Rel-10	A	RP-120765	R4-123236	approved	Additional spurious emissions requirements for PHS	10.1.0	10.2.0	R4	TEI8

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25.144	0032	1	Rel-11	F	RP-120795	R4-122084	approved	LME and LEE clarifications to User Equipment (UE) and Mobile Station (MS) over the air performance requirements	11.1.0	11.2.0	R4	TEI11
25.144	0034	-	Rel-11	F	RP-120795	R4-122340	approved	Clarification to TRP and TRS Requirements for LME and LEE UMTS Bands	11.1.0	11.2.0	R4	TEI11
25.144	0035	-	Rel-10	F	RP-120778	R4-122341	approved	Clarification to TRS Requirements for Roaming Bands	10.1.0	10.2.0	R4	TEI10
25.144	0036	-	Rel-11	A	RP-120778	R4-122342	approved	Clarification to TRS Requirements for Roaming Bands	11.1.0	11.2.0	R4	TEI10
25.144	0037	-	Rel-10	F	RP-120781	R4-122344	approved	Frequency Band Requirements for UMTS Band XIX	10.1.0	10.2.0	R4	TEI10
25.144	0038	-	Rel-11	A	RP-120781	R4-122345	approved	Frequency Band Requirements for UMTS Band XIX	11.1.0	11.2.0	R4	TEI10
25.212	0306	-	Rel-11	F	RP-120741	R1-121661	approved	Clarification of CLTD Features	11.1.0	11.2.0	R1	HSPA_UL_TxDiv-CL-Core
25.212	0307	1	Rel-11	F	RP-120740	R1-122912	approved	Addition of missing 8C-HSDPA CQI reporting case indices	11.1.0	11.2.0	R1	8C_HSDPA-Core
25.213	0112	1	Rel-11	F	RP-120741	R1-121813	approved	Clarification of CLTD Features	11.1.0	11.2.0	R1	HSPA_UL_TxDiv-CL-Core
25.214	0677	1	Rel-11	F	RP-120741	R1-121814	approved	Clarification of CLTD Features	11.1.0	11.2.0	R1	HSPA_UL_TxDiv-CL-Core
25.214	0678	5	Rel-11	F	RP-120741	R1-121909	approved	Introduction of Timing Diagrams for F-TPICH Operation in UL CLTD	11.1.0	11.2.0	R1	HSPA_UL_TxDiv-CL-Core
25.214	0679	2	Rel-11	F	RP-120741	R1-122915	approved	Clarification of TPI timing and F-TPICH transmission for UL CLTD	11.1.0	11.2.0	R1	HSPA_UL_TxDiv-CL-Core
25.304	0319	-	Rel-10	F	RP-120814	R2-122021	approved	Clarification for HCS and absolute priority based cell reselection	10.4.0	10.5.0	R2	LTE-L23, TEI10
25.306	0356	-	Rel-10	F	RP-120812	R2-122022	revised	Correction to definition of enhanced inter-frequency measurements without CM	10.6.0		R2	4C_HSDPA-Core
25.306	0356	1	Rel-10	F	RP-120855	-	approved	Correction to definition of enhanced inter-frequency measurements without CM	10.6.0	10.7.0	R2	4C_HSDPA-Core
25.306	0357	-	Rel-11	A	RP-120812	R2-122023	approved	Correction to definition of enhanced inter-frequency measurements without CM	11.1.0	11.2.0	R2	4C_HSDPA-Core
25.306	0358	2	Rel-10	C	RP-120815	R2-122984	approved	Extend the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	10.6.0	10.7.0	R2	TEI10
25.306	0359	2	Rel-11	A	RP-120815	R2-122985	approved	Extend the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	11.1.0	11.2.0	R2	TEI10
25.306	0361	-	Rel-9	F	RP-120810	R2-122949	postponed	Voice support Capabilities	9.8.1		R2	TEI9
25.306	0362	-	Rel-10	A	RP-120810	R2-122950	postponed	Voice support Capabilities	10.6.0		R2	TEI9
25.306	0363	-	Rel-11	A	RP-120810	R2-122951	postponed	Voice support Capabilities	11.1.0		R2	TEI9
25.306	0368	1	Rel-9	F	RP-120681	-	postponed	Voice over PS continuity	9.8.1		R2	TEI9
25.306	0369	1	Rel-10	A	RP-120682	-	postponed	Voice over PS continuity	10.6.0		R2	TEI9
25.306	0370	1	Rel-11	A	RP-120683	-	postponed	Voice over PS continuity	11.1.0		R2	TEI9
25.307	0170	-	Rel-11	B	RP-120816	R2-122028	approved	Add Extending 850 MHz Upper Band (814 - 849 MHz) to TS25.307	10.3.0	11.0.0	R2	e850_UB-Core
25.308	0123	-	Rel-11	B	RP-120818	R2-123038	approved	Introduction of Multiflow in TS 25.308	11.0.0	11.1.0	R2	HSDPA_MFTX-Core
25.308	0124	-	Rel-11	B	RP-120817	R2-123039	approved	Introduction of Further Enhancements to CELL_FACH in 25.308	11.0.0	11.1.0	R2	Cell_FACH_enh-Core

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25.319	0104	-	Rel-11	B	RP-120817	R2-123040	approved	Introduction of Further Enhancements to CELL_FACH in 25.319	11.3.0	11.4.0	R2	Cell_FACH_enh-Core
25.321	0755	-	Rel-8	F	RP-120806	R2-122029	approved	SI attachment during DCCH/DTCH EUL transmission in CELL_FACH state	8.14.0	8.15.0	R2	RANimp-UplinkEnhState
25.321	0756	-	Rel-9	A	RP-120806	R2-122030	approved	SI attachment during DCCH/DTCH EUL transmission in CELL_FACH state	9.7.0	9.8.0	R2	RANimp-UplinkEnhState
25.321	0757	-	Rel-10	A	RP-120806	R2-122031	approved	SI attachment during DCCH/DTCH EUL transmission in CELL_FACH state	10.5.0	10.6.0	R2	RANimp-UplinkEnhState
25.321	0758	-	Rel-11	A	RP-120806	R2-122032	approved	SI attachment during DCCH/DTCH EUL transmission in CELL_FACH state	11.0.0	11.1.0	R2	RANimp-UplinkEnhState
25.321	0759	-	Rel-8	F	RP-120806	R2-122033	approved	Total E-DCH buffer size in case of CCCH transmission	8.14.0	8.15.0	R2	RANimp-UplinkEnhState
25.321	0760	-	Rel-9	A	RP-120806	R2-122034	approved	Total E-DCH buffer size in case of CCCH transmission	9.7.0	9.8.0	R2	RANimp-UplinkEnhState
25.321	0761	-	Rel-10	A	RP-120806	R2-122035	approved	Total E-DCH buffer size in case of CCCH transmission	10.5.0	10.6.0	R2	RANimp-UplinkEnhState
25.321	0762	-	Rel-11	A	RP-120806	R2-122036	approved	Total E-DCH buffer size in case of CCCH transmission	11.0.0	11.1.0	R2	RANimp-UplinkEnhState
25.331	4954	2	Rel-10	C	RP-120815	R2-122986	approved	Extend the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	10.7.0	10.8.0	R2	TEI10
25.331	4955	2	Rel-11	A	RP-120815	R2-122987	approved	Extend the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	11.1.0	11.2.0	R2	TEI10
25.331	4956	-	Rel-8	F	RP-120803	R2-122037	approved	Reconfiguration messages and HS-SCCH orders interaction for HS-SCCH less	8.18.0	8.19.0	R2	RANimp-CPC, TEI8
25.331	4957	-	Rel-9	A	RP-120803	R2-122038	approved	Reconfiguration messages and HS-SCCH orders interaction for HS-SCCH less	9.10.0	09.11.0	R2	RANimp-CPC, TEI8
25.331	4958	-	Rel-10	A	RP-120803	R2-122039	approved	Reconfiguration messages and HS-SCCH orders interaction for HS-SCCH less	10.7.0	10.8.0	R2	RANimp-CPC, TEI8
25.331	4959	-	Rel-11	A	RP-120803	R2-122040	approved	Reconfiguration messages and HS-SCCH orders interaction for HS-SCCH less	11.1.0	11.2.0	R2	RANimp-CPC, TEI8
25.331	4964	-	Rel-8	F	RP-120806	R2-122048	approved	Corrections regarding the UE behaviour on evaluating the variable HSPA_RNTI_STORED_CELL_PCH	8.18.0	8.19.0	R2	RANimp-UplinkEnhState
25.331	4965	-	Rel-9	A	RP-120806	R2-122049	approved	Corrections regarding the UE behaviour on evaluating the variable HSPA_RNTI_STORED_CELL_PCH	9.10.0	09.11.0	R2	RANimp-UplinkEnhState
25.331	4966	-	Rel-10	A	RP-120806	R2-122050	approved	Corrections regarding the UE behaviour on evaluating the variable HSPA_RNTI_STORED_CELL_PCH	10.7.0	10.8.0	R2	RANimp-UplinkEnhState
25.331	4967	-	Rel-11	A	RP-120806	R2-122051	approved	Corrections regarding the UE behaviour on evaluating the variable HSPA_RNTI_STORED_CELL_PCH	11.1.0	11.2.0	R2	RANimp-UplinkEnhState
25.331	4968	-	Rel-8	F	RP-120806	R2-122052	approved	Clarifications of the UE behaviours when initiating a cell update procedure for 1.28Mcps TDD	8.18.0	8.19.0	R2	RANimp-EnhState1.28TDD
25.331	4969	-	Rel-9	A	RP-120806	R2-122053	approved	Clarifications of the UE behaviours when initiating a cell update procedure for 1.28Mcps TDD	9.10.0	09.11.0	R2	RANimp-EnhState1.28TDD
25.331	4970	-	Rel-10	A	RP-120806	R2-122054	approved	Clarifications of the UE behaviours when initiating a cell update procedure for 1.28Mcps TDD	10.7.0	10.8.0	R2	RANimp-EnhState1.28TDD

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25.331	4971	-	Rel-11	A	RP-120806	R2-122055	approved	Clarifications of the UE behaviours when initiating a cell update procedure for 1.28Mcps TDD	11.1.0	11.2.0	R2	RANimp-EnhState1.28TDD
25.331	4972	-	Rel-8	F	RP-120806	R2-122056	approved	Corrections on DSAC and PPAC	8.18.0	8.19.0	R2	PPACR
25.331	4973	-	Rel-9	A	RP-120806	R2-122057	approved	Corrections on DSAC and PPAC	9.10.0	09.11.0	R2	PPACR
25.331	4974	-	Rel-10	A	RP-120806	R2-122058	approved	Corrections on DSAC and PPAC	10.7.0	10.8.0	R2	PPACR
25.331	4975	-	Rel-11	A	RP-120806	R2-122059	approved	Corrections on DSAC and PPAC	11.1.0	11.2.0	R2	PPACR
25.331	4979	-	Rel-9	F	RP-120804	R2-122063	approved	Correction of SRB1 mapping info for FACH	9.10.0	09.11.0	R2	RANimp-Enhstate, TEI9
25.331	4980	-	Rel-10	A	RP-120804	R2-122064	approved	Correction of SRB1 mapping info for FACH	10.7.0	10.8.0	R2	RANimp-Enhstate, TEI9
25.331	4981	-	Rel-11	A	RP-120804	R2-122065	approved	Correction of SRB1 mapping info for FACH	11.1.0	11.2.0	R2	RANimp-Enhstate, TEI9
25.331	4982	-	Rel-9	F	RP-120809	R2-122066	approved	Clarification on default radio configuration in CELL_FACH	9.10.0	09.11.0	R2	TEI9
25.331	4983	-	Rel-10	A	RP-120809	R2-122067	approved	Clarification on default radio configuration in CELL_FACH	10.7.0	10.8.0	R2	TEI9
25.331	4984	-	Rel-11	A	RP-120809	R2-122068	approved	Clarification on default radio configuration in CELL_FACH	11.1.0	11.2.0	R2	TEI9
25.331	4985	1	Rel-9	F	RP-120809	R2-123003	approved	Correction to the secondary uplink frequency activation state after reconfiguration procedure	9.10.0	09.11.0	R2	RANimp-DC_HSUPA
25.331	4986	-	Rel-10	A	RP-120809	R2-122070	approved	Correction to the secondary uplink frequency activation state after reconfiguration procedure	10.7.0	10.8.0	R2	RANimp-DC_HSUPA
25.331	4987	-	Rel-11	A	RP-120809	R2-122071	approved	Correction to the secondary uplink frequency activation state after reconfiguration procedure	11.1.0	11.2.0	R2	RANimp-DC_HSUPA
25.331	4988	-	Rel-10	F	RP-120809	R2-122072	approved	Clarification of capability signaling for UE supporting DB-DC-HSDPA with MIMO	10.7.0	10.8.0	R2	RANimp-DC_MIMO, RANimp-MultiBand_DC_HSDPA, TEI10
25.331	4989	-	Rel-11	A	RP-120809	R2-122073	approved	Clarification of capability signaling for UE supporting DB-DC-HSDPA with MIMO	11.1.0	11.2.0	R2	RANimp-DC_MIMO, RANimp-MultiBand_DC_HSDPA, TEI10
25.331	4991	1	Rel-11	F	RP-120825	R2-122994	approved	Modification of security context storage rate on the UICC	11.1.0	11.2.0	R2	Sec11
25.331	4992	-	Rel-10	F	RP-120814	R2-122975	approved	Correction of nesting levels greater than 15 in ASN.1 for RRC Message HandoverToUTRANCommand	10.7.0	10.8.0	R2	TEI10
25.331	4993	-	Rel-11	A	RP-120814	R2-122976	approved	Correction of nesting levels greater than 15 in ASN.1 for RRC Message HandoverToUTRANCommand	11.1.0	11.2.0	R2	TEI10
25.331	4996	-	Rel-9	F	RP-120810	R2-122952	postponed	Voice support Capabilities	9.10.0		R2	TEI9
25.331	4996	1	Rel-9	F	RP-120756	-	postponed	Voice support Capabilities	9.10.0		R2	TEI9
25.331	4997	-	Rel-10	A	RP-120810	R2-122953	postponed	Voice support Capabilities	10.7.0		R2	TEI9

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25.331	4998	-	Rel-11	A	RP-120810	R2-122954	postponed	Voice support Capabilities	11.1.0		R2	TEI9
25.331	4999	1	Rel-11	B	RP-120825	R2-123031	approved	SRVCC radio bearer combination	11.1.0	11.2.0	R2	vSRVCC-CT, SAES-SRVCC
25.331	5004	1	Rel-9	F	RP-120809	R2-122990	approved	Clarifications on the event measurement report for DC-HSUPA	9.10.0	09.11.0	R2	RANimp-DC_HSUPA
25.331	5005	1	Rel-10	A	RP-120809	R2-122991	approved	Clarifications on the event measurement report for DC-HSUPA	10.7.0	10.8.0	R2	RANimp-DC_HSUPA
25.331	5006	1	Rel-11	A	RP-120809	R2-122992	approved	Clarifications on the event measurement report for DC-HSUPA	11.1.0	11.2.0	R2	RANimp-DC_HSUPA
25.331	5026	1	Rel-9	F	RP-120808	R2-123169	approved	Introduction of a CSFB Indicator in RRC Connection Request	9.10.0	09.11.0	R2	TEI9, LTE-L23
25.331	5027	1	Rel-10	F	RP-120808	R2-123170	approved	Introduction of a CSFB Indicator in RRC Connection Request	10.7.0	10.8.0	R2	TEI10, LTE-L23
25.331	5028	3	Rel-9	F	RP-120632	-	withdrawn	Adding the missing MAC-ehs window size values for 9bits TSN option in 1.28Mcps TDD	9.10.0		R2	RANimp-L2DataRates, TEI9
25.331	5029	1	Rel-11	A	RP-120808	R2-123171	approved	Introduction of a CSFB Indicator in RRC Connection Request	11.1.0	11.2.0	R2	TEI10, LTE-L23
25.331	5030	3	Rel-10	A	RP-120633	-	withdrawn	Adding the missing MAC-ehs window size values for 9bits TSN option in 1.28Mcps TDD	10.7.0		R2	RANimp-L2DataRates, TEI9
25.331	5032	3	Rel-11	A	RP-120634	-	withdrawn	Adding the missing MAC-ehs window size values for 9bits TSN option in 1.28Mcps TDD	11.1.0		R2	RANimp-L2DataRates, TEI9
25.331	5033	-	Rel-10	D	RP-120804	R2-123002	approved	Clarification on stored HARQ info when HS-DSCH reception is not supported	10.7.0	10.8.0	R2	RANimp-Enhstate, TEI10
25.331	5042	-	Rel-10	F	RP-120814	R2-122977	approved	Corrections to per-band capability signalling	10.7.0	10.8.0	R2	TEI10
25.331	5044	-	Rel-11	F	RP-120825	R2-122978	approved	Corrections to per-band capability signalling	11.1.0	11.2.0	R2	TEI11
25.331	5057	-	Rel-11	D	RP-120825	R2-123029	approved	Editorial updates to 25.331	11.1.0	11.2.0	R2	TEI11
25.331	5060	1	Rel-10	B	RP-120730	-	approved	Introduction of multiple frequency band indicator	10.7.0	10.8.0	R2	TEI10
25.331	5063	1	Rel-11	A	RP-120731	-	approved	Introduction of multiple frequency band indicator	11.1.0	11.2.0	R2	TEI10
25.331	5066	1	Rel-9	F	RP-120678	-	revised	Voice over PS continuity	9.10.0		R2	TEI9
25.331	5066	2	Rel-9	F	RP-120849	-	postponed	Voice over PS continuity	9.10.0		R2	TEI9
25.331	5067	1	Rel-10	A	RP-120679	-	revised	Voice over PS continuity	10.7.0		R2	TEI9
25.331	5067	2	Rel-10	A	RP-120850	-	postponed	Voice over PS continuity	10.7.0		R2	TEI9
25.331	5068	1	Rel-11	A	RP-120680	-	revised	Voice over PS continuity	11.1.0		R2	TEI9
25.331	5068	2	Rel-11	A	RP-120851	-	postponed	Voice over PS continuity	11.1.0		R2	TEI9
25.367	0023	-	Rel-8	F	RP-120622	-	withdrawn	PSC range note on RAN sharing	8.3.0		R2	HNB-supp
25.367	0024	-	Rel-9	A	RP-120623	-	withdrawn	PSC range note on RAN sharing	9.5.0		R2	HNB-supp
25.367	0025	-	Rel-10	F	RP-120624	-	withdrawn	PSC range note on RAN sharing	10.0.0		R2	HNB-supp
25.367	0026	-	Rel-11	F	RP-120880	-	approved	PSC range note on RAN sharing	10.0.0	11.0.0	R2	HNB-supp

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25.413	1166	1	Rel-10	F	RP-120743	R3-121437	approved	Correction to assigned criticality of L-GW Transport Layer Address	10.5.0	10.6.0	R3	LIPA_SIPTO
25.413	1167	2	Rel-11	B	RP-120752	R3-121410	approved	Introduction of the new IE for cell reselection from UTRA connected mode	10.5.0	11.0.0	R3	TEI11
25.413	1172	1	Rel-11	F	RP-120752	R3-121404	approved	Improved granularity for the time UE stayed in cell	10.5.0	11.0.0	R3	TEI11
25.423	1739	-	Rel-10	C	RP-120815	R3-120942	approved	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	10.6.0	10.7.0	R3	TEI10
25.423	1739	-	Rel-10	C	RP-120753	R3-120942	reissued	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	10.6.0		R3	TEI10
25.423	1740	-	Rel-11	A	RP-120815	R3-120943	approved	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	11.1.0	11.2.0	R3	TEI10
25.423	1740	-	Rel-11	A	RP-120753	R3-120943	reissued	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	11.1.0		R3	TEI10
25.423	1741	1	Rel-11	F	RP-120745	R3-121367	approved	Some corrections for UL CLTD	11.1.0	11.2.0	R3	HSPA_UL_TxDiv-CL-Core
25.423	1742	-	Rel-10	F	RP-120744	R3-121073	approved	Clarification of the enhanced TS0 capability for 1.28Mcps TDD	10.6.0	10.7.0	R3	TEI10
25.423	1743	-	Rel-11	A	RP-120744	R3-121074	approved	Clarification of the enhanced TS0 capability for 1.28Mcps TDD	11.1.0	11.2.0	R3	TEI10
25.423	1750	1	Rel-11	B	RP-120752	R3-121386	approved	Introduction of Extended S-RNTI	11.1.0	11.2.0	R3	TEI11
25.423	1752	3	Rel-11	B	RP-120746	R3-121445	approved	Supporting Non-adjacent multi-carrier operation	11.1.0	11.2.0	R3	NC_4C_HSDPA-Core
25.423	1754	-	Rel-11	F	RP-120751	R3-121396	approved	Introduction of enhanced DC-HSDPA	11.1.0	11.2.0	R3	RANimp-DCHSDPA, TEI11
25.433	1933	-	Rel-10	C	RP-120815	R3-120944	approved	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	10.5.0	10.6.0	R3	TEI10
25.433	1933	-	Rel-10	C	RP-120753	R3-120944	reissued	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	10.5.0		R3	TEI10
25.433	1934	1	Rel-11	A	RP-120815	R3-121481	approved	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	11.0.0	11.1.0	R3	TEI10
25.433	1934	1	Rel-11	A	RP-120753	R3-121481	reissued	Clarification of the carrier capability for two-carrier HSDPA for 1.28Mcps TDD	11.0.0		R3	TEI10
25.433	1935	1	Rel-11	F	RP-120745	R3-121366	approved	Some corrections for UL CLTD	11.0.0	11.1.0	R3	HSPA_UL_TxDiv-CL-Core
25.433	1937	-	Rel-10	F	RP-120744	R3-121075	approved	Clarification of the enhanced TS0 capability for 1.28Mcps TDD	10.5.0	10.6.0	R3	TEI10
25.433	1938	-	Rel-11	A	RP-120744	R3-121076	approved	Clarification of the enhanced TS0 capability for 1.28Mcps TDD	11.0.0	11.1.0	R3	TEI10
25.433	1948	3	Rel-11	B	RP-120746	R3-121444	approved	Supporting Non-adjacent multi-carrier operation	11.0.0	11.1.0	R3	NC_4C_HSDPA-Core
25.433	1949	-	Rel-11	F	RP-120751	R3-121397	approved	Introduction of enhanced DC-HSDPA	11.0.0	11.1.0	R3	RANimp-DCHSDPA, TEI11
25.461	0079	1	Rel-11	B	RP-120749	R3-121389	approved	Introduction of E850_LB (Band 27) to TS 25.461	11.0.0	11.1.0	R3	LTE_e850_LB-core
25.461	0080	-	Rel-11	B	RP-120750	R3-121446	approved	Introduction of Band 28	11.0.0	11.1.0	R3	LTE_APAC700-Core
25.461	0081	-	Rel-11	B	RP-120750	R3-121447	approved	Introduction of Band 44	11.0.0	11.1.0	R3	LTE_APAC700-Core

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25.466	0045	1	Rel-11	B	RP-120749	R3-121390	approved	Introduction of E850_LB Band 27 to TS 25.466	11.0.0	11.1.0	R3	LTE_e850_LB-core
25.466	0046	-	Rel-11	B	RP-120750	R3-121268	approved	Introduction of FDD band for 700 MHz digital dividend	11.0.0	11.1.0	R3	LTE_APAC700-Core
25.466	0047	-	Rel-11	B	RP-120750	R3-121269	approved	Introduction of TDD band for 700 MHz digital dividend	11.0.0	11.1.0	R3	LTE_APAC700-Core
25.467	0173	3	Rel-10	F	RP-120744	R3-121476	approved	Correction of emergency call handling during Inbound mobility	10.4.0	10.5.0	R3	EHNB-RAN3
25.484	0001	1	Rel-10	C	RP-120761	R3-112319	approved	Updates of ANR Stage 2 Descriptions for EPLMN	10.0.1	10.1.0	R3	ANR_UTRAN-Core
25.484	0003	-	Rel-10	F	RP-120743	R3-121167	approved	Correction of ANR handlings upon UE detach or switch off	10.0.1	10.1.0	R3	ANR_UTRAN-Core
25.914	0013	1	Rel-11	F	RP-120795	R4-122085	approved	LME and LEE clarifications to measurements of radio performance for UMTS terminals in speeh mode	11.0.0	11.1.0	R4	TEI11
25.914	0014	2	Rel-11	B	RP-120874	R4-123374	approved	Introduction of hand phantom to TR25.914	11.0.0	11.1.0	R4	FS_OTA_phantoms_UTRA
25.914	0014	2	Rel-11	B	RP-120796	R4-123374	reissued	Introduction of hand phantom to TR25.914	11.0.0		R4	FS_OTA_phantoms_UTRA
25.914	0015	1	Rel-11	F	RP-120795	R4-123528	approved	LME and LEE clarification to measurements of radio performance for terminals on uncertainty contributions in measurements	11.0.0	11.1.0	R4	TEI11
25.914	0016	-	Rel-11	B	RP-120874	R4-123170	approved	Mechanical Requirements of Hand Phantoms	11.0.0	11.1.0	R4	FS_OTA_phantoms_UTRA
25.914	0016	-	Rel-11	B	RP-120796	R4-123170	reissued	Mechanical Requirements of Hand Phantoms	11.0.0		R4	FS_OTA_phantoms_UTRA
25.914	0017	-	Rel-11	B	RP-120874	R4-123173	approved	Dielectric Property Measurements of hand phantoms	11.0.0	11.1.0	R4	FS_OTA_phantoms_UTRA
25.914	0017	-	Rel-11	B	RP-120796	R4-123173	reissued	Dielectric Property Measurements of hand phantoms	11.0.0		R4	FS_OTA_phantoms_UTRA
25.914	0020	1	Rel-11	B	RP-120874	R4-123529	approved	CR to introduce left hand phantoms to TR25.914	11.0.0	11.1.0	R4	FS_OTA_phantoms_UTRA
25.914	0020	1	Rel-11	B	RP-120796	R4-123529	reissued	CR to introduce left hand phantoms to TR25.914	11.0.0		R4	FS_OTA_phantoms_UTRA
25.942	0022	1	Rel-10	F	RP-120778	R4-122062	approved	Clarification of unwanted emissions requirements for TS 25.942 Rel-10	10.0.0	10.1.0	R4	TEI10
34.108	0883	-	Rel-11	F	RP-120663	R5-121101	approved	Introduction of default messages for ANR for UTRAN test cases	11.1.0	11.2.0	R5	ANR_UTRAN-UEConTest
34.108	0884	-	Rel-11	F	RP-120655	R5-121115	approved	Addition of Generic IMS Emergency call set up procedure for mobile originating packet switched sessions - Limited Service	11.1.0	11.2.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.108	0885	-	Rel-11	F	RP-120664	R5-121117	approved	Update of System Information Block Type 3	11.1.0	11.2.0	R5	4C_HSDPA-UEConTest
34.108	0886	-	Rel-11	F	RP-120664	R5-121119	approved	Addition of 4C-HSDPA into 34.108	11.1.0	11.2.0	R5	4C_HSDPA-UEConTest
34.108	0887	-	Rel-11	F	RP-120648	R5-121120	approved	Introduce an access control class default value	11.1.0	11.2.0	R5	TEI8_Test
34.108	0888	-	Rel-11	F	RP-120636	R5-121124	approved	Addition of default power levels of physical channels for LCR TDD	11.1.0	11.2.0	R5	TEI4_Test
34.108	0889	-	Rel-11	F	RP-120669	R5-121125	approved	Correction to references for A-GPS	11.1.0	11.2.0	R5	TEI11_Test
34.108	0890	-	Rel-11	F	RP-120656	R5-121255	approved	Introduction of default RRC messages for DC-HSUPA	11.1.0	11.2.0	R5	RANimp-DC_HSUPA_UEConTest
34.108	0891	-	Rel-11	F	RP-120656	R5-121355	approved	Introduction of new reference radio bearer combination for DC-HSUPA MAC testing	11.1.0	11.2.0	R5	RANimp-DC_HSUPA_UEConTest
34.108	0892	-	Rel-11	F	RP-120635	R5-121434	approved	Correction to QoS for requested bearer	11.1.0	11.2.0	R5	TEI_Test
34.108	0893	-	Rel-11	F	RP-120648	R5-121454	approved	Clarification of the scope of Band a for 1.28 Mcps TDD	11.1.0	11.2.0	R5	TEI8_Test

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								option in TS 34.108				
34.108	0894	-	Rel-11	F	RP-120640	R5-121537	approved	Correction to RF Default Messages for TDD in 34.108	11.1.0	11.2.0	R5	LTE-UEConTest_RF
34.108	0895	-	Rel-11	F	RP-120648	R5-121688	approved	Correction of enhanced CELL_FACH uplink channel configuration	11.1.0	11.2.0	R5	TEI8_Test
34.108	0896	-	Rel-11	F	RP-120648	R5-121718	approved	Addition of default System Information Block Type 19 into 34.108	11.1.0	11.2.0	R5	TEI8_Test
34.108	0897	-	Rel-11	F	RP-120664	R5-121818	approved	Update of Radio Bearer Reconfiguration Message	11.1.0	11.2.0	R5	4C_HSDPA-UEConTest
34.108	0898	-	Rel-11	F	RP-120664	R5-121819	approved	Update of the default RADIO BEARER SETUP message (FDD) for support of 4C HSDPA	11.1.0	11.2.0	R5	4C_HSDPA-UEConTest
34.108	0899	-	Rel-11	F	RP-120640	R5-121943	approved	Correction to Default SI Messages for TDD in 34.108	11.1.0	11.2.0	R5	LTE-UEConTest_RF
34.108	0900	-	Rel-11	F	RP-120656	R5-121953	approved	Definition of default RB SETUP message for DC-HSUPA RF tests in section 9.2	11.1.0	11.2.0	R5	RANimp-DC_HSUPA_UEConTest
34.108	0901	-	Rel-11	F	RP-120656	R5-121993	approved	RB SETUP message for DC-HSUPA RF tests	11.1.0	11.2.0	R5	RANimp-DC_HSUPA_UEConTest
34.114	0027	-	Rel-10	F	RP-120666	R5-121072	approved	Removal of technical content in 34.114 v10.2.0 and substitution with pointer to the next Release	10.2.0	10.3.0	R5	TEI10_Test
34.114	0028	-	Rel-11	F	RP-120668	R5-121342	approved	Corrections to Scope related to Laptop Equipment Free Space Definition	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0029	-	Rel-11	F	RP-120668	R5-121343	approved	Additional Clarifications to DUT positioning for Laptop Equipment Free Space Performance	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0030	-	Rel-11	F	RP-120668	R5-121345	approved	Corrections to Tx Performance of TRP for LME GSM	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0031	-	Rel-11	F	RP-120668	R5-121346	approved	Corrections to Tx Performance of TRP for LME TDD	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0032	-	Rel-11	F	RP-120668	R5-121347	approved	Corrections to Tx Performance of TRP for LEE GSM	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0033	-	Rel-11	F	RP-120668	R5-121348	approved	Introduction of Tx Performance of TRP for LEE TDD	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0034	-	Rel-11	F	RP-120668	R5-121349	approved	Corrections to Rx Performance of TRS for LME FDD	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0035	-	Rel-11	F	RP-120668	R5-121362	approved	Clarifications to TRS Requirements for Roaming Bands for conformance testing	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0036	-	Rel-11	F	RP-120668	R5-121363	approved	Introduction of Embedded Devices Characteristics	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0037	-	Rel-11	F	RP-120668	R5-121368	approved	Clarifications to LME & LEE for Calibration Procedure	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0038	-	Rel-11	F	RP-120668	R5-121372	approved	Clarifications to LME & LEE for Measurement Test Report	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0039	-	Rel-11	F	RP-120668	R5-121373	approved	Clarifications to Maximum Uncertainty of Test System and TT for LME	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0040	-	Rel-11	F	RP-120668	R5-121374	approved	Clarifications to Recommended OTA Performance for Operating Bands for LME & LEE	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0041	-	Rel-11	F	RP-120668	R5-121375	approved	Clarification to TRP and TRS Requirements for Band (XIX)	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0042	-	Rel-11	F	RP-120668	R5-121376	approved	Clarifications to Statistical Uncertainty of the BER measurement for GSM	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0043	-	Rel-11	F	RP-120668	R5-121912	approved	Corrections to Tx Performance of TRP for LME FDD	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest

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34.114	0044	-	Rel-11	F	RP-120668	R5-121913	approved	Corrections to Rx Performance of TRS for LME GSM	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0045	-	Rel-11	F	RP-120668	R5-121914	approved	Corrections to Rx Performance of TRS for LEE GSM	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0046	-	Rel-11	F	RP-120668	R5-121978	approved	Corrections to Rx Performance of TRS for LME TDD	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.114	0047	-	Rel-11	F	RP-120668	R5-121979	approved	Introduction of Rx Performance of TRS for LEE TDD	11.0.0	11.1.0	R5	UEAnt_FSTest-UEConTest
34.121-1	1415	-	Rel-10	F	RP-120656	R5-121149	approved	Addition of a new section 6.1A:Reference input power adjustment for a dual band device	10.2.1	10.3.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1416	-	Rel-10	F	RP-120656	R5-121150	approved	Correction to the Notes of Tables of the test cases 6.5C and 6.7C.	10.2.1	10.3.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1417	-	Rel-10	F	RP-120649	R5-121151	approved	Correction to the content of test case 6.5B	10.2.1	10.3.0	R5	TEI9_Test
34.121-1	1418	-	Rel-10	F	RP-120648	R5-121152	approved	Addition the definition of enhance performance type 3i to TS 34.121-1	10.2.1	10.3.0	R5	TEI8_Test
34.121-1	1419	-	Rel-10	F	RP-120648	R5-121230	approved	Error in initial CQI value TC 9.3.7C,E,H,J MIMO Dual Stream/64QAM configured	10.2.1	10.3.0	R5	TEI8_Test
34.121-1	1420	-	Rel-10	F	RP-120639	R5-121231	approved	Error in initial CQI valueTC 9.3.7B,D,G,I MIMO Dual Stream/64QAM not configured	10.2.1	10.3.0	R5	TEI7_Test
34.121-1	1421	-	Rel-10	F	RP-120648	R5-121252	approved	3G RRM: Corrections to test procedures of TC 8.6.6.1	10.2.1	10.3.0	R5	TEI8_Test
34.121-1	1422	-	Rel-10	F	RP-120635	R5-121303	approved	Correction of Maximum Test System Uncertainty in Annex F.1.2 Table F.1.2	10.2.1	10.3.0	R5	TEI_Test
34.121-1	1423	-	Rel-10	F	RP-120640	R5-121533	approved	Correction to Inter-system Handover	10.2.1	10.3.0	R5	LTE-UEConTest_RF
34.121-1	1424	-	Rel-10	F	RP-120640	R5-121534	approved	Correction to 8.6.6.1	10.2.1	10.3.0	R5	LTE-UEConTest_RF
34.121-1	1425	-	Rel-10	F	RP-120639	R5-121539	approved	Correction to 5.4.4A	10.2.1	10.3.0	R5	TEI7_Test
34.121-1	1426	-	Rel-10	F	RP-120648	R5-121540	approved	Correction to test time for HSDPA Rx TCs	10.2.1	10.3.0	R5	TEI8_Test
34.121-1	1427	-	Rel-10	F	RP-120656	R5-121587	approved	Corrections to TC 5.4.1A (Open Loop Power Control for DC-HSUPA)	10.2.1	10.3.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1428	-	Rel-10	F	RP-120656	R5-121590	approved	Adding DC-HSDPA configuration into DC-HSUPA section 5 test cases	10.2.1	10.3.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1429	-	Rel-10	F	RP-120656	R5-121593	approved	Adding DC-HSDPA configuration into Annex C.11A	10.2.1	10.3.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1430	-	Rel-10	F	RP-120638	R5-121594	approved	Removing a Note 3 from Table C.11.3.1	10.2.1	10.3.0	R5	TEI6_Test
34.121-1	1431	-	Rel-10	F	RP-120640	R5-121621	approved	Correction to the test frequency references in FDD with E-UTRA tests	10.2.1	10.3.0	R5	LTE-UEConTest_RF
34.121-1	1432	-	Rel-10	F	RP-120659	R5-121642	approved	Adding band XXII (3500MHz) to 34.121-1 (RRM test cases)	10.2.1	10.3.0	R5	RInImp-UEConTest_UMTS3500
34.121-1	1433	-	Rel-10	F	RP-120649	R5-121916	approved	Update to 34.121-1 for TCs 9.3.1BA & 9.3.2AA for DB-DC-HSDPA CQI reporting	10.2.1	10.3.0	R5	TEI9_Test
34.121-1	1434	-	Rel-10	F	RP-120660	R5-121968	approved	Adding band XXV (1900MHz) to 34.121-1 Rx Blocking test cases	10.2.1	10.3.0	R5	E1900-UEConTest
34.121-1	1435	-	Rel-10	F	RP-120664	R5-121970	approved	New test cases 9.2.1IC and 9.2.1ID	10.2.1	10.3.0	R5	4C_HSDPA-UEConTest

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34.121-1	1436	-	Rel-10	F	RP-120664	R5-121971	approved	New test cases 9.2.1JC and 9.2.1JD	10.2.1	10.3.0	R5	4C_HSDPA-UEConTest
34.121-1	1437	-	Rel-10	F	RP-120664	R5-121972	approved	4C HSDPA related Updates to 34.121-1 Annex	10.2.1	10.3.0	R5	4C_HSDPA-UEConTest
34.121-1	1438	-	Rel-10	F	RP-120664	R5-121973	approved	New Test case 9.2.1HC and 9.2.1HD	10.2.1	10.3.0	R5	4C_HSDPA-UEConTest
34.121-1	1439	-	Rel-10	F	RP-120648	R5-121974	approved	3G RRM: Corrections to test procedures of TC 8.2.5.1 and 8.2.5.2	10.2.1	10.3.0	R5	TEI8_Test
34.121-1	1440	-	Rel-10	F	RP-120638	R5-121975	approved	Total DL power defined in TC 7.8.5 and Annex E.5C.1 tables greater than unity	10.2.1	10.3.0	R5	TEI6_Test
34.121-1	1441	-	Rel-10	F	RP-120660	R5-122005	approved	Adding band XXV (1900MHz) to 34.121-1	10.2.1	10.3.0	R5	E1900-UEConTest
34.121-2	0123	-	Rel-10	F	RP-120635	R5-121153	approved	Change the content of C_RF53 to 'Void'	10.2.0	10.3.0	R5	TEI_Test
34.121-2	0124	-	Rel-10	F	RP-120660	R5-121643	approved	Adding band XXV into ICS proforma tables	10.2.0	10.3.0	R5	E1900-UEConTest
34.121-2	0125	-	Rel-10	F	RP-120664	R5-121915	approved	Applicability changes for TC 9.2.1HC and 9.2.1HD	10.2.0	10.3.0	R5	4C_HSDPA-UEConTest
34.121-2	0126	-	Rel-10	F	RP-120649	R5-121917	approved	Update to 34.121-2 for TCs 9.3.1BA & 9.3.2AA for DB-DC-HSDPA CQI reporting	10.2.0	10.3.0	R5	TEI9_Test
34.122	0404	-	Rel-11	F	RP-120640	R5-121187	approved	Uncertainties and Test Tolerances for E-UTRAN RSRQ Test cases 8.7.16 and 8.7.17	11.1.0	11.2.0	R5	LTE-UEConTest_RF
34.122	0405	-	Rel-11	F	RP-120640	R5-121239	approved	Uncertainties and Test Tolerances for E-UTRAN FDD, TDD RSRP Test cases 8.7.14 and 8.7.15	11.1.0	11.2.0	R5	LTE-UEConTest_RF
34.122	0406	-	Rel-11	F	RP-120637	R5-121325	approved	Serving cell parameters definition in test case 5.4.1.3	11.1.0	11.2.0	R5	TEI5_Test
34.122	0407	-	Rel-11	F	RP-120637	R5-121326	approved	Incorrect Test Setup Diagram reference in Initial Conditions Settings	11.1.0	11.2.0	R5	TEI5_Test
34.122	0408	-	Rel-11	F	RP-120648	R5-121455	approved	Clarification of the scope of Band a for 1.28 Mcps TDD option in TS 34.122	11.1.0	11.2.0	R5	TEI8_Test
34.122	0409	-	Rel-11	F	RP-120640	R5-121535	approved	Correction to UTRA to E-UTRA Handover	11.1.0	11.2.0	R5	LTE-UEConTest_RF
34.122	0410	-	Rel-11	F	RP-120640	R5-121536	approved	Addition of Measurement bandwidth in Measurement Control	11.1.0	11.2.0	R5	LTE-UEConTest_RF
34.122	0411	-	Rel-11	F	RP-120640	R5-121622	approved	Correction to the test frequency references in TDD with E-UTRA tests	11.1.0	11.2.0	R5	LTE-UEConTest_RF
34.122	0412	-	Rel-11	F	RP-120649	R5-121976	approved	Update on Annex E	11.1.0	11.2.0	R5	TEI9_Test
34.123-1	3107	-	Rel-9	F	RP-120649	R5-121076	approved	Removal of technical content in 34.123-1 v9.8.0 and substitution with pointer to the next Release	9.8.0	9.9.0	R5	TEI9_Test
34.123-1	3108	-	Rel-10	F	RP-120649	R5-121102	approved	Correction to DB-DC-HSDPA RRC test case 8.2.2.75	10.0.0	10.1.0	R5	TEI9_Test
34.123-1	3109	-	Rel-10	F	RP-120656	R5-121259	approved	Part 1: Marking DC_HSUPA test cases 7.1.9.3 and 7.1.9.4 as void	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3110	-	Rel-10	F	RP-120656	R5-121260	approved	New DC-HSUPA RRC test case 8.2.2.78	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3111	-	Rel-10	F	RP-120656	R5-121261	approved	Correction to DC-HSUPA RRC test case 8.2.2.76	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3112	-	Rel-10	F	RP-120656	R5-121262	approved	Correction to DC-HSUPA RRC test case 8.2.2.77	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest

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34.123-1	3113	-	Rel-10	F	RP-120656	R5-121263	approved	Correction to DC-HSUPA RRC test case 8.3.4.20	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3114	-	Rel-10	F	RP-120656	R5-121264	approved	New generic radio bearer test procedure for DC-HSUPA radio bearer combinations	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3115	-	Rel-10	F	RP-120656	R5-121265	approved	Correction to DC-HSUPA RB test case 14.7.3b	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3116	-	Rel-10	F	RP-120656	R5-121266	approved	Correction to DC-HSUPA RB test case 14.7.3c	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3117	-	Rel-10	F	RP-120663	R5-121317	approved	New UTRAN ANR test case 8.7.1.1	10.0.0	10.1.0	R5	ANR_UTRAN-UEConTest
34.123-1	3118	-	Rel-10	F	RP-120639	R5-121382	approved	Correction to Invalid configuration for UL 16QAM in TC 14.7.1a	10.0.0	10.1.0	R5	TEI7_Test
34.123-1	3119	-	Rel-10	F	RP-120648	R5-121406	approved	Correction of TC 8.1.1.13, 8.1.1.14 and 8.1.1.19 for ETWS test cases	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3120	-	Rel-10	F	RP-120655	R5-121500	approved	Adding new test case 13.4.4 Emergency bearer services over IMS / NORMAL-SERVICE / Authentication not accepted by the UE and Timer 3318 expires	10.0.0	10.1.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.123-1	3121	-	Rel-10	F	RP-120655	R5-121501	approved	Adding new test case 13.4.5 Authentication not accepted by the UE / Synch failure / Authentication not accepted by the UE and Timer 3320 expires	10.0.0	10.1.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.123-1	3122	-	Rel-10	F	RP-120639	R5-121596	approved	Correction to TFRC test points in Table 14.1.3.4b.2.3	10.0.0	10.1.0	R5	TEI7_Test
34.123-1	3123	-	Rel-10	F	RP-120635	R5-121603	approved	Correction to Rel-99 RRC testcase 8.3.1.9	10.0.0	10.1.0	R5	TEI_Test
34.123-1	3124	-	Rel-10	F	RP-120648	R5-121690	approved	Correction to MAC-i/is test case 7.2.3.37	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3125	-	Rel-10	F	RP-120648	R5-121692	approved	Correction to MAC-i/is test case 7.1.7.2	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3126	-	Rel-10	F	RP-120648	R5-121719	approved	Editorial Corrections to eCall Test Cases	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3127	-	Rel-10	F	RP-120639	R5-121720	approved	Correction to eCall test case 13.3.1.6 and 13.3.1.10	10.0.0	10.1.0	R5	TEI7_Test
34.123-1	3128	-	Rel-10	F	RP-120648	R5-121721	approved	Correction to ETWS TC 8.1.1.13.	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3129	-	Rel-10	F	RP-120639	R5-121722	approved	Addition of new testcase 8.3.4.x : Active Set Update: MIMO Activation by Serving cell changes with and without PCI Restrictions and S-CPICH Power Offset (16QAM + MIMO)	10.0.0	10.1.0	R5	TEI7_Test
34.123-1	3130	-	Rel-10	F	RP-120638	R5-121723	approved	Correction to Rel-6 RRC testcase 8.3.1.41	10.0.0	10.1.0	R5	TEI6_Test
34.123-1	3131	-	Rel-10	F	RP-120648	R5-121724	approved	Correction to Rel-8 MAC testcase 7.1.8.7	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3132	-	Rel-10	F	RP-120648	R5-121725	approved	Correction to Rel-8 MAC testcase 7.1.8.3	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3133	-	Rel-10	F	RP-120648	R5-121726	approved	Addition of a new test case 8.1.9c	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3134	-	Rel-10	F	RP-120635	R5-121731	approved	Correction to pc_Acquiring_Inter-F_SI & pc_Acquiring_Intra-F_SI	10.0.0	10.1.0	R5	TEI_Test
34.123-1	3135	-	Rel-10	F	RP-120656	R5-121815	approved	Correction to DC-HSUPA MAC test case 7.1.9.1	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest

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34.123-1	3136	-	Rel-10	F	RP-120656	R5-121816	approved	Correction to DC-HSUPA MAC test case 7.1.9.5	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3137	-	Rel-10	F	RP-120656	R5-121817	approved	New DC-HSUPA MAC test case 7.1.9.2	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3138	-	Rel-10	F	RP-120664	R5-121821	approved	Introduction of new Test Case 8.2.2.79	10.0.0	10.1.0	R5	4C_HSDPA-UEConTest
34.123-1	3139	-	Rel-10	F	RP-120663	R5-121824	approved	New UTRAN ANR test case 8.7.1.2	10.0.0	10.1.0	R5	ANR_UTRAN-UEConTest
34.123-1	3140	-	Rel-10	F	RP-120663	R5-121825	approved	New UTRAN ANR test case 8.7.1.3	10.0.0	10.1.0	R5	ANR_UTRAN-UEConTest
34.123-1	3141	-	Rel-10	F	RP-120636	R5-121872	approved	Change the the value of Qhyst1s in test case 6.1.2.2	10.0.0	10.1.0	R5	TEI4_Test
34.123-1	3142	-	Rel-10	F	RP-120636	R5-121873	approved	Correction the configuration of cell update confirm in test case 8.2.2.4 for LCR TDD	10.0.0	10.1.0	R5	TEI4_Test
34.123-1	3143	-	Rel-10	F	RP-120636	R5-121874	approved	Delete the GPRS cell in SIB 11/12 of test step e in test case 8.3.9.3 for LCR TDD	10.0.0	10.1.0	R5	TEI4_Test
34.123-1	3144	-	Rel-10	F	RP-120637	R5-121875	approved	Modify the title of TC8.2.1.27b,8.2.2.36a,8.2.3.31a with addition of (TDD only)	10.0.0	10.1.0	R5	TEI5_Test
34.123-1	3145	-	Rel-10	F	RP-120637	R5-121876	approved	Modify the expected sequence of TC8.2.3.30a	10.0.0	10.1.0	R5	TEI5_Test
34.123-1	3146	-	Rel-10	F	RP-120637	R5-121877	approved	Modify the reference TC of TC8.2.2.36c	10.0.0	10.1.0	R5	TEI5_Test
34.123-1	3147	-	Rel-10	F	RP-120648	R5-121880	approved	Addition of new test case for Cell reselection based on SIB-19 based absolute priority	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3148	-	Rel-10	F	RP-120648	R5-121882	approved	Addition of new test case: 8.3.1.x- Cell Update: Inter Frequency cell reselection in CELL_FACH based on absolute priority	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3149	-	Rel-10	F	RP-120635	R5-121884	approved	Correction to Test Case 8.4.1.5 - Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state (FDD)	10.0.0	10.1.0	R5	TEI_Test
34.123-1	3150	-	Rel-10	F	RP-120636	R5-121886	approved	Delete "The UE is automatically in automatic mode after switch on" from Related ICS/IXIT statement in TC 9.4.2.2	10.0.0	10.1.0	R5	TEI4_Test
34.123-1	3151	-	Rel-10	F	RP-120648	R5-121887	approved	Correction to ETWS RRC testcase 8.1.1.19	10.0.0	10.1.0	R5	TEI8_Test
34.123-1	3152	-	Rel-10	F	RP-120648	R5-122017	approved	Addition of new testcase 6.2.2.x : Cell reselection based on absolute priorities in SIB19: UTRAN to GSM	10.0.0	10.1.0	R5	TEI8_Test
34.123-2	0585	-	Rel-9	F	RP-120649	R5-121077	approved	Removal of technical content in 34.123-2 v9.8.0 and substitution with pointer to the next Release	9.8.0	9.9.0	R5	TEI9_Test
34.123-2	0586	-	Rel-10	F	RP-120648	R5-121112	approved	Editorial Corrections to Titles of eCall Test Cases	10.0.0	10.1.0	R5	TEI8_Test
34.123-2	0587	-	Rel-10	F	RP-120656	R5-121267	approved	Applicability of new DC-HSUPA MAC test case 7.1.9.2	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-2	0588	-	Rel-10	F	RP-120656	R5-121268	approved	Applicability of new DC-HSUPA RRC test case 8.2.2.78	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-2	0589	-	Rel-10	F	RP-120656	R5-121269	approved	Correction to applicability for DC-HSUPA test cases	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest

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34.123-2	0590	-	Rel-10	F	RP-120663	R5-121312	approved	Applicability of new UTRAN ANR Intra-UTRAN test cases	10.0.0	10.1.0	R5	ANR_UTRAN-UEConTest
34.123-2	0591	-	Rel-10	F	RP-120639	R5-121398	approved	Correction applicability for UL 16QAM TC 14.7.1a	10.0.0	10.1.0	R5	TEI7_Test
34.123-2	0592	-	Rel-10	F	RP-120655	R5-121503	approved	Adding applicability for new test cases 13.4.4 and 13.4.5	10.0.0	10.1.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.123-2	0593	-	Rel-10	F	RP-120639	R5-121701	approved	Correction to applicability of MIMO test cases 8.2.2.62, 8.2.6.54a, 8.2.6.63, 8.3.4.14 and 8.2.2.71	10.0.0	10.1.0	R5	TEI7_Test
34.123-2	0594	-	Rel-10	F	RP-120635	R5-121702	approved	Correction to selection expression for MM test cases	10.0.0	10.1.0	R5	TEI_Test
34.123-2	0595	-	Rel-10	F	RP-120648	R5-121727	approved	Addition of applicability for test case 8.1.9c	10.0.0	10.1.0	R5	TEI8_Test
34.123-2	0596	-	Rel-10	F	RP-120639	R5-121728	approved	Addition of PICS pc_TotalRLC_AM_BufferSize_r9_ext	10.0.0	10.1.0	R5	TEI7_Test
34.123-2	0597	-	Rel-10	F	RP-120635	R5-121729	approved	Correction to NAS test case 9.5.2	10.0.0	10.1.0	R5	TEI_Test
34.123-2	0598	-	Rel-10	F	RP-120639	R5-121730	approved	Addition of Applicability for new Test Cases 8.3.4.x	10.0.0	10.1.0	R5	TEI7_Test
34.123-2	0599	-	Rel-10	F	RP-120660	R5-121812	approved	Adding operating band XXV to TS 34.123-2	10.0.0	10.1.0	R5	E1900-UEConTest
34.123-2	0600	-	Rel-10	F	RP-120664	R5-121823	approved	Applicability of Test Case 8.2.2.79	10.0.0	10.1.0	R5	4C_HSDPA-UEConTest
34.123-2	0601	-	Rel-10	F	RP-120637	R5-121878	approved	Modification of ICS for TC8.2.1.27b,8.2.2.36a,8.2.3.31a	10.0.0	10.1.0	R5	TEI5_Test
34.123-2	0602	-	Rel-10	F	RP-120648	R5-121883	approved	Addition of Applicability for New Test Cases for Rel-8 Absolute Priority feature.	10.0.0	10.1.0	R5	TEI8_Test
34.123-2	0603	-	Rel-10	F	RP-120635	R5-121885	approved	Correction to Applicability of Test Case 8.4.1.5 - Measurement Control and Report: Intra-frequency measurement for transition from CELL_DCH to CELL_FACH state (FDD)	10.0.0	10.1.0	R5	TEI_Test
34.123-3	2958	-	Rel-10	F	RP-120666	R5-121732	approved	Routine maintenance and updates	9.3.0	10.0.0	R5	TEI10_Test
34.123-3	2959	-	Rel-9	F	RP-120650	-	approved	CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A	9.3.0	9.4.0	R5	TEI9_Test
34.123-3	2960	-	Rel-9	F	RP-120654	R5s120343	approved	Correction to UTRA test case 8.4.1.8	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2961	-	Rel-9	F	RP-120654	R5s120337	approved	Correction to UTRA test case 8.1.5.7	9.3.0	9.4.0	R5	TEI9_Test
34.123-3	2962	-	Rel-9	B	RP-120654	R5s120299	approved	Addition of 3G eCall test case 13.3.1.10 to HSPA8_ENH ATS	9.3.0	9.4.0	R5	TEI8_Test
34.123-3	2963	-	Rel-9	F	RP-120654	R5s120272	approved	Correction to IRAT test cases in IR_U Test Suite	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2964	-	Rel-9	F	RP-120654	R5s120177	approved	Baseline upgrade of UTRA ATS to March-12 in Rel-10	9.3.0	9.4.0	R5	TEI10_Test
34.123-3	2965	-	Rel-9	F	RP-120654	R5s120270	approved	Correction to test step ts_SendSysInfoType2ter	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2966	-	Rel-9	F	RP-120654	R5s120267	approved	Correction to UTRA Capability testcase 8.1.5.7 (Based on 12wk08 ATS)	9.3.0	9.4.0	R5	TEI9_Test
34.123-3	2967	-	Rel-9	F	RP-120654	R5s120268	approved	Corrections to Rel-8 testcases (12wk08 ATS)	9.3.0	9.4.0	R5	TEI8_Test
34.123-3	2968	-	Rel-9	F	RP-120654	R5s120269	approved	Corrections to NAS testcase 9.4.2.4.1 (12wk08 ATS)	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2969	-	Rel-9	F	RP-120654	R5s120242	approved	Correction to Rel-99 RRC test case 8.3.1.9	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2970	-	Rel-9	B	RP-120654	R5s120225	approved	Addition of 3G eCall test case 13.3.1.6 to HSPA8_ENH ATS	9.3.0	9.4.0	R5	TEI8_Test
34.123-3	2971	-	Rel-9	F	RP-120654	R5s120217	approved	Correction to UTRA RRC PPAC test case 8.1.2.26	9.3.0	9.4.0	R5	TEI8_Test

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34.123-3	2972	-	Rel-9	F	RP-120654	R5s120131	approved	Corrections to VoiceDomainPref IE definition in Attach Request	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2973	-	Rel-9	F	RP-120654	R5s120172	approved	Correction to GCF WI-010 NAS test case 12.4.1.4a	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2974	-	Rel-9	F	RP-120654	R5s120171	approved	Correction to the NAS test cases for USIM removal	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2975	-	Rel-9	F	RP-120654	R5s120123	approved	Regression CR for UTRA wk08 ATS	9.3.0	9.4.0	R5	TEI_Test
34.123-3	2976	-	Rel-9	F	RP-120654	R5s120094	approved	Correction to selection expression of GCF WI-67 test case 14.6.6c	9.3.0	9.4.0	R5	TEI7_Test
34.123-3	2977	-	Rel-9	F	RP-120654	R5s120085	approved	Correction to UTRA test cases	9.3.0	9.4.0	R5	TEI_Test
34.229-1	0367	-	Rel-9	F	RP-120649	R5-121423	approved	Update test case 12.12	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0368	-	Rel-9	F	RP-120649	R5-121424	approved	Update test case 12.13	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0369	-	Rel-9	F	RP-120655	R5-121430	approved	Removing TC 19.1.4 from 34.229-1	9.8.0	9.9.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-1	0370	-	Rel-9	F	RP-120649	R5-121629	approved	Correction of XCAP MIME definition	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0371	-	Rel-9	F	RP-120649	R5-121631	approved	Addition of new test case - MO MTSI Video Call	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0372	-	Rel-9	F	RP-120649	R5-121633	approved	Addition of new test case - MT MTSI Video Call	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0373	-	Rel-9	F	RP-120649	R5-121635	approved	Updates to 17.1 - MO Speech, add video remove video	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0374	-	Rel-9	F	RP-120649	R5-121636	approved	Updates to 17.2 - MT Speech, add video remove video	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0375	-	Rel-9	F	RP-120649	R5-121657	approved	Add generic procedure MT Video call for EPS	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0376	-	Rel-9	F	RP-120648	R5-121675	approved	MO Message content correction for SMS-over-IMS	9.8.0	9.9.0	R5	TEI8_Test
34.229-1	0377	-	Rel-9	F	RP-120649	R5-121803	approved	Add generic procedure MO video call for EPS	9.8.0	9.9.0	R5	TEI9_Test
34.229-1	0378	-	Rel-9	F	RP-120655	R5-121804	approved	Corection to IMS emergency test case 19.3.2	9.8.0	9.9.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-1	0379	-	Rel-9	F	RP-120655	R5-121805	approved	New test case 19.3.3 Non-UE detectable emergency call / IM CN sends 380 Alternative Service / Emergency IMS registration	9.8.0	9.9.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-1	0380	-	Rel-9	F	RP-120655	R5-121806	approved	New test case 19.3.4 Non-UE detectable emergency call / IM CN sends 380 Alternative Service / Emergency IMS registration exists	9.8.0	9.9.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-1	0381	-	Rel-9	F	RP-120657	R5-121851	approved	Update the default messages and generic test procedures	9.8.0	9.9.0	R5	SSAC_UEConTest
34.229-1	0382	-	Rel-9	F	RP-120657	R5-121852	approved	Update to test case 12.19	9.8.0	9.9.0	R5	SSAC_UEConTest
34.229-2	0105	-	Rel-9	F	RP-120657	R5-121282	approved	Update to ICS proforma table for Additional information	9.8.0	9.9.0	R5	SSAC_UEConTest
34.229-2	0106	-	Rel-9	F	RP-120655	R5-121431	approved	Removing TC 19.1.4 applicability	9.8.0	9.9.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-2	0107	-	Rel-9	F	RP-120655	R5-121499	approved	Adding applicability for test case 19.3.3 and 19.3.4	9.8.0	9.9.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-2	0108	-	Rel-9	F	RP-120649	R5-122120	approved	Applicability for video test cases 12.21, 12.22. 17.1 and 17.2	9.8.0	9.9.0	R5	TEI9_Test
34.229-3	0065	-	Rel-9	F	RP-120649	R5-121090	approved	Routine maintenance and updates	9.3.0	9.4.0	R5	TEI9_Test

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34.229-3	0066	-	Rel-9	F	RP-120802	R5s120108	approved	Correction to IMS CC test cases / IPv6 address handling	9.3.0	9.4.0	R5	TEI8_Test
34.902	0017	-	Rel-9	F	RP-120640	R5-121188	approved	Add Test Tolerance analyses for TS 34.122 Test cases 8.7.16 and 8.7.17	9.2.0	9.3.0	R5	LTE-UEConTest_RF
34.902	0018	-	Rel-9	F	RP-120640	R5-121238	approved	Add Test Tolerance analyses for TS 34.122 Test cases 8.7.14 and 8.7.15	9.2.0	9.3.0	R5	LTE-UEConTest_RF
36.101	1085	2	Rel-11	F	RP-120795	R4-122193	approved	Modulator specification tightening	11.0.0	11.1.0	R4	TEI11
36.101	1086	1	Rel-10	F	RP-120777	R4-122148	approved	Carrier aggregation Relative power tolerance, removal of TBD.	10.6.0	10.7.0	R4	TEI10
36.101	1087	1	Rel-11	A	RP-120777	R4-122149	approved	Carrier aggregation Relative power tolerance, removal of TBD.	11.0.0	11.1.0	R4	TEI10
36.101	1088	-	Rel-10	F	RP-120783	R4-121209	approved	UE spurious emissions for Band 7 and Band 38 coexistence	10.6.0	10.7.0	R4	TEI10
36.101	1089	-	Rel-11	A	RP-120783	R4-121211	approved	UE spurious emissions for Band 7 and Band 38 coexistence	11.0.0	11.1.0	R4	TEI10
36.101	1090	-	Rel-9	F	RP-120770	R4-121263	approved	Deleting square brackets in Reference Measurement Channels	9.11.0	9.12.0	R4	TEI9
36.101	1091	-	Rel-10	F	RP-120780	R4-121265	approved	Deleting square brackets in Reference Measurement Channels	10.6.0	10.7.0	R4	TEI10
36.101	1092	-	Rel-11	A	RP-120780	R4-121267	approved	Deleting square brackets in Reference Measurement Channels	11.0.0	11.1.0	R4	TEI10
36.101	1093	-	Rel-10	F	RP-120773	R4-121270	approved	Addition of Maximum Throughput for R.30-1 TDD RMC	10.6.0	10.7.0	R4	LTE_CA-Perf
36.101	1095	-	Rel-10	F	RP-120779	R4-121288	approved	CR to TS36.101: Correction on parameters for the eDL-MIMO CQI and PMI tests	10.6.0	10.7.0	R4	TEI10
36.101	1096	1	Rel-10	B	RP-120780	R4-122178	approved	CR to TS36.101: Fixed reference channel for PDSCH demodulation performance requirements on eDL-MIMO	10.6.0	10.7.0	R4	TEI10
36.101	1097	-	Rel-11	A	RP-120779	R4-121307	approved	CR to TS36.101: Correction on parameters for the eDL-MIMO CQI and PMI tests	11.0.0	11.1.0	R4	TEI10
36.101	1098	1	Rel-11	B	RP-120780	R4-122177	approved	CR to TS36.101: Fixed reference channel for PDSCH demodulation performance requirements on eDL-MIMO	11.0.0	11.1.0	R4	TEI10
36.101	1100	1	Rel-10	F	RP-120779	R4-122080	approved	CR for 36.101: The clarification of MPR and A-MPR for CA	10.6.0	10.7.0	R4	TEI10
36.101	1101	-	Rel-10	F	RP-120784	R4-121445	approved	Corrections for eICIC demod test case with MBSN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.101	1106	-	Rel-10	F	RP-120774	R4-121507	approved	RMC correction on eDL-MIMO RI test	10.6.0	10.7.0	R4	LTE_eDL_MIMO
36.101	1107	-	Rel-11	A	RP-120774	R4-121512	approved	RMC correction on eDL-MIMO RI test	11.0.0	11.1.0	R4	LTE_eDL_MIMO
36.101	1108	1	Rel-11	A	RP-120774	R4-122050	approved	FRC correction on frequency selective CQI and PMI test (Rel-11)	11.0.0	11.1.0	R4	LTE_eDL_MIMO
36.101	1109	1	Rel-10	F	RP-120774	R4-122051	approved	FRC correction on frequency selective CQI and PMI test (Rel-10)	10.6.0	10.7.0	R4	LTE_eDL_MIMO
36.101	1110	1	Rel-10	F	RP-120784	R4-122046	approved	Corrections and clarifications on eICIC demodulation tests	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.101	1111	-	Rel-11	A	RP-120774	R4-121543	approved	Correction on test point for PMI test (Rel-11)	11.0.0	11.1.0	R4	LTE_eDL_MIMO
36.101	1113	-	Rel-10	F	RP-120774	R4-121545	approved	Correction on test point for PMI test (Rel-10)	10.6.0	10.7.0	R4	LTE_eDL_MIMO
36.101	1114	1	Rel-11	A	RP-120784	R4-122047	approved	Corrections and clarifications on eICIC demodulation test	11.0.0	11.1.0	R4	eICIC_LTE-Perf

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36.101	1116	1	Rel-10	F	RP-120784	R4-122048	approved	Corrections and clarifications on eICIC CSI tes	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.101	1117	1	Rel-11	A	RP-120784	R4-122049	approved	Corrections and clarifications on eICIC CSI tests	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.101	1118	1	Rel-10	F	RP-120783	R4-122043	approved	Corrections on UE performance requirements	10.6.0	10.7.0	R4	LTE-RF
36.101	1119	1	Rel-11	A	RP-120783	R4-122044	approved	Corrections on UE performance requirements	11.0.0	11.1.0	R4	LTE-RF
36.101	1120	-	Rel-11	B	RP-120773	R4-121632	approved	Introduction of CA band combination Band1 + Band19 to TS 36.101	11.0.0	11.1.0	R4	LTE_CA-Core
36.101	1125	1	Rel-9	F	RP-120769	R4-122071	approved	Addition of ETU30 channel model	9.11.0	9.12.0	R4	TEI9
36.101	1126	1	Rel-10	A	RP-120769	R4-122072	approved	Addition of ETU30 channel model	10.6.0	10.7.0	R4	TEI9
36.101	1127	-	Rel-11	A	RP-120769	R4-121689	approved	Addition of ETU30 channel model	11.0.0	11.1.0	R4	TEI9
36.101	1129	1	Rel-10	F	RP-120779	R4-122075	approved	CR for EVM and global in channel test for Intra-Band CA	10.6.0	10.7.0	R4	TEI10
36.101	1140	-	Rel-11	A	RP-120773	R4-122032	approved	Addition of Maximum Throughput for R.30-1 TDD RMC	11.0.0	11.1.0	R4	LTE_CA-Perf
36.101	1141	-	Rel-11	A	RP-120779	R4-122081	approved	CR for 36.101: The clarification of MPR and A-MPR for CA	11.0.0	11.1.0	R4	TEI10
36.101	1142	-	Rel-11	A	RP-120784	R4-122038	approved	Corrections for eICIC demod test case with MBSN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.101	1144	-	Rel-11	B	RP-120785	R4-122427	approved	Removing brackets of contiguous allocation A-MPR for CA_NS_04	11.0.0	11.1.0	R4	LTE_CA_B41-Core
36.101	1146	1	Rel-10	F	RP-120784	R4-123563	approved	Extension of static eICIC CQI test	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.101	1148	2	Rel-10	B	RP-120784	R4-123654	approved	Introduction of PDCCH test with colliding RS on MBSFN-ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.101	1149	1	Rel-11	A	RP-120784	R4-123534	approved	Introduction of PDCCH test with colliding RS on MBSFN-ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.101	1152	2	Rel-10	F	RP-120784	R4-123643	approved	Some clarifications and OCNG pattern for eICIC demodulation requirements	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.101	1153	1	Rel-11	A	RP-120784	R4-123532	approved	Some clarifications and OCNG pattern for eICIC demodulation requirements	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.101	1154	-	Rel-10	F	RP-120773	R4-122493	approved	Introduction of TDD CA Soft Buffer Limitation	10.6.0	10.7.0	R4	LTE_CA-Perf
36.101	1155	-	Rel-11	A	RP-120773	R4-122495	approved	Introduction of TDD CA Soft Buffer Limitation	11.0.0	11.1.0	R4	LTE_CA-Perf
36.101	1156	-	Rel-11	F	RP-120795	R4-122523	approved	B26 and other editorial corrections	11.0.0	11.1.0	R4	TEI11
36.101	1160	-	Rel-10	F	RP-120779	R4-122677	approved	Corrections on CQI and PMI test	10.6.0	10.7.0	R4	TEI10
36.101	1161	-	Rel-11	A	RP-120779	R4-122679	approved	Corrections on CQI and PMI test	11.0.0	11.1.0	R4	TEI10
36.101	1162	-	Rel-10	F	RP-120780	R4-122681	approved	FRC for TDD PMI test	10.6.0	10.7.0	R4	TEI10
36.101	1163	-	Rel-11	A	RP-120780	R4-122685	approved	FRC for TDD PMI test	11.0.0	11.1.0	R4	TEI10
36.101	1164	1	Rel-10	F	RP-120778	R4-123503	approved	Clean-up of UL-MIMO for TS36.101	10.6.0	10.7.0	R4	TEI10
36.101	1165	1	Rel-11	A	RP-120778	R4-123504	approved	Clean-up of UL-MIMO for TS36.101	11.0.0	11.1.0	R4	TEI10
36.101	1168	1	Rel-10	F	RP-120782	R4-123543	approved	SNR definition	10.6.0	10.7.0	R4	TEI10
36.101	1170	-	Rel-10	F	RP-120782	R4-122779	approved	Removal of unnecessary references to single carrier requirements from Interband CA sub-clauses	10.6.0	10.7.0	R4	TEI10
36.101	1171	-	Rel-11	A	RP-120782	R4-122787	approved	Removal of unnecessary references to single carrier requirements from Interband CA sub-clauses	11.0.0	11.1.0	R4	TEI10

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36.101	1172	-	Rel-10	D	RP-120780	R4-122812	approved	Editorial simplification to CA REFSENS UL allocation table	10.6.0	10.7.0	R4	TEI10
36.101	1173	-	Rel-10	F	RP-120781	R4-122831	approved	PDCCH wrong detection in receiver spurious emissions test	10.6.0	10.7.0	R4	TEI10
36.101	1174	-	Rel-11	A	RP-120781	R4-122834	approved	PDCCH wrong detection in receiver spurious emissions test	11.0.0	11.1.0	R4	TEI10
36.101	1183	-	Rel-10	F	RP-120776	R4-122914	approved	Corrections to 3500 MHz	10.6.0	10.7.0	R4	RInImp8-UMTSLTE3500
36.101	1184	-	Rel-11	A	RP-120776	R4-122916	approved	Corrections to 3500 MHz	11.0.0	11.1.0	R4	RInImp8-UMTSLTE3500
36.101	1189	2	Rel-11	B	RP-120793	R4-123696	approved	Introduction of Band 44	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.101	1192	1	Rel-10	F	RP-120784	R4-123562	approved	Target SNR setting for eICIC demodulation requirement	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.101	1193	1	Rel-11	A	RP-120784	R4-123652	approved	Target SNR setting for eICIC demodulation requirement	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.101	1196	-	Rel-11	A	RP-120780	R4-123094	approved	Editorial simplification to CA REFSENS UL allocation table	11.0.0	11.1.0	R4	TEI10
36.101	1197	-	Rel-8	F	RP-120767	R4-123113	approved	FDD TDD co-existence requirement correction	8.17.0	8.18.0	R4	TEI8
36.101	1198	-	Rel-10	F	RP-120778	R4-123122	approved	Correction of wrong table refernces in CA receiver tests	10.6.0	10.7.0	R4	TEI10
36.101	1199	-	Rel-11	A	RP-120778	R4-123129	approved	Correction of wrong table refernces in CA receiver tests	11.0.0	11.1.0	R4	TEI10
36.101	1200	1	Rel-11	B	RP-120791	R4-123599	approved	Introduction of e850_LB (Band 27) to TS 36.101	11.0.0	11.1.0	R4	LTE_e850_LB-Core
36.101	1201	2	Rel-10	B	RP-120782	R4-123655	approved	SNR reference values for FDD CA soft buffer tests	10.6.0	10.7.0	R4	TEI10
36.101	1209	-	Rel-8	F	RP-120764	R4-123349	approved	Correction of PHS protection requirements for TS 36.101	8.17.0	8.18.0	R4	LTE-RF
36.101	1210	-	Rel-9	A	RP-120764	R4-123350	approved	Correction of PHS protection requirements for TS 36.101	9.11.0	9.12.0	R4	LTE-RF
36.101	1211	-	Rel-10	A	RP-120764	R4-123351	approved	Correction of PHS protection requirements for TS 36.101	10.6.0	10.7.0	R4	LTE-RF
36.101	1212	-	Rel-11	A	RP-120764	R4-123352	approved	Correction of PHS protection requirements for TS 36.101	11.0.0	11.1.0	R4	LTE-RF
36.101	1213	1	Rel-11	B	RP-120793	R4-123624	approved	Introduction of Band 28 into TS36.101	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.101	1214	1	Rel-10	F	RP-120781	R4-123497	approved	Proposed revision of subclause 4.3A for TS36.101	10.6.0	10.7.0	R4	TEI10
36.101	1215	1	Rel-11	A	RP-120781	R4-123498	approved	Proposed revision of subclause 4.3A for TS36.101	11.0.0	11.1.0	R4	TEI10
36.101	1216	1	Rel-10	F	RP-120781	R4-123501	approved	Proposed revision on subclause 6.3.4A for TS36.101	10.6.0	10.7.0	R4	TEI10
36.101	1217	1	Rel-11	A	RP-120781	R4-123502	approved	Proposed revision on subclause 6.3.4A for TS36.101	11.0.0	11.1.0	R4	TEI10
36.101	1219	1	Rel-11	C	RP-120795	R4-123513	approved	Aligning requirements between Band 18 and Band 26 in TS36.101	11.0.0	11.1.0	R4	LTE-RF
36.101	1221	-	Rel-11	A	RP-120782	R4-123544	approved	SNR definition	11.0.0	11.1.0	R4	TEI10
36.101	1222	-	Rel-10	F	RP-120778	R4-123489	approved	Correction of CSI configuraiton for CA TM4 tests R10	10.6.0	10.7.0	R4	TEI10
36.101	1223	-	Rel-11	A	RP-120778	R4-123490	approved	Correction of CSI configuraiton for CA TM4 tests R11	11.0.0	11.1.0	R4	TEI10
36.101	1224	-	Rel-10	F	RP-120773	R4-123567	approved	CR on CA UE receiver timing window R10	10.6.0	10.7.0	R4	LTE_CA-Perf
36.101	1225	-	Rel-11	A	RP-120773	R4-123568	approved	CR on CA UE receiver timing window R11	11.0.0	11.1.0	R4	LTE_CA-Perf
36.101	1226	-	Rel-11	A	RP-120784	R4-123653	approved	Extension of static eICIC CQI test	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.104	0279	1	Rel-11	B	RP-120788	R4-122086	approved	Corrections related to intra-band non-contiguous operation for E-UTRA	11.0.0	11.1.0	R4	LTE_CA_enh-Core
36.104	0280	-	Rel-11	B	RP-120773	R4-121491	approved	Introduction of CA band combination Band1 + Band19 to TS 36.104	11.0.0	11.1.0	R4	LTE_CA-core

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36.104	0285	-	Rel-11	B	RP-120788	R4-122264	approved	Introduction of time alignment error requirement for intra-band non-contiguous carrier aggregation	11.0.0	11.1.0	R4	LTE_CA_enh-Core
36.104	0286	-	Rel-11	B	RP-120793	R4-122272	approved	Introduction of APAC700(FDD) into TS 36.104	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.104	0290	-	Rel-11	B	RP-120790	R4-122583	postponed	TS 36.104 CR for CA_38	11.0.0		R4	LTE_CA_B38-Core
36.104	0292	-	Rel-11	B	RP-120793	R4-122976	approved	Introduction of Band 44	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.104	0293	-	Rel-10	F	RP-120782	R4-123136	approved	Time alignment error headline	10.6.0	10.7.0	R4	TEI10
36.104	0294	-	Rel-11	A	RP-120782	R4-123137	approved	Time alignment error headline	11.0.0	11.1.0	R4	TEI10
36.104	0296	-	Rel-11	B	RP-120773	R4-123158	approved	Introduction of CA band combination Band4 + Band13 to TS 36.104	11.0.0	11.1.0	R4	LTE_CA-core
36.104	0298	-	Rel-11	B	RP-120773	R4-123167	approved	Introduction of CA band combination Band4 + Band17 to TS 36.104	11.0.0	11.1.0	R4	LTE_CA-core
36.104	0299	2	Rel-11	B	RP-120791	R4-123668	approved	Introduction of e850_LB (Band 27) to TS 36.104	11.0.0	11.1.0	R4	LTE_e850_LB-Core
36.104	0302	-	Rel-8	F	RP-120764	R4-123401	approved	Correction of PHS protection requirements for TS 36.104	8.12.0	8.13.0	R4	LTE-RF
36.104	0303	-	Rel-9	A	RP-120764	R4-123402	approved	Correction of PHS protection requirements for TS 36.104	9.11.0	9.12.0	R4	LTE-RF
36.104	0304	-	Rel-10	A	RP-120764	R4-123403	approved	Correction of PHS protection requirements for TS 36.104	10.6.0	10.7.0	R4	LTE-RF
36.104	0305	-	Rel-11	A	RP-120764	R4-123404	approved	Correction of PHS protection requirements for TS 36.104	11.0.0	11.1.0	R4	LTE-RF
36.106	0034	-	Rel-10	F	RP-120780	R4-122890	approved	Definition clause updates with improved repeater pass band definition and introduction of minor editorial changes for for better alignment with BS core specification	10.3.0	10.4.0	R4	TEI10
36.106	0035	-	Rel-10	F	RP-120783	R4-122918	approved	Update of the upper frequency limit for Spurious Emissions	10.3.0	10.4.0	R4	TEI10
36.106	0036	1	Rel-10	F	RP-120783	R4-123508	approved	Update of the protection limits tables for spurious emission and input intermodulation	10.3.0	10.4.0	R4	TEI10
36.106	0038	-	Rel-8	F	RP-120762	R4-123409	approved	Correction of PHS protection requirements for TS 36.106	8.6.0	8.7.0	R4	LTE-Repeaters
36.106	0039	-	Rel-9	A	RP-120762	R4-123410	approved	Correction of PHS protection requirements for TS 36.106	9.3.0	9.4.0	R4	LTE-Repeaters
36.106	0040	-	Rel-10	A	RP-120762	R4-123411	approved	Correction of PHS protection requirements for TS 36.106	10.3.0	10.4.0	R4	LTE-Repeaters
36.113	0033	-	Rel-9	F	RP-120769	R4-122235	approved	Applicability of EMC requirements	9.4.0	9.5.0	R4	TEI9
36.113	0034	-	Rel-10	A	RP-120769	R4-122236	approved	Applicability of EMC requirements	10.4.0	10.5.0	R4	TEI9
36.113	0035	-	Rel-11	A	RP-120769	R4-122237	approved	Applicability of EMC requirements	11.0.0	11.1.0	R4	TEI9
36.113	0036	-	Rel-11	B	RP-120793	R4-123093	approved	Introduction of APAC700(FDD) into TS 36.113	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.113	0037	-	Rel-11	B	RP-120793	R4-123111	approved	Introduction of APAC700(TDD) into TS 36.113	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.113	0038	-	Rel-11	B	RP-120791	R4-123200	approved	Introduction of e850_LB (Band 27) to TS 36.113	11.0.0	11.1.0	R4	LTE_e850_LB-Core
36.124	0020	-	Rel-11	B	RP-120793	R4-123095	approved	Introduction of APAC700(FDD) into TS 36.124	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.124	0021	-	Rel-11	B	RP-120793	R4-123115	approved	Introduction of APAC700(TDD) into TS 36.124	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.124	0022	-	Rel-11	B	RP-120791	R4-123201	approved	Introduction of e850_LB (Band 27) to TS 36.124	11.0.0	11.1.0	R4	LTE_e850_LB-Core
36.133	1161	-	Rel-10	F	RP-120782	R4-121173	approved	Resolve Band 41 omission between R4-120125 and R4-121106	10.6.0	10.7.0	R4	TEI10

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36.133	1162	-	Rel-11	A	RP-120782	R4-121174	approved	Resolve Band 41 omission between R4-120125 and R4-121106	11.0.0	11.1.0	R4	TEI10
36.133	1163	1	Rel-9	F	RP-120770	R4-122053	approved	Corrections to FDD-TDD Inter-freq RSRP measurement accuracy test case parameters	9.11.0	9.12.0	R4	TEI9
36.133	1164	1	Rel-10	A	RP-120770	R4-122054	approved	Corrections to FDD-TDD Inter-freq RSRP measurement accuracy test case parameters	10.6.0	10.7.0	R4	TEI9
36.133	1165	1	Rel-11	A	RP-120770	R4-122055	approved	Corrections to FDD-TDD Inter-freq RSRP measurement accuracy test case parameters	11.0.0	11.1.0	R4	TEI9
36.133	1166	-	Rel-9	F	RP-120771	R4-121179	approved	OCNG and PDSCH for FDD-TDD event triggered reporting test cases	9.11.0	9.12.0	R4	TEI9
36.133	1167	-	Rel-10	A	RP-120771	R4-121180	approved	OCNG and PDSCH for FDD-TDD event triggered reporting test cases	10.6.0	10.7.0	R4	TEI9
36.133	1168	-	Rel-11	A	RP-120771	R4-121181	approved	OCNG and PDSCH for FDD-TDD event triggered reporting test cases	11.0.0	11.1.0	R4	TEI9
36.133	1169	-	Rel-9	F	RP-120771	R4-121182	approved	RRC Connection Release with Redirection from E-UTRAN FDD to GERAN without System Information	9.11.0	9.12.0	R4	TEI9
36.133	1170	-	Rel-10	A	RP-120771	R4-121183	approved	RRC Connection Release with Redirection from E-UTRAN FDD to GERAN without System Information	10.6.0	10.7.0	R4	TEI9
36.133	1171	-	Rel-11	A	RP-120771	R4-121184	approved	RRC Connection Release with Redirection from E-UTRAN FDD to GERAN without System Information	11.0.0	11.1.0	R4	TEI9
36.133	1172	-	Rel-9	F	RP-120771	R4-121185	approved	RRC Connection Release with Redirection from E-UTRAN TDD to GERAN without System Information	9.11.0	9.12.0	R4	TEI9
36.133	1173	-	Rel-10	A	RP-120771	R4-121186	approved	RRC Connection Release with Redirection from E-UTRAN TDD to GERAN without System Information	10.6.0	10.7.0	R4	TEI9
36.133	1174	-	Rel-11	A	RP-120771	R4-121187	approved	RRC Connection Release with Redirection from E-UTRAN TDD to GERAN without System Information	11.0.0	11.1.0	R4	TEI9
36.133	1175	-	Rel-10	B	RP-120784	R4-121191	approved	OCNG Patterns for MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1176	-	Rel-11	A	RP-120784	R4-121192	approved	OCNG Patterns for MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1181	-	Rel-9	F	RP-120769	R4-121230	approved	Addition of E-UTRAN TDD-FDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells test case R9	9.11.0	9.12.0	R4	TEI9
36.133	1182	-	Rel-10	A	RP-120769	R4-121231	approved	Addition of E-UTRAN TDD-FDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells test case R10	10.6.0	10.7.0	R4	TEI9
36.133	1183	-	Rel-11	A	RP-120769	R4-121232	approved	Addition of E-UTRAN TDD-FDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells test case R11	11.0.0	11.1.0	R4	TEI9
36.133	1184	-	Rel-9	F	RP-120769	R4-121233	approved	Addition of E-UTRAN TDD - FDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps test case R9	9.11.0	9.12.0	R4	TEI9

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36.133	1185	-	Rel-10	A	RP-120769	R4-121234	approved	Addition of E-UTRAN TDD - FDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps test case R10	10.6.0	10.7.0	R4	TEI9
36.133	1186	-	Rel-11	A	RP-120769	R4-121235	approved	Addition of E-UTRAN TDD - FDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps test case R11	11.0.0	11.1.0	R4	TEI9
36.133	1187	-	Rel-9	F	RP-120769	R4-121236	approved	Addition of E-UTRAN FDD-TDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells R9	9.11.0	9.12.0	R4	TEI9
36.133	1188	-	Rel-10	A	RP-120769	R4-121237	approved	Addition of E-UTRAN FDD-TDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells R10	10.6.0	10.7.0	R4	TEI9
36.133	1189	-	Rel-11	A	RP-120769	R4-121238	approved	Addition of E-UTRAN FDD-TDD Inter-frequency event triggered reporting when DRX is used under fading propagation conditions in asynchronous cells R11	11.0.0	11.1.0	R4	TEI9
36.133	1190	-	Rel-9	F	RP-120769	R4-121239	approved	Addition of E-UTRAN FDD - TDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps test case R9	9.11.0	9.12.0	R4	TEI9
36.133	1191	-	Rel-10	A	RP-120769	R4-121240	approved	Addition of E-UTRAN FDD - TDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps test case R10	10.6.0	10.7.0	R4	TEI9
36.133	1192	-	Rel-11	A	RP-120769	R4-121241	approved	Addition of E-UTRAN FDD - TDD Inter-frequency identification of a new CGI of E-UTRA cell using autonomous gaps test case R11	11.0.0	11.1.0	R4	TEI9
36.133	1193	1	Rel-9	F	RP-120769	R4-122154	approved	Addition of E-UTRAN TDD-HRPD event triggered reporting under fading propagation conditions test case R9	9.11.0	9.12.0	R4	TEI9
36.133	1194	1	Rel-10	F	RP-120777	R4-122155	approved	Addition of E-UTRAN TDD-HRPD event triggered reporting under fading propagation conditions test case R10	10.6.0	10.7.0	R4	TEI10
36.133	1195	1	Rel-11	A	RP-120777	R4-122156	approved	Addition of E-UTRAN TDD-HRPD event triggered reporting under fading propagation conditions test case R11	11.0.0	11.1.0	R4	TEI10
36.133	1196	1	Rel-9	F	RP-120769	R4-122157	approved	Addition of E-UTRAN TDD-CDMA2000 1X event triggered reporting under fading propagation conditions test case R9	9.11.0	9.12.0	R4	TEI9
36.133	1197	1	Rel-10	A	RP-120769	R4-122158	approved	Addition of E-UTRAN TDD-CDMA2000 1X event triggered reporting under fading propagation conditions test case R10	10.6.0	10.7.0	R4	TEI9
36.133	1198	-	Rel-11	A	RP-120769	R4-121250	approved	Addition of E-UTRAN TDD-CDMA2000 1X event triggered reporting under fading propagation conditions test case R11	11.0.0	11.1.0	R4	TEI9
36.133	1199	-	Rel-9	F	RP-120770	R4-121251	approved	E-UTRA TDD RRC connection release redirection to UTRA FDD test without SI provided R9	9.11.0	9.12.0	R4	TEI9
36.133	1200	-	Rel-10	A	RP-120770	R4-121252	approved	E-UTRA TDD RRC connection release redirection to UTRA FDD test without SI provided R10	10.6.0	10.7.0	R4	TEI9

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36.133	1201	-	Rel-11	A	RP-120770	R4-121253	approved	E-UTRA TDD RRC connection release redirection to UTRA FDD test without SI provided R11	11.0.0	11.1.0	R4	TEI9
36.133	1204	1	Rel-10	F	RP-120784	R4-122164	approved	FDD RSRQ under Time Domain Measurement Resource Restriction with Non-MBSFN ABS R10	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1205	1	Rel-11	A	RP-120784	R4-122165	approved	FDD RSRQ under Time Domain Measurement Resource Restriction with Non-MBSFN ABS R11	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1206	1	Rel-10	F	RP-120784	R4-122166	approved	TDD RSRQ under Time Domain Measurement Resource Restriction with Non-MBSFN ABS R10	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1207	1	Rel-11	A	RP-120784	R4-122167	approved	TDD RSRQ under Time Domain Measurement Resource Restriction with Non-MBSFN ABS R11	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1212	-	Rel-10	F	RP-120780	R4-121287	approved	CR to TS36.133 Corrections on RRC signalling in RLM test cases for eICIC	10.6.0	10.7.0	R4	TEI10
36.133	1213	-	Rel-11	A	RP-120780	R4-121306	approved	CR to TS36.133 Corrections on RRC signalling in RLM test cases for eICIC	11.0.0	11.1.0	R4	TEI10
36.133	1222	-	Rel-10	F	RP-120773	R4-121526	approved	Test case for event-triggered reporting on deactivated SCell with PCell interruption	10.6.0	10.7.0	R4	LTE_CA-Perf
36.133	1223	-	Rel-11	A	RP-120773	R4-121530	approved	Test case for event-triggered reporting on deactivated SCell with PCell interruption	11.0.0	11.1.0	R4	LTE_CA-Perf
36.133	1224	-	Rel-9	F	RP-120770	R4-121630	approved	Editorial corrections on the test cases of RRC connection release with redirection to UTRAN FDD	9.11.0	9.12.0	R4	TEI9
36.133	1225	1	Rel-9	F	RP-120770	R4-122159	approved	Finalization of Rel.9 cell reselection enhancement related test cases	9.11.0	9.12.0	R4	TEI9
36.133	1226	1	Rel-10	A	RP-120770	R4-122160	approved	Finalization of Rel.9 cell reselection enhancement related test cases	10.6.0	10.7.0	R4	TEI9
36.133	1227	1	Rel-11	A	RP-120770	R4-122161	approved	Finalization of Rel.9 cell reselection enhancement related test cases	11.0.0	11.1.0	R4	TEI9
36.133	1228	-	Rel-9	F	RP-120770	R4-121652	approved	E-UTRAN FDD to UTRAN FDD RRC connection release with redirection test case when SI is not provided	9.11.0	9.12.0	R4	TEI9
36.133	1229	-	Rel-10	A	RP-120770	R4-121659	approved	E-UTRAN FDD to UTRAN FDD RRC connection release with redirection test case when SI is not provided	10.6.0	10.7.0	R4	TEI9
36.133	1231	-	Rel-11	A	RP-120770	R4-121669	approved	E-UTRAN FDD to UTRAN FDD RRC connection release with redirection test case when SI is not provided	11.0.0	11.1.0	R4	TEI9
36.133	1232	-	Rel-10	B	RP-120781	R4-121677	approved	No interruptions on PCell at SCell activation/ deactivation when measCycleSCell is smaller than 640 ms	10.6.0	10.7.0	R4	TEI10
36.133	1233	-	Rel-11	A	RP-120781	R4-121682	approved	No interruptions on PCell at SCell activation/ deactivation when measCycleSCell is smaller than 640 ms	11.0.0	11.1.0	R4	TEI10
36.133	1234	-	Rel-10	F	RP-120780	R4-121730	approved	Editorial corrections	10.6.0	10.7.0	R4	TEI10
36.133	1235	-	Rel-11	A	RP-120780	R4-121731	approved	Editorial corrections	11.0.0	11.1.0	R4	TEI10
36.133	1236	1	Rel-10	F	RP-120782	R4-122175	approved	Reporting criteria requirements for carrier aggregation	10.6.0	10.7.0	R4	TEI10
36.133	1237	1	Rel-11	A	RP-120782	R4-122176	approved	Reporting criteria requirements for carrier aggregation	11.0.0	11.1.0	R4	TEI10

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36.133	1238	-	Rel-10	F	RP-120784	R4-121735	approved	Cell identification requirements with DRX	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1239	-	Rel-11	A	RP-120784	R4-121739	approved	Cell identification requirements with DRX	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1240	1	Rel-10	B	RP-120784	R4-122168	approved	Phase II eICIC FDD: absolute and relative RSRP accuracies in non-MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1241	1	Rel-11	B	RP-120784	R4-122169	approved	Phase II eICIC FDD: absolute and relative RSRP accuracies in non-MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1242	1	Rel-10	B	RP-120784	R4-122170	approved	Phase II eICIC TDD: absolute and relative RSRP accuracies in non-MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1243	1	Rel-11	A	RP-120784	R4-122171	approved	Phase II eICIC TDD: absolute and relative RSRP accuracies in non-MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1248	-	Rel-10	F	RP-120784	R4-121756	approved	RLM requirements with autonomous gaps for DRX	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1249	-	Rel-11	A	RP-120784	R4-121757	approved	RLM requirements with autonomous gaps for DRX	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1250	-	Rel-10	F	RP-120779	R4-121898	approved	CR for 36.133: Aligning RSRQ measurement requirements in TS 36.133 with TS 36.101 regarding the modification of B41 REFSENS	10.6.0	10.7.0	R4	TEI10
36.133	1251	-	Rel-11	A	RP-120779	R4-121900	approved	CR for 36.133: Aligning RSRQ measurement requirements in TS 36.133 with TS 36.101 regarding the modification of B41 REFSENS	11.0.0	11.1.0	R4	TEI10
36.133	1259	-	Rel-10	F	RP-120777	R4-122035	approved	Bands 22, 23, 42 and 43 side conditions for inter-frequency measurements with autonomous gaps	10.6.0	10.7.0	R4	TEI10
36.133	1260	-	Rel-10	B	RP-120772	R4-122173	approved	Clarification on UE Rx-Tx with eICIC	10.6.0	10.7.0	R4	eICIC_LTE-Core
36.133	1260	-	Rel-11	A	RP-120777	R4-122036	approved	Bands 22, 23, 42 and 43 side conditions for inter-frequency measurements with autonomous gaps	11.0.0	11.1.0	R4	TEI10
36.133	1261	-	Rel-11	A	RP-120772	R4-122174	approved	Clarification on UE Rx-Tx with eICIC	11.0.0	11.1.0	R4	eICIC_LTE-Core
36.133	1262	-	Rel-8	F	RP-120767	R4-122162	approved	Editorial corrections	8.17.0	8.18.0	R4	TEI8
36.133	1263	-	Rel-9	A	RP-120767	R4-122163	approved	Editorial corrections	9.11.0	9.12.0	R4	TEI8
36.133	1268	-	Rel-8	F	RP-120767	R4-122250	approved	sr-ConfigIndex in TDD DRX test cases	8.17.0	8.18.0	R4	TEI8
36.133	1269	-	Rel-9	A	RP-120767	R4-122251	approved	sr-ConfigIndex in TDD DRX test cases	9.11.0	9.12.0	R4	TEI8
36.133	1270	-	Rel-10	A	RP-120767	R4-122252	approved	sr-ConfigIndex in TDD DRX test cases	10.6.0	10.7.0	R4	TEI8
36.133	1271	-	Rel-11	A	RP-120767	R4-122253	approved	sr-ConfigIndex in TDD DRX test cases	11.0.0	11.1.0	R4	TEI8
36.133	1272	-	Rel-10	F	RP-120782	R4-122254	approved	Remove [ ] from eICIC RSRP, RSRQ Es/Iot side conditions	10.6.0	10.7.0	R4	TEI10
36.133	1273	-	Rel-11	A	RP-120782	R4-122255	approved	Remove [ ] from eICIC RSRP, RSRQ Es/Iot side conditions	11.0.0	11.1.0	R4	TEI10
36.133	1274	1	Rel-8	F	RP-120764	R4-123570	approved	RRM: Clarifications to the OCNG patterns	8.17.0	8.18.0	R4	LTE-RF
36.133	1275	1	Rel-9	A	RP-120764	R4-123571	approved	RRM: Clarifications to the OCNG patterns	9.11.0	9.12.0	R4	LTE-RF
36.133	1276	1	Rel-10	A	RP-120764	R4-123572	approved	RRM: Clarifications to the OCNG patterns	10.6.0	10.7.0	R4	LTE-RF
36.133	1277	1	Rel-11	A	RP-120764	R4-123573	approved	RRM: Clarifications to the OCNG patterns	11.0.0	11.1.0	R4	LTE-RF

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36.133	1278	2	Rel-10	F	RP-120784	R4-123650	approved	Intra-Frequency FDD RSRQ Accuracy under Time Domain Measurement Resource Restriction with MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1279	2	Rel-11	A	RP-120784	R4-123651	approved	Intra-Frequency FDD RSRQ Accuracy under Time Domain Measurement Resource Restriction with MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1285	1	Rel-10	F	RP-120784	R4-123451	approved	eICIC FDD out-of-sync RLM test case in MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1286	1	Rel-11	A	RP-120784	R4-123452	approved	eICIC FDD out-of-sync RLM test case in MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1287	1	Rel-10	F	RP-120784	R4-123453	approved	eICIC TDD out-of-sync RLM test case in MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1288	1	Rel-11	A	RP-120784	R4-123454	approved	eICIC TDD out-of-sync RLM test case in MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1289	1	Rel-11	A	RP-120781	R4-123441	approved	On UE behavior in the uplink subframe after measurement GAP	11.0.0	11.1.0	R4	TEI10
36.133	1292	1	Rel-10	F	RP-120773	R4-123479	approved	Clarification on the number of monitoring layers for CA UEs	10.6.0	10.7.0	R4	LTE_CA-Core
36.133	1293	1	Rel-11	A	RP-120773	R4-123480	approved	Clarification on the number of monitoring layers for CA UEs	11.0.0	11.1.0	R4	LTE_CA-Core
36.133	1298	2	Rel-10	F	RP-120784	R4-123648	approved	CR on TDD RSRQ test case under Time Domain Measurement Resource Restriction with MBSFN ABS Rel10	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1299	2	Rel-11	F	RP-120784	R4-123649	approved	CR on TDD RSRQ test case under Time Domain Measurement Resource Restriction with MBSFN ABS Rel11	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1300	1	Rel-10	F	RP-120784	R4-123457	approved	In-Sync RLM test case in MBSFN ABS for E-UTRAN FDD R10	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1303	1	Rel-11	A	RP-120784	R4-123458	approved	In-Sync RLM test case in MBSFN ABS for E-UTRAN FDD R11	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1305	1	Rel-10	F	RP-120784	R4-123459	approved	In-Sync RLM test case in MBSFN ABS for E-UTRAN TDD R10	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1306	1	Rel-11	A	RP-120784	R4-123460	approved	In-Sync RLM test case in MBSFN ABS for E-UTRAN TDD R11	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1309	-	Rel-10	F	RP-120781	R4-122654	approved	Inter-frequency and Inter-RAT Requirements for Measurements without Measurement Gaps	10.6.0	10.7.0	R4	TEI10
36.133	1310	-	Rel-11	A	RP-120781	R4-122656	approved	Inter-frequency and Inter-RAT Requirements for Measurements without Measurement Gaps	11.0.0	11.1.0	R4	TEI10
36.133	1318	1	Rel-11	B	RP-120788	R4-123542	approved	The introduction of Multi-TA timing requirements R11	11.0.0	11.1.0	R4	LTE_CA_enh-Core
36.133	1319	1	Rel-10	F	RP-120777	R4-123555	approved	Addition of E-UTRAN FDD RSTD measurement accuracy test case in carrier aggregation R10	10.6.0	10.7.0	R4	TEI10
36.133	1320	1	Rel-11	A	RP-120777	R4-123556	approved	Addition of E-UTRAN FDD RSTD measurement accuracy test case in carrier aggregation R11	11.0.0	11.1.0	R4	TEI10
36.133	1321	1	Rel-10	F	RP-120777	R4-123557	approved	Addition of E-UTRAN TDD RSTD measurement accuracy test case in carrier aggregation R10	10.6.0	10.7.0	R4	TEI10
36.133	1322	-	Rel-11	A	RP-120777	R4-122736	approved	Addition of E-UTRAN TDD RSTD measurement accuracy test case in carrier aggregation R11	11.0.0	11.1.0	R4	TEI10
36.133	1327	-	Rel-10	F	RP-120779	R4-122842	approved	Correction to RLM requirements in eICIC with Autonomous	10.6.0	10.7.0	R4	TEI10

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								gaps R10				
36.133	1328	-	Rel-11	A	RP-120779	R4-122844	approved	Correction to RLM requirements in eICIC with Autonomous gaps R11	11.0.0	11.1.0	R4	TEI10
36.133	1329	1	Rel-9	F	RP-120770	R4-123465	approved	Correction to E-UTRAN FDD/TDD - UTRAN FDD /TDD enhanced cell identification test case R9	9.11.0	9.12.0	R4	TEI9
36.133	1330	1	Rel-10	A	RP-120769	R4-123466	approved	Correction to E-UTRAN FDD/TDD - UTRAN FDD /TDD enhanced cell identification test case R10	10.6.0	10.7.0	R4	TEI9
36.133	1331	1	Rel-11	A	RP-120769	R4-123467	approved	Correction to E-UTRAN FDD/TDD - UTRAN FDD /TDD enhanced cell identification test case R11	11.0.0	11.1.0	R4	TEI9
36.133	1332	-	Rel-9	F	RP-120770	R4-122854	approved	Correction to E-UTRAN TDD redirection to UTRAN FDD test configuration R9	9.11.0	9.12.0	R4	TEI9
36.133	1333	1	Rel-10	F	RP-120780	R4-123469	approved	FDD CA RSTD Measurement Reporting Delay Test Case (Rel-10)	10.6.0	10.7.0	R4	TEI10
36.133	1334	1	Rel-10	F	RP-120782	R4-123471	approved	TDD CA RSTD Measurement Reporting Delay Test Case (Rel-10)	10.6.0	10.7.0	R4	TEI10
36.133	1335	-	Rel-10	A	RP-120770	R4-122861	approved	Correction to E-UTRAN TDD redirection to UTRAN FDD test configuration R10	10.6.0	10.7.0	R4	TEI9
36.133	1336	-	Rel-11	A	RP-120770	R4-122866	approved	Correction to E-UTRAN TDD redirection to UTRAN FDD test configuration R11	11.0.0	11.1.0	R4	TEI9
36.133	1337	1	Rel-11	A	RP-120780	R4-123470	approved	FDD CA RSTD Measurement Reporting Delay Test Case (Rel-11)	11.0.0	11.1.0	R4	TEI10
36.133	1338	1	Rel-11	A	RP-120782	R4-123472	approved	TDD CA RSTD Measurement Reporting Delay Test Case (Rel-11)	11.0.0	11.1.0	R4	TEI10
36.133	1341	-	Rel-10	F	RP-120779	R4-122875	approved	Correction to RSTD measurement reporting delay requirement in CA R10	10.6.0	10.7.0	R4	TEI10
36.133	1342	-	Rel-11	A	RP-120779	R4-122881	approved	Correction to RSTD measurement reporting delay requirement in CA R11	11.0.0	11.1.0	R4	TEI10
36.133	1343	1	Rel-10	F	RP-120777	R4-123442	approved	Add Band 25 Io values R10	10.6.0	10.7.0	R4	TEI10
36.133	1345	1	Rel-11	A	RP-120795	R4-123443	approved	Add Band 25 Io values R11	11.0.0	11.1.0	R4	TEI11
36.133	1346	1	Rel-10	F	RP-120777	R4-123559	approved	Clarification for cell identification condition in inter-RAT SI reading requirement R10	10.6.0	10.7.0	R4	TEI10
36.133	1347	1	Rel-11	A	RP-120777	R4-123560	approved	Clarification for cell identification condition in inter-RAT SI reading requirement R11	11.0.0	11.1.0	R4	TEI10
36.133	1349	-	Rel-11	B	RP-120793	R4-122956	approved	Introduction of Band 28	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.133	1350	1	Rel-11	B	RP-120794	R4-123677	approved	Introduction of Band 44	11.0.0	11.1.0	R4	LTE_APAC700-Perf
36.133	1353	-	Rel-10	F	RP-120780	R4-123024	approved	Editorial corrections	10.6.0	10.7.0	R4	TEI10
36.133	1354	1	Rel-8	F	RP-120764	R4-123553	approved	UL Transmit Timing Requirements	8.17.0	8.18.0	R4	LTE-RF
36.133	1355	-	Rel-11	A	RP-120780	R4-123026	approved	Editorial corrections	11.0.0	11.1.0	R4	TEI10
36.133	1356	1	Rel-9	A	RP-120764	R4-123640	approved	UL Transmit Timing Requirements	9.11.0	9.12.0	R4	LTE-RF
36.133	1357	2	Rel-8	F	RP-120766	R4-123577	approved	Correction of a timer period in inter-frequency	8.17.0	8.18.0	R4	TEI8

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								measurement tests				
36.133	1358	1	Rel-10	A	RP-120764	R4-123641	approved	UL Transmit Timing Requirements	10.6.0	10.7.0	R4	LTE-RF
36.133	1359	1	Rel-9	A	RP-120766	R4-123578	approved	Correction of a timer period in inter-frequency measurement tests	9.11.0	9.12.0	R4	TEI8
36.133	1360	2	Rel-10	A	RP-120766	R4-123579	approved	Correction of a timer period in inter-frequency measurement tests	10.6.0	10.7.0	R4	TEI8
36.133	1361	2	Rel-11	A	RP-120766	R4-123580	approved	Correction of a timer period in inter-frequency measurement tests	11.0.0	11.1.0	R4	TEI8
36.133	1362	2	Rel-10	B	RP-120784	R4-123644	approved	Phase IIbis eICIC FDD absolute and relative RSRP accuracy with MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1363	1	Rel-11	A	RP-120764	R4-123642	approved	UL Transmit Timing Requirements	11.0.0	11.1.0	R4	LTE-RF
36.133	1364	2	Rel-11	A	RP-120784	R4-123645	approved	Phase IIbis eICIC FDD absolute and relative RSRP accuracy with MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1365	2	Rel-10	B	RP-120784	R4-123646	approved	Phase IIbis eICIC TDD absolute and relative RSRP accuracy with MBSFN ABS	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1366	2	Rel-11	A	RP-120784	R4-123647	approved	Phase IIbis eICIC TDD absolute and relative RSRP accuracy with MBSFN ABS	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1367	-	Rel-10	F	RP-120784	R4-123042	approved	OCNG correction in Phase I eICIC test cases	10.6.0	10.7.0	R4	eICIC_LTE-Perf
36.133	1368	-	Rel-11	A	RP-120784	R4-123044	approved	OCNG correction in Phase I eICIC test cases	11.0.0	11.1.0	R4	eICIC_LTE-Perf
36.133	1375	-	Rel-10	F	RP-120781	R4-123069	approved	PRS bandwidth in RSTD accuracy requirements	10.6.0	10.7.0	R4	TEI10
36.133	1379	-	Rel-11	B	RP-120792	R4-123203	approved	Introduction of e850_LB (Band 27) to TS 36.133	11.0.0	11.1.0	R4	LTE_e850_LB-Perf
36.133	1380	-	Rel-10	F	RP-120781	R4-123440	approved	On UE behavior in the uplink subframe after measurement GAP	10.6.0	10.7.0	R4	TEI10
36.141	0319	2	Rel-11	B	RP-120788	R4-122192	approved	Introduction of intra-band non-contiguous operation in TS 36.141	11.0.0	11.1.0	R4	LTE_CA_enh-Core
36.141	0320	-	Rel-11	B	RP-120773	R4-121492	approved	Introduction of CA band combination Band1 + Band19 to TS 36.141	11.0.0	11.1.0	R4	LTE_CA-core
36.141	0321	-	Rel-9	F	RP-120770	R4-121736	approved	Editorial corrections in Home BS output power tests	9.9.0	9.10.0	R4	TEI9
36.141	0322	-	Rel-10	A	RP-120770	R4-121737	approved	Editorial corrections in Home BS output power tests	10.6.0	10.7.0	R4	TEI9
36.141	0323	-	Rel-11	A	RP-120770	R4-121738	approved	Editorial corrections in Home BS output power tests	11.0.0	11.1.0	R4	TEI9
36.141	0325	1	Rel-11	F	RP-120780	R4-122074	approved	Editorial corrections in TS 36.141.	11.0.0	11.1.0	R4	TEI10
36.141	0330	-	Rel-11	B	RP-120788	R4-122265	approved	Introduction of time alignment error requirement for intra-band non-contiguous carrier aggregation	11.0.0	11.1.0	R4	LTE_CA_enh-Core
36.141	0331	-	Rel-11	B	RP-120793	R4-122273	approved	Introduction of APAC700(FDD) into TS 36.141	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.141	0334	-	Rel-11	B	RP-120790	R4-122585	postponed	TS 36.141 CR for CA_38	11.0.0		R4	LTE_CA_B38-Core
36.141	0335	-	Rel-11	F	RP-120795	R4-122942	approved	Editorial correction of the TDD eNB test model configuration in TS 36.141	11.0.0	11.1.0	R4	TEI11
36.141	0336	-	Rel-11	B	RP-120793	R4-122980	approved	Introduction of Band 44	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.141	0337	-	Rel-11	A	RP-120782	R4-123138	approved	Time alignment error headline	11.0.0	11.1.0	R4	TEI10

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36.141	0338	1	Rel-11	A	RP-120783	R4-123506	approved	Time alignment procedure in 36.141	11.0.0	11.1.0	R4	TEI10
36.141	0339	-	Rel-10	F	RP-120782	R4-123141	approved	Time alignment error headline	10.6.0	10.7.0	R4	TEI10
36.141	0340	1	Rel-10	F	RP-120783	R4-123505	approved	Time alignment procedure in 36.141	10.6.0	10.7.0	R4	TEI10
36.141	0341	-	Rel-11	B	RP-120773	R4-123162	approved	Introduction of CA band combination Band4 + Band13 to TS 36.141	11.0.0	11.1.0	R4	LTE_CA-core
36.141	0342	-	Rel-11	B	RP-120773	R4-123169	approved	Introduction of CA band combination Band4 + Band17 to TS 36.141	11.0.0	11.1.0	R4	LTE_CA-core
36.141	0343	3	Rel-11	B	RP-120792	R4-123669	approved	Introduction of e850_LB (Band 27) to TS 36.141	11.0.0	11.1.0	R4	LTE_e850_LB-Perf
36.141	0345	-	Rel-8	F	RP-120764	R4-123405	approved	Correction of PHS protection requirements for TS 36.141	8.11.0	8.12.0	R4	LTE-RF
36.141	0346	-	Rel-9	A	RP-120764	R4-123406	approved	Correction of PHS protection requirements for TS 36.141	9.9.0	9.10.0	R4	LTE-RF
36.141	0347	-	Rel-10	A	RP-120764	R4-123407	approved	Correction of PHS protection requirements for TS 36.141	10.6.0	10.7.0	R4	LTE-RF
36.141	0348	-	Rel-11	A	RP-120764	R4-123408	approved	Correction of PHS protection requirements for TS 36.141	11.0.0	11.1.0	R4	LTE-RF
36.143	0034	-	Rel-10	F	RP-120780	R4-122912	approved	Definition clause updates with improved repeater pass band definition and introduction of minor editorial changes for for better alignment with BS core specification	10.3.0	10.4.0	R4	TEI10
36.143	0035	-	Rel-10	F	RP-120783	R4-122920	approved	Update of the upper frequency limit for Spurious Emissions	10.3.0	10.4.0	R4	TEI10
36.143	0036	1	Rel-10	F	RP-120783	R4-123509	approved	Update of the protection limits tables for spurious emission and input intermodulation	10.3.0	10.4.0	R4	TEI10
36.143	0037	-	Rel-10	F	RP-120781	R4-122937	approved	Introduction of editorial changes for better alignment with BS test specification in the maximum limits tables for operating band unwanted emissions test requirements	10.3.0	10.4.0	R4	TEI10
36.143	0039	-	Rel-8	F	RP-120762	R4-123412	approved	Correction of PHS protection requirements for TS 36.143	8.4.0	8.5.0	R4	LTE-Repeaters
36.143	0040	-	Rel-9	A	RP-120762	R4-123413	approved	Correction of PHS protection requirements for TS 36.143	9.2.0	9.3.0	R4	LTE-Repeaters
36.143	0041	-	Rel-10	A	RP-120762	R4-123414	approved	Correction of PHS protection requirements for TS 36.143	10.3.0	10.4.0	R4	LTE-Repeaters
36.211	0169	-	Rel-10	F	RP-120736	R1-121916	approved	Correction to resource mapping for PDSCH	10.4.0	10.5.0	R1	LTE-Phys
36.211	0170	2	Rel-11	B	RP-120742	R1-123063	postponed	CR on additional special configuration	10.4.0		R1	LTE_TDD_add_subframe-Core
36.211	0171	-	Rel-10	F	RP-120739	R1-122900	approved	Correction for DMRS group hopping and sequence hopping	10.4.0	10.5.0	R1	LTE_UL_MIMO-Core
36.211	0172	-	Rel-10	F	RP-120738	R1-123065	approved	Correction to assumed CSI-RS transmissions in subfames used for paging	10.4.0	10.5.0	R1	LTE_eDL_MIMO-Core
36.212	0136	-	Rel-10	F	RP-120739	R1-121804	approved	Correction to Data and control multiplexing	10.5.0	10.6.0	R1	LTE_UL_MIMO-Core
36.212	0138	-	Rel-10	F	RP-120737	R1-123061	approved	Correction to CSI request field size in DCI format 0 and DCI format 4	10.5.0	10.6.0	R1	LTE_CA-Core
36.213	0378	3	Rel-10	F	RP-120737	R1-122902	approved	Correction of FDD channel selection HARQ-ACK and SR transmission	10.5.0	10.6.0	R1	LTE_CA-Core
36.213	0379	-	Rel-10	F	RP-120738	R1-121805	approved	Removal of description with square brackets	10.5.0	10.6.0	R1	LTE_eDL_MIMO-Core
36.213	0380	2	Rel-11	B	RP-120742	R1-123062	postponed	36.213 CR0380R2 (Rel-11, B) CR for Additional special subframe	10.5.0		R1	LTE_TDD_add_subframe-Core

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36.213	0381	-	Rel-10	F	RP-120738	R1-122901	approved	Correction on transmission mode 9 with a single antenna port transmission	10.5.0	10.6.0	R1	LTE_eDL_MIMO-Core
36.300	0439	3	Rel-11	B	RP-120821	R2-123190	approved	Introduction of service continuity improvements for MBMS on LTE	11.1.0	11.2.0	R2	MBMS_LTE_SC-Core
36.300	0441	-	Rel-11	F	RP-120807	R2-122080	approved	Clarification on networking sharing for MBMS	11.1.0	11.2.0	R2	MBMS_LTE, TEI11
36.300	0443	-	Rel-10	F	RP-120812	R2-123072	approved	Correction to Measurement Restriction Description of eICIC in 36.300	10.7.0	10.8.0	R2	eICIC_LTE-Core
36.300	0444	-	Rel-11	A	RP-120812	R2-123073	approved	Correction to Measurement Restriction Description of eICIC in 36.300	11.1.0	11.2.0	R2	eICIC_LTE-Core
36.300	0445	-	Rel-11	B	RP-120817	R2-123041	approved	Introduction of Absolute Priority Based Cell Reselection to CELL_FACH in 36.300	11.1.0	11.2.0	R2	Cell_FACH_enh-Core
36.300	0446	1	Rel-11	B	RP-120823	R2-123111	approved	Stage-2 CR on signalling and procedure for interference avoidance for IDC	11.1.0	11.2.0	R2	SPIA_IDC_LTE-Core
36.300	0450	3	Rel-11	B	RP-120822	R2-123160	approved	Stage 2 CR on eDDA UE assistance information	11.1.0	11.2.0	R2	LTE_eDDA-Core
36.300	0451	1	Rel-10	F	RP-120813	R2-123122	approved	Korean Public Alert System (KPAS) in relation to CMAS	10.7.0	10.8.0	R2	PWS-RAN, TEI10
36.300	0452	1	Rel-11	C	RP-120813	R2-123163	approved	Korean Public Alert System (KPAS) and EU-Alert in relation to CMAS	11.1.0	11.2.0	R2	PWS-RAN, TEI11
36.300	0453	1	Rel-11	B	RP-120819	R2-123157	approved	Introduction of MDT enhancements - multi-PLMN RLF Report	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
36.300	0454	-	Rel-10	F	RP-120807	R2-123010	approved	Correction of eMBMS architecture deployment consideration	10.7.0	10.8.0	R2	MBMS_LTE, TEI10
36.300	0456	-	Rel-11	F	RP-120811	R2-123012	approved	Correction on Session Start and Session Stop procedure	11.1.0	11.2.0	R2	TEI11, LTE-interfaces
36.300	0457	-	Rel-11	F	RP-120812	R2-123013	approved	Correction of the MRO definitions	11.1.0	11.2.0	R2	SONenh_LTE-Core, TEI11
36.300	0458	-	Rel-10	F	RP-120812	R2-123014	approved	Clarification on MME's support for inter-PLMN handover to CSG and hybrid cells	10.7.0	10.8.0	R2	HNB_HENB_mob_enh
36.300	0459	-	Rel-11	F	RP-120812	R2-123015	approved	Clarification on MME's support for inter-PLMN handover to CSG and hybrid cells	11.1.0	11.2.0	R2	HNB_HENB_mob_enh, TEI11
36.300	0460	1	Rel-10	F	RP-120811	R2-123023	approved	GUMMEI handling by RN and HeNB	10.7.0	10.8.0	R2	TEI10, LTE-interfaces
36.300	0461	-	Rel-11	A	RP-120811	R2-123017	approved	GUMMEI handling by RN and HeNB	11.1.0	11.2.0	R2	TEI10, LTE-interfaces
36.300	0462	-	Rel-11	F	RP-120811	R2-123018	approved	Clarification on TAC in X2 Setup	11.1.0	11.2.0	R2	TEI11, LTE-interfaces
36.300	0463	-	Rel-11	F	RP-120811	R2-123019	approved	Correction of Session Update	11.1.0	11.2.0	R2	TEI11, LTE-interfaces
36.300	0464	-	Rel-11	B	RP-120824	R2-123020	approved	Addition of Energy Saving function for Inter-RAT scenario	11.1.0	11.2.0	R2	Netw_Energy_LTE-Core
36.300	0465	-	Rel-11	F	RP-120807	R2-123021	approved	MCE and MBSFN role for distributed MCE architecture	11.1.0	11.2.0	R2	TEI11, MBMS_LTE
36.300	0467	-	Rel-8	F	RP-120626	-	withdrawn	PCI range note on RAN sharing	8.12.0		R2	LTE-L23
36.300	0468	-	Rel-9	A	RP-120627	-	withdrawn	PCI range note on RAN sharing	9.9.0		R2	LTE-L23
36.300	0469	-	Rel-10	A	RP-120628	-	withdrawn	PCI range note on RAN sharing	10.7.0		R2	LTE-L23
36.300	0470	-	Rel-11	A	RP-120629	-	revised	PCI range note on RAN sharing	11.1.0		R2	LTE-L23
36.300	0470	1	Rel-11	F	RP-120881	-	approved	PCI range note on RAN sharing	11.1.0	11.2.0	R2	LTE-L23
36.304	0183	1	Rel-10	F	RP-120813	R2-123138	approved	Korean Public Alert System (KPAS) in relation to CMAS	10.5.0	10.6.0	R2	PWS-RAN, TEI10

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36.304	0185	1	Rel-9	F	RP-120807	R2-123191	approved	Avoiding unexpected UE prioritization for MBMS where MBMS is not deployed	9.10.0	9.11.0	R2	MBMS_LTE
36.304	0187	1	Rel-10	A	RP-120807	R2-123192	approved	Avoiding unexpected UE prioritization for MBMS where MBMS is not deployed	10.5.0	10.6.0	R2	MBMS_LTE
36.304	0188	1	Rel-11	C	RP-120813	R2-123164	approved	EU-Alert in relation to CMAS	10.5.0	11.0.0	R2	PWS-RAN, TEI11
36.305	0034	1	Rel-11	B	RP-120820	R2-123137	approved	CR for 36.305 NBPS Support in LTE	10.3.0	11.0.0	R2	LCS_LTE-NBPS-Core
36.306	0084	-	Rel-9	F	RP-120810	R2-122955	postponed	Voice support Capabilities	9.6.0		R2	TEI9
36.306	0084	1	Rel-9	F	RP-120757	-	postponed	Voice support Capabilities	9.6.0		R2	TEI9
36.306	0085	-	Rel-10	A	RP-120810	R2-122956	postponed	Voice support Capabilities	10.5.0		R2	TEI9
36.306	0085	1	Rel-10	A	RP-120758	-	postponed	Voice support Capabilities	10.5.0		R2	TEI9
36.306	0086	1	Rel-9	F	RP-120686	-	postponed	Voice over PS continuity	9.6.0		R2	TEI9
36.306	0087	1	Rel-10	A	RP-120687	-	postponed	Voice over PS continuity	10.5.0		R2	TEI9
36.306	0090	-	Rel-10	F	RP-120813	R2-122943	approved	Korean Public Alert System (KPAS) in relation to CMAS	10.5.0	10.6.0	R2	PWS-RAN, TEI10
36.306	0093	1	Rel-11	C	RP-120813	R2-123166	approved	EU-Alert in relation to CMAS	10.5.0	11.0.0	R2	PWS-RAN, TEI11
36.307	0034	1	Rel-8	F	RP-120767	R4-122068	approved	Correction of references	8.5.0	8.6.0	R4	TEI8
36.307	0035	1	Rel-9	F	RP-120769	R4-122069	approved	Correction of references	9.5.0	9.6.0	R4	TEI9
36.307	0036	1	Rel-10	F	RP-120778	R4-122070	approved	Correction of references	10.3.0	10.4.0	R4	TEI10
36.307	0042	-	Rel-10	B	RP-120789	R4-122337	approved	Introduction of CA_1A-19A to TS 36.307	10.3.0	10.4.0	R4	LTE_CA_B1_B19-Core
36.307	0043	-	Rel-11	A	RP-120789	R4-122339	approved	Introduction of CA_1A-19A to TS 36.307	11.0.0	11.1.0	R4	LTE_CA_B1_B19-Core
36.307	0044	1	Rel-10	B	RP-120785	R4-123601	approved	Backdating CA_41C to Rel-10	10.3.0	10.4.0	R4	LTE_CA_B41-Core
36.307	0046	-	Rel-8	B	RP-120793	R4-123103	approved	Introduction of APAC700(FDD) into TS 36.307 Rel-8	8.5.0	8.6.0	R4	LTE_APAC700-Core
36.307	0047	-	Rel-9	A	RP-120793	R4-123105	approved	Introduction of APAC700(FDD) into TS 36.307 Rel-9	9.5.0	9.6.0	R4	LTE_APAC700-Core
36.307	0048	-	Rel-10	A	RP-120793	R4-123106	approved	Introduction of APAC700(FDD) into TS 36.307 Rel.10	10.3.0	10.4.0	R4	LTE_APAC700-Core
36.307	0049	-	Rel-11	B	RP-120793	R4-123109	approved	Introduction of APAC700(FDD) into TS 36.307 Rel-11	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.307	0050	-	Rel-8	B	RP-120793	R4-123117	approved	Introduction of APAC700(TDD) into TS 36.307 Rel-8	8.5.0	8.6.0	R4	LTE_APAC700-Core
36.307	0051	-	Rel-9	A	RP-120793	R4-123118	approved	Introduction of APAC700(TDD) into TS 36.307 Rel-9	9.5.0	9.6.0	R4	LTE_APAC700-Core
36.307	0052	-	Rel-10	A	RP-120793	R4-123119	approved	Introduction of APAC700(TDD) into TS 36.307 Rel.10	10.3.0	10.4.0	R4	LTE_APAC700-Core
36.307	0053	-	Rel-11	B	RP-120793	R4-123121	approved	Introduction of APAC700(TDD) into TS 36.307 Rel-11	11.0.0	11.1.0	R4	LTE_APAC700-Core
36.307	0054	-	Rel-8	B	RP-120791	R4-123212	approved	Introduction of e850_LB (Band 27) to TS 36.307	8.5.0	8.6.0	R4	LTE_e850_LB-Core
36.307	0055	-	Rel-9	B	RP-120791	R4-123214	approved	Introduction of e850_LB (Band 27) to TS 36.307	9.5.0	9.6.0	R4	LTE_e850_LB-Core
36.307	0056	-	Rel-10	B	RP-120791	R4-123216	approved	Introduction of e850_LB (Band 27) to TS 36.307	10.3.0	10.4.0	R4	LTE_e850_LB-Core
36.307	0057	-	Rel-11	B	RP-120791	R4-123218	approved	Introduction of e850_LB (Band 27) to TS 36.307	11.0.0	11.1.0	R4	LTE_e850_LB-Core
36.331	0907	-	Rel-8	F	RP-120805	R2-122081	approved	SPS Reconfiguration	8.16.0	8.17.0	R2	LTE-L23
36.331	0908	-	Rel-9	A	RP-120805	R2-122082	approved	SPS Reconfiguration	9.10.0	9.11.0	R2	LTE-L23

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36.331	0909	-	Rel-10	A	RP-120805	R2-122083	approved	SPS Reconfiguration	10.5.0	10.6.0	R2	LTE-L23
36.331	0910	1	Rel-8	F	RP-120805	R2-123060	approved	Change in Scheduling Information for ETWS	8.16.0	8.17.0	R2	ETWS, LTE-L23
36.331	0911	1	Rel-9	A	RP-120805	R2-123061	approved	Change in Scheduling Information for ETWS	9.10.0	9.11.0	R2	ETWS, LTE-L23
36.331	0912	1	Rel-10	A	RP-120805	R2-123062	approved	Change in Scheduling Information for ETWS	10.5.0	10.6.0	R2	ETWS, LTE-L23
36.331	0913	-	Rel-9	F	RP-120807	R2-122087	revised	Clarification of mch-SchedulingPeriod configuration	9.10.0		R2	MBMS_LTE
36.331	0913	1	Rel-9	F	RP-120854	-	approved	Clarification of mch-SchedulingPeriod configuration	9.10.0	9.11.0	R2	MBMS_LTE
36.331	0914	-	Rel-10	A	RP-120807	R2-122088	approved	Clarification of mch-SchedulingPeriod configuration	10.5.0	10.6.0	R2	MBMS_LTE
36.331	0915	1	Rel-9	F	RP-120808	R2-123063	approved	Change in Scheduling Information for CMAS	9.10.0	9.11.0	R2	PWS-RAN
36.331	0916	1	Rel-10	A	RP-120808	R2-123064	approved	Change in Scheduling Information for CMAS	10.5.0	10.6.0	R2	PWS-RAN
36.331	0919	1	Rel-10	F	RP-120814	R2-123066	approved	Introducing means to signal different REL-10 FDD/TDD Capabilities/FGIs for Dual-xDD UE	10.5.0	10.6.0	R2	LTE-L23, TEI10
36.331	0920	1	Rel-10	F	RP-120812	R2-123065	approved	Clarification on setting of dedicated NS value for CA by E-UTRAN	10.5.0	10.6.0	R2	LTE_CA-Core
36.331	0928	-	Rel-9	F	RP-120810	R2-122957	postponed	Voice support Capabilities	9.10.0		R2	TEI9
36.331	0928	1	Rel-9	F	RP-120759	-	postponed	Voice support Capabilities	9.10.0		R2	TEI9
36.331	0929	-	Rel-10	A	RP-120810	R2-122958	postponed	Voice support Capabilities	10.5.0		R2	TEI9
36.331	0929	1	Rel-10	A	RP-120760	-	postponed	Voice support Capabilities	10.5.0		R2	TEI9
36.331	0930	-	Rel-9	F	RP-120808	R2-123070	approved	T321 value for UTRA SI acquisition	9.10.0	9.11.0	R2	EHNB-RAN2
36.331	0931	-	Rel-10	A	RP-120808	R2-123071	approved	T321 value for UTRA SI acquisition	10.5.0	10.6.0	R2	EHNB-RAN2
36.331	0934	-	Rel-11	B	RP-120825	R2-123001	approved	Introduction of a new security algorithm ZUC	10.5.0	11.0.0	R2	EEA3_EIA3
36.331	0938	1	Rel-9	F	RP-120684	-	postponed	Voice over PS continuity	9.10.0		R2	TEI9
36.331	0939	1	Rel-10	A	RP-120685	-	postponed	Voice over PS continuity	10.5.0		R2	TEI9
36.331	0940	-	Rel-9	F	RP-120809	R2-122959	postponed	Differentiating UTRA modes in FGIs	9.10.0		R2	TEI9
36.331	0941	-	Rel-10	A	RP-120809	R2-122960	postponed	Differentiating UTRA modes in FGIs	10.5.0		R2	TEI9
36.331	0957	1	Rel-10	F	RP-120813	R2-123139	approved	Korean Public Alert System (KPAS) in relation to CMAS	10.5.0	10.6.0	R2	PWS-RAN, TEI10
36.331	0969	1	Rel-10	F	RP-120812	R2-123155	approved	Introduction of supported bandwidth combinations for CA	10.5.0	10.6.0	R2	LTE_CA-Core
36.331	0970	1	Rel-10	A	RP-120734	-	approved	Introduction of multiple frequency band indicator	10.5.0	10.6.0	R2	TEI8
36.331	0973	1	Rel-11	C	RP-120813	R2-123165	approved	EU-Alert in relation to CMAS	10.5.0	11.0.0	R2	PWS-RAN, TEI11
36.331	0974	-	Rel-9	F	RP-120690	-	postponed	Rel-9 CR to 36.331 for Mandating setting of FGI bit 27 and 28 to "1"	9.10.0		R2	TEI9, LTE-L23
36.331	0975	-	Rel-10	A	RP-120691	-	postponed	Rel-10 CR to 36.331 for Mandating setting of FGI bit 27 and 28 to "1"	10.5.0		R2	TEI9, LTE-L23
36.331	0976	-	Rel-8	B	RP-120732	-	approved	Introduction of multiple frequency band indicator	8.16.0	8.17.0	R2	TEI8
36.331	0977	-	Rel-9	A	RP-120733	-	approved	Introduction of multiple frequency band indicator	9.10.0	9.11.0	R2	TEI8
36.355	0071	-	Rel-10	F	RP-120808	R2-123076	approved	Usage of additionalInformation IE	10.4.0	10.5.0	R2	LCS_LTE, TEI10
36.401	0054	1	Rel-10	F	RP-120744	R3-121377	approved	Introduction of KPAS delivery function	10.3.0	10.4.0	R3	TEI10, LTE-interfaces

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36.410	0019	1	Rel-10	F	RP-120744	R3-121379	approved	Introduction of KPAS delivery function	10.2.0	10.3.0	R3	TEI10, LTE-interfaces
36.413	0980	-	Rel-10	F	RP-120744	R3-120949	approved	Correction on ETWS and CMAS	10.5.0	10.6.0	R3	TEI10, LTE-interfaces
36.413	0981	-	Rel-11	B	RP-120751	R3-120951	approved	Introduction of the Security Algorithm (ZUC)	10.5.0	11.0.0	R3	TEI11, EEA3_EIA3
36.413	0998	2	Rel-11	F	RP-120752	R3-121387	approved	Correction on Emergency ARP Value	10.5.0	11.0.0	R3	TEI11
36.413	1007	1	Rel-11	F	RP-120752	R3-121402	approved	Improved granularity for the time UE stayed in cell	10.5.0	11.0.0	R3	TEI11
36.413	1010	-	Rel-11	B	RP-120747	R3-121395	approved	SON Transfer application for IRAT Network Energy Savings	10.5.0	11.0.0	R3	Netw_Energy_LTE-Core
36.423	0496	-	Rel-11	B	RP-120751	R3-120952	approved	Introduction of the Security Algorithm (ZUC)	11.0.0	11.1.0	R3	TEI11, EEA3_EIA3
36.423	0498	2	Rel-11	F	RP-120751	R3-121473	approved	Clarification on TAC in X2 Setup	11.0.0	11.1.0	R3	TEI11, LTE-interfaces
36.423	0501	3	Rel-11	F	RP-120751	R3-121482	approved	Adding RRC re-establishment cause to RLF indication	11.0.0	11.1.0	R3	SONenh_LTE-Core, TEI11
36.423	0513	1	Rel-11	A	RP-120752	R3-121349	approved	Correction on Emergency ARP Value	11.0.0	11.1.0	R3	TEI11
36.423	0516	1	Rel-11	F	RP-120752	R3-121403	approved	Improved granularity for the time UE stayed in cell	11.0.0	11.1.0	R3	TEI11
36.423	0517	1	Rel-11	B	RP-120748	R3-121376	postponed	Support for new special subframe configurations	11.0.0		R3	LTE_TDD_add_subframe
36.440	0008	-	Rel-10	F	RP-120744	R3-120940	approved	Correction of Reset	10.2.0	10.3.0	R3	TEI10
36.443	0063	3	Rel-11	F	RP-120752	R3-121472	approved	Correction on MBMS Session Start and Stop procedures in M2 interface	10.5.0	11.0.0	R3	TEI11
36.444	0032	-	Rel-11	F	RP-120751	R3-120990	approved	Correction on usage of Time of MBMS Data Stop IE	11.1.0	11.2.0	R3	TEI11, MBMS_LTE
36.444	0033	1	Rel-11	F	RP-120751	R3-121401	approved	Correction on M3 Configuration Procedure	11.1.0	11.2.0	R3	TEI11, MBMS_LTE
36.444	0037	-	Rel-11	F	RP-120752	R3-121030	approved	Correction of AbsoluteTime	11.1.0	11.2.0	R3	TEI11
36.444	0038	1	Rel-11	F	RP-120751	R3-121424	approved	Correction of MCE Configuration Update procedure in M3 interface	11.1.0	11.2.0	R3	TEI11, MBMS_LTE
36.444	0040	1	Rel-11	F	RP-120752	R3-121405	approved	Correction of ASN.1 Concerning the Presence of extendedMCE-ID	11.1.0	11.2.0	R3	TEI11
36.455	0026	-	Rel-10	F	RP-120744	R3-120941	approved	Correction of SFN Initialization Time	10.2.0	10.3.0	R3	TEI10
36.455	0027	-	Rel-10	F	RP-120744	R3-120948	approved	Correction of E-UTRAN Access Point Position	10.2.0	10.3.0	R3	TEI10
36.508	0289	-	Rel-9	F	RP-120649	R5-121078	approved	Removal of technical content in 36.508 v9.8.0 and substitution with pointer to the next Release	9.8.0	9.9.0	R5	TEI9_Test
36.508	0290	-	Rel-10	F	RP-120644	R5-121089	approved	Correction of power ratio allocation on PDSCH for common logical channels	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0291	-	Rel-10	F	RP-120644	R5-121121	approved	Correction to default mobilityParameters message contents	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0292	-	Rel-10	F	RP-120644	R5-121122	approved	Corrections to default overhead messages for HRPD	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0293	-	Rel-10	F	RP-120644	R5-121123	approved	Corrections to default overhead messages for 1xRTT	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0294	-	Rel-10	F	RP-120644	R5-121276	approved	Update of CSFBParametersRequest/ResponseCDMA2000 process in Registration	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0295	-	Rel-10	F	RP-120641	R5-121357	approved	RRM: Definition of parameters for simulated GSM cells	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0296	-	Rel-10	F	RP-120662	R5-121383	approved	SIB Combination for CA test scenarios	10.0.0	10.1.0	R5	LTE_CA-UEConTest

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36.508	0297	-	Rel-10	F	RP-120644	R5-121384	approved	Addition of default value of RSRQ Cell Reselection parameters	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0298	-	Rel-10	F	RP-120641	R5-121407	approved	Test frequencies for inter-band cells in RRM tests	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0299	-	Rel-10	F	RP-120644	R5-121413	approved	Update generic procedure 4.5A.6	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0300	-	Rel-10	F	RP-120644	R5-121414	approved	Update generic procedure 4.5A.7	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0301	-	Rel-10	F	RP-120644	R5-121439	approved	Update generic procedure 4.5A.3	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0302	-	Rel-10	F	RP-120644	R5-121447	approved	Correction to RadioResourceConfigCommon-DEFAULT	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0303	-	Rel-10	F	RP-120641	R5-122018	approved	Correction to Handover to UTRAN commands for UTRA RRC messages in 36.508	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0304	-	Rel-10	F	RP-120641	R5-121521	approved	Removing 5.2A.3 for State 2A	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0305	-	Rel-10	F	RP-120641	R5-121543	approved	Addition of A-GNSS testing to Test frequencies clause 4.3.1	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0306	-	Rel-10	F	RP-120641	R5-121544	approved	Ensuring all SS TX antennas are in use for whole test sequence	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0307	-	Rel-10	F	RP-120641	R5-121556	approved	Connection diagramm for RRM 3 cell TCs with static propagation	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0308	-	Rel-10	F	RP-120644	R5-121665	approved	Correction of Physical Layer configurations tables	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0309	-	Rel-10	F	RP-120644	R5-121712	approved	Update of default bandwidth configuration for E-UTRA FDD band 11 and 18	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0310	-	Rel-10	F	RP-120644	R5-121733	approved	Correction to default SIB4 contents for CSG cells	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0311	-	Rel-10	F	RP-120644	R5-121734	approved	Update of CDMA2000 Band Class data and addition of CDMA2000 Band Class 10	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0312	-	Rel-10	F	RP-120644	R5-121735	approved	Update to Reference dedicated EPS bearer context #3	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0313	-	Rel-10	F	RP-120644	R5-121736	approved	Add generic procedure MO video call	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0314	-	Rel-10	F	RP-120644	R5-121737	approved	Add generic procedure MT video call	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0315	-	Rel-10	F	RP-120644	R5-121809	approved	Clarifications to UICC requirements for LTE-C2K testing	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0316	-	Rel-10	F	RP-120644	R5-121847	approved	Update UE capability information	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0317	-	Rel-10	F	RP-120658	R5-121854	approved	Introduction of System information for PWS	10.0.0	10.1.0	R5	PWS-RAN-UEConTest
36.508	0318	-	Rel-10	F	RP-120662	R5-121856	approved	Update of the default value of Carrier Aggregation parameters	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.508	0319	-	Rel-10	F	RP-120644	R5-121888	approved	Correction to reference system configurations for dual mode scenarios	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.508	0320	-	Rel-10	F	RP-120667	R5-121905	approved	Adding operating band 26 to TS 36.508	10.0.0	10.1.0	R5	e850_UB-UEConTest
36.508	0321	-	Rel-10	F	RP-120641	R5-121919	approved	Addition of State 3B-RF in 36.508	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0322	-	Rel-10	F	RP-120641	R5-121936	approved	Correction to Tracking area updating procedure in 36.508	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.508	0323	-	Rel-10	F	RP-120662	R5-121982	approved	Addition of Testmode call procedure for CA test cases	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.508	0324	-	Rel-10	F	RP-120662	R5-122134	approved	36.508 - Test frequencies for CA_1C and CA_40C	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.521-1	0588	-	Rel-10	F	RP-120642	R5-121138	approved	Correction of TC 6.3.5.2 Power Control Relative power tolerance	10.1.0	10.2.0	R5	LTE-UEConTest_RF

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Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.521-1	0589	-	Rel-10	F	RP-120642	R5-121155	approved	Correction in test configuration table of sections 7.4 and 7.5	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0590	-	Rel-10	F	RP-120642	R5-121206	approved	Correction of test procedure for intermodulation	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0591	-	Rel-10	F	RP-120642	R5-121208	approved	Correction of test procedure for out-of-band blocking	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0592	-	Rel-10	F	RP-120662	R5-121221	approved	Relative frequency error for CA performance tests	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0593	-	Rel-10	F	RP-120642	R5-121241	approved	RF: Corrections to derivation of test requirements for some test points of TC 6.2.4	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0594	-	Rel-10	F	RP-120642	R5-121242	approved	RF: Updates to Annex I (Handling of different releases)	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0595	-	Rel-10	F	RP-120642	R5-121253	approved	RF: Clarification of test frequencies for UE co-existence emissions under Note 13	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0596	-	Rel-10	F	RP-120642	R5-121254	approved	RF: Minor correction to RMC reference in minimum test time annex for TC 8.3.2.1.3	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0597	-	Rel-10	F	RP-120662	R5-121305	approved	Removal of test description from Transmit off power for CA and introducing ON/OFF time mask for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0598	-	Rel-10	F	RP-120642	R5-121322	approved	Update of 6.3.4.2.2	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0599	-	Rel-10	F	RP-120662	R5-121337	approved	Clarifications to Maximum Power Reduction for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0600	-	Rel-10	F	RP-120642	R5-121438	approved	Modification to Configured UE transmitted Output Power	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0601	-	Rel-10	F	RP-120642	R5-121451	approved	Correction of the Band 23 for UE coexistence requirements	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0602	-	Rel-10	F	RP-120642	R5-121459	approved	Correction of RF Test case: 8.7.2.1 TDD sustained data rate performance	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0603	-	Rel-10	F	RP-120662	R5-121463	approved	Introduction of Adjacent Channel Selectivity (ACS) for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0604	-	Rel-10	F	RP-120662	R5-121475	approved	LTE CA general updates to sections 3 - 5	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0605	-	Rel-10	F	RP-120662	R5-121479	approved	CA RF - TC 6.2.2A MOP updates	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0606	-	Rel-10	F	RP-120662	R5-121482	approved	CA RF - 7.6.1A In-band blocking updates	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0607	-	Rel-10	F	RP-120662	R5-121483	approved	CA RF - 7.6.2A Out-of-band blocking updates	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0608	-	Rel-10	F	RP-120662	R5-121484	approved	CA RF - 7.6.3A Narrow-band blocking updates	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0609	-	Rel-10	F	RP-120662	R5-121485	approved	CA RF - 7.7A Spurious response updates	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0610	-	Rel-10	F	RP-120642	R5-121488	approved	LTE RF - TC 6.6.3.2 UE co-existence requirements correction	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0611	-	Rel-10	F	RP-120642	R5-121523	approved	Correction to downlink RB allocation in 7.5.4	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0612	-	Rel-10	F	RP-120642	R5-121525	approved	Correction to test requirement in 9.2.2.2	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0613	-	Rel-10	F	RP-120642	R5-121678	approved	TS 36.521-1: Spurious emission band UE co-existence alignment	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0614	-	Rel-10	F	RP-120642	R5-121680	approved	TS 36.521-1: Applicability correction for 9.3.2.1.1 and 9.3.2.1.2	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0615	-	Rel-10	F	RP-120642	R5-121700	approved	Suffix definition of Clause 5 for CA, UL-MIMO,and DL-MIMO for 36.521-1 R-10	10.1.0	10.2.0	R5	LTE-UEConTest_RF

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Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.521-1	0616	-	Rel-10	F	RP-120642	R5-121903	approved	Update of Band 41 RF requirements to align with recent core specification changes	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0617	-	Rel-10	F	RP-120667	R5-121906	approved	TS 36.521-1: Introduction of Band 26/XXVI in section 5	10.1.0	10.2.0	R5	e850_UB-UEConTest
36.521-1	0618	-	Rel-10	F	RP-120667	R5-121907	approved	TS 36.521-1: Band 26 Test points for A-MPR test	10.1.0	10.2.0	R5	e850_UB-UEConTest
36.521-1	0619	-	Rel-10	F	RP-120662	R5-121909	approved	CA RF - Adding contents to TC 6.2.4A A-MPR for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0620	-	Rel-10	F	RP-120667	R5-121918	approved	TS 36.521-1: Introduction of Band 26/XXVI in section 6	10.1.0	10.2.0	R5	e850_UB-UEConTest
36.521-1	0621	-	Rel-10	F	RP-120642	R5-121920	approved	Corrections of test parameters and test procedure for ACS	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0622	-	Rel-10	F	RP-120667	R5-121921	approved	TS 36.521-1: Introduction of Band 26/XXVI in section 7	10.1.0	10.2.0	R5	e850_UB-UEConTest
36.521-1	0623	-	Rel-10	F	RP-120662	R5-121925	approved	CA RF - addition of test case 8.7.2.1A TDD sustained data rate performance for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0624	-	Rel-10	F	RP-120642	R5-121937	approved	A-MPR: Band 20, NS_10 not tested	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0625	-	Rel-10	F	RP-120642	R5-121938	approved	RF: Several corrections to sustained data rate TC-s 8.7.1 and 8.7.2	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0626	-	Rel-10	F	RP-120642	R5-121939	approved	RF: Corrections to CSI tests	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0627	-	Rel-10	F	RP-120665	R5-121944	approved	Addition of a new TC 6.3.3B	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0628	-	Rel-10	F	RP-120665	R5-121945	approved	Addition of a new TC 6.3.2B for Minimum Output Power for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0629	-	Rel-10	F	RP-120665	R5-121946	approved	Addition of a new TC 6.3.4B	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0630	-	Rel-10	F	RP-120665	R5-121947	approved	Addition of a new TC 6.5.1B for Frequency Error for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0631	-	Rel-10	F	RP-120665	R5-121948	approved	Addition of a new TC 6.6.1B	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0632	-	Rel-10	F	RP-120665	R5-121949	approved	Addition of a new TC 6.7B	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0633	-	Rel-10	F	RP-120665	R5-121950	approved	Addition of a new TC for Configured transmitted power for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0634	-	Rel-10	F	RP-120665	R5-121951	approved	Addition of a new TC for Power Control Absolute P ower Tolerance for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0635	-	Rel-10	F	RP-120662	R5-121955	approved	SEM for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0636	-	Rel-10	F	RP-120665	R5-121956	approved	Addition of a new TC for Carrier leakage for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0637	-	Rel-10	F	RP-120665	R5-121957	approved	Addition of a new TC for In-band emissions for non allocated RB for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0638	-	Rel-10	F	RP-120665	R5-121958	approved	Addition of a new TC for EVM equalizer spectrum flatness for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0639	-	Rel-10	F	RP-120665	R5-121959	approved	Addition of a new TC for Reference sensitivity level for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0640	-	Rel-10	F	RP-120665	R5-121960	approved	Addition of a new TC for Maximum input level for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0641	-	Rel-10	F	RP-120665	R5-121961	approved	Addition of a new TC for Adjacent Channel Selectivity (ACS) for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0642	-	Rel-10	F	RP-120665	R5-121962	approved	Addition of a new TC for In-band blocking for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest

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36.521-1	0643	-	Rel-10	F	RP-120665	R5-121963	approved	Addition of a new TC for Narrow band blocking for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0644	-	Rel-10	F	RP-120665	R5-121964	approved	Addition of a new TC for Wide band Intermodulation for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0645	-	Rel-10	F	RP-120662	R5-121983	approved	Introduction of Chapter8 Single antenna port and Open loop spatial Multiplexing TDD test cases for CA capable UEs	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0646	-	Rel-10	F	RP-120662	R5-121984	approved	EVM and Global In-Channel TX-Test for intra band CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0647	-	Rel-10	F	RP-120662	R5-121985	approved	RF: Corrections to applicabillity of some CA tests	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0648	-	Rel-10	F	RP-120662	R5-121986	approved	Addition of test description to Occupied bandwidth for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0649	-	Rel-10	F	RP-120662	R5-121987	approved	Addition of test description to ACLR for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0650	-	Rel-10	F	RP-120662	R5-121988	approved	Addition of test description to Transmitter Spurious emissions for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0651	-	Rel-10	F	RP-120662	R5-121989	approved	Addition of test description to Reference sensitivity level for CA	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-1	0652	-	Rel-10	F	RP-120642	R5-121994	approved	Addition of Codebook Subset Restriction in 8.3.2.x	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0653	-	Rel-10	F	RP-120642	R5-121995	approved	Update of 6.3.5.2	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0654	-	Rel-10	F	RP-120642	R5-121996	approved	TS 36.521-1: 9.4.1.2.1 and 9.4.1.2.2.1 test procedure correction	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0655	-	Rel-10	F	RP-120642	R5-121997	approved	TS 36.521-1: Minimum conformance requirements alignments for section 9	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-1	0656	-	Rel-10	F	RP-120665	R5-122003	approved	Addition of a new TC for Out-of-band blocking for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0657	-	Rel-10	F	RP-120665	R5-122004	approved	Addition of a new TC for Spurious response for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0658	-	Rel-10	F	RP-120665	R5-122006	approved	Addition of a new TC for Error Vector Magnitude for UL-MIMO	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-2	0055	-	Rel-10	F	RP-120662	R5-121185	approved	Updates to applicability for newly introduced CA feature TDD chapter 8 test cases in 36.521-2	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-2	0056	-	Rel-10	F	RP-120667	R5-121219	approved	Adding operating band 26 to TS 36.521-2	10.1.0	10.2.0	R5	e850_UB-UEConTest
36.521-2	0057	-	Rel-10	F	RP-120642	R5-121904	approved	Addition of applicability for E-UTRAN Inter frequency case reselection in the existence of non-allowed CSG cell	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-2	0058	-	Rel-10	F	RP-120665	R5-121965	approved	Applicability for new UL MIMO test cases	10.1.0	10.2.0	R5	LTE_UL_MIMO-UEConTest
36.521-2	0059	-	Rel-10	F	RP-120642	R5-121966	approved	Updates to applicability for Transmit timing tests in 36.521-2	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-2	0060	-	Rel-10	F	RP-120642	R5-121967	approved	Applicability for new R9 RRM test cases	10.1.0	10.2.0	R5	LTE-UEConTest_RF
36.521-2	0061	-	Rel-10	F	RP-120662	R5-121990	approved	Addition of applicaplity for CA TCs	10.1.0	10.2.0	R5	LTE_CA-UEConTest
36.521-3	0548	-	Rel-9	F	RP-120643	R5-121073	approved	Removal of technical content in 36.521-3 v9.8.0 and substitution with pointer to the next Release	9.8.0	9.9.0	R5	LTE-UEConTest_RF
36.521-3	0549	-	Rel-10	F	RP-120643	R5-121229	approved	Correction of test procedures for Autonomous gap test cases, section 8	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0550	-	Rel-10	F	RP-120643	R5-121240	approved	Revise test frequencies for FDD-TDD interworking Test cases	10.0.0	10.1.0	R5	LTE-UEConTest_RF

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36.521-3	0551	-	Rel-10	F	RP-120643	R5-121247	approved	RRM: Removal of Editors note on connection diagram used in intra frequency tests in static conditions	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0552	-	Rel-10	F	RP-120643	R5-121527	approved	Addition of Handover to UTRAN commands in 36.521-3	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0553	-	Rel-10	F	RP-120643	R5-121528	approved	Correction of drx-RetransmissionTimer parameters	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0554	-	Rel-10	F	RP-120643	R5-121529	approved	Correction to Test2 in 7.1.1 and 7.1.2 of 36.521-3	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0555	-	Rel-10	F	RP-120643	R5-121530	approved	Correction to DRX offset in 7.1.2	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0556	-	Rel-10	F	RP-120643	R5-122007	approved	Correction to SR Config Index for TDD DRX test cases	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0557	-	Rel-10	F	RP-120643	R5-121532	approved	Correction to 8.11.1 and 8.11.2	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0558	-	Rel-10	F	RP-120643	R5-121547	approved	Addition of new TCs for UTRAN TDD P-CCPCH RSCP measurement	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0559	-	Rel-10	F	RP-120643	R5-121691	approved	TS 36.521-3: 8.3.3 and 8.4.3 update	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0560	-	Rel-10	F	RP-120643	R5-121901	approved	Introduction of E-UTRAN Inter Introduction of E-UTRAN Inter frequency case reselection in the existence of non-allowed CSG cell	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0561	-	Rel-10	F	RP-120643	R5-121902	approved	Addition of new RRM TC 6.3.1: Redirection from E-UTRAN FDD to UTRAN FDD	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0562	-	Rel-10	F	RP-120643	R5-121922	approved	Addition of new RRM TC 6.3.2: Redirection from E-UTRAN TDD to UTRAN FDD	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0563	-	Rel-10	F	RP-120643	R5-121923	approved	Addition of new RRM TC 6.3.3: Redirection from E-UTRAN FDD to GERAN when System Information is provided	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0564	-	Rel-10	F	RP-120643	R5-121924	approved	Addition of new RRM TC 6.3.4: Redirection from E-UTRAN TDD to GERAN when System Information is provided	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0565	-	Rel-10	F	RP-120643	R5-121927	approved	Uncertainties and Test Tolerances for TC 9.6.2	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0566	-	Rel-10	F	RP-120643	R5-121929	approved	Uncertainties and Test Tolerances for RRM test cases 4.2.4 and 4.2.5	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0567	-	Rel-10	F	RP-120643	R5-121930	approved	Uncertainties and Test Tolerances for RRM test cases 5.1.7 and 5.1.8	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0568	-	Rel-10	F	RP-120643	R5-121931	approved	Uncertainties and Test Tolerances for RRM test cases 8.14.1	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0569	-	Rel-10	F	RP-120643	R5-121932	approved	Uncertainties and Test Tolerances for RRM test case 8.15.1	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0570	-	Rel-10	F	RP-120643	R5-121933	approved	Uncertainties and Test Tolerances for RRM test case 9.1.5.1	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0571	-	Rel-10	F	RP-120643	R5-121934	approved	Uncertainties and Test Tolerances for FDD - TDD Inter Frequency Relative Accuracy of RSRP test case 9.1.5.2	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0572	-	Rel-10	F	RP-120643	R5-121940	approved	Correction to the test mode references for RRM tests	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0573	-	Rel-10	F	RP-120643	R5-121941	approved	Addition of new RRM TC 6.3.5: E-UTRA TDD RRC connection release redirection to UTRA TDD	10.0.0	10.1.0	R5	LTE-UEConTest_RF

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36.521-3	0574	-	Rel-10	F	RP-120643	R5-121942	approved	RRM: Introduction of Annex for handling of different releases and UE capabilities	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0575	-	Rel-10	F	RP-120667	R5-121969	approved	Adding operating band 26 to TS 36.521-3	10.0.0	10.1.0	R5	e850_UB-UEConTest
36.521-3	0576	-	Rel-10	F	RP-120643	R5-121977	approved	Change in transmit timing tests based on DRX feature group indicator	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0577	-	Rel-10	F	RP-120662	R5-121980	approved	Clarifications to FDD RSRQ for E-UTRA Carrier Aggregation	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.521-3	0578	-	Rel-10	F	RP-120662	R5-121981	approved	Clarifications to TDD RSRQ for E-UTRA Carrier Aggregation	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.521-3	0579	-	Rel-10	F	RP-120643	R5-121991	approved	Further Test Tolerance analysis for operating band 25 and 41 in 36.521-3	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0580	-	Rel-10	F	RP-120643	R5-121998	approved	Addition of new RRM TC 6.3.6: E-UTRA FDD RRC connection release redirection to UTRA TDD	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0581	-	Rel-10	F	RP-120643	R5-121999	approved	Addition of new RRM TC 8.5.4 E-UTRAN FDD - UTRAN FDD enhanced cell identification under AWGN propagation conditions	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0582	-	Rel-10	F	RP-120643	R5-122000	approved	Addition of new RRM TC 8.7.4 E-UTRA TDD-UTRA TDD enhanced cell identification under AWGN propagation conditions	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0583	-	Rel-10	F	RP-120643	R5-122001	approved	Addition of new RRM TC 8.9.2 E-UTRA FDD-UTRA TDD enhanced cell identification under AWGN propagation conditions	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.521-3	0584	-	Rel-10	F	RP-120643	R5-122002	approved	RRM: Clarifications to the OCNG patterns	10.0.0	10.1.0	R5	LTE-UEConTest_RF
36.523-1	1737	-	Rel-9	F	RP-120645	R5-121074	approved	Removal of technical content in 36.523-1 v9.8.0 and substitution with pointer to the next Release	9.8.0	9.9.0	R5	LTE-UEConTest_SIG
36.523-1	1738	-	Rel-10	F	RP-120645	R5-121080	approved	GCF Priority m1: Optimisation of frequency allocation	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1739	-	Rel-10	F	RP-120645	R5-121081	approved	GCF Priority P2: Optimisation of frequency allocation	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1740	-	Rel-10	F	RP-120645	R5-121087	approved	GCF Priority U1 - Correction to EUTRA RRC test case 8.1.3.7	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1741	-	Rel-10	F	RP-120645	R5-121099	approved	GCF Priority U1 - Correction to EMM test case 9.2.3.3.6	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1742	-	Rel-10	F	RP-120645	R5-121106	approved	GCF Priority U1 - Correction to test EUTRA-UTRA test case 13.3.2.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1743	-	Rel-10	F	RP-120645	R5-121108	approved	GCF Priority C1 - Correction to test cases 6.2.3.8 and 6.2.3.8a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1744	-	Rel-10	F	RP-120645	R5-121142	approved	GCF priority 3 - Correction to idle mode test case 6.1.2.13	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1745	-	Rel-10	F	RP-120645	R5-121158	approved	GCF Priority X - corrections to TC 13.4.4.3	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1746	-	Rel-10	F	RP-120645	R5-121159	approved	GCF Priority X - corrections to TC 13.4.4.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1747	-	Rel-10	F	RP-120645	R5-121202	approved	GCF priority x - Update of test case 6.1.1.1a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1748	-	Rel-10	F	RP-120645	R5-121275	approved	GCF Priority 2 - Update of test cases 9.3.1.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1749	-	Rel-10	F	RP-120645	R5-121278	approved	GCF Priority X - Update of Inter-system session management test case 13.4.4.1 and 13.4.4.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG

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36.523-1	1750	-	Rel-10	F	RP-120735	R5-121289	approved	GCF Priority X - Update to test case 8.6.6.1	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1751	-	Rel-10	F	RP-120645	R5-121293	approved	GCF Priority X - Addition of new test case 8.2.4.13	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1752	-	Rel-10	F	RP-120645	R5-121295	approved	GCF Priority X - Addition of new test case 8.2.4.15	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1753	-	Rel-10	F	RP-120645	R5-121296	approved	GCF Priority X - Addition of new test case 8.3.1.15	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1754	-	Rel-10	F	RP-120645	R5-121297	approved	GCF Priority X - Addition of new test case 8.3.1.16	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1755	-	Rel-10	F	RP-120645	R5-121394	approved	GCF Priority 4 Correction of test case 8.2.4.10	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1756	-	Rel-10	F	RP-120645	R5-121411	approved	GCF Priority 4 - Update test case 8.1.2.6	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1757	-	Rel-10	F	RP-120645	R5-121412	approved	GCF Priority 4 - Update test case 8.1.2.9	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1758	-	Rel-10	F	RP-120645	R5-121419	approved	GCF Priority 2 and 3 - Removal of 'Active' flag test cases	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1759	-	Rel-10	F	RP-120645	R5-121426	approved	Changing to Void of GERAN to E-UTRAN section 8.4.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1760	-	Rel-10	F	RP-120645	R5-121437	approved	GCF Priority g1 - Correction to EUTRA test case 8.1.3.8	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1761	-	Rel-10	F	RP-120645	R5-121450	approved	GCF Priority 3 - Correction to EUTRA MAC testcase 7.1.4.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1762	-	Rel-10	F	RP-120645	R5-121465	approved	GCF Priority 1 and 3 - Correction to EMM test cases 9.2.1.1.2 and 9.2.2.1.8	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1763	-	Rel-10	F	RP-120645	R5-121466	approved	GCF Priority U1 - Correction to multi-layer test case 13.1.5	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1764	-	Rel-10	F	RP-120645	R5-121504	approved	GCF priority 2: Correction to test case 9.2.1.17	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1765	-	Rel-10	F	RP-120645	R5-121505	approved	GCF priority G1: Correction to test case 13.4.2.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1766	-	Rel-10	F	RP-120658	R5-121511	approved	Introduction of new PWS test case 18.1.4	10.0.0	10.1.0	R5	PWS-RAN-UEConTest
36.523-1	1767	-	Rel-10	F	RP-120662	R5-121517	approved	Introduction of new Rel10 CA test case 7.1.4.21	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1768	-	Rel-10	F	RP-120645	R5-121541	approved	GCF Priority 1, 2, 3, 4 and U1 - Correction to EMM test cases to use new PICS	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1769	-	Rel-10	F	RP-120645	R5-121548	approved	GCF Priority 1 - Correction to EUTRA RRC test case 8.5.4.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1770	-	Rel-10	F	RP-120645	R5-121550	approved	GCF Priority 4 - Correction to ESM test case 10.8.7	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1771	-	Rel-10	F	RP-120735	R5-121623	approved	Radio Link Failure logging / Reporting at GERAN Inter-RAT handover	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1772	-	Rel-10	F	RP-120645	R5-121632	approved	GCF Priority 4 - Update test case 13.4.3.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1773	-	Rel-10	F	RP-120645	R5-121666	approved	GCF Priority 3 - Correction to EMM test case 9.2.3.1.17	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1774	-	Rel-10	F	RP-120645	R5-121703	approved	GCF Priority u1 - Correction to Multilayer test case 13.4.2.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1775	-	Rel-10	F	RP-120645	R5-121738	approved	GCF Priority 1 and 3 - Correction to EUTRA MAC test cases 7.1.7.1.1, 7.1.7.1.2, 7.1.7.1.3, 7.1.7.1.4, 7.1.7.1.5, 7.1.7.1.6 and 7.1.7.2.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1776	-	Rel-10	F	RP-120645	R5-121739	approved	GCF Priority 1 - Correction to EMM test case 9.2.3.1.5	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1777	-	Rel-10	F	RP-120645	R5-121740	approved	GCF Priority 2: Addition of equivalent EMM test cases for single frequency operation	10.0.0	10.1.0	R5	LTE-UEConTest_SIG

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36.523-1	1778	-	Rel-10	F	RP-120645	R5-121742	approved	GCF Priority 2: Corrections to EMM test cases to enable single frequency operation	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1779	-	Rel-10	F	RP-120645	R5-121743	approved	GCF Priority 2 - Update to test case 10.4.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1780	-	Rel-10	F	RP-120645	R5-121744	approved	GCF Priority 3 - Correction to EUTRA MAC testcase 7.1.3.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1781	-	Rel-10	F	RP-120645	R5-121746	approved	GCF Priority 4 - Correction to EMM CSG test case 9.3.1.18	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1782	-	Rel-10	F	RP-120645	R5-121747	approved	GCF Priority 3 Update of TC 9.2.3.1.23	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1783	-	Rel-10	F	RP-120645	R5-121748	approved	GCF Priority 3 - Correction to EMM test case 9.2.1.1.23, 9.2.3.2.4, 9.2.3.2.14, 9.2.3.2.2, 9.2.3.2.17	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1784	-	Rel-10	F	RP-120645	R5-121749	approved	GCF Priority 3 - Correction to EMM test case 9.2.3.1.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1785	-	Rel-10	F	RP-120645	R5-121750	approved	GCF Priority 3 - Correction to EMM test case 9.2.2.1.7	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1786	-	Rel-10	F	RP-120645	R5-121753	approved	GCF Priority 4 - Correction to EUTRA Idle Mode test cases 6.1.1.6 and 6.1.1.6a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1787	-	Rel-10	F	RP-120645	R5-121754	approved	GCF priority 4 - Correction to Idle Mode test case 6.1.2.12	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1788	-	Rel-10	F	RP-120645	R5-121755	approved	GCF Priority 4 - Correction to Idle mode test case 6.1.1.6a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1789	-	Rel-10	F	RP-120645	R5-121756	approved	GCF Priority 4 - Editorial corrections to some EMM test cases	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1790	-	Rel-10	F	RP-120645	R5-121757	approved	GCF Priority 4 - Update test case 13.4.3.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1791	-	Rel-10	F	RP-120645	R5-121758	approved	GCF Priority 4 - Update test case 13.4.3.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1792	-	Rel-10	F	RP-120645	R5-121759	approved	GCF Priority 4 - Update to test case 14.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1793	-	Rel-10	F	RP-120645	R5-121760	approved	GCF Priority u1 - Update to EUTRA Idle Mode test case 6.2.1.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1794	-	Rel-10	F	RP-120645	R5-121761	approved	GCF Priority u1 - Correction to EUTRA Idle Mode test case 6.2.1.3	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1795	-	Rel-10	F	RP-120645	R5-121762	approved	GCF Priority u1 - Correction to EMM test case 9.2.1.2.11	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1796	-	Rel-10	F	RP-120645	R5-121763	approved	GCF Priority u1 - Correction to EMM test case 9.2.1.2.15	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1797	-	Rel-10	F	RP-120645	R5-121764	approved	GCF Priority u1 - Correction to EMM test case 9.2.3.3.5	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1798	-	Rel-10	F	RP-120646	R5-121765	approved	GCF Priority u1 - Correction to EMM test case 9.2.1.2.1d	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1799	-	Rel-10	F	RP-120646	R5-121766	approved	GCF Priority u1 - Correction to EMM test case 9.2.3.2.1c	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1800	-	Rel-10	F	RP-120646	R5-121767	approved	GCF Priority U1 - Correction to EUTRA Multi-Layer test case 13.1.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1801	-	Rel-10	F	RP-120646	R5-121768	approved	GCF Priority U1 - Correction to multi-layer test case 13.4.2.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1802	-	Rel-10	F	RP-120646	R5-121771	approved	GCF Priority g1 - Correction to EUTRA test case 6.2.2.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1803	-	Rel-10	F	RP-120646	R5-121772	approved	GCF Priority g1 - Correction to EUTRA test case 6.2.3.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1804	-	Rel-10	F	RP-120646	R5-121773	approved	GCF Priority g1 - Correction to EUTRA test case 8.3.2.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1805	-	Rel-10	F	RP-120646	R5-121774	approved	GCF Priority g1 - Update to test case 9.2.3.3.5a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1806	-	Rel-10	F	RP-120646	R5-121775	approved	GCF Priority g1 - Correction to EMM test case 9.2.3.4.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG

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36.523-1	1807	-	Rel-10	F	RP-120646	R5-121776	approved	GCF Priority g2 Correction of test case 8.4.3.1	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1808	-	Rel-10	F	RP-120646	R5-121780	approved	GCF Priority X - Update to test case 6.2.3.33	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1809	-	Rel-10	F	RP-120646	R5-121781	approved	GCF Priority X - Addition of new test case 8.1.3.12	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1810	-	Rel-10	F	RP-120646	R5-121782	approved	GCF Priority X - Addition of new test case 8.1.3.11	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1811	-	Rel-10	F	RP-120646	R5-121783	approved	GCF Priority X - Addition of new Rel-9 EUTRA RRC test case 8.1.3.6a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1812	-	Rel-10	F	RP-120646	R5-121784	approved	GCF Priority X - Addition of new test case 8.2.4.14	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1813	-	Rel-10	F	RP-120646	R5-121785	approved	GCF Priority X - Addition of new test case 8.3.1.12	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1814	-	Rel-10	F	RP-120646	R5-121786	approved	GCF Priority X - Addition of new test case 8.3.1.13	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1815	-	Rel-10	F	RP-120646	R5-121787	approved	GCF Priority X - Addition of new test case 8.3.1.14	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1816	-	Rel-10	F	RP-120646	R5-121788	approved	GCF Priority C2 - Correction to test case 8.4.5.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1817	-	Rel-10	F	RP-120646	R5-121789	approved	Addition of new e1xCSFB Rel-9 test case 8.4.7.7	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1818	-	Rel-10	F	RP-120646	R5-121790	approved	Addition of new e1xCSFB Rel-9 test case 8.4.7.8	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1819	-	Rel-10	F	RP-120646	R5-121791	approved	Addition of new e1xCSFB Rel-9 test case 8.4.7.9	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1820	-	Rel-10	F	RP-120646	R5-121792	approved	Addition of new Rel-9 SRVCC test case 13.4.3.6	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1821	-	Rel-10	F	RP-120646	R5-121793	approved	GCF Priority X - Addition of new test case 13.4.1.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1822	-	Rel-10	F	RP-120646	R5-121794	approved	GCF Priority X Addition of new test case 13.3.1.3	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1823	-	Rel-10	F	RP-120655	R5-121807	approved	GCF Priority X - Update of IMS test case 11.2.8	10.0.0	10.1.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1824	-	Rel-10	F	RP-120655	R5-121808	approved	Add new test case 11.2.11	10.0.0	10.1.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1825	-	Rel-10	F	RP-120663	R5-121826	approved	New UTRAN ANR/E-UTRAN test case 8.7.1	10.0.0	10.1.0	R5	ANR_UTRAN-UEConTest
36.523-1	1826	-	Rel-10	F	RP-120735	R5-121828	approved	Update of MDT test case 8.6.2.3	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1827	-	Rel-10	F	RP-120735	R5-121829	approved	Update of MDT test case 8.6.2.4	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1828	-	Rel-10	F	RP-120735	R5-121830	approved	Addition of new MDT test case 8.6.2.5	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1829	-	Rel-10	F	RP-120735	R5-121831	approved	Addition of new MDT test case 8.6.2.6	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1830	-	Rel-10	F	RP-120735	R5-121832	approved	Addition of new MDT test case 8.6.2.7	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1831	-	Rel-10	F	RP-120735	R5-121833	approved	Addition of new MDT test case 8.2.6.8	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1832	-	Rel-10	F	RP-120735	R5-121834	approved	GCF Priority X - Addition of new test case 8.6.4.5	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest

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36.523-1	1833	-	Rel-10	F	RP-120735	R5-121836	approved	GCF Priority X - Addition of new test case 8.6.4.6	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1834	-	Rel-10	F	RP-120735	R5-121837	approved	GCF Priority X - Addition of new test case 8.6.5.1	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1835	-	Rel-10	F	RP-120735	R5-121839	approved	GCF Priority X - Addition of new test case 8.6.6.3	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1836	-	Rel-10	F	RP-120735	R5-121840	approved	GCF Priority X - Addition of new test case 8.6.7.1	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1837	-	Rel-10	F	RP-120735	R5-121841	approved	New Logged MDT test case 8.6.3.1	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1838	-	Rel-10	F	RP-120735	R5-121843	approved	Radio Link Failure logging / Reporting at RRC connection establishment and reestablishment	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1839	-	Rel-10	F	RP-120735	R5-121844	approved	Radio Link Failure logging / Reporting at E-UTRA handover	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1840	-	Rel-10	F	RP-120646	R5-121848	approved	Correction to UE Pre-test condition for TS 36.523-1 Test Case 6.4.7 (Inter-RAT cell reselection / From GSM_Idle/GPRS Packet_Idle to E-UTRA RRC_IDLE member hybrid cell)	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1841	-	Rel-10	F	RP-120646	R5-121849	approved	Correction of E-UTRAN<>GERAN test cases for Classmark Change	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1842	-	Rel-10	F	RP-120658	R5-121855	approved	Addition of new PWS Rel-9 test case 18.1.7	10.0.0	10.1.0	R5	PWS-RAN-UEConTest
36.523-1	1843	-	Rel-10	F	RP-120662	R5-121857	approved	Correction of CA TC 8.2.2.3	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1844	-	Rel-10	F	RP-120662	R5-121858	approved	Correction of CA TC 8.2.2.4	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1845	-	Rel-10	F	RP-120662	R5-121859	approved	Correction of CA TC 8.2.2.5	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1846	-	Rel-10	F	RP-120662	R5-121860	approved	Correction of CA TC 8.2.4.17	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1847	-	Rel-10	F	RP-120662	R5-121861	approved	Removal of CA TC 8.2.4.16	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1848	-	Rel-10	F	RP-120662	R5-121862	approved	Correction of CA TC 8.3.1.17	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1849	-	Rel-10	F	RP-120662	R5-121863	approved	Correction of CA TC 8.3.1.18	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1850	-	Rel-10	F	RP-120662	R5-121865	approved	GCF Priority X - Addition of new CA test case	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1851	-	Rel-10	F	RP-120646	R5-121869	approved	GCF Priority 1 - Correction to EUTRA RLC test case 7.2.3.10	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1852	-	Rel-10	F	RP-120646	R5-121870	approved	GCF Priority 1 - Correction to EUTRA RLC test case 7.2.3.13	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1853	-	Rel-10	F	RP-120646	R5-121889	approved	Update to TC 6.1.1.3a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1854	-	Rel-10	F	RP-120646	R5-121890	approved	Update to TC 6.1.1.4a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1855	-	Rel-10	F	RP-120646	R5-121891	approved	Update to TC 6.1.2.15a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1856	-	Rel-10	F	RP-120646	R5-121892	approved	Update to TC 6.1.2.16	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1857	-	Rel-10	F	RP-120646	R5-121893	approved	GCF Priority X Correction of test cases 6.2.3.3a and 6.2.3.5a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG

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36.523-1	1858	-	Rel-10	F	RP-120646	R5-121894	approved	GCF Priority 4: Modification on TC 8.1.2.9	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1859	-	Rel-10	F	RP-120646	R5-121895	approved	Update to TC 8.1.3.11a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1860	-	Rel-10	F	RP-120646	R5-121896	approved	Update to TC 8.1.3.12a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1861	-	Rel-10	F	RP-120646	R5-121897	approved	Update to TC 8.2.4.13a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1862	-	Rel-10	F	RP-120646	R5-121898	approved	Update to TC 8.2.4.14a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1863	-	Rel-10	F	RP-120646	R5-121899	approved	Update to TC 8.2.4.15a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1864	-	Rel-10	F	RP-120662	R5-122008	approved	Introduction of new Rel10 CA test case 7.1.9.1	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-1	1865	-	Rel-10	F	RP-120735	R5-122009	approved	Radio Link Failure logging / Reporting at CDMA2000 Inter-RAT handover	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1866	-	Rel-10	F	RP-120735	R5-122010	approved	Immediate MDT / Reporting / Location information	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	1867	-	Rel-10	F	RP-120646	R5-122011	approved	GCF Priority U1 - Correction to EMM test case 9.2.3.3.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1868	-	Rel-10	F	RP-120646	R5-122012	approved	GCF Priority X - Update of EMM test case 9.2.1.2.1b	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1869	-	Rel-10	F	RP-120646	R5-122013	approved	GCF Priority X - Update of EMM test case 9.2.1.2.1c	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1870	-	Rel-10	F	RP-120646	R5-122016	approved	Addition of new e1xCSFB Rel-9 test case 13.4.4.5	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1871	-	Rel-10	F	RP-120646	R5-122100	approved	Update to TC 8.3.1.12a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1872	-	Rel-10	F	RP-120646	R5-122101	approved	Updates to TC 8.3.1.13a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1873	-	Rel-10	F	RP-120646	R5-122102	approved	Update to TC 8.3.1.14a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1874	-	Rel-10	F	RP-120646	R5-122103	approved	Update to TC 8.3.1.15a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1875	-	Rel-10	F	RP-120646	R5-122104	approved	Update to TC 8.3.1.16a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1876	-	Rel-10	F	RP-120646	R5-122105	approved	GCF Priority U1 - Correction to EUTRA RRC test case 8.4.2.2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1877	-	Rel-10	F	RP-120646	R5-122107	approved	GCF Priority U1 - Correction to EMM test case 9.2.1.2.13	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1878	-	Rel-10	F	RP-120646	R5-122108	approved	GCF Priority U1 - Correction to EMM test case 9.2.3.2.9	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1879	-	Rel-10	F	RP-120646	R5-122113	approved	GCF Priority 4 - Correction to EMM test case 9.2.3.2.4	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1880	-	Rel-10	F	RP-120646	R5-122114	approved	GCF Priority u1 - Correction to EMM test case 9.2.3.3.3	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1881	-	Rel-10	F	RP-120646	R5-122115	approved	GCF Priority U1: Modification on TC 9.2.3.2.13	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-1	1882	-	Rel-10	F	RP-120646	R5-122119	approved	GCF priority 3: Correction to EMM TC 9.2.3.1.17	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0302	-	Rel-9	F	RP-120647	R5-121075	approved	Removal of technical content in 36.523-2 v9.8.0 and substitution with pointer to the next Release	9.8.0	9.9.0	R5	LTE-UEConTest_SIG
36.523-2	0303	-	Rel-10	F	RP-120647	R5-121200	approved	Addition of applicability statement for new Rel-9 SRVCC test case 13.4.3.6	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0304	-	Rel-10	F	RP-120647	R5-121204	approved	GCF priority x - Update applicability of test case 6.1.1.1a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0305	-	Rel-10	F	RP-120735	R5-121213	approved	Applicability of new MDT test cases 8.6.2.5	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest

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36.523-2	0306	-	Rel-10	F	RP-120735	R5-121215	approved	Applicability of new MDT test cases 8.6.2.6	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0307	-	Rel-10	F	RP-120735	R5-121217	approved	Applicability of new MDT test cases 8.6.2.7	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0308	-	Rel-10	F	RP-120735	R5-121220	approved	Applicability of new MDT test cases 8.6.2.8	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0309	-	Rel-10	F	RP-120667	R5-121224	approved	Adding operating band 26 to TS 36.523-2	10.0.0	10.1.0	R5	e850_UB-UEConTest
36.523-2	0310	-	Rel-10	F	RP-120647	R5-121302	approved	Correction to applicability for test case 9.2.3.3.5a	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0311	-	Rel-10	F	RP-120735	R5-121399	approved	Addition of applicability statement for Logged MDT test case 8.6.3.1	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0312	-	Rel-10	F	RP-120647	R5-121401	approved	Correction of PICS for RSRQ Cell Reselection Applicability	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0313	-	Rel-10	F	RP-120647	R5-121421	approved	GCF Priority 2 and 3 - Removal of 'Active' flag test cases from 36.523-2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0314	-	Rel-10	F	RP-120647	R5-121427	approved	Editorial clean up of 36.523-2	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0315	-	Rel-10	F	RP-120647	R5-121429	approved	Update of Number of TC Executions for multi-frequency TCs	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0316	-	Rel-10	F	RP-120658	R5-121512	approved	Introduction of applicability of new PWS test case 18.1.4	10.0.0	10.1.0	R5	PWS-RAN-UEConTest
36.523-2	0317	-	Rel-10	F	RP-120647	R5-121542	approved	Addition of new PICS item	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0318	-	Rel-10	F	RP-120655	R5-121638	approved	Add applicability for TC 11.2.11	10.0.0	10.1.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-2	0319	-	Rel-10	F	RP-120647	R5-121670	approved	GCF Priority 3 - Update of applicability for EMM test case 9.2.2.1.7	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0320	-	Rel-10	F	RP-120647	R5-121741	approved	GCF Priority 2: Addition of applicability for equivalent EMM test cases for single frequency operation	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0321	-	Rel-10	F	RP-120647	R5-121751	approved	GCF priority 3 - Correction to applicability of idle mode test case 6.2.2.5	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0322	-	Rel-10	F	RP-120647	R5-121752	approved	GCF Priority 3 - Correction to applicability of EMM test case 9.2.3.2.17	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0323	-	Rel-10	F	RP-120647	R5-121797	approved	GCF Priority X - Addition of applicability for new E-UTRA inter-band test cases	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0324	-	Rel-10	F	RP-120647	R5-121798	approved	Correction to applicability for test cases 9.2.3.3.2, 9.2.3.3.3 and 9.2.3.3.5	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0325	-	Rel-10	F	RP-120647	R5-121799	approved	Updates to ICS for inter-mode TCs	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0326	-	Rel-10	F	RP-120647	R5-121800	approved	Correction to applicability of EMM test cases 9.2.3.1.9, 9.2.1.2.1b, 9.2.2.1.4 and 9.2.3.2.1b	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0327	-	Rel-10	F	RP-120647	R5-121801	approved	Addition of missing applicability conditions in 36.523-2 for E-UTRA Inter-System mobility Test Cases from 36.523-1.	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0328	-	Rel-10	F	RP-120647	R5-121802	approved	Correction of TC release	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0329	-	Rel-10	F	RP-120663	R5-121827	approved	Applicability of new UTRAN ANR/E-UTRAN test case	10.0.0	10.1.0	R5	ANR_UTRAN-UEConTest

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36.523-2	0330	-	Rel-10	F	RP-120735	R5-121845	approved	Applicability of new test case for RLF reporting	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0331	-	Rel-10	F	RP-120662	R5-121864	approved	Correction of CA TC 8.2.4.17 Applicability, and removal of TC 8.2.4.16	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-2	0332	-	Rel-10	F	RP-120662	R5-121867	approved	Applicability of new CA test case for intra-frequency handover	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-2	0333	-	Rel-10	F	RP-120662	R5-121868	approved	Introduction of applicabiliy of new Rel10 CA test case	10.0.0	10.1.0	R5	LTE_CA-UEConTest
36.523-2	0334	-	Rel-10	F	RP-120647	R5-122117	approved	Addition and Update of applicability statement for Rel-9 e1xCSFB test cases	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0335	-	Rel-10	F	RP-120647	R5-122118	approved	Clarification of PICS conditions	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-2	0336	-	Rel-10	F	RP-120735	R5-122123	approved	Applicability for new MDT TCs	10.0.0	10.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0337	-	Rel-10	F	RP-120658	R5-122128	approved	Addition of applicability statement for new PWS Rel-9 test case 18.1.7	10.0.0	10.1.0	R5	PWS-RAN-UEConTest
36.523-2	0338	-	Rel-10	F	RP-120647	R5-122137	approved	Addition of applicability statement for E-UTRAN test cases 13.3.1.3	10.0.0	10.1.0	R5	LTE-UEConTest_SIG
36.523-3	0991	-	Rel-9	F	RP-120647	R5-121777	approved	Update of Timing parameters of E-UTRAN TDD cells	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	0992	-	Rel-10	F	RP-120647	R5-121779	approved	36523-3 routine maintenance and updates	9.3.0	10.0.0	R5	LTE-UEConTest_SIG
36.523-3	0993	-	Rel-10	F	RP-120647	R5-121850	approved	Correction to Postamble Procedure for E-UTRAN to GERAN tests	9.3.0	10.0.0	R5	LTE-UEConTest_SIG
36.523-3	0994	-	Rel-9	F	RP-120647	R5-122121	approved	Add new guidelines for TC executions	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	0995	-	Rel-9	F	RP-120653	-	approved	CR to 36.523-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 36.523-3 (prose), Annex A	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	0996	-	Rel-9	F	RP-120651	R5s120347	approved	Correction to EMM test case 9.2.1.1.7	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	0997	-	Rel-9	F	RP-120651	R5s120346	approved	Correction to EMM test case 9.2.1.2.1d	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	0998	-	Rel-9	F	RP-120651	R5s120345	approved	Correction to GCF WI-091 EUTRA RLC test cases 7.2.3.10 and 7.2.3.13	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	0999	-	Rel-9	F	RP-120651	R5s120344	approved	Correction to GCF WI-081 EUTRA MAC SPS testcase 7.1.4.14	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1000	-	Rel-9	F	RP-120651	R5s120342	approved	Correction to GCF WI-086 EUTRA Multilayer Testcase 13.1.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1001	-	Rel-9	F	RP-120651	R5s120339	approved	Correction to GCF WI-087 EUTRA EMM Testcase 9.2.1.2.8	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1002	-	Rel-9	B	RP-120651	R5s120340	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.3.1.15	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1003	-	Rel-9	F	RP-120651	R5s120338	approved	Correction to GCF WI-082 EUTRA CSG Testcase 9.2.1.1.18	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1004	-	Rel-9	B	RP-120651	R5s120335	approved	LTE_TDD: Addition of GCF WI-097 Idle mode test case 6.2.3.16	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1005	-	Rel-9	F	RP-120651	R5s120334	approved	Correction to the Band applicability of single frequency operation test cases	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1006	-	Rel-9	B	RP-120651	R5s120329	approved	Addition of GCF WI-082 EUTRA CSG Testcase 9.3.1.18	9.3.0	9.4.0	R5	LTE-UEConTest_SIG

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36.523-3	1007	-	Rel-9	F	RP-120651	R5s120327	approved	Correction of GCF WI-082 EUTRA EMM Testcase 9.2.3.2.4	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1008	-	Rel-9	F	RP-120651	R5s120328	approved	Correction of GCF WI-086 EUTRA EMM Testcase 9.2.3.3.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1009	-	Rel-9	F	RP-120651	R5s120326	approved	Correction to GCF WI-082 EUTRA CSG Testcase 9.2.1.1.18	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1010	-	Rel-9	F	RP-120651	R5s120325	approved	Correction to GCF WI-087 EUTRAN EMM Testcase 9.2.1.2.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1011	-	Rel-9	F	RP-120651	R5s120323	approved	Correction for GERAN SI2Quater message content	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1012	-	Rel-9	F	RP-120651	R5s120322	approved	Correction of EUTRA Idle Mode Testcase 6.1.1.1b	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1013	-	Rel-9	F	RP-120651	R5s120321	approved	Correction to UTRA SIB19 for IE “qRxLevMinEUTRA”	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1014	-	Rel-9	F	RP-120651	R5s120320	approved	Correction to EMM test case 9.2.3.3.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1015	-	Rel-9	F	RP-120651	R5s120317	approved	Correction to GCF WI-086 EUTRA Multilayer Testcase 13.4.2.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1016	-	Rel-9	F	RP-120651	R5s120318	approved	Correction to EUTRA Idle Mode Testcase 6.1.2.8a and 6.1.2.9a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1017	-	Rel-9	F	RP-120651	R5s120313	approved	Correction to GCF WI-081 EUTRA MAC Testcase 7.1.4.12	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1018	-	Rel-9	F	RP-120651	R5s120314	approved	Correction to GCF WI-081 EUTRA EPC testcase 9.2.1.1.2 and 9.2.2.1.8	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1019	-	Rel-9	F	RP-120651	R5s120315	approved	Correction to GCF WI-089 EUTRA RRCTestcase 8.3.2.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1020	-	Rel-9	F	RP-120651	R5s120316	approved	Correction to GCF WI-081 EUTRA MAC SPS testcase 7.1.4.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1021	-	Rel-9	F	RP-120651	R5s120312	approved	Correction to GCF WI-086 EUTRA Multilayer Testcase 13.4.2.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1022	-	Rel-9	F	RP-120651	R5s120310	approved	Correction to EUTRA test case 8.3.2.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1023	-	Rel-9	B	RP-120651	R5s120308	approved	Addition of GCF WI 86 Multilayer test case 13.4.2.4	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1024	-	Rel-9	B	RP-120651	R5s120306	approved	LTE_TDD: Addition of GCF WI-097 EUTRA - GERAN test case 6.2.3.15	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1025	-	Rel-9	F	RP-120651	R5s120305	approved	Correction for EMM testcase 9.2.3.1.22	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1026	-	Rel-9	F	RP-120651	R5s120304	approved	Correction to GCF WI-081 EUTRA MAC testcase 7.1.8.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1027	-	Rel-9	F	RP-120651	R5s120303	approved	Correction for GERAN message definitions	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1028	-	Rel-9	B	RP-120651	R5s120301	approved	Addition of GCF WI 86 Multilayer test case 13.1.3	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1029	-	Rel-9	F	RP-120651	R5s120298	approved	Correction to GCF WI-082 EUTRA CSG Testcase 9.2.3.1.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1030	-	Rel-9	F	RP-120651	R5s120297	approved	Correction to EUTRA MAC test case 7.1.4.10	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1031	-	Rel-9	B	RP-120651	R5s120295	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.3.1.17	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1032	-	Rel-9	F	RP-120651	R5s120178	approved	Baseline upgrade of LTE ATS to March-12 in Rel-10	9.3.0	9.4.0	R5	TEI10_Test
36.523-3	1033	-	Rel-9	F	RP-120651	R5s120294	approved	Correction to template cdr_RRC_ConnReqWith_v860ext	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1034	-	Rel-9	B	RP-120651	R5s120292	approved	LTE_TDD: Addition of EUTRA RRC test case 8.1.2.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1035	-	Rel-9	F	RP-120651	R5s120291	approved	Correction to GCF WI-082 EMM test case 9.2.3.1.16	9.3.0	9.4.0	R5	LTE-UEConTest_SIG

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36.523-3	1036	-	Rel-9	F	RP-120651	R5s120290	approved	Correction for SIB 7 default contents	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1037	-	Rel-9	F	RP-120651	R5s120289	approved	Correction to Timing Calculation on EUTRA Cells	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1038	-	Rel-9	B	RP-120651	R5s120287	approved	Addition of GCF WI-087 EUTRA - GERAN test case 6.2.3.16	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1039	-	Rel-9	B	RP-120651	R5s120281	approved	LTE_TDD: Addition of EUTRA Idle mode test case 6.1.1.2a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1040	-	Rel-9	B	RP-120651	R5s120283	approved	LTE_TDD: Addition of EUTRA Idle mode test case 6.1.1.6a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1041	-	Rel-9	B	RP-120651	R5s120279	approved	LTE_TDD: Addition of EUTRA Idle mode test case 6.1.2.9a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1042	-	Rel-9	B	RP-120651	R5s120277	approved	LTE_TDD: Addition of EUTRA Idle mode test case 6.1.2.8a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1043	-	Rel-9	B	RP-120651	R5s120275	approved	LTE_TDD: Addition of EUTRA Idle mode test case 6.1.1.1b	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1044	-	Rel-9	F	RP-120651	R5s120274	approved	Correction to EMM Test Cases	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1045	-	Rel-9	F	RP-120651	R5s120266	approved	Correction of GCF WI 86 Multilayer test case 13.1.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1046	-	Rel-9	F	RP-120651	R5s120271	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.3.3.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1047	-	Rel-9	F	RP-120651	R5s120250	approved	Correction to GCF WI-081 EUTRA test case 8.5.4.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1048	-	Rel-9	F	RP-120651	R5s120265	approved	Correction to EMM test cases 9.2.3.1.9, 9.2.1.2.1b, 9.2.2.1.4 and 9.2.3.2.1b	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1049	-	Rel-9	F	RP-120651	R5s120263	approved	Correction to EMM testcase 9.2.2.1.10	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1050	-	Rel-9	F	RP-120651	R5s120264	approved	Correction to EMM testcase 9.2.3.1.25, 9.2.3.1.26, 9.2.1.1.23, 9.3.1.4, 9.3.1.5 and 9.3.1.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1051	-	Rel-9	F	RP-120651	R5s120262	approved	Correction to EMM testcase 9.2.1.1.18	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1052	-	Rel-9	F	RP-120651	R5s120261	approved	Correction to EMM testcase 9.2.3.2.17	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1053	-	Rel-9	B	RP-120651	R5s120259	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.1.2.11	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1054	-	Rel-9	B	RP-120651	R5s120257	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.1.2.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1055	-	Rel-9	B	RP-120651	R5s120253	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.3.2.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1056	-	Rel-9	B	RP-120651	R5s120255	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.3.2.7	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1057	-	Rel-9	B	RP-120651	R5s120251	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.3.2.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1058	-	Rel-9	B	RP-120651	R5s120248	approved	LTE_TDD: Addition of GCF WI-097 EUTRA RRC testcase 8.3.2.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1059	-	Rel-9	B	RP-120651	R5s120246	approved	LTE_TDD: Addition of GCF WI-097 EUTRA RRC testcase 8.3.2.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1060	-	Rel-9	B	RP-120651	R5s120244	approved	Addition of GCF WI-087 EUTRA RRC testcase 8.3.2.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1061	-	Rel-9	B	RP-120651	R5s120240	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.1.2.15	9.3.0	9.4.0	R5	LTE-UEConTest_SIG

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36.523-3	1062	-	Rel-9	B	RP-120651	R5s120238	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.1.2.7	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1063	-	Rel-9	B	RP-120651	R5s120236	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.1.2.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1064	-	Rel-9	B	RP-120651	R5s120234	approved	LTE_TDD: Addition of GCF WI-097 EMM test case 9.2.1.2.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1065	-	Rel-9	F	RP-120651	R5s120243	approved	Correction to EUTRA-HRPD test case 6.2.3.8	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1066	-	Rel-9	B	RP-120651	R5s120232	approved	Addition of GCF WI-082 EMM test case 9.2.3.2.16	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1067	-	Rel-9	B	RP-120651	R5s120230	approved	Addition of GCF WI-082 EMM test case 9.2.3.1.20	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1068	-	Rel-9	B	RP-120651	R5s120228	approved	Addition of EMM EUTRA <>UTRA testcase 9.2.3.2.1c	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1069	-	Rel-9	F	RP-120651	R5s120227	approved	Correction to EUTRA test case 6.1.1.4	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1070	-	Rel-9	B	RP-120651	R5s120221	approved	Addition of GCF WI-087 EUTRA - GERAN test case 6.2.3.15	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1071	-	Rel-9	F	RP-120651	R5s120224	approved	Correction to GCF WI-082 EMM test case 9.2.3.1.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1072	-	Rel-9	F	RP-120651	R5s120223	approved	Correction to default Packet Application type	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1073	-	Rel-9	F	RP-120651	R5s120220	approved	Correction to the template cs_508_UplinkPowerControlDedicated_Default	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1074	-	Rel-9	B	RP-120651	R5s120218	approved	Addition of GCF WI-087 EMM testcase 9.2.3.4.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1075	-	Rel-9	F	RP-120651	R5s120216	approved	Correction to GCF WI-082 EMM test case 9.2.3.1.16	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1076	-	Rel-9	B	RP-120651	R5s120214	approved	LTE_TDD: Addition of GCF WI-091 EUTRA MAC testcase 7.1.3.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1077	-	Rel-9	F	RP-120651	R5s120213	approved	Correction to EMM test case 9.2.2.1.8	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1078	-	Rel-9	F	RP-120651	R5s120212	approved	Correction to EMM testcase 9.2.3.2.1a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1079	-	Rel-9	F	RP-120651	R5s120211	approved	Correction to GCF WI-082 EMM test case 9.2.3.1.26	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1080	-	Rel-9	F	RP-120651	R5s120210	approved	Correction to EMM testcase 9.2.3.3.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1081	-	Rel-9	F	RP-120651	R5s120209	approved	Correction to GCF WI-085 Interband test case 8.2.4.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1082	-	Rel-9	F	RP-120651	R5s120208	approved	Correction to EUTRA test case 8.1.3.8	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1083	-	Rel-9	F	RP-120651	R5s120207	approved	Correction to GCF WI-081 RLC test case 7.2.3.21	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1084	-	Rel-9	F	RP-120651	R5s120206	approved	Update of default bandwidth for signalling conformance tests in E-UTRA band 11 + 18	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1085	-	Rel-9	B	RP-120651	R5s120202	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.1.1.11	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1086	-	Rel-9	B	RP-120651	R5s120204	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.3.1.18	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1087	-	Rel-9	F	RP-120651	R5s120201	approved	Correction to GCF WI-081 EUTRA RRC test case 8.2.1.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1088	-	Rel-9	F	RP-120651	R5s120200	approved	Correction to EUTRA test case 7.1.3.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1089	-	Rel-9	B	RP-120651	R5s120198	approved	Addition of GCF WI 81 EUTRA MAC test case 7.1.4.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1090	-	Rel-9	F	RP-120651	R5s120197	approved	Correction to EUTRA test case 7.1.4.12	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1091	-	Rel-9	B	RP-120651	R5s120193	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.3.1.4	9.3.0	9.4.0	R5	LTE-UEConTest_SIG

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36.523-3	1092	-	Rel-9	B	RP-120651	R5s120195	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.3.1.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1093	-	Rel-9	B	RP-120651	R5s120185	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.1.1.12	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1094	-	Rel-9	B	RP-120651	R5s120187	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.3.1.10	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1095	-	Rel-9	B	RP-120651	R5s120189	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.3.1.11	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1096	-	Rel-9	B	RP-120651	R5s120191	approved	LTE_TDD: Addition of GCF WI-092 EMM test case 9.2.3.1.12	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1097	-	Rel-9	B	RP-120651	R5s120181	approved	LTE_TDD: Addition of GCF WI-097 EUTRA Idle mode test case 6.2.2.2	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1098	-	Rel-9	B	RP-120651	R5s120183	approved	LTE_TDD: Addition of GCF WI-097 EUTRA Idle mode test case 6.2.3.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1099	-	Rel-9	B	RP-120651	R5s120179	approved	LTE_TDD: Addition of GCF WI-097 EUTRA Idle mode test case 6.2.1.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1100	-	Rel-9	B	RP-120651	R5s120175	approved	LTE_TDD: Addition of EUTRA Idle mode test case 6.1.2.7a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1101	-	Rel-9	B	RP-120651	R5s120173	approved	LTE_TDD: Addition of EUTRA Idle mode test case 6.1.1.3b	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1102	-	Rel-9	B	RP-120651	R5s120165	approved	LTE_TDD: Addition of GCF WI-097 EUTRA Idle mode test case 6.2.1.4	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1103	-	Rel-9	B	RP-120651	R5s120167	approved	LTE_TDD: Addition of GCF WI-097 EUTRA Idle mode test case 6.2.2.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1104	-	Rel-9	B	RP-120651	R5s120169	approved	LTE_TDD: Addition of GCF WI-097 EUTRA Idle mode test case 6.2.3.14	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1105	-	Rel-9	F	RP-120651	R5s120162	approved	Correction to EMM test case 9.2.1.2.15	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1106	-	Rel-9	B	RP-120651	R5s120158	approved	Addition of EUTRA Idle Mode testcase 6.1.1.6a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1107	-	Rel-9	B	RP-120651	R5s120160	approved	Addition of EUTRA Idle Mode testcase 6.1.1.1b	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1108	-	Rel-9	F	RP-120651	R5s120119	approved	Regression CR for LTE wk09 ATS	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1109	-	Rel-9	B	RP-120651	R5s120139	approved	Addition of GCF WI-086 EUTRA <>UTRA testcase 13.3.2.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1110	-	Rel-9	B	RP-120651	R5s120156	approved	Addition of EMM EUTRA <>UTRA testcase 9.2.1.2.1d	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1111	-	Rel-9	B	RP-120651	R5s120150	approved	Addition of GCF WI-091 EUTRA Idle Mode testcase 6.1.2.9a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1112	-	Rel-9	B	RP-120651	R5s120148	approved	Addition of EUTRA Idle Mode testcase 6.1.2.8a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1113	-	Rel-9	B	RP-120651	R5s120154	approved	Addition of EUTRA Idle Mode testcase 6.1.1.3b	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1114	-	Rel-9	B	RP-120651	R5s120152	approved	Addition of EUTRA Idle Mode testcase 6.1.1.2a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1115	-	Rel-9	B	RP-120651	R5s120146	approved	Addition of EUTRA Idle Mode testcase 6.1.2.7a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1116	-	Rel-9	B	RP-120651	R5s120144	approved	LTE_TDD: Addition of GCF WI-091 EUTRA MAC testcase 7.1.4.14	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1117	-	Rel-9	F	RP-120651	R5s120143	approved	Correction to GCF WI-086 EUTRA-UTRAN test case 9.2.3.2.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1118	-	Rel-9	F	RP-120651	R5s120142	approved	Correction to f_EUTRA_IdleUpdated_Step14_15	9.3.0	9.4.0	R5	LTE-UEConTest_SIG

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36.523-3	1119	-	Rel-9	F	RP-120651	R5s120141	approved	Correction to UTRAN function f_UTRAN_GMM_RAU	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1120	-	Rel-9	F	RP-120651	R5s120136	approved	Correction to EUTRA Idle Updated Teststep	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1121	-	Rel-9	F	RP-120651	R5s120138	approved	Correction to GCF WI-86 EUTRA RRC Testcase 8.4.1.2 and 8.4.1.4	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1122	-	Rel-9	F	RP-120651	R5s120137	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.3.3.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1123	-	Rel-9	F	RP-120651	R5s120135	approved	Correction to GCF WI-081 EUTRA MAC test cases 7.1.7.x	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1124	-	Rel-9	F	RP-120651	R5s120133	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.1.2.11	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1125	-	Rel-9	F	RP-120651	R5s120134	approved	Correction to EUTRA Auxiliary Functions in LTE/SAE ATS_12wk09	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1126	-	Rel-9	F	RP-120651	R5s120127	approved	Correction to GCF WI-086 EUTRA-UTRAN test case 9.2.3.3.4	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1127	-	Rel-9	F	RP-120651	R5s120132	approved	Correction to WI-086 EUTRA EMM Testcase 9.2.1.1.11	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1128	-	Rel-9	F	RP-120651	R5s120129	approved	Correction to the implementation of SI 2 quarter message	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1129	-	Rel-9	F	RP-120651	R5s120130	approved	Correction to WI-081 EUTRA Idle Mode Testcase 6.1.2.13	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1130	-	Rel-9	F	RP-120651	R5s120125	approved	Correction to EMM testcase 9.2.1.1.23, 9.2.3.2.4, 9.2.3.2.14, 9.2.3.2.2, 9.2.3.2.17	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1131	-	Rel-9	F	RP-120651	R5s120122	approved	Correction to GCF WI-086 UTRAN-EUTRA test case 6.2.2.8	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1132	-	Rel-9	F	RP-120651	R5s120124	approved	Correction to EUTRA RRC test case 8.1.1.3	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1133	-	Rel-9	F	RP-120651	R5s120121	approved	Correction to TA transmission in wk09 TTCN	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1134	-	Rel-9	B	RP-120651	R5s120115	approved	Addition of EUTRA Hybrid CSG Cell test case 6.4.1	9.3.0	9.4.0	R5	TEI9_Test
36.523-3	1135	-	Rel-9	B	RP-120651	R5s120117	approved	Addition of GCF WI-086 EUTRA <>UTRA testcase 13.1.5	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1136	-	Rel-9	B	RP-120651	R5s120111	approved	Addition of GCF WI-086 EUTRA –UTRAN test case 13.1.16	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1137	-	Rel-9	B	RP-120651	R5s120113	approved	Addition of GCF WI-086 EUTRA <>UTRA testcase 13.4.2.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1138	-	Rel-9	B	RP-120651	R5s120109	approved	Addition of GCF WI-082 EMM test case 9.2.3.1.9	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1139	-	Rel-9	F	RP-120651	R5s120104	approved	Correction to GCF WI-082 EMM test case 9.2.3.1.17	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1140	-	Rel-9	F	RP-120651	R5s120106	approved	Correction to GERAN paging group calculation in LTE ATS_12wk05	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1141	-	Rel-9	B	RP-120651	R5s120102	approved	Addition of GCF WI-081 EUTRA Idle Mode test case 6.3.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1142	-	Rel-9	F	RP-120651	R5s120099	approved	Correction to EUTRA Test Case 8.2.1.5 and 8.2.1.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1143	-	Rel-9	F	RP-120651	R5s120100	approved	Correction to EUTRA EMM test case 9.2.1.2.11	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1144	-	Rel-9	F	RP-120651	R5s120101	approved	Correction to DCI2 configuration	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1145	-	Rel-9	F	RP-120651	R5s120098	approved	Correction to UTRAN Component in LTE ATS_12wk05	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1146	-	Rel-9	F	RP-120651	R5s120097	approved	Correction to LTE IRAT test cases	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1147	-	Rel-9	F	RP-120651	R5s120096	approved	Correction to EMM test case 9.2.3.2.17	9.3.0	9.4.0	R5	LTE-UEConTest_SIG

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36.523-3	1148	-	Rel-9	F	RP-120651	R5s120095	approved	Correction to EUTRA testcases	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1149	-	Rel-9	F	RP-120651	R5s120090	approved	Correction to EUTRA Idle mode test case 6.2.3.14	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1150	-	Rel-9	F	RP-120651	R5s120089	approved	Correction to EMM testcase 9.2.3.1.23	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1151	-	Rel-9	F	RP-120651	R5s120091	approved	Correction to EUTRA Idle mode test case 6.2.3.1	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1152	-	Rel-9	F	RP-120651	R5s120088	approved	Correction to EUTRA MAC test cases 7.1.4.7a	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1153	-	Rel-9	B	RP-120651	R5s120086	approved	Addition of GCF WI 86 Multilayer test case 13.1.15	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1154	-	Rel-9	F	RP-120651	R5s120084	approved	Correction to EMM testcase 9.2.1.1.25	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1155	-	Rel-9	F	RP-120651	R5s120083	approved	Correction to EUTRA MAC testcase 7.1.4.14	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.523-3	1156	-	Rel-9	F	RP-120651	R5s120082	approved	Correction to EUTRA RRC test case 8.3.2.6	9.3.0	9.4.0	R5	LTE-UEConTest_SIG
36.903	0029	-	Rel-9	F	RP-120649	R5-121246	approved	Grouping of positioning test cases in TR36.903	9.3.0	9.4.0	R5	TEI9_Test
36.903	0030	-	Rel-9	F	RP-120643	R5-121606	approved	Add Test Tolerance analysis for RRM test cases 4.2.4 and 4.2.5	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.903	0031	-	Rel-9	F	RP-120643	R5-121608	approved	Add Test Tolerance analysis for RRM test cases 5.1.7 and 5.1.8	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.903	0032	-	Rel-9	F	RP-120643	R5-121610	approved	Add Test Tolerance analysis for RRM test cases 8.14.1	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.903	0033	-	Rel-9	F	RP-120643	R5-121612	approved	Add Test Tolerance analysis for RRM test cases 8.15.1	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.903	0034	-	Rel-9	F	RP-120643	R5-121614	approved	Add Test Tolerance analysis for RRM test case 9.1.5.1	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.903	0035	-	Rel-9	F	RP-120643	R5-121616	approved	Addition of Test Tolerance analysis for FDD - TDD Inter Frequency Relative Accuracy of RSRP test case 9.1.5.2	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.903	0036	-	Rel-9	F	RP-120643	R5-121926	approved	TT 9.6.2 analysis for 36.903	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.903	0037	-	Rel-9	F	RP-120643	R5-121928	approved	Resubmission of TT Analysis for TC 4.5.1.1 in 36.903	9.3.0	9.4.0	R5	LTE-UEConTest_RF
36.942	0011	1	Rel-10	F	RP-120778	R4-122073	approved	Clarification of unwanted emissions requirements for TS 36.942 Rel-10	10.2.0	10.3.0	R4	TEI10
36.942	0012	1	Rel-8	F	RP-120766	R4-123493	approved	Clarification of uplink power control in TR36.942	8.3.0	8.4.0	R4	TEI8
36.942	0013	1	Rel-9	A	RP-120766	R4-123494	approved	Clarification of uplink power control in TR36.942	9.2.0	9.3.0	R4	TEI8
36.942	0014	1	Rel-10	A	RP-120766	R4-123495	approved	Clarification of uplink power control in TR36.942	10.2.0	10.3.0	R4	TEI8
37.104	0069	-	Rel-11	B	RP-120793	R4-122275	approved	Introduction of APAC700(FDD) into TS 37.104	11.0.0	11.1.0	R4	LTE_APAC700-Core
37.104	0070	-	Rel-9	F	RP-120771	R4-122429	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R9)	9.6.0	9.7.0	R4	TEI9
37.104	0071	-	Rel-10	A	RP-120771	R4-122430	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R10)	10.6.0	10.7.0	R4	TEI9
37.104	0072	-	Rel-11	A	RP-120771	R4-122431	approved	Introduction of Japanese Regulatory Requirements to W-CDMA Band VIII (R11)	11.0.0	11.1.0	R4	TEI9
37.104	0073	-	Rel-10	F	RP-120777	R4-122926	approved	Additional BC3 blocking	10.6.0	10.7.0	R4	TEI10
37.104	0074	-	Rel-11	A	RP-120777	R4-122927	approved	Additional BC3 blocking	11.0.0	11.1.0	R4	TEI10
37.104	0075	1	Rel-11	B	RP-120793	R4-123616	approved	Introduction of Band 44	11.0.0	11.1.0	R4	LTE_APAC700-Core

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37.104	0076	2	Rel-11	B	RP-120791	R4-123670	approved	Introduction of e850_LB (Band 27) to TS 37.104	11.0.0	11.1.0	R4	LTE_e850_LB-Core
37.113	0023	-	Rel-11	B	RP-120793	R4-123110	approved	Introduction of APAC700(FDD) into TS 37.113	11.0.0	11.1.0	R4	LTE_APAC700-Core
37.113	0024	-	Rel-11	B	RP-120793	R4-123125	approved	Introduction of APAC700(TDD) into TS 37.113	11.0.0	11.1.0	R4	LTE_APAC700-Core
37.113	0025	-	Rel-11	B	RP-120791	R4-123232	approved	Introduction of e850_LB (Band 27) to TS 37.113	11.0.0	11.1.0	R4	LTE_e850_LB-Core
37.141	0112	-	Rel-9	F	RP-120770	R4-121293	approved	CR to TS37.141:Correct maximum test system uncertainty for transmit ON/OFF power	9.7.0	9.8.0	R4	TEI9
37.141	0113	-	Rel-10	A	RP-120770	R4-121295	approved	CR to TS37.141:Correct maximum test system uncertainty for transmit ON/OFF power	10.6.0	10.7.0	R4	TEI9
37.141	0114	-	Rel-11	A	RP-120770	R4-121305	approved	CR to TS37.141:Correct maximum test system uncertainty for transmit ON/OFF power	11.0.0	11.1.0	R4	TEI9
37.141	0117	-	Rel-10	F	RP-120778	R4-121759	approved	Correcting a test configuration in TS 37.141	10.6.0	10.7.0	R4	TEI10
37.141	0118	-	Rel-11	A	RP-120778	R4-121760	approved	Correcting a test configuration in TS 37.141	11.0.0	11.1.0	R4	TEI10
37.141	0120	-	Rel-10	F	RP-120779	R4-122259	approved	Correction on ACLR procedure and test requirement	10.6.0	10.7.0	R4	TEI10
37.141	0121	-	Rel-11	A	RP-120779	R4-122260	approved	Correction on ACLR procedure and test requirement	11.0.0	11.1.0	R4	TEI10
37.141	0122	-	Rel-9	F	RP-120771	R4-122261	approved	Transmitter intermodulation applicability clarification for single-RAT specifications	9.7.0	9.8.0	R4	TEI9
37.141	0123	-	Rel-10	A	RP-120771	R4-122262	approved	Transmitter intermodulation applicability clarification for single-RAT specifications	10.6.0	10.7.0	R4	TEI9
37.141	0124	-	Rel-11	A	RP-120771	R4-122263	approved	Transmitter intermodulation applicability clarification for single-RAT specifications	11.0.0	11.1.0	R4	TEI9
37.141	0125	-	Rel-11	B	RP-120793	R4-122276	approved	Introduction of APAC700(FDD) into TS 37.141	11.0.0	11.1.0	R4	LTE_APAC700-Core
37.141	0126	-	Rel-10	F	RP-120778	R4-122753	approved	Correction of the manufacturer's declaration	10.6.0	10.7.0	R4	TEI10
37.141	0127	-	Rel-11	A	RP-120778	R4-122758	approved	Correction of the manufacturer's declaration	11.0.0	11.1.0	R4	TEI10
37.141	0128	1	Rel-10	F	RP-120778	R4-123587	approved	Correction of test case for transmitter intermodulation requirement of BC1	10.6.0	10.7.0	R4	TEI10
37.141	0129	1	Rel-11	A	RP-120778	R4-123588	approved	Correction of test case for transmitter intermodulation requirement of BC1	11.0.0	11.1.0	R4	TEI10
37.141	0130	-	Rel-10	F	RP-120779	R4-122775	approved	Corrections for MSR and MSR-NC	10.6.0	10.7.0	R4	TEI10
37.141	0131	-	Rel-11	A	RP-120779	R4-122776	approved	Corrections for MSR and MSR-NC	11.0.0	11.1.0	R4	TEI10
37.141	0134	-	Rel-10	F	RP-120777	R4-122931	approved	Additional BC3 blocking	10.6.0	10.7.0	R4	TEI10
37.141	0135	-	Rel-11	A	RP-120777	R4-122934	approved	Additional BC3 blocking	11.0.0	11.1.0	R4	TEI10
37.141	0136	1	Rel-11	B	RP-120793	R4-123617	approved	Introduction of Band 44	11.0.0	11.1.0	R4	LTE_APAC700-Core
37.141	0137	2	Rel-11	B	RP-120792	R4-123671	approved	Introduction of e850_LB (Band 27) to TS 37.141	11.0.0	11.1.0	R4	LTE_e850_LB-Perf
37.320	0045	1	Rel-11	B	RP-120819	R2-123156	approved	Introduction of MDT enhancements	10.4.0	11.0.0	R2	eMDT_UMTSLTE-Core
37.571-1	0007	-	Rel-9	F	RP-120649	R5-121126	approved	Update to Figure 9.1.1.3-1	9.1.0	9.2.0	R5	TEI9_Test
37.571-1	0008	-	Rel-9	F	RP-120649	R5-121127	approved	Clarification to notes in tests 9.1.3 & 9.1.4	9.1.0	9.2.0	R5	TEI9_Test

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Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
37.571-1	0009	-	Rel-9	F	RP-120649	R5-121128	approved	Clarifications to frequencies and bandwidths to be used	9.1.0	9.2.0	R5	TEI9_Test
37.571-1	0010	-	Rel-9	F	RP-120649	R5-121129	approved	Setting responseTime in ECID test cases	9.1.0	9.2.0	R5	TEI9_Test
37.571-1	0011	-	Rel-9	F	RP-120649	R5-121130	approved	Modifications to signalling used in OTDOA test cases	9.1.0	9.2.0	R5	TEI9_Test
37.571-1	0012	-	Rel-9	F	RP-120667	R5-121908	approved	Adding operating band 26 to TS 37.571-1	9.1.0	9.2.0	R5	e850_UB-UEConTest
37.571-2	0010	-	Rel-9	F	RP-120649	R5-121134	approved	Clarification to cell synchronization for OTDOA	9.1.0	9.2.0	R5	TEI9_Test
37.571-2	0011	-	Rel-9	F	RP-120649	R5-121148	approved	Completion of Test Case 7.3.1.1	9.1.0	9.2.0	R5	TEI9_Test
37.571-5	0006	-	Rel-9	F	RP-120649	R5-121136	approved	Corrections to GPS Almanac data file	9.2.0	9.3.0	R5	TEI9_Test
37.571-5	0007	-	Rel-9	F	RP-120649	R5-121137	approved	Removal of OTDOA data for signalling test cases	9.2.0	9.3.0	R5	TEI9_Test
37.571-5	0008	-	Rel-9	F	RP-120649	R5-121249	approved	LBS: Corrections to gnss-SystemTime message	9.2.0	9.3.0	R5	TEI9_Test
37.571-5	0009	-	Rel-9	F	RP-120649	R5-121853	approved	Additions and corrections to GNSS data	9.2.0	9.3.0	R5	TEI9_Test
37.571-5	0010	-	Rel-9	F	RP-120649	R5-121910	approved	Additions and corrections to GNSS data	9.2.0	9.3.0	R5	TEI9_Test
37.571-5	0011	-	Rel-9	F	RP-120649	R5-121911	approved	Reduction in size of GPS data file	9.2.0	9.3.0	R5	TEI9_Test
37.901	0013	-	Rel-11	F	RP-120669	R5-121371	approved	Modification of D.2 and D3.4.1	11.2.0	11.3.0	R5	TEI11_Test
37.901	0014	-	Rel-11	F	RP-120669	R5-121810	approved	Update of TR 37.901 to include various geometries per RAN4 LS	11.2.0	11.3.0	R5	TEI11_Test
37.901	0015	-	Rel-11	F	RP-120669	R5-122135	approved	Update of TR 37.901 to include Multi-cell tests per RAN4 LS	11.2.0	11.3.0	R5	TEI11_Test

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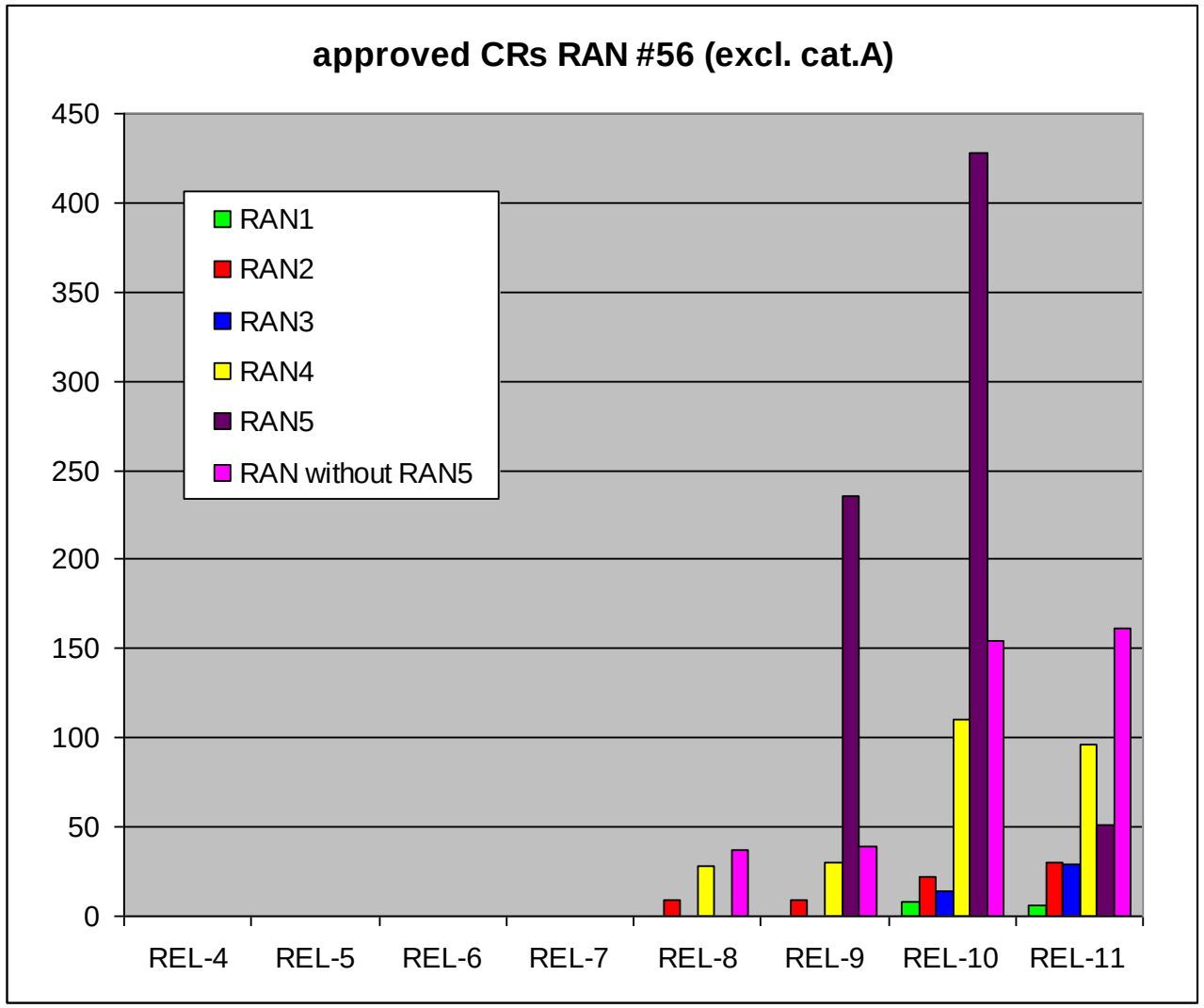


Fig. E-1: Approved CRs (excluding category A CRs) of RAN #56 per WG and release

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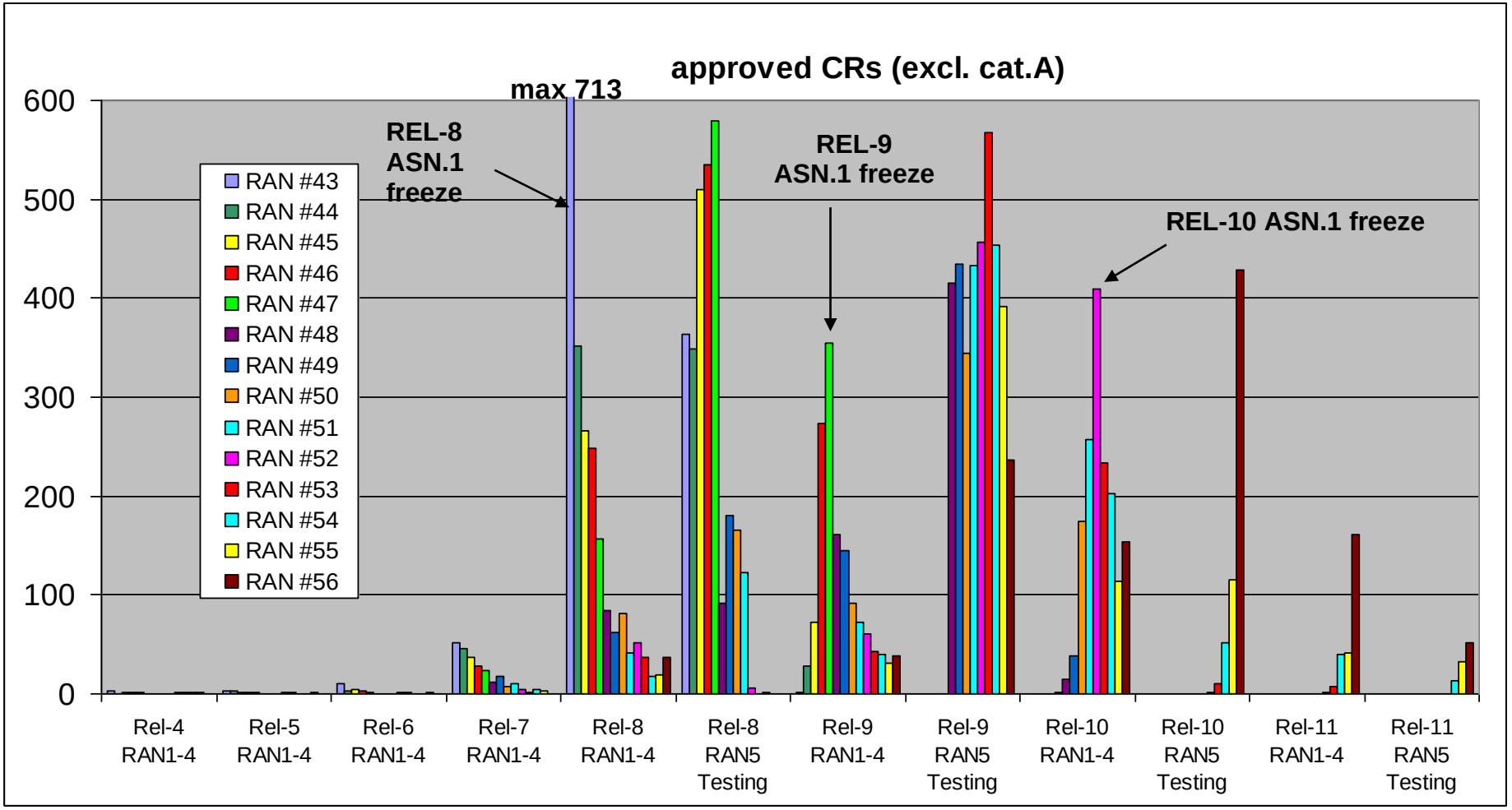


Fig. E-2: Approved CRs (excluding category A CRs) of previous RAN meetings per release
ASN.1 freeze: REL-8: RAN #43, REL-9: RAN #47, REL-10: RAN #52, REL-11: RAN #58

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Annex F:
Summary of RAN work items (WI) and study items (SI)

An overview of recent RAN work items and study items (including the new WIs & SIs approved at this meeting) is attached to this report.

This overview is used as input for the 3GPP workplan which lists all 3GPP work and study items.

Annex G:
Actions decided by RAN #56

ACTION_ITEM_1:

for:	3GPP ITU-R ad hoc
task:	review RP-120834 and come back to RAN #57 with review results (as usual: might involve also RAN WGs if needed)
completion date:	RAN #57 submission deadline

ACTION_ITEM_2:

for:	3GPP ITU-R ad hoc
task:	review RP-120840 and come back to RAN #57 with review results (as usual: might involve also RAN WGs if needed)
completion date:	RAN #57 submission deadline

ACTION_ITEM_3:

for:	RAN chairman
task:	Email discussion on the requirements and deployment scenarios for small cell enhancements in REL-12 will be carried out between RAN #56 and RAN #57 on the RAN email reflector to clarify the scope of REL-12 work (rapporteur: RAN chairman).
completion date:	RAN #57 submission deadline

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Annex H:
History

Document history		
Date	**TSG RAN Tdoc**	**Subject**
12.06.2012	-	Skeleton report for RAN #56 provided before the meeting.
19.06.2012	-	Draft report of RAN #56 v1.0 (this version is also submitted as SP-120401 to SA #56 for information)
29.07.2012	RP-120911	Draft report of RAN #56 v2.0 (with revision marks compared to v1.0)
04.09.2012	RP-121389	Report of RAN #56 as approved by RAN #57

In case of comments/questions/corrections please contact:

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Appendix 22

3GPP TSG RAN meeting #59 **RP-130363**
Vienna, Austria, Feb. 26 – March 1, 2013

Agenda Item:	3
Source:	ETSI MCC
Title:	Report of 3GPP TSG RAN meeting #58,
	Barcelona, Spain, Dec. 4 – 7, 2012
Document for:	Approval

Report of 3GPP TSG RAN meeting #58

held in Barcelona, Spain

Dec. 4 – 7, 2012



colour code:
green: approved new TSs/TRs/WIs/SIs/Report/Exception
grey: outgoing LSs/LTIs
red: WI/SI closed/completed or moved to next REL
purple: pendingTdocs

The present document has been developed within the 3rd Generation Partnership Project (3GPP ™) and it has not been subject to any approval process by the 3GPP Organizational Partners.

Keywords
RAN, UTRA, LTE

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Meeting Organisation

Meeting:	3GPP TSG RAN #58		
Meeting location:	Barcelona, Spain		
Duration:	Tuesday 04.12..2012 - Friday 07.12.2012		
Host:	European Friends of 3GPP (EF3)		
TSG RAN Chairman:	Takehiro Nakamura (NTT DOCOMO)	email: nakamurata@nttdocomo.co.jp	
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TSG RAN Vice chairman:	Han van Bussel (Deutsche Telekom)	email: han.van.bussel@telekom.de	
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Email reflector:	3GPP_TSG_RAN@LIST.ETSI.ORG		
Technical documents:	ftp://ftp.3gpp.org/tsg_ran/TSGR_58/Docs		
next meetings:	TSG RAN #59,	26.02. - 01.03.2013	Vienna, Austria host: EF3
	TSG RAN #60,	11.06. - 14.06.2013	Oranjestad, Aruba host: NAF3

Executive Summary

3GPP TSG RAN meeting #58 was held in Barcelona, Spain, Dec. 4-7, hosted by the European Friends of 3GPP. The meeting had 195 participants (see Annex A) and 586 Technical Documents (see Annex B).

Main topics/decisions:

- **REL-11**:
  - 29 Core part WIs completed which had an exception granted at RAN #57,
  - 2 Core parts got further 3 months exception: "LTE CA enh.", "Network-Based Positioning Support for LTE",
  - "LTE-A CA of Band 1 and Band 7" Core & Perf. part shifted from REL-11 to REL-12,
  - 17 completed Perf. part WIs, still open: 14 RAN4 perf. part WIs, 5 RAN5 testing part WIs;
  - ASN.1 freeze planned for March 2013

- **REL-12**:
  - time budget estimations (see RP-121830) requested for all RAN1/2/3/4 REL-12 WIs/SIs to avoid overload in WGs; RAN WG chairmen processed the corresponding information and came up with proposals:
    - already approved WIs/SIs were kept approved
    - new WIs/SIs were discussed one by one: 18 new WIs (9 Core & 9 Perf.) and 13 new SIs were approved
    - 13 WI topics (can have Core & Perf parts) and 9 SI topics were postponed
    - LTE-A inter-band CA of Band 38 and Band 39 (Core & Perf) stopped due to changes in regulatory situation, but new band combination of Band 39 & Band 41 was approved
    - time budget considerations planned to be continued
  - Phased approach between RAN WGs for WI closing (RP-121717) was in principle agreed
  - current status of approved REL-12 WIs/SIs: 58 WIs (30 Core & 28 Perf.) & 22 SIs
  - SI on Small Cell enhancement requirements and scenarios completed with TR 36.932 REL-12 approved. 2 follow-up SIs on L1 and higher layer aspects were approved

- **Mandating REL-9 FGI bits**: RAN#58 postponed CRs for following FGI bits expecting to set these bits to 1 in RAN#59 in March 2013:
  - FGI 14 (Event A4/A5), see RP-121927
  - FGI 27 (SR-VCC to UTRAN), see RP-121929
  - FGI 28 (TTI Bundling), see RP-121930

  LS RP-122044 was sent to RAN5 asking to investigate how the RAN5 testing/certification could accommodate

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the delay expected between the setting of the FGI bits to 1 (true) and applying the update to the UEs to be used in certification. RAN5 is also asked to consider development of the missing test cases.

- **BroadBand Forum Accesses Interworking** (REL-11 WI BBAI in SA2): RAN3 provided technically endorsed CRs in the RAN3 LS R3-122920=RP-121502=SP-120698 with consideration of SA2/CT4 impacts; CR set was conditionally approved by RAN in RP-121739 under the condition that SA approves the feature and all corresponding CT/SA CRs are approved.

- **REL-11 UE capability**:
  - LSs received from RAN WGs regarding results on REL-11 UE capabilities and some FFSs were identified.
  - RAN2 provided CRs (RP-121961) which introduce a capability bit signalling instead of FGI so as to decouple ASN.1 impact and mandatory/optional discussion; for 36.306 CR an update was approved in RP-122002 to include discussion results at RAN#58 on mandatory/optional for some of features

- **REL-11 Additional special subframe configuration for LTE TDD**: It was agreed to support the feature by early implementation without any changes for Rel-9/10 specs and task RAN2 to check whether this requires a CR (see RP-121740).

- **REL-11 Coordinated Multi-Point Operation for LTE – Downlink**: Core part was completed approving also one of two alternative company CRs (see RP-121970); regarding interference averaging for interference measurement based on CSI-IM it was agreed that this will be handled by RAN4 as a Rel-11 correction, liaising with RAN1 as necessary.

- Incoming Liaison Statements/Letters to ITU: 43, see Annex C

- Outgoing Liaison Statements/Letters to ITU: 5, see Annex D

- 53 closed work items (WI) in Dec. 2012 (30 Core, 18 Perf., 5 Testing):

  - 7 RAN1 REL-11 WIs:
    - Core part: Uplink Transmit Diversity for HSPA – Closed Loop (500122, HSPA_UL_TxDiv-CL-Core)
    - Core part: Four Branch MIMO transmission for HSDPA (530135, 4Tx_HSDPA-Core)
    - Core part: MIMO with 64QAM for HSUPA (540109, MIMO_64QAM_HSUPA-Core)
    - Core part: Further Enhanced Non CA-based ICIC for LTE (510121, eICIC_enh_LTE-Core)
    - Core part: Coordinated Multi-Point Operation for LTE – Uplink (530132, COMP_LTE_UL-Core) **
    - Core part: Coordinated Multi-Point Operation for LTE – Downlink (530332, COMP_LTE_DL-Core)
    - Core part: Enhanced downlink control channel(s) for LTE (540125, LTE_enh_dl_ctrl-Core)

    **: also perf. part is completed, see RAN4

  - 5 RAN2 REL-11 WIs:
    - Core part: Further Enhancements to CELL_FACH (510120, Cell_FACH_enh-Core)
    - Core part: HSDPA Multiflow Data Transmission (530134, HSDPA_MFTX-Core)
    - Core part: Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN (530133, eMDT_UMTSLTE-Core)
    - Core part: LTE RAN Enhancements for Diverse Data Applications (510131, LTE_eDDA-Core)
    - Core part: Signalling and procedure for interference avoidance for in-device coexistence (530131, SPIA_IDC_LTE-Core) **

    **: also perf. part is completed, see RAN4

  - 4 RAN3 REL-11 WIs:
    - Core part: UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA (530801, rSRVCC-RAN_UTRA-Core)
    - Core part: Further Self Optimizing Networks (SON) enhancements (530130, SONenh2_LTE_UTRA-Core)
    - Core part: Further enhancements to H(e)NB mobility- Part 1 (560113, EHNB_enh1-Core)
    - Core part: Further enhancements to H(e)NB mobility- Part 2 (560114, EHNB_enh2-Core)

    note: X2-GW part was removed from this WI at RAN #58 in order to close it, see new REL-12 WI

  - 32 RAN4 REL-11 WIs (14 core and 18 perf. part WIs):

    21 REL-11 spectrum related WIs (9 core part WIs & 12 perf. part WIs):
    - LTE-A CA of Band 2 and Band 17: perf. part (510225)
    - LTE-A CA of Band 3 and Band 8: core (550118) & perf. part (550218)
    - LTE-A CA of Band 4 and Band 5: core (510126) & perf. part (510226)
    - LTE-A CA of Band 4 and Band 7: core (530127) & perf. part (530227)
    - LTE-A CA of Band 4 and Band 13: perf. part (500218)

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- LTE-A CA of Band 4 and Band 17: perf. part (500217)
- LTE-A CA of Band 4 and Band 12: core (510122) & perf. part (510222)
- LTE-A CA of Band 5 and Band 12: core (510123) & perf. part (510223)
- LTE-A CA of Band 5 and Band 17: core (510127) & perf. part (510227)
- LTE-A CA of Band 8 and Band 20: core (530124) & perf. part (530224)
- LTE-A CA of Band 11 and Band 18: core (540120) & perf. part (540220)
- New Band LTE Downlink FDD 716-728 MHz (Band 29), Carrier Aggregation of Band 2 and Band 29 and of Band 4 and Band 29: core (510128) & perf. part (510228)

9 non-spectrum related WIs (4 core part WIs & 5 perf. part WIs):
- Uplink Transmit Diversity for HSPA – Open Loop: core (500322) & perf. part (500422)
- E-UTRA medium range & MSR medium range/local area BS class req.: core (530137) & perf. part (530237)
- RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station: core (550115)
- Public Safety Broadband High Power UE for Band 14 for Region 2: core (550112)
- Signalling and procedure for interference avoidance for in-device coexistence: perf. part (530231)
- Coordinated Multi-Point Operation for LTE – Uplink: perf. part (530232)
- Improved Minimum Performance Requirements for E-UTRA: Interference Rejection: perf. part (550113)

2 REL-12 spectrum related WIs that were stopped:
- LTE-A inter-band CA of Band 38 and Band 39: core (570115) & perf. part (570215)

- 5 RAN5 UE Conformance Test Aspects for:
  - REL-9: Dual-Cell HSUPA (510014, RANimp-DC_HSUPA_UEConTest)
  - REL-9: Public Warning System (PWS) – RAN aspects for LTE (540005, PWS-RAN_UEConTest)
  - REL-10: Carrier Aggregation for LTE (530040, LTE_CA-UEConTest)
  - REL-10: Automatic Neighbour Relation (ANR) for UTRAN (530039, ANR_UTRAN-UEConTest)
  - REL-10: HeNB Mobility Enhancements (550002, HNB_HENB_mob_enh-UEConTest_LTE)

- 2 REL-11 core part WIs got a 2nd 3 months exception to complete outstanding issues by March 13:
  - RAN1: RP-121569: Core part LTE Carrier Aggregation Enhancements (510130, LTE_CA_enh-Core)
  - RAN2: RP-121998: Core part Network-Based Positioning Support for LTE (430111, LCS_LTE-NBPS-Core)

- 2 REL-11 WIs shifted to REL-12:
  - RAN4: Core part: LTE-A Carrier Aggregation of Band 1 and Band 7 (530125, LTE_CA_B1_B7-Core)
  - RAN4: Perf. part: LTE-A Carrier Aggregation of Band 1 and Band 7(530225, LTE_CA_B1_B7-Perf)

- 1 closed REL-12 study items (SI) in Dec. 2012:
  - RAN:Study on Scenarios / Requirements of LTE Small Cell Enhancements (570023, FS_LTE_SC_enh_req)

- 18 new approved work items (WI) for 11 topics:
  - RAN1 REL-12:
    core & performance parts:
    - Further Enh. to LTE TDD for DL-UL Interference Management and Traffic Adaptation RP-121772
    - HSPA signalling enhancements for more efficient resource usage for LCR TDD RP-121984
  - RAN2 REL-12:
    - Core part: Hetnet Mobility Enhancements for LTE RP-122007
  - RAN3 REL-12:
    - Core part: Further enhancements for HeNB mobility-X2-GW RP-122006
  - RAN4 REL-12:
    core & performance parts:
    - LTE Advanced inter-band Carrier Aggregation of Band 1 and Band 26 RP-121750
    - LTE Advanced inter-band Carrier Aggregation of Band 39 and Band 41 RP-121834
    - LTE Advanced inter-band Carrier Aggregation of Band 2 and Band 12 RP-122024
    - LTE Advanced intra-band non-contiguous Carrier Aggregation in Band 7 RP-121988
    - LTE Advanced intra-band contiguous Carrier Aggregation in Band 27 RP-122020

    core parts only:
    - LTE UE TRP and TRS and UTRA Hand Phantom related UE TRP and TRS Requirements RP-122030

    performance parts only:

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  - Performance Requirements of 8 Rx Antennas for LTE UL RP-121709

- 13 new approved REL-12 study items (SI):
  - RAN1: Study on LTE Device to Device Proximity Services RP-122009
  - RAN1: Study on scalable UMTS FDD bandwidth RP-122017
  - RAN1: Study on DCH Enhancements for UMTS RP-122029
  - RAN1: Study on 3D-channel model for Elevation Beamforming & FD-MIMO studies for LTE RP-122034
  - RAN1: Study on Small Cell Enh. for E-UTRA and E-UTRAN – Physical-layer Aspects RP-122032
  - RAN2: Study on Small Cell Enh. for E-UTRA and E-UTRAN – Higher-layer aspects RP-122033
  - RAN2: Study on Further EUL Enhancements RP-122019
  - RAN2: Study on WLAN/3GPP Radio Interworking RP-122038
  - RAN3: Study on Energy Saving Enhancement for E-UTRAN RP-122035
  - RAN3: Study on RAN Enhancements for UMTS/HSPA and LTE Interworking RP-122036
  - RAN3: Study on next-generation SON for UTRA and LTE RP-122037
  - RAN4: Study on 2GHz FDD for UTRA & LTE in Region 1 (1980-2010MHz and 2170-2200MHz Bands) RP-122031
  - RAN4: Study on Base Station specification structure RP-122039
- 4 new approved Technical Specifications (TS), i.e. now under CR control:
  - RAN3 REL-11 TS 36.456 (LCS_LTE-NBPS-Core): RP-121766
  - RAN3 REL-11 TS 36.457 (LCS_LTE-NBPS-Core): RP-121767
  - RAN3 REL-11 TS 36.458 (LCS_LTE-NBPS-Core): RP-121768
  - RAN3 REL-11 TS 36.459 (LCS_LTE-NBPS-Core): RP-121769
- 4 new approved Technical Reports (TR), i.e. now under CR control:
  - RAN REL-12 TR 36.932 (FS_LTE_SC_enh_req): RP-121468
  - RAN4 REL-11 TR 37.809 (medBS_class_LTE_MSR-Core): RP-121715
  - RAN4 REL-11 TR 36.837 (LTE_B14_PSBB_HPUE-Core): RP-121722
  - RAN4 REL-11 TR 37.812 (MB_MSR_RF-Core): RP-121760
- 0 new Technical Specifications (TS) provided for information
- 2 new Technical Reports (TR) provided for information:
  - RAN3 REL-12 TR 37.813 (FS_LTE_HRPD_SON): RP-121785
  - RAN4 REL-12 TR 37.840 (FS_AAS_BS_LTE_UTRA): RP-121761

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- Change requests statistics (see also Annex E): 1452 CRs handled with 1418approved CRs.

Phase	Cat	all CRs	Approved CRs	approved RAN1	approved RAN2	approved RAN3	approved RAN4	approved RAN5
Rel-4	B	1	1	0	1	0	0	0
Rel-5	B	1	1	0	1	0	0	0
Rel-6	B	1	1	0	1	0	0	0
Rel-7	F	1	1	0	1	0	0	0
Rel-7	A	1	1	0	1	0	0	0
Rel-8	A	1	1	0	1	0	0	0
Rel-8	B	1	1	0	1	0	0	0
Rel-8	C	1	1	0	1	0	0	0
Rel-8	F	17	17	0	6	2	9	0
Rel-9	A	16	16	0	7	2	7	0
Rel-9	B	8	8	0	1	0	0	7
Rel-9	F	75	68	0	11	0	20	37
Rel-10	A	44	38	0	16	2	20	0
Rel-10	B	66	66	0	2	0	11	53
Rel-10	C	5	5	0	5	0	0	0
Rel-10	F	523	520	7	15	4	80	414
Rel-11	A	149	142	5	33	5	99	0
Rel-11	B	199	189	10	56	42	81	0
Rel-11	C	16	16	3	11	0	2	0
Rel-11	D	4	4	0	1	1	2	0
Rel-11	F	322	321	14	62	25	39	181
sum		**1452**	**1418**	**39**	**234**	**83**	**370**	**692**

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1 Opening of the Meeting

TSG RAN chairman Mr. Takehiro Nakamura (NTT DOCOMO) opened the meeting 3GPP TSG RAN #58 on Tuesday Dec. 4th, .2012 at 09:00am.
On behalf of the host, the European Friends of 3GPP (EF3), Kevin Holley (Telefonica Europe plc) welcomed the delegates to Barcelona, Spain and explained organisational issues of the meeting.

The TSG RAN chairman reminded delegates of a responsible behaviour regarding IT resources of the meeting:

Delegates are reminded that they share the meeting IT resources with their fellow delegates. You should not abuse the service by using bandwidth-hogging applications such as movie downloads, streaming video, web-based gaming, etc during the meeting. Use the internet service in your hotel rooms for this!
***Delegates must respect the law of the hosting country**, and should not visit prohibited internet sites.*
In cases of persistent abuse of the internet bandwidth, MCC may restrict individual's use of the service.
In particular, the PCG has laid down the following network usage conditions:
1. Users shall not use the network to engage in illegal activities. This includes activities such as copyright violation, hacking, espionage or any other activity that may be prohibited by local laws.
2. Users shall not engage in non-work related activities that are consume excessive bandwidth or cause significant degradation of the performance of the network.
Since the network is a shared resource, users should exercise some basic etiquette when using the 3GPP network at a meeting. It is understood that high bandwidth applications such as downloading large files or video streaming might be required for business purposes, but delegates should be strongly discouraged in performing these activities for personal use. Downloading a movie or doing something in an interactive environment for personal use essentially wastes bandwidth that others need to make the meeting effective. The meeting chairman should remind end users that the network is a shared resource; the more one user grabs, the less there is for another. Email and its attachments already take up significant bandwidth (certain email programs are not very bandwidth efficient). In case of need the chair can ask the delegates to restrict IT usage to things that are essential for the meeting itself.

1. ***DON'T place your WiFi device in ad-hoc mode***
2. ***DON'T set up a personal hotspot in the meeting room***
3. ***DO try 802.11a if your WiFi device supports it***
4. ***DON'T manually allocate an IP address***
5. ***DON'T be a bandwidth hog by streaming video, playing online games, or downloading huge files***
6. ***DON'T use packet probing software which clogs the local network (e.g., packet sniffers or port scanners)***

Based on the report of the PCG ad hoc group on IT improvements:
http://www.3gpp.org/ftp/PCG/PCG_27/DOCS/PCG27_13r1.zip
see also http://www.3gpp.org/Delegates-Corner#outil_sommaire_14

2 Approval of the Agenda

RP-121460 Agenda for RAN #58 held in Barcelona, Spain, 04.12.-07.12.2012 RAN chairman (NTT DOCOMO) Agenda
conclusion: revised in RP-121920 before RAN #58 to correct a WI code
RP-121920 Agenda for RAN #58 held in Barcelona, Spain, 04.12.-07.12.2012 RAN chairman (NTT DOCOMO) Agenda
conclusion: approved

3 Approval of the meeting report of TSG-RAN #57

RP-121461 Draft report of RAN #57 held in Chicago, USA, 04.09.-07.09.2012 ETSI MCC Report
conclusion: revised in RP-121471 before RAN #58 (correction regarding moving RAN #63)
RP-121471 Draft report of RAN #57 held in Chicago, USA, 04.09.-07.09.2012 ETSI MCC Report
conclusion: revised in RP-121921 before RAN #58 to correct a WI code

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RP-121921 Draft report of RAN #57 held in Chicago, USA, 04.09.-07.09.2012 ETSI MCC Report conclusion: approved in RP-121967

4 Reminder for IPR declaration

The RAN chairman made the following call for IPRs and reminded the delegates of their obligations with respect to IPRs:

> The attention of the delegates to the meeting of this Technical Specification Group is drawn to the fact that 3GPP Individual Members have the obligation under the IPR Policies of their respective Organizational Partners to inform their respective Organizational Partners of Essential IPRs they become aware of.
>
> The delegates are asked to take note that they are thereby invited:
>
> - to investigate whether their organization or any other organization owns IPRs which were, or were likely to become Essential in respect of the work of 3GPP.
> - to notify their respective Organizational Partners of all potential IPRs, e.g., for ETSI, by means of the IPR Statement and the Licensing declaration forms (http://webapp.etsi.org/Ipr/).

5 RAN Chairman's Report of meetings

5.1 Report from TSG SA

RAN chairman reported from TSG SA #57 held in Chicago, USA, 10-12 Sep., 2012:

RAN#57 report:
RAN#57 report was presented by RAN vice chairman, Marc Grant, in SP-120638, which was later updated to SP-120649. In answer to concerns about the RAN2/RAN3 ASN.1 freeze delay, it was clarified to TSG SA that RAN is considering this issue, but that this delay does not affect the Rel-11 freeze.

Rel-11 planning:
Stage 3 is now frozen, but with a large number of exceptions (32 in RAN; 23 in CT; 4 in GERAN; 2 in SA4; 8 in SA5)

Rel-12 planning:
Rel-12 planning is unchanged:
Stage 1 freezing target March 2013
Stage 2 freezing target December 2013
Approved Stage 2 exceptions in Dec 2013 will automatically lead to a 3 months slip of the Stage 3 freezing date
Stage 3 freezing target June 2014
RAN ASN.1 (and equivalent CT formal interface specification freeze) should be 3 months after Stage 3 freezing.

SA Workshop on "Shaping Rel-12 in SA/CT":
Following the success of the RAN Workshop, SA plans its own Workshop on the first day of the December SA plenary (SP-120624). However, the focus is Rel-12 only. The aim is that SA#58 will provide initial guidance to relevant WGs to focus their work on key strategic areas identified by the summary and outcome of the presentations, with further detailed guidance coming from SA#59 and SA#60.

ITU matters:
Although the ITU-R Ad Hoc group is expected to propose a draft response to SP 120461, the LS from ITU-R WP 5D on inputs for the use of IMT for Broadband PPDR applications, no input can be provided until the SA1 work items for this have matured, and the handling of the LS was therefore postponed to the next SA plenary #58. The other incoming LSs from ITU-R and the ITU-R Ad Hoc group were all noted.

Organization of Work on Public Safety:

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SA was informed that RAN plans to decide about REL-12 work plan in Dec.12 and that inputs from SA/SA1 on public safety are appreciated. The SA1 Chairman took note of RAN's request for information and will take the request to SA1. SA instructed SA1 in the LS in SP-120651 (with copy to RAN) to make every effort to agree a normative work item at SA1#60 in Nov. 2012.

Application Network Efficiency related to Smartphones (GSMA):
SP-120655 is an LS from SA to GSMA with the material collected from the WGs and TSGs, including RAN. If any followup is required, it will be done through the normal 3GPP procedures.

SA4 CRs on USD Updates on 'availabilityInfo' Description:
SA approved these SA4 CRs in SP-120499 (Rel-9 and Rel-10) and SP-120508 (Rel-11), following RAN2's request to correct ambiguous and potentially conflicting sentences regarding the relationship between service area and frequency information associated with an MBMS user service.

RAN Sharing Enhancements:
SA1 presented SP-120538 (TR 22.852 v1.0.0 on FS on RAN Sharing Enhancements) for information. This document provides a study on scenarios of multiple operators sharing radio network resources and creates potential requirements that complement existing system capabilities for sharing common RAN resources.

RAN Proximity-based Services:
SA1 presented SP-120536 (TR 22.803 v1.0.0 on FS on Proximity-based Services) for information. This document provides use cases and potential requirements for device to device discovery and communications.

User Plane Congestion Management (completion of study and approval of WID):
SA1 presented SP-120537 (TR 22.805 v2.0.0 on FS on User Plane Congestion Management) for approval and SA approved the TR as v12.0.0. The TR considers scenarios and use cases where high usage levels lead to user plane traffic congestion in the RAN, and proposes requirements for handling user plane traffic when RAN congestion occurs. SA also approved SP-120545, a WID for User Plane Congestion Management requirements, the objective of which is to specify normative Stage 1 enhancements based on the requirements derived from the scenarios and use cases developed in the study.

Rel-12 Machine-Type Communication Work:
SA approved SP-120540, an update of the WID on Machine-Type and other mobile data applications Communications enhancements, which adds SA1 information, adds a reference to other M2M bodies in the Justification and introduces TR 23.887. SA was informed of the creation of a new standards body for M2M called oneM2M, which will have its first technical meeting at the end of September.

discussion: No comments.

5.2 Report from PCG and OP

RAN chairman reported from PCG #29 and OP #29 held in San Francisco, USA, on 24 Oct., 2012 and 25 Oct. 2012:

PCG#29 meeting:

RAN management report:
The report was explained by RAN chairman in PCG#29(12)05.
The announcement below was provided by RAN chairman in advance, orally:
- Serious errors in Rel-9/10/11 version of TS 25.331
- RAN4 LSs to ARIB and CCSA on the spurious emissions limit for the range 2010-2025 MHz

Brand evolution:
It was proposed by 3GPP Officer of Marcomms (Marketing and Communications) to consider the evolution of the LTE brand, i.e. the future brand name. PCG concluded to create an Ad Hoc group led by the 3GPP Marcomms Officer to determin the brand evolution needs by the end of January 2013.

Changes to the 3GPP Working Procedures:
Changes to the 3GPP Working Procedures concerning the election process for Chairmen whose employer changes during their term of office were approved.

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ITU-R submission for ITU-R M.2012 rev. 1:
It was proposed to submit RAN#60 specs to ITU-R WP 5D for rev. 1 of ITU-R M.2012. However, MCC reported that it will be difficult to prepare RAN#60 specs in time for WP 5D meeting contribution deadline. It was agreed that RAN#59 specs will be submitted to WP 5D for ITU-R M.2012 rev.1.
The way forward for future processing of M.2012 revisions was proposed by ATIS in PCG#29(12)21 and approved. ATIS will submit the materials approved by PCG on behalf of the 3GPP OPs.

OP#28 meeting:

UICC standadization:
ARIB, CCSA and TTA proposed to transfer the responsibility for the further development of the UICC (smart card) from ETSI to 3GPP. OPs concluded to create UICC Standardization Ad Hoc Group to analyse existing arrangements for UICC standardization and to clearly define the problems being encountered by the end of January 2013.

Copyright License Request from the WiMAX Forum:
A Copyright License Request from the WiMAX Forum was treated.
Chairman of WiMAX Forum was invited to OP#28 meeting and he explained the purpose of this request which was to enable the creation of a WiMAX "Extended Mode", allowing 3GPP LTE TDD devices to connect to the many WiMAX networks which were currently in operation. WiMAX Forum chairman further clarified that there was no intention to make any modifications at all to the LTE TDD specifications. It was noted that it was not necessary to seek permission to normatively reference 3GPP specifications and the WiMAX Forum request for a Copyright License was no longer necessary.

discussion: KT: Wimax Forum changed name "extended mode" to "additional features"

5.3 Report from other meetings

Nothing to report.

6 Liaison activity of TSG RAN

6.1 Groups outside 3GPP

ITU-T:
RP-121486 Reply LS to RP-120884 on coordination between ITU-T and 3GPP on synchronization
(ITU-T SG15 LS439; to: RAN; cc: -; contact: Ericsson) ITU-T SG15 LSin - -
note: This is a reply LS to RAN's LSout RP-120884 of RAN #56. No RAN action requested.
conclusion: noted, no LS answer

ITU-R WP5D:
RP-121487 LS on TECHNICAL AND OPERATIONAL ASPECTS OF PASSIVE AND ACTIVE BASE STATION ANTENNAS FOR IMT SYSTEMS
(ITU-R WP5D/TEMP/56(Rev.1); to: RAN, RAN4; cc: -; contact: -) ITU-R WP5DLSin - -
no explicit RAN action requested; note: This LS was treated in RAN4 as R4-126781 and an LS answer was postponed until REL-12 SI is completed;
conclusion: LS will be treated under AI 7.2.2

RP-121488 LS on REVISION 12 OF RECOMMENDATION ITU-R M.1457
(ITU-R WP5D/TEMP/69; to: RAN, 3GPP ITU-R ad hoc; cc: -; contact: -) ITU-R WP5DLSin - -
note: 3GPP ITU-R ad hoc looked at this LS and concluded that no action is required from 3GPP; no RAN action requested;
conclusion: LS will be treated under AI 7.2.2

RP-121489 LS on PARAMETERS FOR LTE-ADVANCED AND WIRELESSMAN ADVANCED FOR USE IN SHARING STUDIES
(ITU-R WP5D/TEMP/91(Rev.1); to: IEEE, RAN, RAN4; cc: -; contact: -) ITU-R WP5DLSin - -
RAN action requested; note: RAN4 prepared an LTI answer for RAN #58 in RP-121498 = R4-126853;

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conclusion: LSwill be treated under AI 7.2.2

RP-121490 LS on INVITATION TO PROVIDE INPUT MATERIAL FOR DEVELOPMENT OF WORKING DOCUMENT TOWARD A PRELIMINARY DRAFT NEW REPORT ON "THE USE OF IMT FOR BROADBAND PPDR APPLICATIONS"
(ITU-R WP5D/TEMP/98(Rev.2); to: RAN, SA1; cc: -; contact: -)ITU-R WP5DLSin - -
no explicit RAN action requested; note: LS was provided also to SA1 but no LS answer from SA1 to RAN, however see RP-121481. In RAN4 Motorola Solutions is working on an LTI for RAN #58 (draft in R4-126970) answering ITU-R WP5D/TEMP/9(rev.1) = RP-120912 =R4-124746 which RAN #57 received on the same subject, see RP-121756;
conclusion: LS will be treated under AI 7.2.2

ITU-R WP5A:

RP-121503 LS ON REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R F.1763: Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz
(ITU-R WP5A/TEMP/61v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact:) ITU-R WP5ALSin - -
no explicit RAN action requested;
conclusion: LS will be treated under AI 7.2.1

RP-121504 LS on WRC-15 AGENDA ITEM 1.1: Consideration of Spectrum Estimates for terrestrial mobile broadband (excluding IMT) applications
(ITU-R WP5A/TEMP/73(Rev.1)v3; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -) ITU-R WP5A LSin - -
no explicit RAN action requested;
conclusion: LS will be treated under AI 7.2.1

RP-121505 LS ON REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R M.1450-4: Characteristics of broadband radio local area networks
(ITU-R WP5A/TEMP/75v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI ERM-TG11, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -) ITU-R WP5A LSin - -
no explicit RAN action requested; not yet provided since attachment is missing;
conclusion: LS will be treated under AI 7.2.1

RP-121506 LS ON INVITATION TO SUBMIT CONTRIBUTIONS TO PRELIMINARY DRAFT NEW REPORT ITU-R M.[LMS.ATG] SYSTEMS FOR PUBLIC MOBILE COMMUNICATIONS WITH AIRCRAFT
(ITU-R WP5A/TEMP/81v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -) ITU-R WP5A LSin - -
no explicit RAN action requested;
conclusion: LS will be treated under AI 7.2.1

Metro Ethernet Forum (MEF):

RP-121491 LS requesting information on "Scenarios and Requirements for LTE Small Cell Enhancement"
(L00167_000_MEF_Q412_MBH; to: RAN; cc: -; contact: Verizon) MEF (Metro Ethernet Forum) LSin REL-12 FS_LTE_SC_enh_req
RAN action requested; FS_LTE_SC_enh_req SI rapporteur (CMCC) will prepare a reply LS;
conclusion: LS will be treated under AI 12.4.5

ETSI TC EE:

RP-121919 Reply LS to S5-122600 = RP-121483 on Cooperation for Energy Efficiency Measurements
(ETSI TC EE(12)000036; to: SA5, SA, RAN2; cc: RAN, SA2, ETSI TC ATTM; contact: Alcatel-Lucent) ETSI TC EE LSin REL-12 -
no RAN action requested;
conclusion: LS will be treated under AI 6.2

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6.2 TSG SA, TSG CT, TSG GERAN

Proximity-based Services (ProSe):

RP-121485 LS on Progression of normative ProSe work
(SP-120651; to: SA1; cc: RAN; contact: Vodafone)SA LSin REL-12 FS_ProSe
note: The SA1 reply to RP-121485 is in RP-121481. No RAN action requested
conclusion: noted, no LS answer

RP-121481 Reply LS to SP-120651 = RP-121485 on Progression of normative ProSe work
(S1-124515; to: SA; cc: RAN; contact: Vodafone) SA1 LSin REL-12 FS_ProSe
no RAN action requested
conclusion: noted, no LS answer

Energy Efficiency Measurement:

RP-121483 Reply LS to SP-120449 = RP-120927 on Cooperation for Energy Efficiency Measurement
(S5-122600; to:SA, ETSI TC EE, ATTM, RAN2; cc: RAN, SA2; contact: Nokia Siemens Networks)
SA5 LSin REL-12 -
note: The RAN2 reply to RP-121483 is in RP-121475; no RAN action requested
conclusion: noted, no LS answer

RP-121475 Reply LS to S5-122600 = RP-121483 on Cooperation for Energy Efficiency Measurement
(R2-126120; to: SA5; cc: RAN, SA, SA2, ETSI TC EE, ATTM; contact: Nokia Siemens Networks)
RAN2 LSin REl-12 -
no RAN action requested;
discussion: RAN chairman: no action needed for RAN
conclusion: noted, no LS answer

RP-121919 Reply LS to S5-122600 = RP-121483 on Cooperation for Energy Efficiency Measurements
(ETSI TC EE(12)000036; to: SA5, SA, RAN2; cc: RAN, SA2, ETSI TC ATTM; contact: Alcatel-Lucent) ETSI TC EE LSin REL-12 -
no RAN action requested;
conclusion: noted, no LS answer

MSR:

RP-121693 Reply LS to R4-126848 = RP-121495 on CRs for MSR specifications
(GP-121395; to: RAN; cc: RAN4; contact: Ericsson) GERAN1 LSin REL-9 RInImp9-RFmulti, MSR_NC
RInImp9-RFmulti was a REL-9 WI, MSR_NC was a REL-10 WI; RAN action requested;
conclusion: LS will be treated under AI 8.4.5.2

RP-121694 Reply LS to R4-126849 = RP-121496 on Status of the work on BS classes for MSR
(GP-121396; to: RAN; cc: RAN4; contact: Ericsson) GERAN1 LSin REL-11
medBS_class_LTE_MSR
RAN action requested;
conclusion: LS will be treated under AI 10.5.3

RP-121692 Reply LS to R4-126874 = RP-121499 on "LS on MB-MSR"
(GP-121391; to: RAN, RAN4; cc: -; contact: Huawei) GERAN1 LSin LS06c REL-11
MB_MSR_RF
RAN action requested;
conclusion: LS will be treated under AI 10.5.4

Inter RAT handover/release/reject:

RP-121482 Reply LS to R2-125167 on Inter RAT handover, Inter RAT Release with redirection, Inter RAT Reject with redirection between E-UTRAN and UTRAN
(S2-124764; to: RAN2; cc: RAN, RAN3, CT1; contact: NTT DOCOMO) SA2 LSin REL-8 -
note: R2-125167 was not provided to RAN; no RAN action requested;
conclusion: LS will be treated under AI 8.2.2

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RP-121507 Reply LS to R2-125167 on Inter RAT handover, Inter RAT Release with redirection, Inter RAT Reject with redirection between E-UTRAN and UTRAN
(S2-124764; to: RAN2; cc: RAN, RAN3, CT1; contact: NTT DOCOMO) SA2 LSin REL-8 -
conclusion: withdrawn as already provided in RP-121482

Others:

RP-121484 LS to OMA on Push Server Requirements
(SP-120455; to: RAN; cc: -; contact: GSMA) SA LSin - -
note: This GSMA LS was forwarded from SA to RAN; SA #57 sent LS SP-120655 to GSMA. No RAN action requested
discussion: RAN2 chairman: good to see that people are doing something against keep-alive messages that causes overload that we are addressing here in RAN
conclusion: noted, no LS answer

RP-121695 Response LS to R2-125159 on reporting the UE E-UTRAN Capabilities for rSRVCC from GERAN to E-UTRAN (GP-121402; to: RAN2; cc: RAN3, SA2, RAN, SA; contact: Ericsson) GERAN2 LSin REL-11 rSRVCC-GERAN
note: R2-125159 of RAN2 #79bis was not sent to/cc RAN; no RAN action requested;
conclusion: LS will be treated under AI 10.4.6

6.3 TSG RAN WG1, WG2, WG3, WG4, WG5, RAN ITU-R ad hoc

REL-11 UE capabilities: will be handled under AI 10.8

RP-121472 LS on LTE Rel-11 UE capability list
(R1-124593; to: RAN, RAN2; cc: RAN4; contact: NTT DOCOMO) RAN1 LSin REL-11 -
RAN action requested;
conclusion: LS will be treated under AI 10.8

RP-121476 LS on LTE Rel-11 UE capabilities list
(R4-125499; to: RAN, RAN2; cc: RAN1; contact: NTT DOCOMO) RAN4 LSin REL-11 -
RAN action requested;
conclusion: LS will be treated under AI 10.8

RP-121479 LS on Release 11 Feature Lists – Testing and Certification Aspects
(R5-125691; to: RAN1, RAN2, RAN4; cc: RAN; contact: NTT DOCOMO) RAN5 LSin REL-11 -
no RAN action requested;
conclusion: LS will be treated under AI 10.8

RP-121508 Reply LS R4-125499 = RP-121476 and R1-124593 = RP-121472 on LTE Rel-11 UE capability list from RAN WG1, WG4
(R2-126096; to: RAN, RAN1, RAN4; cc: -; contact: NTT DOCOMO) RAN2 LSin REL-11 LTE_CA_enh-Core, LTE_eDDA-Core, MBMS_LTE_SC-Core, LCS_LTE-NBPS-Core, eICIC_enh_LTE-Core, SPIA_IDC_LTE-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, SIMTC-RAN_OC-Core, eMDT_UMTSLTE-Core, LTE_enh_dl_ctrl-Core, LTE_Interf_Rej-Perf, LTE_TDD_add_subframe-Core, EEA3_EIA3, vSRVCC, TEI11
RAN action requested;
conclusion: LS will be treated under AI 10.8

RP-121509 LS on Release 11 UMTS capabilities and feature dependencies (R2-125963; to: RAN; cc: RAN1, RAN3, RAN4, RAN5; contact: Huawei) RAN2 LSin REL-11 Cell_FACH_enh-Core, HSDPA_MFTX-Core, HSPA_UL_TxDiv-CL-Core, HSPA_UL_TxDiv-OL-Core, 4Tx_HSDPA-Core, MIMO_64QAM_HSUPA-Core, rSRVCC-RAN_UTRA-Core, 8C_HSDPA-Core, SIMTC-RAN_OC-Core, eMDT_UMTSLTE-Core, TEI11
RAN action requested;
conclusion: LS will be treated under AI 10.8

Spurious emissions limit: will be handled under AI 8.4.2

RP-121477 LS on the spurious emissions limit for the range 2010-2025 MHz
(R4-126045; to: ARIB; cc: RAN; contact: Ericsson) RAN4 LSin REL-8 LTE-RF

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no RAN action requested;
conclusion: LS will be treated under AI 8.4.2

RP-121478 LS on the spurious emissions limit for the range 2010-2025 MHz
(R4-126046; to: CCSA TC5; cc: RAN; contact: Ericsson) RAN4 LSin REL-8 LTE-RF
no RAN action requested;
conclusion: LS will be treated under AI 8.4.2

Non-backwards compatible asn1 in 25.331: will be handled under AI 8.2.2

RP-121474 LS on Correction to non-backwards compatible asn1 in 25.331 Rel-9/10/11
(R2-125168; to: RAN, RAN5; cc: -; contact: Renesas) RAN2 LSin REL-9 TEI9
RAN action requested;
conclusion: LS will be treated under AI 8.2.2

RP-121480 Reply LS to R2-125168 = RP-121474 on RAN5 Activity relating to non-backwards compatible ASN.1 in 25.331 Rel-9/10/11
(R5-125692; to: RAN2; cc: RAN; contact: NTT DOCOMO) RAN5 LSin REL-9 TEI9
no RAN action requested;
conclusion: LS will be treated under AI 8.2.2

Wideband RSRQ measurement: will be handled under AI 10.8

RP-121494 LS on wideband RSRQ measurement
(R4-126491; to: RAN2, RAN; cc: RAN1; contact: NTT DOCOMO) RAN4 LSin REL-11 LTE-RF, TEI11
LTE-RF was a REL-8 WI; RAN action requested;
conclusion: LS will be treated under AI 10.8

RP-121500 LS on wideband RSRQ measurement
(R4-126987; to: GERAN2, RAN; cc: RAN2; contact: NTT DOCOMO) RAN4 LSin REL-11 LTE-RF, TEI11
LTE-RF was a REL-8 WI; RAN action requested;
conclusion: LS will be treated under AI 10.8

BroadBand Forum Accesses Interworking (BBAI): will be handled under AI 10.8

RP-121493 LS on Stage 3 change for broadband access network interworking
(R3-122918; to: SA2; cc: RAN, SA, SA3, CT4, SA5; contact: NEC) RAN3 LSin REL-11 BBAI
"Support for BroadBand Forum Accesses Interworking" with WI code BBAI is a REL-11 SA2 WI; no RAN action requested
conclusion: LS will be treated under AI 10.8 together with CRs RP-121739

RP-121502 LS on BBAI Support
(R3-122920; to: RAN, SA; cc: CT4, SA3, SA2; contact: Ericsson) RAN3 LSin REL-11 BBAI
"Support for BroadBand Forum Accesses Interworking" with WI code BBAI is a REL-11 SA2 WI;
RAN action requested;
conclusion: LS will be treated under AI 10.8 together with CRs RP-121739

MSR:

RP-121495 Reply LS to GP-121137 = RP-121343 on CRs for MSR specifications (R4-126848; to: GERAN1; cc: RAN; contact: Ericsson) RAN4 LSin REL-9 RInImp9-RFmulti, MSR_NC
RInImp9-RFmulti was a REL-9 WI, MSR_NC was a REL-10 WI; no RAN action requested;
conclusion: LS will be treated under AI 8.4.5.2

RP-121496 Reply LS to GP-121149 on Status of the work on BS classes for MSR
(R4-126849; to: GERAN1; cc: RAN; contact: Ericsson) RAN4 LSin REL-11 medBS_class_LTE_MSR
no RAN action requested;
conclusion: LS will be treated under AI 10.5.3

RP-121499 LS on MB-MSR
(R4-126874; to: GERAN1; cc: RAN; contact: Huawei) RAN4 LSin REL-11 MB_MSR_RF
no RAN action requested;
conclusion: LS will be treated under AI 10.5.4

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ITU-R related:

RP-121497 Proposed Reply LTI to ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744 on Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies
(R4-126852; to: RAN; cc: -; contact: Ericsson) RAN4 LTIin - -
RAN action requested; note: RAN #57 answered part 1 of ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744 in RP-121450; RP-121497 = R4-126852 is a proposal for a reply to part 2;
conclusion: LS will be treated under AI 7.2.2

RP-121498 Proposed Reply LTI to ITU-R WP5D/TEMP/91(Rev.1) = RP-121489 = R4-126780 on Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies
(R4-126853; to: RAN; cc: -; contact: Ericsson) RAN4 LTIin - -
RAN action requested; note: This is a reply proposal from RAN4 to RP-121489 from ITU-R WP5D;
conclusion: LS will be treated under AI 7.2.2

Energy Efficiency Measurement:

RP-121475 Reply LS to S5-122600 = RP-121483 on Cooperation for Energy Efficiency Measurement
(R2-126120; to: SA5; cc: RAN, SA, SA2, ETSI TC EE, ATTM; contact: Nokia Siemens Networks) RAN2 LSin REl-12 -
no RAN action requested;
conclusion: LS will be treated under AI 6.2

Other:

RP-121473 Reply LS to R4-125009 = RP-120922 on UE measurements in support of the two-stage MIMO OTA test method
(R1-124665; to: RAN4; cc: RAN, RAN2, RAN5; contact: Nokia) RAN1 LSin REL-11 HSPA_LTE_measRP_MIMO-Perf
no RAN action requested;
conclusion: LS will be treated under AI 10.5.5

RP-121492 LS on UE capability for the joint operation of downlink CoMP and CA
(R1-125392; to: RAN2; cc: RAN4, RAN; contact: Huawei) RAN1 LSin REL-11 COMP_LTE_DL-Core
no RAN action requested;
conclusion: LS will be treated under AI 10.6.8

RP-121501 LS response to R3-121453, R3-121455, R3-121458 on carrier based ICIC (R1-125398; to: RAN3; cc: RAN; contact: Huawei) RAN1 LSin REL-12 LTE_CA_HetNet_ICIC-Core
no RAN action requested; note: Non of the 3 RAN3 LSs (R3-121453, R3-121455, R3-121458) were sent to RAN;
conclusion: LS will be treated under AI 11.3.1.1

RP-121696 LS on LTE-HRPD inter RAT SON
(R3-122935; to: 3GPP2, RAN; cc: -; contact: ZTE) RAN3 LSin REL-12 FS_LTE_HRPD_SON
RAN action requested;
conclusion: LS will be treated under AI 12.4.4

7 ITU-R Ad hoc

7.1 Status report

RP-121510 Status Report ITU-R Ad hoc ITU-R Ad hoc Contact (Telecom Italia) Report
conclusion: noted

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7.2 Submission to ITU-R

7.2.1 Submission to ITU-R WP5A

ITU-R F.1763:

RP-121503 LS ON REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R F.1763: Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz (ITU-R WP5A/TEMP/61v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact:) ITU-R WP5ALSin - -

no explicit RAN action requested;

discussion: RAN chairman: interested parties can draft a reply LS (if they want)
Motorola Solutions: Why do we not recommend UMTS or LTE for broadband?
AT&T: We have recommended 3GPP technology for other ITU-R recommendations; we can take a look at this recommendation here to see whether we should also recommend 3GPP technology for it

conclusion: noted, no LS answer

Spectrum estimates WRC-15:

RP-121504 LS on WRC-15 AGENDA ITEM 1.1: Consideration of Spectrum Estimates for terrestrial mobile broadband (excluding IMT) applications
(ITU-R WP5A/TEMP/73(Rev.1)v3; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -) ITU-R WP5A LSin - -

no explicit RAN action requested;

conclusion: noted, no LS answer

ITU-R M.1450-4:

RP-121505 LS ON REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R M.1450-4: Characteristics of broadband radio local area networks
(ITU-R WP5A/TEMP/75v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI ERM-TG11, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -) ITU-R WP5A LSin - -

no explicit RAN action requested; not yet provided since attachment is missing;

discussion: Telecom Italia: out-of-scope of 3GPP

conclusion: noted, no LS answer

Communications with aircraft:

RP-121506 LS ON INVITATION TO SUBMIT CONTRIBUTIONS TO PRELIMINARY DRAFT NEW REPORT ITU-R M.[LMS.ATG] SYSTEMS FOR PUBLIC MOBILE COMMUNICATIONS WITH AIRCRAFT
(ITU-R WP5A/TEMP/81v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -) ITU-R WP5A LSin - -

no explicit RAN action requested;

discussion: RAN chairman: no need to answer from RAN side, can be addressed by ETSI

conclusion: noted, no LS answer

7.2.2 Submission to ITU-R WP5D

Passive/Active BS antennas:

RP-121487 LS on TECHNICAL AND OPERATIONAL ASPECTS OF PASSIVE AND ACTIVE BASE STATION ANTENNAS FOR IMT SYSTEMS
(ITU-R WP5D/TEMP/56(Rev.1); to: RAN, RAN4; cc: -; contact: -) ITU-R WP5DLSin - -

no explicit RAN action requested; note: This LS was treated in RAN4 as R4-126781 and an LS answer was postponed until REL-12 SI is completed;

discussion: RAN4 chairman: will come back when we have finished active antenna SI

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NSN: as ITU-R deadline is in June we could still come back to it at RAN #59, we could also mention 3D channel model that we plan

conclusion: noted, LS answer is postponed; RAN4 will provide a proposed draft LS answer to RAN #59 in March 2013

ITU-R M.1457:

RP-121488 LS on REVISION 12 OF RECOMMENDATION ITU-R M.1457
(ITU-R WP5D/TEMP/69; to: RAN, 3GPP ITU-R ad hoc; cc: -; contact: -) ITU-R WP5DLSin - -
note: 3GPP ITU-R ad hoc looked at this LS and concluded that no action is required from 3GPP; no RAN action requested;
discussion: Telecom Italia: no immediate action needed
conclusion: noted, no LS answer

Sharing Studies:

RP-121489 LS on PARAMETERS FOR LTE-ADVANCED AND WIRELESSMAN ADVANCED FOR USE IN SHARING STUDIES
(ITU-R WP5D/TEMP/91(Rev.1); to: IEEE, RAN, RAN4; cc: -; contact: -) ITU-R WP5DLSin - -
RAN action requested; note: RAN4 prepared an LTI answer for RAN #58 in RP-121498 = R4-126853;
conclusion: noted, LS answered in RP-121975

RP-121497 Proposed Reply LTI to ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744 on Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies
(R4-126852; to: RAN; cc: -; contact: Ericsson) RAN4 LTIin - -
RAN action requested; note: RAN #57 answered part 1 of ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744 in RP-121450; RP-121497 = R4-126852 is a proposal for a reply to part 2;
discussion: AT&T: aspect on footnote 18 is not addressed and could be included (emission limits when you have power control)
Ericsson: The footnote aspect is covered
conclusion: noted, approved reply LS in RP-121974 (e.g. source will be RAN, RAN4 header is removed) which will be provided to ITU-R WP5D via 3GPP LS coordinator

RP-121498 Proposed Reply LTI to ITU-R WP5D/TEMP/91(Rev.1) = RP-121489 = R4-126780 on Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies
(R4-126853; to: RAN; cc: -; contact: Ericsson) RAN4 LTIin - -
RAN action requested; note: This is a reply proposal from RAN4 to RP-121489 from ITU-R WP5D;
discussion:
conclusion: noted, approved reply LS in RP-121975 (e.g. source will be RAN, RAN4 header is removed) which will be provided to ITU-R WP5D via 3GPP LS coordinator

PPDR:

RP-121490 LS on INVITATION TO PROVIDE INPUT MATERIAL FOR DEVELOPMENT OF WORKING DOCUMENT TOWARD A PRELIMINARY DRAFT NEW REPORT ON "THE USE OF IMT FOR BROADBAND PPDR APPLICATIONS"
(ITU-R WP5D/TEMP/98(Rev.2); to: RAN, SA1; cc: -; contact: -)ITU-R WP5DLSin - -
no explicit RAN action requested; note: LS was provided also to SA1 but no LS answer from SA1 to RAN, however see RP-121481. In RAN4 Motorola Solutions is working on an LTI for RAN #58 (draft in R4-126970) answering ITU-R WP5D/TEMP/9(rev.1) = RP-120912 =R4-124746 which RAN #57 received on the same subject, see RP-121756;
discussion: Telefonica: Does PPDR include public warning systems?
Motorola Solutions: not sure, we should discuss this
conclusion: noted, answer in RP-122041

RP-121756 Draft response to ITU-R WP5D/TEMP/98(Rev.2) = RP-121490 on the use of IMT for Broadband PPDR applications (to: ITU-R WP5D, SA1; cc: -; contact: Motorola Solutions) Motorola Solutions LTIout - -
proposal to answer ITU-R WP5D LS in RP-121490
discussion: Motorola Solutions: further offline discussion needed
RAN chairman: has to go to SA and then to PCG?
Telecom Italia: no public safety WI in SA at the moment
Motorola Solutions: should we mention that SA is discussing requirements?
Telecom Italia: umbrella WI on public safety was rejected in SA1

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Motorola Solutions: as deadline is end of the year prefers to send an answer from RAN side to SA
AT&T (WP5D chairman): LTE technology will be used for public safety (either as it is or with enhancements); topic is also an agenda item of WRC-15; might be also a driver for future spectrum requests so 3GPP should respond
RAN chairman: might be useful to capture the latest status in a RAN endorsed version, we can then still see how the further TSG #58 discussions will go
Vodafone: Do they need a reply from RAN #58?
Telecom Italia: 23.01.2013 is the deadline, we have to go via SA/PCG; so we could discuss by email but not sure whether March is not also possible
AT&T (WP5D chairman): requests to have a 3GPP answer as complete as possible from RAN #58
Motorola Solutions: agreement to include PWS aspect in LS answer?
AT&T (WP5D chairman): will double check how we handled comparable cases

conclusion: revised in RP-121976 by Motorola Solutions for Friday

RP-121976 Draft response to ITU-R WP5D/TEMP/98(Rev.2) = RP-121490 on the use of IMT for Broadband PPDR applications (to: ITU-R WP5D, SA1; cc: -; contact: Motorola Solutions) Motorola Solutions LTIout LS04 - -

revision of RP-121756; proposal to answer ITU-R WP5D LS in RP-121490;

discussion: Telecom Italia: will be submitted to ITU-R via individual members so please contact 3GPP ITU-R contact person for this; some parts are not covered in the scope of 3GPP, also concerns about support for some features (e.g. naval aspects)
Motorola Solutions: may have further updates in SA
Ericsson: comments regarding PPDR in Canada might

conclusion: revised in RP-122041 to update cover and change PPDE to PPDR
RP-122041 is approved and will be provided to SA so that they send a version to PCG and from there via Individual Members to ITU-R

7.2.3 Other ITU-R submission

No contributions.

8 RAN WGs: WG Status Reports & CR Approvals Rel-4 to Rel-10

8.1 TSG RAN WG1

8.1.1 Report from RAN WG1 including report on actions required from the previous meeting

8.1 TSG RAN WG1

8.1.1 Report from RAN WG1 including report on actions required from the previous meeting

RP-121511 Status Report RAN WG1 RAN1 chairman (Alcatel-Lucent) Report

conclusion: revised in RP-121968 before presentation

RP-121968 Status Report RAN WG1 RAN1 chairman (Alcatel-Lucent) Report

discussion: RAN chairman: New Orleans meeting was hosted by North American Friends of 3GPP (sorry for the printing error)
Motorola Solutions: slide 10: n messages? RAN4 is defining already performance requirements;
RAN1 chairman: no signalling solution in REL-11
RIM: how could situation to reach consensus be improved for REL-12 (looking at the tighter interpretation of target dates that is planned for REL-12)
RAN1 chairman: doing my best to achieve consensus, voting was so far not needed
NTT DOCOMO: exception sheet or CRs?
RAN1 chairman: one option could be to consider remaining part in a REL-12 WI
RAN chairman: let's discuss when we come to DL COMP on Wed
CATT: slide 13: we had short time to review CRs so it would be good to review more
RAN1 chairman: agrees that more review is useful but it will not be a possibility to add further REL-11 features
Fujitsu: time budgets for REL-12: how are already approved WIs handled?

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RAN1 chairman: they are included (took 10 time units I think but you can check in RP-121830)
NEC: increasing number of days for LTE parallel sessions? e.g. 3,5 days?
RAN1 chairman: could consider to go for 3 days in parallel but it is more and more difficult as some delegates can not be at 2 places at the same time; also offline time would reduce if we increase online time
RAN1 chairman: 16 units could be increased to 20 units but we have requests for 40 units so this alone will not solve the problem
conclusion: noted, slide 27 is agreed as working assumption for RAN1 capacity

RP-121512 List of CRs from RAN WG1 ETSI MCC Info
conclusion: noted

8.1.2 Discussions on decisions from RAN WG1

No contributions.

8.1.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

RP-121836 CR to 25.214 to correct FDD Enhanced Uplink - Physical Layer RAN1 CR 25.214 0701 - F REL-11 EDCH-Phys, TEI11
conclusion: approved

8.1.4 Approval of CRs to Rel-8 WIs

8.1.4.1 CRs for LTE [LTE-Phys]

RP-121837 CRs to 36.213 and 36.214 to correct LTE Physical layer RAN1 CR set REL-10 LTE-Phys, TEI10
conclusion: approved

8.1.4.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI8]

RP-121838 CR to 25.211 to correct inconsistency with 25.331 specification RAN1 CR 25.211 0305 1 F REL-11 RANimp-UplinkEnhState, TEI11
conclusion: approved

8.1.5 Approval of CRs to Rel-9 WIs

8.1.5.1 CRs related to LTE

No ocntributions.

8.1.5.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI9]

No contributions.

8.1.6 Approval of CRs to Rel-10 WIs

8.1.6.1 CRs related to LTE

RP-121839 CRs gathering a set of corrections related to CA and eDL MIMO RAN1 CR set REL-10 LTE_CA-Core, LTE_eDL_MIMO-Core
conclusion: approved

8.1.6.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI10]

RP-121840 CR to 25.212 clarifying HS-SCCH order for MC-HSPA RAN1 CR 25.212 set REL-10 4C_HSDPA-Core
conclusion: approved

8.1.7 Approval of linked CRs where the leading one originated from RAN WG1

8.2 TSG RAN WG2

8.2.1 Report from RAN WG2 including report on actions required from the previous meeting

RP-121513 Status Report RAN WG2 RAN2 chairman (Ericsson) Report
discussion: NEC: at last RAN meeting you mentioned you wanted to see how to avoid parallel sessions

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RAN2 chairman: parallel sessions are usually tricky
NSN: new TEI11 functionality after the freeze of REL-11 is not helpful as it impacts also ASN.1 review
RAN2 chairman: we
CATT: page 33: missing part as correction? any further input needed than the spec?
RAN2 chairman: yes, plans to have change as a correction; we did not have the spec in New Orleans but we usually get an LS
RIM: fast dormancy proposals are now for REL-12?
RAN2 vice-chairman (Huawei): proposals were on the table in the UTRA session for a long time (6 months) but we did not have time to look at them so far; would not close the door for them as ASN.1 impact is small
Intel: next steps on open issues of slide 54? Treselection mandatory is not listed as open issue
LG: slide 16: UE capabilities for mandatory feature is not that typical; do you plan to later clean this up?
RAN2 chairman: for REL-11 we decided to have a bit for all functions
RAN chairman: UE capabilities will be discussed also later this week

conclusion: noted, slide 58 is agreed as working assumption for RAN2 capacity

RP-121514 List of CRs from RAN WG2 ETSI MCC Info
conclusion: noted

8.2.2 Discussions on decisions from RAN WG2

Non-backwards compatible asn1 in 25.331:

RP-121474 LS on Correction to non-backwards compatible asn1 in 25.331 Rel-9/10/11
(R2-125168; to: RAN, RAN5; cc: -; contact: Renesas) RAN2 LSin REL-9 TEI9
RAN action requested;
conclusion: noted, no LS answer
Note: TSG RAN was informed about this by MCC via the RAN reflector on 26.10.2012. Patches were provided before end of Oct.2012, a CR set is provided to RAN #58 in RP-121934 for approval, PCG #29 was informed by RAN chairman (see AI 5.2).

RP-121480 Reply LS to R2-125168 = RP-121474 on RAN5 Activity relating to non-backwards compatible ASN.1 in 25.331 Rel-9/10/11
(R5-125692; to: RAN2; cc: RAN; contact: NTT DOCOMO) RAN5 LSin REL-9 TEI9
no RAN action requested;
conclusion: noted, no LS answer

Inter-RAT handover/release/reject:

RP-121482 Reply LS to R2-125167 on Inter RAT handover, Inter RAT Release with redirection, Inter RAT Reject with redirection between E-UTRAN and UTRAN
(S2-124764; to: RAN2; cc: RAN, RAN3, CT1; contact: NTT DOCOMO) SA2 LSin REL-8 -
note: R2-125167 was not provided to RAN; no RAN action requested;
conclusion: noted, no LS answer

8.2.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

RP-121922 RAN2 agreed CRs regarding multiple frequency band indicator (MFBI) RAN2 CR set REL-4 TEI8, TEI10
Note: Some TEIx CRs were already approved at RAN #56; this CR set starts from REL-4 for UTRA and REL-8 for LTE. It includes cat. B/C CRs to frozen releases.
conclusion: approved
(note: Some CRs used LTE_RF instead of LTE-RF. This is corrected in the CR database.)

RP-121923 RAN2 agreed CRs related to REL-7 UTRA WIs (partly starting at higher releases) RAN2 CR set REL-7 RANimp-L2DataRates, RANimp-16QamUplink, TEI7
Note: R2-125952/R2-125948/R2-125949 have no REL-10 & REL-11 cat.A CRs, see R2-12595/R2-125951 instead. It includes cat. B CR to frozen release.
conclusion: approved

8.2.4 Approval of CRs to Rel-8 WIs

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8.2.4.1 CRs for LTE [LTE-L23]

RP-121924 RAN2 endorsed 36.331 CRs related to TM5 RAN2 CR 36.331 set REL-8 LTE-L23

Note: All 7 CRs were only endorsed in RAN2.

discussion: ZTE: we cannot approve both CR sets as they are partly doing the same thing; propose to approve at first the removal of the capability and then discuss second set
Samsung: suggests to approve REL-8 CR and then decide which REL-9/10/11 CR set we approve
Ericsson: understood that Huawei was not happy to approve REL-8 CR

conclusion: offline discussion until Thursday
Friday morning:
Telecom Italia: either all Qualcomm CRs or REL-8 Qualcomm CR and the Huawei CR set has to be approved
Telecom Italia: any problem for Qualcomm for FGI bit 1/2?
Qualcomm: concern about FGI 1, IOT availability not clear for FGI 1
Telecom Italia: if we remove a component from FGI 1 would this be acceptable?
Qualcomm: still concern about missing IOT availability
Intel: concerned about IOT for FGI 1 and FGI2
Telecom Italia: concerned about the process that some companies indicate there is IOT and others indicated there is
Samsung: everyone thinks TM5 has to be taken out
Telecom Italia: would like to come back

conclusion: RP-121924 is partly approved, i.e.
Huawei CRs R2-126091, R2-126092, R2-126093 are rejected, i.e. FGI bit 1 and FGI bit 2 will not be set.
Qualcomm CRs R2-126087 ,R2-126088, R2-126132, R2-126129 are approved.

8.2.4.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI8]

RP-121925 RAN2 agreed CRs to UTRA REL-8 WIs (partly starting from higher releases) RAN2 CR set REL-8 RANimp-UplinkEnhState, RANimp-DCHSDPA, RANimp-HSPAVoIP, HNB-supp

Note: CR set includes cat.C CRs to frozen releases.

conclusion: approved

8.2.5 Approval of CRs to Rel-9 WIs

8.2.5.1 CRs related to LTE

RP-121795 Mandatory FGI setting for LTE Nokia Siemens Networks Disc REL-9 TEI9, LTE-L23

Proposal 1: It is proposed that FGI14 and FGI15 to UTRAN FDD and FGI23 shall be mandated to set to true from the Dec/2012 version and not to split FGI15.

Proposal 2: It is proposed to confirm that mandating the setting of some FGIs in Rel-9 does not mean the earlier Rel-9 UEs will fail the test.

Proposal 3: It is proposed that RAN to encourage RAN5 to complete the test cases for FGI14, 15 to UTRAN FDD and 23.

Proposal 4: As a conclusion of the above proposals, RAN should approve FGI14 related technically endored CRs (R2-126084, R2-126085 and R2-128096) and FGI23 related technically endored CRs (R2-126101, R2-126102 and R2-126103) For FGI15, the necessary CR is attached in this contribution for information. Once it is agreed, NSN is happy to provide the necessary CRs.

Proposal 5: It is proposed to mandate the setting of FGI27 from Rel-9 and that RAN approves R2-126036, R2-125885 and R2-126037.

discussion: RIM: unclear how FGI bit should be applied here
Samsung: strange to accept the proposals if we do not know what it means
Qualcomm: we need to understand the process and it might have impact on GCF
NSN: we should not forget that not RAN5 tests but IOT tests are relevant
Qualcomm: setting the bit means that UE has passed the IOT test
RAN chairman: it seems some offline discussion is needed to clarify some fundamental aspects of FGI bits
Telecom Italia: we agreed a process in REL-8 and we are changing this now which is very serious
Vodafone: prefers to have a more official discussion

conclusion: noted, offline discussion; rapporteur: NSN; if no conclusion by the end of the week the whole FGI topic will be postponed to March 2013;
related CRs in RP-121926 to RP-121930

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Friday:
NSN: Disc Tdoc RP-121795 includes a draft CR on FGI 15, can we endorse to set FGI bit 15?
RIM: RAN2 did not agree on a CR so why do we discuss this here now?
RAN2 chairman: FDD/TDD split was not solved and further discussion was planned in RAN2
Qualcomm: grouping has to be discussed in RAN2
Huawei: 2 network vendors indicate that there is IOT available for this feature
Ericsson: prefers to have discussion in RAN2 first
NSN: concern from any UE vendor?
Renesas: IOT available for all other RATs?
Samsung: FGI bit 15 has strong relation to FGI bit 23 for GERAN, so it might be better to discuss this in RAN2 first
conclusion: Setting FGI bit 25 is not endorsed

RP-121997 Way forward on Release 9 FGI Nokia Siemens Networks Disc REL-9 LTE-L23, TEI9

The following is proposed:

- *RAN#58 discusses the FGI bits based on the CRs submitted*
- *We would agree the FGI bits in this meeting (unless concern on IOT is raised)*
- *Now the bits would be immediately implemented in Release 10*
- *For Release 9 we would agree the bits but decide to implement the CR only in June or September*
  - *In RAN#58 the time to be fixed when Release 9 CR is to be implemented (June or September seen as possible alternatives based on the discussion)*
  - *In June/September no further discussions on those bits, just putting the Release 9 CR in, at most providing CR aligned to the latest spec version*

discussion: Qualcomm: will we discuss FGI bits one by one?
NSN: yes
Telecom Italia: no problem with legacy
AT&T: does this involve FGI 29 for REL-9/10?
NSN: yes, going though bit by bit
AT&T: we are against mandating FGI bit 29 for REL-9/10; when will this meeting be?
NSN: not offline but online during this week
conclusion: noted, will come back on FGI discussion on Thursday

RP-121926 RAN2 endorsed 36.331 CRs for Update on setting of FGI bit 9 RAN2 CR 36.331 set REL-9 LTE-L23, TEI9

Note: All 3 CRs were only endorsed in RAN2.
discussion: RAN chairman: can we agree on REL-11 CR? we can then go to earlier REL
Samsung: either there is IOT now or not so strange to consider only latest CR
Huawei: IOT availability was confirmed for all bits so this is not a problem
RIM: if a platform is introduced you stick to this platform so going by REL is not appropriate
NSN: maybe better to discuss process first
Deutsche Telekom: assumes RIM was talking about RAN5 testing and not IOT
RIM: we should include RIM as well in the discussion
Telecom Italia: suggests to approve the CRs and ask RAN5 to solve the testing issue
RIM: there are some bits which do not have IOT in place so far these parts can be addressed later
NSN: we cannot leave holes in RRC spec waiting for RAN5 until March
Huawei: we have to distinguish RAN5 testing from IOT
TeliaSonera: IOT availability is a RAN plenary discussion and not a RAN5 discussion
Huawei: REL-11 is a different story from legacy REL-9/REL-10 where it should be no problem
NSN: let RAN5 check how to address the problem that they cannot test with FGI bits on
RAN chairman: we should draft LS to RAN5 to describe the way forward
RIM: from terminals perspective we have to communicate with GCF as well
RAN chairman: we leave it up to RAN5 whether they want to contact GCF
Samsung: for FGI 9 IOT was just available lately so this is the case where we need to be more careful than with other cases; we have a concern with FGI bit 9
Vodafone: available is available so we should set FGI bit 9

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Qualcomm: also concerned about FGI bit 9
Samsung: several UE vendors indicated that IOT is insufficiently available
conclusion: rejected, FGI bit 9 will not be set

RP-121927 RAN2 endorsed/agreed 36.331 CRs for Update on setting of FGI bit 14 RAN2 CR 36.331 set REL-9 LTE-L23, TEI9
Note: CR R2-126084 was only endorsed by RAN2. The other 2 CRs were agreed.
discussion: RIM: no test case for this feature in RAN5, so what does it mean to set FGI bit 14
RAN chairman: we can task RAN5 to discuss this
Deutsche Telekom: IOT meant testing against 2 network infrastructures, we need to decide whether a validated test case is needed for this (was so far not considered)
Huawei: agrees that this was so far not considered
Telecom Italia: supports to leave out test case availability from this discussion
AT&T: supports Huawei and Telecom Italia
NSN: we can ask RAN5 when a test case will be available
RAN5 chairman: would be new that RAN5 is working on not yet available core specs
NSN: the features are there and the bits would be set in March and just endorsed here so far
conclusion: CRs are postponed, setting FGI bit 14 is endorsed and RAN5 will be informed

RP-121928 RAN2 endorsed 36.331 CRs for Update on setting of FGI bit 23 RAN2 CR 36.331 set REL-9 LTE-L23, TEI9
Note: All 3 CRs were only endorsed in RAN2.
discussion: Samsung, Renesas: also for FGI bit 23 we would prefer to not endorse it
conclusion: rejected, i.e. FGI bit 23 will not be set.

RP-121929 RAN2 endorsed 36.331 CRs for Update on setting of FGI bit 27 RAN2 CR 36.331 set REL-9 LTE-L23, TEI9
Note: All 3 CRs were only endorsed in RAN2.
discussion: Qualcomm: we have a concern, less than FGI 9 but we would prefer to come back in March
NSN: wondering as for FGI bit 27 you can even see press releases for IOT
Huawei: same view as NSN
Telecom Italia: very concerned about Qualcomm comment since 10 operators co-signed the CRs and minimum 2 network vendors are available for IOT
Vodafone: if IOT is available then FGI bit should be set
AT&T: wondering that this was not discussed properly in RAN2
Qualcomm: we withdraw the concern
conclusion: CRs are postponed, setting FGI bit 27 is endorsed and RAN5 will be informed

RP-121930 RAN2 endorsed/agreed 36.331 CRs on Update on setting of FGI bit 28 RAN2 CR 36.331 set REL-9 LTE-L23, TEI9
Note: CR R2-126081 was only endorsed by RAN2. The other 2 CRs were agreed.
discussion: RIM: would like to see this only for VoLTE
Intel: agrees FGI 28 can be set to 1 if UE supports VoLTE but not for all UEs
Telecom Italia: changing meaning of FGI bit?
Samsung: seems not meaning but just condition is requested to change
NTT DOCOMO, Ericsson: does not see a need to link this to VoLTE, it should apply to all LTE UEs
RAN chairman: we will not discuss a condition anymore
Ericsson: it was discussed in RAN2 and either there is IOT or not and if there is IOT then we should endorse to have this bit
NSN: can we endorse this for VoLTE UEs only and inform RAN5 and then see in March where we are?
TeliaSonera: FGIs are not to indicate optional/mandatory and the feature is mandatory for all UEs and not just for VoLTE UEs but we could accept this
Ericsson: why do we need to inform RAN5 about the condition?
Fujitsu: condition for REL-9 might be ok, but for REL-10/11
conclusion: CRs are postponed, setting FGI bit 28 is endorsed for FDD UEs supporting VoLTE and RAN5 will be informed

Qualcomm/Samsung: also RP-121924 (FGI 1/2) has to be considered in FGI discussion, see AI 8.2.4.1
conclusion: Setting FGI 1/2 are not endorsed

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NSN: also RP-121781/1782/1783 (FGI 29) need to be considered, see AI
conclusion: Setting FGI 29 is not endorsed

NSN: there is also a draft CR in RP-121795 (FGI 15), see AI
conclusion: Setting FGI 15 is not endorsed, will be discussed again in RAN2

conclusion: Summary:
setting of the following FGI bits is endorsed:
14 (RP-121927), 27 (RP-121929), 28 for FDD UEs supporting VoLTE (RP-121930)
setting of the following FGI bits is not endorsed:
1/2 (RP-121924), 9 (RP-121926), 15 (RP-121795), 23 (RP-121928), 25 (RP-121795), 29 (RP-121781/1782/1783)

NSN will draft LS to RAN5 in RP-122040 considering all endorsed FGI bits;
postponed FGI CRs have to be submitted to RAN #59 based on latest spec; Samsung offered to bring CRs to RAN #59

RP-122040 Draft LS on Release 9 FGI bit handling (to: RAN5; cc: -; contact: Nokia Siemens Networks) NSN LSout REL-9 TEI9
discussion: Telecom Italia: indicating that this is a continuous process?
NSN: thinks that RAN5 is aware of this
Ericsson: agrees with NSN but last sentence above actions unclear
NSN: ok to remove the sentence if RAN5 understands they can look at different alternatives
RAN5 chairman: we are asked to investigate so it's clear
RIM: prefers to keep sentence
Ericsson: fine with last sentence, if it is clear that no implications on other functionalities

RIM: prefers "terminal platform" instead of "terminals"
NSN: "terminals/terminal platforms in development"?
RIM: ok

Fujitsu: we have some actions for RAN5 which are not in the actions section
NSN: yes, will be corrected
conclusion: revised in RP-122043 to provide an updated draft LS

RP-122043 Draft LS on Release 9 FGI bit handling (to: RAN5; cc: -; contact: Nokia Siemens Networks) NSN LSout REL-9 TEI9
discussion: RIM: next meeting is RAN #59
conclusion: revised in RP-122044 to provide final version

RP-122044 LS on Release 9 FGI bit handling (to: RAN5; cc: -; contact: Nokia Siemens Networks) RAN LSout REL-9 TEI9
conclusion: approved

RP-121931 RAN2 agreed CRs for LCS for LTE (partly starting from higher releases) RAN2 CR set REL-9 LCS_LTE
discussion: Telecom Italia: has to check CR0047, CR0048 CR0049 to 36.305 with the author
conclusion: approved apart from the 3 CRs CR0047, CR0048 CR0049 to 36.305, come back on Fri
Friday morning:
Telecom Italia: withdrew concerns
RP-121931 is approved

RP-121932 RAN2 agreed 36.300 CRs for MBMS for LTE (partly starting from higher releases) RAN2 CR 36.300 set REL-9 MBMS_LTE
conclusion: approved

RP-121933 RAN2 agreed CRs to LTE related TEI9 issues RAN2 CR set REL-9 LTE-L23, TEI9
conclusion: approved

8.2.5.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI9]

RP-121934 RAN2 agreed 25.331 CRs for TEI9 RAN2 CR 25.331 set REL-9 TEI9

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conclusion: approved

RP-121935 RAN2 agreed 25.331 CRs on Introduction of a periodic measurement for REL-9 WI DC-HSUPA RAN2 CR 25.331 set REL-10 RANimp-DC_HSUPA, TEI10
Note: CR set includes cat.C CRs to frozen releases.
conclusion: approved

RP-121781 Update on setting of FGI bit 29 KDDI CR 36.331 1179 - F REL-9 TEI9, LTE-L23
company contribution; CR was not provided to RAN2 #80
discussion: AT&T: we oppose this CR, we think that the SPS is essential; if FGI will be set to 1 roaming UEs might force us to switch off SPS
Telecom Italia: suggests to discuss this in RAN2
RAN2 chairman: in RAN2 we had common understanding that it is possible so no technical issue
RAN chairman: FGI bits are a testability issue and not a technical issue
RAN2 chairman: it seems AT&T is concerned that mandating to set the bit to 1 could mean that some UEs set the bit without being properly tested
AT&T: correct, we are especially worried about roaming UEs
conclusion: offline discussion; if no consensus then the topic will be postponed
Friday morning:
AT&T: we still object to set FGI bit 29
CR is rejected

RP-121782 Update on setting of FGI bit 29 KDDI CR 36.331 1180 - A REL-10 TEI9, LTE-L23
company contribution; CR was not provided to RAN2 #80
conclusion: rejected

RP-121783 Update on setting of FGI bit 29 KDDI CR 36.331 1181 - A REL-11 TEI9, LTE-L23
company contribution; CR was not provided to RAN2 #80
conclusion: rejected

8.2.6 Approval of CRs to Rel-10 WIs

8.2.6.1 CRs related to LTE

RP-121936 RAN2 agreed CRs on various LTE related REL-10 WIs (partly starting from higher releases) RAN2 CR set REL-10 LTE_CA-Core, LTE_Relay-Core, TEI10
conclusion: approved

8.2.6.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI10]

RP-121937 RAN2 agreed CRs to UTRA related REL-10 WIs RAN2 CR set REL-10 ANR_UTRAN-Core, Interf_dset_meas_UMTS, TEI10
Note: CR set includes cat.B/C CRs to frozen releases.
conclusion: approved

8.2.7 Approval of linked CRs where the leading one originated from RAN WG2

8.3 TSG RAN WG3

8.3.1 Report from RAN WG3 including report on actions required from the previous meeting

RP-121515 Status Report RAN WG3 RAN3 chairman (Qualcomm) Report
conclusion: revised in RP-121835 before RAN #58

RP-121835 Status Report RAN WG3 RAN3 chairman (Qualcomm) Report
discussion: NEC: capacity is rather the minimum capacity
conclusion: noted

RP-121516 List of CRs from RAN WG3 ETSI MCC Info
conclusion: noted

8.3.2 Discussions on decisions from RAN WG3

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8.3.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

8.3.4 Approval of CRs to Rel-8 WIs
8.3.4.1 CRs for LTE [LTE-interfaces]

8.3.4.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI8]

RP-121723 Closed Rel-8 WI CRs RAN3 CR set REL-8 RANimp-UplinkEnhState, TEI8
RANimp-UplinkEnhState was REL-8 WI
conclusion: approved

8.3.5 Approval of CRs to Rel-9 WIs
8.3.5.1 CRs related to LTE

8.3.5.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI9]

8.3.6 Approval of CRs to Rel-10 WIs
8.3.6.1 CRs related to LTE

8.3.6.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI10]

RP-121724 Closed Rel-10 WI CRs RAN3 CR set REL-10 HNB_HENB_mob_enh-Core, MDT_UMTSLTE-Core, TEI10
conclusion: approved

8.3.7 Approval of linked CRs where the leading one originated from RAN WG3

8.4 TSG RAN WG4

8.4.1 Report from RAN WG4 including report on actions required from the previous meeting

RP-121517 Status Report RAN WG4 RAN4 chairman (NSN) Report
discussion: Alcatel-Lucent: slide 24: CRs which were not approved: intention is to close core part and considere the changes under maintenance?
conclusion: noted, slide 50 aagreed as working assumption for RAN4 capacity

RP-121518 List of CRs from RAN WG4 ETSI MCC Info
conclusion: noted

8.4.2 Discussions on decisions from RAN WG4

Spurious emissions limit:

RP-121477 LS on the spurious emissions limit for the range 2010-2025 MHz
(R4-126045; to: ARIB; cc: RAN; contact: Ericsson) RAN4 LSin REL-8 LTE-RF
no RAN action requested;
discussion: RAN4 chairman: we agreed at RAN #57 that it is ok that RAN4 contacts ARIB and CCSA directly; so this was done here
conclusion: noted, no LS answer

RP-121478 LS on the spurious emissions limit for the range 2010-2025 MHz
(R4-126046; to: CCSA TC5; cc: RAN; contact: Ericsson) RAN4 LSin REL-8 LTE-RF
no RAN action requested;
conclusion: noted, no LS answer

8.4.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

RP-121848 CRs for UMTS 1700 MHz RAN4 CR set REL-7 RInImp-UMTS1700

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conclusion: approved

8.4.4 Approval of CRs to Rel-8 WIs

8.4.4.1 CRs for LTE [LTE-RF]

RP-121849 CRs for LTE RAN4 CR set REL-8 LTE-RF
conclusion: approved

8.4.4.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI8]

RP-121852 CRs for Small Technical Enhancements and Improvements for Rel-8 RAN4 CR set REL-8 TEI8
conclusion: approved

8.4.5 Approval of CRs to Rel-9 WIs

8.4.5.1 CRs related to LTE

RP-121850 CRs for LTE RAN4 CR set REL-9 LTE-RF, TEI9
conclusion: approved

RP-121853 CRs for LTE FDD Home eNodeB RF Requirements RAN4 CR set REL-9 HeNB-RF_FDD
conclusion: approved

RP-121854 CRs for Positioning Support for LTE RAN4 CR set REL-9 LCS_LTE
conclusion: approved

RP-121855 CRs for LTE Pico NodeB RF Requirements RAN4 CR set REL-9 LTEimp-Pico_eNB-RF
conclusion: approved

RP-121857 CRs for RF requirements for Multicarrier and Multi-RAT BS RAN4 CR set REL-9 RInImp9-RFmulti
conclusion: approved

RP-121858 CRs for Extended UMTS/LTE 800 MHz RAN4 CR set REL-9 RInImp9-UMTSLTE800
conclusion: approved

8.4.5.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI9]

MSR:

RP-121495 Reply LS to GP-121137 = RP-121343 on CRs for MSR specifications (R4-126848; to: GERAN1; cc: RAN; contact: Ericsson) RAN4 LSin REL-9 RInImp9-RFmulti, MSR_NC
RInImp9-RFmulti was a REL-9 WI, MSR_NC was a REL-10 WI; no RAN action requested;
conclusion: noted, no LS answer

RP-121693 Reply LS to R4-126848 = RP-121495 on CRs for MSR specifications (GP-121395; to: RAN; cc: RAN4; contact: Ericsson) GERAN1 LSin REL-9 RInImp9-RFmulti, MSR_NC
RInImp9-RFmulti was a REL-9 WI, MSR_NC was a REL-10 WI; RAN action requested;
discussion: RAN chairman: corresponding CRs are also provided to RAN #58?
Ericsson: yes, RAN4 Tdocs are visible in RP-121495
conclusion: noted, no LS answer

RP-121856 CRs for Dual-Cell HSUPA RAN4 CR set REL-9 RANimp-DC_HSUPA
conclusion: approved

RP-121859 CRs for Small Technical Enhancements and Improvements for Rel-9 RAN4 CR set REL-9 TEI9
conclusion: approved

8.4.6 Approval of CRs to Rel-10 WIs

8.4.6.1 CRs related to LTE

RP-121851 CRs for LTE RAN4 CR set REL-10 LTE-RF, TEI10

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conclusion: approved

RP-121860 CRs for Enhanced Inter-Cell Interference Control (ICIC) for non-Carrier Aggregation (CA) based deployments of heterogeneous networks for LTE RAN4 CR set REL-10 eICIC_LTE-Core
conclusion: approved apart from R4-126952 which had errors on the CR cover

RP-121972 Clarification of the TDM pattern conditions Ericsson, ST-Ericsson CR 36.133 1560 4 A REL-10 eICIC_LTE-Core
company contribution to replace R4-126952 of RP-121860
conclusion: RP-121972 was at first approved in the meeting but then it was noticed that it should be cat.F so the CR RP-121972 was revised again in RP-121983

RP-121983 Clarification of the TDM pattern conditions Ericsson, ST-Ericsson CR 36.133 1560 5 F REL-10 eICIC_LTE-Core
company contribution to replace R4-126952 of RP-121860; revision of RP-121972 to correct category to F
conclusion: approved

RP-121861 CRs for Carrier Aggregation for LTE RAN4 CR set REL-10 LTE_CA-Core
conclusion: approved

RP-121862 CRs for Enhanced Downlink Multiple Antenna Transmission for LTE RAN4 CR set REL-10 LTE_eDL_MIMO-Core
conclusion: approved

RP-121863 CRs for Uplink Multiple Antenna Transmission for LTE - Perf part RAN4 CR set REL-10 LTE_UL_MIMO-Perf
conclusion: approved

RP-121864 CRs for Multi-standard radio Base Station RF requirements for non-contiguous spectrum deployments RAN4 CR set REL-10 MSR_NC-Core
conclusion: approved

RP-121865 CRs for UMTS/LTE 3500 MHz RAN4 CR set REL-10 RInImp8-UMTSLTE3500
conclusion: approved

RP-121866 CRs for Adding 2 GHz band LTE FDD (Band 23) for Ancillary Terrestrial Component (ATC) of Mobile Satellite Service (MSS) in North America - Core part RAN4 CR set REL-10 S_Band_LTE_ATC_MSS-Core
discussion: Sprint: concern raised about this CR (R4-126213) ("The value in the CR has been shown to possibly cause significant interference to operations in Band 25.") but not objecting its approval
Dish Networks: worried about raising concerns without technical justification. A working-group-level agreement was not reached on the validation of the concern of possibly causing any interference, after one year of consideration in RAN4.
conclusion: approved

8.4.6.2 Other Closed Work Items and Small Technical Enhancements & Improvements [TEI10]

RP-121867 CRs for Small Technical Enhancements and Improvements for Rel-10 RAN4 CR set REL-10 TEI10
conclusion: approved

8.4.7 Approval of linked CRs where the leading one originated from RAN WG4

8.5 TSG RAN WG5

8.5.1 Report from RAN WG5 including report on actions required from the previous meeting

RP-121519 Status Report RAN WG5 RAN5 Chairman (NTT DOCOMO) Report
conclusion: noted

RP-121520 List of CRs from RAN WG5 ETSI MCC Info

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conclusion: noted

RP-121521 Status Report MCC TF160 (for Approval) MCC TF160 Leader Report
conclusion: approved

RP-121691 Revised Terms of Reference for 2013 for MCC TF160 RAN5 ToR
conclusion: approved

8.5.2 Discussions on decisions from RAN WG5

8.5.3 Approval of CRs to Rel-4, Rel-5, Rel-6 and Rel-7 WIs with linked CRs

RP-121653 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-4 Conformance Testing(TEI4_Test) RAN5 CR set - - F REL-4 TEI4_Test
conclusion: approved

RP-121654 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-7 Conformance Testing(TEI7_Test) RAN5 CR set - - F REL-7 TEI7_Test
conclusion: approved

RP-121705 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel 99 Conformance Testing(TEI_Test) RAN5 CR set - - F R99 TEI_Test
conclusion: approved

8.5.4 Approval of CRs to closed Rel-8, REL-9 and REL-10 WIs

8.5.4.1 CRs for LTE [LTE-UEConTest_RF, LTE-UEConTest_SIG]

RP-121655 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 1) RAN5 CR set - - F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-121656 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 2) RAN5 CR set - - F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-121657 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 3) RAN5 CR set - - F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-121658 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 4) RAN5 CR set - - F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-121659 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 1) RAN5 CR set - - F REL-8 LTE-UEConTest_SIG
conclusion: approved

RP-121660 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 2) RAN5 CR set - - F REL-8 LTE-UEConTest_SIG
conclusion: approved

RP-121661 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 3) RAN5 CR set - - F REL-8 LTE-UEConTest_SIG
conclusion: approved

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RP-121662 RAN5 agreed non TTCN CR(s) under WI 3G LTE Terminal Protocol Conformance Test Specifications (LTE-UEConTest_SIG) (Batch 4) RAN5 CR set - - F REL-8 LTE-UEConTest_SIG
conclusion: approved

8.5.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8_Test, TEI9_Test, TEI10_Test]

RP-121663 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-8 Conformance Testing(TEI8_Test) RAN5 CR set - - F REL-8 TEI8_Test
conclusion: approved

RP-121664 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-9 Conformance Testing(TEI9_Test) RAN5 CR set - - F REL-9 TEI9_Test
conclusion: approved

RP-121665 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-10 Conformance Testing (TEI10_Test) RAN5 CR set - - F REL-10 TEI10_Test
conclusion: approved

RP-121666 CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A RAN5 CR 34.123-3 3016 - F REL-10 TEI8_Test
conclusion: approved

RP-121668 CR to 34.229-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.229-3 (prose), Annex A RAN5 CR 34.229-3 0086 - F REL-9 TEI8_Test
conclusion: approved

RP-121670 CR to 36.523-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 36.523-3 (prose), Annex A RAN5 CR 36.523-3 1440 - F REL-10 LTE-UEConTest_SIG
conclusion: approved

8.5.5 Approval of linked CRs where the leading one originated from RAN WG5

RP-121667 CR to 34.123-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (TTCN), Annex A RAN5 CR 34.123-3 set - F/B REL-10 TEIx_Test x={},6,7,8 TTCN batch, 23 Test Cases
conclusion: approved

RP-121669 CR to 34.229-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.229-3 (TTCN), Annex A RAN5 CR 34.229-3 set - F/B REL-9 TEI8_Test TTCN batch, 8 Test Cases
conclusion: approved

RP-121671 CR to 36.523-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 36.523-3 (TTCN), Annex A RAN5 CR 36.523-3 set - F/B REL-10 LTE-UEConTest_SIG, TEI9_Test TTCN batch, 136 Test Cases
conclusion: approved

9 Conformance Testing Work Items

9.0 Closed Rel-11 work items

Note: For earlier releases see 8.5.

No contributions.

9.1 Open Rel-9 work items

9.1.1 Conformance Test Aspects – Dual-Cell HSUPA [510014, RANimp-DC_HSUPA_UEConTest, 12/2012]

RP-121524 Status report for WI Conformance Test Aspects – Dual-Cell HSUPA, rapporteur: Ericsson RAN5 Report REL-9 RANimp-DC_HSUPA_UEConTest
510014, WID: RP-110116; RAN #57: 95%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

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RP-121673 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects – Dual-Cell HSUPA (RANimp-DC_HSUPA_UEConTest)RAN5 CRset - - F REL-9 RANimp-DC_HSUPA_UEConTest
conclusion: approved

9.1.2 UE Conformance Test Aspects – Public Warning System (PWS) – RAN aspects for LTE
[540005, PWS-RAN_UEConTest, 12/2012]

RP-121525 Status report for WI UE Conformance Test Aspects – Public Warning System (PWS) – RAN aspects for LTE, rapporteur: Qualcomm RAN5 Report REL-9 PWS-RAN_UEConTest
540005, WID: RP-111564; RAN #57: 95%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121674 RAN5 agreed non TTCN CR(s) under WI Conformance test aspects – Public Warning System (PWS) – RAN aspects for LTE (PWS-RAN_UEConTest) RAN5 CRset - - F REL-9 PWS-RAN_UEConTest
conclusion: approved

9.2 Open Rel-10 work items

9.2.1 Conformance test aspects – UMTS-LTE 3500

9.2.1.1 Conformance test aspects – LTE 3500 [420013, LTE-UEConTest_LTE3500, 12/2012]

RP-121526 Status report for WI Conformance test aspects – LTE 3500, rapporteur: Ericsson RAN5 Report REL-10 LTE-UEConTest_LTE3500
420013, WID: RP-080859; RAN #57: 91%, Dec.12;
conclusion: noted, approved: 91%, June 13

RP-121675 RAN5 agreed non TTCN CR(s) under WI UE Conformance test aspects – LTE 3500 (LTE-UEConTest_LTE3500) RAN5 CRset - - F REL-10 LTE-UEConTest_LTE3500
conclusion: approved

9.2.2 UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN
[530041, MDT_UMTSLTE-UEConTest, 12/2012]

RP-121527 Status report for WI UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN, rapporteur: EricssonRAN5 Report REL-10 MDT_UMTSLTE-UEConTest
530041, WID: RP-120598; RAN #57: 50%, Dec.12;
conclusion: noted, approved: 80%, March 13

RP-121676 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN (MDT_UMTSLTE-UEConTest) RAN5 CRset - - F REL-10 MDT_UMTSLTE-UEConTest
conclusion: approved

9.2.3 UE Conformance Test Aspects – Carrier Aggregation for LTE
[530040, LTE_CA-UEConTest, 12/2012]

RP-121528 Status report for WI UE Conformance Test Aspects – Carrier Aggregation for LTE, rapporteur: Nokia RAN5 Report REL-10 LTE_CA-UEConTest
530040, WID: RP-121246; RAN #57: 50%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121677 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects – Carrier Aggregation for LTE (LTE_CA-UEConTest) from RAN5#57 RAN5 CRset - - F REL-10 LTE_CA-UEConTest
conclusion: approved

RP-121678 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects – Carrier Aggregation for LTE (LTE_CA-UEConTest) from RAN5#56bisRAN5 CRset - - F REL-10 LTE_CA-UEConTest
conclusion: approved

9.2.4 UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN
[530039, ANR_UTRAN-UEConTest, 12/2012]

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RP-121529 Status report for WI UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN, rapporteur: Ericsson RAN5 Report REL-10 ANR_UTRAN-UEConTest
530039, WID: RP-120599; RAN #57: 90%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121679 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN (ANR_UTRAN-UEConTest) RAN5 CR set - - F REL-10 ANR_UTRAN-UEConTest
conclusion: approved

9.2.5 UE Conformance Test Aspects – Four carrier HSDPA
[540006, 4C_HSDPA-UEConTest, 12/2012]

RP-121530 Status report for WI UE Conformance Test Aspects – Four carrier HSDPA, rapporteur: Qualcomm RAN5 Report REL-10 4C_HSDPA-UEConTest
540006, WID: RP-111565; RAN #57: 45%, Dec.12;
conclusion: noted, approved: 85%, March 13

RP-121680 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects - Four carrier HSDPA (4C_HSDPA-UEConTest) RAN5 CR set - - F REL-10 4C_HSDPA-UEConTest
conclusion: approved

9.2.6 UE Conformance Test Aspects - UL multiple antenna transmission for LTE
[540007, LTE_UL_MIMO-UEConTest, 12/2012]

RP-121531 Status report for WI UE Conformance Test Aspects - UL multiple antenna transmission for LTE, rapporteur: Huawei RAN5 Report REL-10 LTE_UL_MIMO-UEConTest
540007, WID: RP-111614; RAN #57: 80%, Dec.12;
conclusion: noted, approved: 93%, March 13

RP-121681 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects - UL multiple antenna transmission for LTE (LTE_UL_MIMO-UEConTest) RAN5 CR set - - F REL-10 LTE_UL_MIMO-UEConTest
conclusion: approved

9.2.7 UE Conformance Test part - Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE [550001, eICIC_LTE-UEConTest, 12/2012]

RP-121532 Status report for WI UE Conformance Test part - Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE, rapporteur: Qualcomm RAN5 Report REL-10 eICIC_LTE-UEConTest
550001, WID: RP-120217; RAN #57: 15%, Dec.12;
conclusion: noted, approved: 30%, June 13

RP-121682 RAN5 agreed non TTCN CR(s) under WI Conformance Test part - Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE (eICIC_LTE-UEConTest) RAN5 CR set - - F REL-10 eICIC_LTE-UEConTest
conclusion: approved

9.2.8 UE Conformance Test part - HeNB Mobility Enhancements
[550002, HNB_HENB_mob_enh-UEConTest_LTE, 12/2012]

RP-121533 Status report for WI UE Conformance Test part - HeNB Mobility Enhancements, rapporteur: Qualcomm RAN5 Report REL-10 HNB_HENB_mob_enh-UEConTest_LTE
550002, WID: RP-120218; RAN #57: 7%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121683 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test part - HeNB Mobility Enhancements (HNB_HENB_mob_enh-UEConTest_LTE) RAN5 CR set - - F REL-10 HNB_HENB_mob_enh-UEConTest_LTE
conclusion: approved

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9.2.9 UE Conformance Test Aspects - Enhanced Downlink Multiple Antenna Transmission for LTE [560012, LTE_eDL_MIMO-UEConTest, 06/2013]

RP-121534 Status report for WI UE Conformance Test Aspects – Enhanced Downlink Multiple Antenna Transmission for LTE, rapporteur: ZTE RAN5 Report REL-10 LTE_eDL_MIMO-UEConTest
560012, WID: RP-120612; RAN #57: 15%, June 13;
conclusion: noted, approved: 60%, June 13

RP-121684 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects - Enhanced Downlink Multiple Antenna Transmission for LTE (LTE_eDL_MIMO-UEConTest) RAN5 CRset - - F REL-10 LTE_eDL_MIMO-UEConTest
conclusion: approved

9.2.10 UE Conformance Test Aspects - Network Improvements for Machine-Type Communications [**New WI**: 570004, NIMTC-UEConTest, 03/2013]

RP-121535 Status report for WI UE Conformance Test Aspects - Network Improvements for Machine-Type Communications, rapporteur: Ericsson RAN5 Report REL-10 NIMTC-UEConTest
570004, WID: RP-121124; RAN #57: 0%, March 13;
conclusion: noted, approved: 5%, March 13

9.2.11 UE Conformance test aspects - SRVCC in alerting phase (aSRVCC) [**New WI**: 570005, aSRVCC-UEConTest, 03/2013]

RP-121536 Status report for WI UE Conformance test aspects - SRVCC in alerting phase (aSRVCC), rapporteur: NTT DOCOMO RAN5 Report REL-10 aSRVCC-UEConTest
570005, WID: RP-121128; RAN #57: 0%, March 13;
conclusion: noted, approved: 85%, March 13

RP-121685 RAN5 agreed non TTCN CR(s) under WI UE Conformance test aspects - SRVCC in alerting phase (aSRVCC) (aSRVCC-UEConTest) RAN5 CRset - - F REL-10 aSRVCC-UEConTest
conclusion: approved

RP-121700 Updated WID for WI UE Conformance test aspects - SRVCC in alerting phase (aSRVCC) NTT DOCOMO WID rev RAN5 REL-10 aSRVCC-UEConTest
last approved WID: RP-121128; already endorsed at RAN5#57 in R5-125700
conclusion: approved

9.2.12 Conformance Test Aspects: Small Technical Enhancements and Improvements for Rel-10 [TEI10_Test]

No ocntributions.

9.3 Open Rel-11 work items

9.3.1 Conformance Test part: Extending 850 MHz Upper Band (814 – 849 MHz) [510016, e850_UB-UEConTest, 12/2012]

RP-121537 Status report for WI Conformance Test part: Extending 850 MHz Upper Band (814 – 849 MHz), rapporteur: Sprint RAN5 Report REL-11 e850_UB-UEConTest
510016, WID: RP-110377; RAN #57: 95%, Dec.12;
conclusion: noted, approved: 95%, March 13

RP-121686 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Part: Extending 850 MHz Upper Band (814 – 849 MHz) (e850_UB-UEConTest) RAN5 CRset - - F REL-11 e850_UB-UEConTest
conclusion: approved

9.3.2 UE Conformance Test Aspects for UE Over the Air (Antenna) conformance testing methodology – Laptop Mounted Equipment Free Space Test [520011, UEAnt_FSTest-UEConTest, 12/2012]

RP-121538 Status report for WI UE Conformance Test Aspects for UE Over the Air (Antenna) conformance testing methodology – Laptop Mounted Equipment Free Space Test, rapporteur: ZTE RAN5 Report REL-11 UEAnt_FSTest-UEConTest
520011, WID: RP-110629; RAN #57: 92%, Dec.12;

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conclusion: noted, approved: 94%, March 13

RP-121687 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for UE Over the Air (Antenna) conformance testing methodology – Laptop Mounted Equipment Free Space Test (UEAnt_FSTest-UEConTest) RAN5 CRset - - F REL-11 UEAnt_FSTest-UEConTest
conclusion: approved

9.3.3 UE Conformance Test Aspects for LTE E850 - Lower Band for Region 2 (non-US), Band 27
[560010, LTE_e850_LB-UEConTest, 12/2012]

RP-121539 Status report for WI UE Conformance Test Aspects for LTE E850 - Lower Band for Region 2 (non-US), Band 27, rapporteur: NII Holdings RAN5 Report REL-11 LTE_e850_LB-UEConTest
560010, WID: RP-120603; RAN #57: 5%, Dec.12;
conclusion: noted, approved: 95%, March 13

RP-121688 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for LTE E850 - Lower Band for Region 2 (non-US), Band 27 (e850_LB-UEConTest) RAN5 CRset - - F REL-11 LTE_e850_LB-UEConTest
conclusion: approved

9.3.4 UE Conformance Test Aspects for LTE for 700 MHz digital dividend
[560011, LTE_APAC700-UEConTest, 03/2013]

RP-121540 Status report for WI UE Conformance Test Aspects for LTE for 700 MHz digital dividend, rapporteur: Ericsson RAN5 Report REL-11 LTE_APAC700-UEConTest
560011, WID: RP-120600; RAN #57: 5%, March 13;
conclusion: noted, approved: 50%, March 13

RP-121689 RAN5 agreed non TTCN CR(s) under UE Conformance Test Aspects for LTE for 700 MHz digital dividend (LTE_APAC700-UEConTest) RAN5 CRset - - F REL-11 LTE_APAC700-UEConTest
conclusion: approved

9.3.5 UE Conformance Test Aspects for LTE Advanced Carrier Aggregation of Intra-band contiguous and Inter-band configurations [**New WI**: 570006, LTE_CA_intraC_inter_UEConTest, 09/2013]

RP-121541 Status report for WI UE Conformance Test Aspects for LTE Advanced Carrier Aggregation of Intra-band contiguous and Inter-band configurations, rapporteur: NokiaRAN5 Report REL-11 LTE_CA_intraC_inter_UEConTest
570006, WID: RP-121429; RAN #57: 0%, Sep.13;
conclusion: noted, approved: 5%, Sep.13

RP-121690 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects for LTE Advanced Carrier Aggregation of Intra-band contiguous and Inter-band configurations (LTE_CA_intraC_inter_UEConTest)RAN5 CRset - - F REL-11 LTE_CA_intraC_inter_UEConTest
conclusion: approved

RP-121814 Update of WID: UE Conformance Test Aspects for LTE Advanced Carrier Aggregation of Intra-band contiguous and Inter-band configurations Nokia Corporation WID rev RAN5 REL-11 LTE_CA_intraC_inter_UEConTest
last approved WID: RP-121429
discussion: MCC: band 1 and band 7 is not yet stopped, we will come to this agenda item later this week
RAN chairman: so let's come back to this WID update later this week
Nokia: as LTE_CA_B1_B7 will not continue in REL-11 RP-121814 can be approved
conclusion: approved

9.3.6 Conformance Test Aspects: Small Technical Enhancements and Improvements for Rel-11
[TEI11_Test]

RP-121672 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-11 Conformance Testing (TEI11_Test) RAN5 CRset - - F REL-11 TEI11_Test
conclusion: approved

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10 Work Items with target Rel-11 (not related to conformance testing)

Note: Core part REL-11 WIs that are not 100% complete at RAN #58 will automatically be moved to REL-12 together with their perf. part WI (if any). Only exception: If RAN4 core part could not be finished because of RAN1/2/3 core part aspects that were not complete after WG meetings in Oct.

10.1 Closed UTRA only related WIs

10.1.1 UE demodulation perf. requirements under multiple-cell scenario for 1.28Mcps TDD

10.1.1.1 Performance Part [500021, LCR_TDD_UE_demod_mc-Perf, 09/2011]

No contributions.

10.1.2 UE Over the Air (Antenna) conformance testing methodology- Laptop Mounted Equipment Free Space test [450016, UEAnt_FSTest, 12/2011]

RP-121912 CRs for UE Over the Air (Antenna) conformance testing methodology- Laptop Mounted Equipment Free Space test RAN4 CR set REL-11 UEAnt_FSTest
conclusion: approved

10.1.3 Introduction of New Configurations for 4C-HSDPA

10.1.3.1 Core part [510118, 4C_HSDPA_Config-Core, 12/2011]

No contributions.

10.1.3.2 Performance part [510218, 4C_HSDPA_Config-Perf, 06/2012]

No contributions.

10.1.4 Non-contiguous 4C-HSDPA operation

10.1.4.1 Core part [510119, NC_4C_HSDPA-Core, 06/2012]

RP-121938 RAN2 agreed CRs to Non-contiguous 4C-HSDPA operation RAN2 CR set REL-11 NC_4C_HSDPA-Core
conclusion: approved

10.1.5 Eight carrier HSDPA

10.1.5.1 Core part: [500119, 8C_HSDPA-Core, 09/2012]

No contributions.

10.1.5.2 Performance part: [500219, 8C_HSDPA-Perf, 09/2012]

No contributions.

10.1.6 HSDPA Dual-Band Multi-Carrier Combinations

10.1.6.1 Core part [540124, HSDPA_DB_MC-Core, 09/2012]

No contributions.

10.1.6.2 Performance part [540224, HSDPA_DB_MC-Perf, 09/2012]

No contributions.

10.2 Closed UTRA & LTE related WIs

10.2.1 Extending 850 MHz Upper Band (814 – 849 MHz)

10.2.1.1 Core part [500120, e850_UB-Core, 03/2012]

RP-121871 CRs for Extending 850 MHz Upper Band (814 – 849 MHz) - Core part RAN4 CR set REL-11 e850_UB-Core
conclusion: approved

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10.2.1.2 Performance part [500220, e850_UB-Perf, 03/2012]

No contributions.

10.2.2 RAN overload control for Machine-Type Communications

10.2.2.1 Core Part [530109, SIMTC-RAN_OC-Core, 09/2012]

RP-121939 RAN2 agreed 36.331 CR on Validity of EAB SIB and acquisition of SIB1 RAN2 CR 36.331 1079 1 F REL-11 SIMTC-RAN_OC-Core
conclusion: approved

10.3 Closed LTE related WIs

10.3.1 Service continuity in connected mode and location information for MBMS for LTE

10.3.1.1 Core part [480126, MBMS_LTE_SC-Core, 09/2012]

RP-121940 RAN2 agreed CRs on Service continuity improvements for MBMS for LTE RAN2 CR set REL-11 MBMS_LTE_SC-Core
conclusion: approved

10.3.2 Relays for LTE (part 2)

Note: Not yet completed REL-10 RAN4 core aspects were taken over into WI LTE_Relay2-Core at RAN #52 and REL-10 performance part was completely moved to REL-11 LTE_Relay2-Perf.

10.3.2.1 Core part [520119, LTE_Relay2-Core, 09/2012]

No contributions.

10.3.3 Network Energy Saving for E-UTRAN

10.3.3.1 Core part [530136, Netw_Energy_LTE-Core, 09/2012]

No contributions.

10.3.4 Additional special subframe configuration for LTE TDD

10.3.4.1 Core part [550114, LTE_TDD_add_subframe-Core, 09/2012]

RP-121740 Requirement on the early introduction of R11 TDD additional special subframe configuration CMCC Disc REL-11 LTE_TDD_add_subframe-Core

Observation 1: there is a practical requirement to have the support of additional special subframe from standard/specification point of view for early introduction of this feature.

Two options can be considered to support the early introduction of the feature:

- *Option 1: Change/update the R9/R10 specifications and provide the support from R9/R10*
- *Option 2: support the feature by early implementation*

Observation 2: if the option1 is agreed, some changes/updates for R9/10 specification (mainly for RAN1 and RAN2) are needed, and no inter-operability problems will occur.

Observation 3: if the option2 is agreed, R9/10 eNB and UEs need to implement Rel-11 feature and inter-operability problems may occur.

Proposal: RAN plenary is kindly asked to discuss and choose one option for future work in the working groups.

discussion: Samsung: in UMTS early implementation issue has created big problems, also the ASN.1 problem we had is coming from this; so we need to be careful with it in LTE
RAN2 vice-chairman (Huawei): we had 6-7 ways to have early implementability, it was properly documented
Samsung: our preference is to not touch earlier REL specs for early implementability; REL-11 UE capability bit would be enough
RAN2 chairman: we introduced this REL-11 UE capability bit already
CMCC: for REL-10 possible to introduce such a bit?
RAN2 vice-chairman (Huawei): was usually affecting only 1 release, supporting CMCC for option 1
Ericsson: more interoperability issues for option 2, why?
CMCC: loading of other networks, IOT impacts
Ericsson: we see no difference in this respect for option 2, so we prefer option 2
Renesas: shares concerns from Samsung; nothing was broken for the UE so no change would be required in earlier releases
NSN: agrees that this is a bit like opening Pandora's box, i.e. if we introduce it for this

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feature it will be difficult to reject similar requests for other features in the future
RAN2 vice-chairman (Huawei): difference of LTE to UMTS is that almost everything is optional
NSN: what is Huawei's preference?
Huawei: document UE behaviour in the specs
RAN2 chairman: does not see a benefit to introduce a capability bit in REL-9 or REL-10; we have a capability already for REL-11 and option 2 is sufficient
Ericsson: impact on RAN2 specs?
CMCC: mandatory ofr REL-11 and optional for earlier REL is ok
Samsung: thinks no RAN2 CR needed for option 2
RAN2 vice-chairman (Huawei): we have to indicate in the specs that the feature is mandatory for REL-11 but can be implemented by a REL-10 UE otherwise we will run into problems

conclusion: noted; RAN agreed to go for option 2; it will be checked whether this requires a CR for RAN2 if so then CR has to be provided to RAN #59

10.3.5 LTE E850 - Lower Band for Region 2 (non-US)

10.3.5.1 Core part [510132, LTE_e850_LB-Core, 06/2012]

RP-121870 CRs for LTE E850 - Lower Band for Region 2 (non-US) - Core part RAN4 CR set REL-11 e850_LB-Core

conclusion: approved

10.3.5.2 Performance part [510232, LTE_e850_LB-Perf, 06/2012]

No contributions.

10.3.6 LTE for 700 MHz digital dividend

10.3.6.1 Core part [520117, LTE_APAC700-Core, 06/2012]

RP-121878 CRs for LTE for 700 MHz digital dividend - Core part RAN4 CR set REL-11 LTE_APAC700-Core

conclusion: approved

10.3.6.2 Performance part [520217, LTE_APAC700-Perf, 06/2012]

No contributions.

10.3.7 LTE Advanced Carrier Aggregation of Band 1 and Band 18

10.3.7.1 Core part [540121, LTE_CA_B1_B18-Core, 09/2012]

No contributions.

10.3.7.2 Performance part [540221, LTE_CA_B1_B18-Perf, 09/2012]

No contributions.

10.3.8 LTE Advanced Carrier Aggregation of Band 1 and Band 19

10.3.8.1 Core part [540122, LTE_CA_B1_B19-Core, 06/2012]

No contributions.

10.3.8.2 Performance part [540222, LTE_CA_B1_B19-Perf, 06/2012]

No contributions.

10.3.9 LTE Advanced Carrier Aggregation of Band 1 and Band 21

10.3.9.1 Core part [540123, LTE_CA_B1_B21-Core, 09/2012]

No contributions.

10.3.9.2 Performance part [540223, LTE_CA_B1_B21-Perf, 09/2012]

No contributions.

10.3.10 LTE Advanced Carrier Aggregation of Band 3 and Band 5

10.3.10.1 Core part [530126, LTE_CA_B3_B5-Core, 09/2012]

No contributions.

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10.3.10.2 Performance part [530226, LTE_CA_B3_B5-Perf, 09/2012]

No contributions.

10.3.11 LTE-Advanced Carrier Aggregation of Band 3 and Band 7

10.3.11.1 Core part [480123, LTE_CA_B3_B7-Core, 09/2012]

No contributions.

10.3.11.2 Performance part [480223, LTE_CA_B3_B7-Perf, 09/2012]

No contributions.

10.3.12 LTE Advanced Carrier Aggregation Bands 3 and Band 20

10.3.12.1 Core part [530123, LTE_CA_B3_B20-Core, 09/2012]

No contributions.

10.3.12.2 Performance part [530223, LTE_CA_B3_B20-Perf, 09/2012]

No contributions.

10.3.13 LTE Advanced Carrier Aggregation of Band 7 and Band 20

10.3.13.1 Core part [510124, LTE_CA_B7_B20-Core, 09/2012]

No contributions.

10.3.13.2 Performance part [510224, LTE_CA_B7_B20-Perf, 09/2012]

No contributions.

10.3.14 LTE Advanced Carrier Aggregation Band 2 and Band 17

10.3.14.1 Core part [510125, LTE_CA_B2_B17-Core, 09/2012]

No contributions.

10.3.15 LTE Advanced Carrier Aggregation of Band 4 and Band 17

10.3.15.1 Core part [500117, LTE_CA_B4_B17-Core, 09/2012]

No contributions.

10.3.16 LTE Advanced Carrier Aggregation of Band 4 and Band 13

10.3.16.1 Core part [500118, LTE_CA_B4_B13-Core, 09/2012]

RP-121889 CRs for LTE Advanced Carrier Aggregation of Band 4 and Band 13 - Core part RAN4 CR set REL-11 LTE_CA_B4_B13-Core
conclusion: approved

10.3.17 LTE Advanced Carrier Aggregation in Band 41

10.3.17.1 Core part [520116, LTE_CA_B41-Core, 03/2012]

No contributions.

10.3.17.2 Performance part [520216, LTE_CA_B41-Perf, 03/2012]

No contributions.

10.3.18 LTE Advanced Carrier Aggregation in Band 38

10.3.18.1 Core part [520115, LTE_CA_B38-Core, 09/2012]

RP-121886 CRs for LTE Advanced Carrier Aggregation in Band 38 - Core part - Core part RAN4 CR set REL-11 LTE_CA_B38-Core
conclusion: approved

10.3.18.2 Performance part [520215, LTE_CA_B38-Perf, 09/2012]

No contributions.

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10.3.19 LTE Advanced Carrier Aggregation in Band 7

10.3.19.1 Core part [530128, LTE_CA_B7-Core, 09/2012]

No contributions.

10.3.19.2 Performance part [530228, LTE_CA_B7-Perf, 09/2012]

No contributions.

10.4 Open UTRA only related WIs

10.4.1 Uplink Transmit Diversity for HSPA

10.4.1.1 Core Part: Closed Loop [500122, HSPA_UL_TxDiv-CL-Core, 12/2012 **exception**]

RP-121542 Status report for WI Core part: Uplink Transmit Diversity for HSPA – Closed Loop, rapporteur: Huawei RAN1 Report REL-11 HSPA_UL_TxDiv-CL-Core
500122, WID: RP-120367, exception: RP-121250; RAN #57: 98%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121841 CRs to 25.214 clarifying Uplink TxD for HSPA RAN1 CR 25.214 set REL-11 HSPA_UL_TxDiv-CL-Core
conclusion: approved

RP-121876 CRs for Uplink Transmit Diversity for HSPA - Core part RAN4 CR set REL-11 HSPA_UL_TxDiv-CL-Core
conclusion: approved

10.4.1.2 Performance Part: Closed Loop [500222, HSPA_UL_TxDiv-CL-Perf, 12/2012]

RP-121543 Status report for WI Perf. part: Uplink Transmit Diversity for HSPA – Closed Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-CL-Perf
conclusion: revised in RP-121918 before presentation

RP-121918 Status report for WI Perf. part: Uplink Transmit Diversity for HSPA – Closed Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-CL-Perf
revision of RP-121543; 500222, WID: RP-120367; RAN #57: 80%, Dec.12;
conclusion: noted, approved: 85%, March 13

10.4.1.3 Core part: Open Loop [500322, HSPA_UL_TxDiv-OL-Core, 12/2012 **exception**]

RP-121544 Status report for WI Core part: Uplink Transmit Diversity for HSPA – Open Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-OL-Core
500322, WID: RP-120367, exception: RP-121251; RAN #57: 95%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121877 CRs for Uplink Transmit Diversity for HSPA - Core part: Open Loop - Core part RAN4 CR set REL-11 HSPA_UL_TxDiv-OL-Core
conclusion: approved

10.4.1.4 Performance part: Open Loop [500422, HSPA_UL_TxDiv-OL-Perf, 12/2012]

RP-121545 Status report for WI Perf. part: Uplink Transmit Diversity for HSPA – Open Loop, rapporteur: Huawei RAN4 Report REL-11 HSPA_UL_TxDiv-OL-Perf
500422, WID: RP-120367; RAN #57: 70%, Dec.12
discussion: Huawei: No need to specifiy new performance requirements for this.
conclusion: noted, approved: 100%, Dec 12; WI is completed

10.4.2 Non-contiguous 4C-HSDPA operation

10.4.2.1 Performance part [510219, NC_4C_HSDPA-Perf, 12/2012]

RP-121546 Status report for WI Perf. part: Non-contiguous 4C-HSDPA operation, rapporteur: Ericsson RAN4 Report REL-11 NC_4C_HSDPA-Perf
510219, WID: RP-110416; RAN #57: 60%, Dec.12;
conclusion: noted, approved: 75%, March 13

RP-121909 CRs for Non-contiguous 4C-HSDPA operation - Perf part RAN4 CR set REL-11 NC_4C_HSDPA-Perf

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conclusion: approved

10.4.3 Further Enhancements to CELL_FACH

10.4.3.1 Core part [510120, Cell_FACH_enh-Core, 12/2012 **exception**]

RP-121547 Status report for WI Core part: Further Enhancements to CELL_FACH, rapporteur: Qualcomm RAN2 Report REL-11 Cell_FACH_enh-Core
510120, WID: RP-111321, exception: RP-121171; RAN #57: 87%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121842 CRs gathering a set of clarifications/corrections related to CELL_FACH enhancements RAN1 CRset REL-11 Cell_FACH_enh-Core
conclusion: approved

RP-121941 RAN2 agreed CRs on Further Enhancements to CELL_FACH RAN2 CRset REL-11 Cell_FACH_enh-Core
conclusion: approved

RP-121725 Cell_FACH CRs RAN3 CRset REL-11 Cell_FACH_enh-Core
conclusion: approved

RP-121869 CRs for Further Enhancements to CELL_FACH - Core part RAN4 CRset REL-11 Cell_FACH_enh-Core
conclusion: approved

10.4.3.2 Performance part [510220, Cell_FACH_enh-Perf, 12/2012]

RP-121548 Status report for WI Perf. part: Further Enhancements to CELL_FACH, rapporteur: Qualcomm RAN4 Report REL-11 Cell_FACH_enh-Perf
510220, WID: RP-110913; RAN #57: 40%, Dec.12;
conclusion: noted, approved: 50%, June 13

10.4.4 Four Branch MIMO transmission for HSDPA

10.4.4.1 Core part [530135, 4Tx_HSDPA-Core, 12/2012 **exception**]

RP-121549 Status report for WI Core part: Four Branch MIMO transmission for HSDPA, rapporteur: Ericsson RAN1 Report REL-11 4Tx_HSDPA-Core
530135, WID: RP-111393, exception: RP-121425; RAN #57: 80%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121843 CRs for the introduction of 4 branch MIMO for HSDPA RAN1 CRset REL-11 4Tx_HSDPA-Core
conclusion: approved

RP-121726 Four Branch MIMO for HSDPA CRs RAN3 CRset REL-11 4Tx_HSDPA-Core
conclusion: approved

RP-121942 RAN2 agreed CRs on Four Branch MIMO transmission for HSDPA RAN2 CRset REL-11 4Tx_HSDPA-Core
conclusion: approved

RP-121868 CRs for Four Branch MIMO transmission for HSDPA - Core partRAN4 CRset REL-11 4Tx_HSDPA-Core
conclusion: approved

10.4.4.2 Performance part [530235, 4Tx_HSDPA-Perf, 03/2013]

RP-121550 Status report for WI Perf. part: Four Branch MIMO transmission for HSDPA, rapporteur: Ericsson RAN4 Report REL-11 4Tx_HSDPA-Perf
530235, WID: RP-111393; RAN #57: 10%, March 13;
discussion: Ericsson: proposes to shift completion date to June 13
conclusion: noted, approved: 10%, June 13

10.4.5 HSDPA Multiflow Data Transmission

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10.4.5.1 Core part [530134, HSDPA_MFTX-Core, 12/2012 **exception**]

RP-121551 Status report for WI Core part: HSDPA Multiflow Data Transmission, rapporteur: NSN RAN2 Report REL-11 HSDPA_MFTX-Core
530134, WID: RP-111375, exception: RP-121159; RAN #57: 90%, Dec.12;
discussion: NSN: a feature in RAN3 was implemented wrongly in REL-10 so that's why the combination of enh. serving cell change and HSDPA Multiflow Data Transmission does not yet work but a correction is planned in RAN3
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121844 CRs gathering a set of clarifications/corrections related to HSDPA Multiflow RAN1 CR set REL-11 HSDPA_MFTX-Core
conclusion: approved

RP-121943 RAN2 agreed CRs on HSDPA Multiflow Data Transmission RAN2 CR set REL-11 HSDPA_MFTX-Core
conclusion: approved

RP-121727 HSDPA Multiflow CRs RAN3 CR set REL-11 HSDPA_MFTX-Core
conclusion: approved

10.4.5.2 Performance part [530234, HSDPA_MFTX-Perf, 03/2013]

RP-121552 Status report for WI Perf. part: HSDPA Multiflow Data Transmission, rapporteur: NSN RAN4 Report REL-11 HSDPA_MFTX-Perf
530234, WID: RP-111375; RAN #57: 30%, March 13;
conclusion: noted, approved: 50%, June 13

10.4.6 UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA

RP-121695 Response LS to R2-125159 on reporting the UE E-UTRAN Capabilities for rSRVCC from GERAN to E-UTRAN (GP-121402; to: RAN2; cc: RAN3, SA2, RAN, SA; contact: Ericsson) GERAN2 LSin REL-11 rSRVCC-GERAN
note: R2-125159 of RAN2 #79bis was not sent to/cc RAN; no RAN action requested;
discussion: Ericsson: RAN2 will have do specify something to help out GERAN; size of the RAN2 impact is not yet clear
RAN2 chairman: which limited number of capabilities to be transferred has to be decided
GERAN2 chairman (Renesas): we will continue the work in REL-11, prefers that the work is staying in REL-11
conclusion: noted, no LS answer

10.4.6.1 Core part [530801, rSRVCC-RAN_UTRA-Core, 12/2012 **exception**]

RP-121553 Status report for WI Core part: UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA, rapporteur: Huawei RAN3 Report REL-11 rSRVCC-RAN_UTRA-Core
530801, WID: RP-111334, exception: RP-121252; RAN #57: 85%, Dec.12;
discussion: Huawei: LS RP-121695 arrived after RAN WG meetings in New Orleans
conclusion: noted, approved: 100%, Dec 12; WI is completed
GERAN2 issue will be solved in RAN2 using WI code of the GERAN WI (rSRVCC-GERAN).

RP-121944 RAN2 agreed CRs on UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA RAN2 CR set REL-11 rSRVCC-RAN_UTRA-Core
conclusion: rejected

RP-121818 CR on rSRVCC capability indicator to 25.306 Renesas Mobile Europe Ltd, Nokia Siemens Networks, Nokia Corporation, Broadcom Corporation, Intel Corporation, Qualcomm Incorporated CR 25.306 0390 1 B REL-11 rSRVCC-RAN_UTRA-Core
company contribution replacing RAN2 agreed CR R2-125216 which has only 1 capability for UMTS->EUTRAN rSR-VCC; but in the later email agreed LS R2-126122 to GERAN, it was indicated that TDD/FDD split is necessary. This CR aligns UTRAN and GERAN.
conclusion: approved

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RP-121819 CR to 25.331 on the Introduction of rSRVCC feature Renesas Mobile Europe Ltd, Nokia Siemens Networks, Nokia Corporation, Broadcom Corporation, Intel Corporation, Qualcomm Incorporated CR 25.3315211 1 B REL-11 rSRVCC-RAN_UTRA-Core
company contribution replacing RAN2 agreed CR R2-125255 which has only 1 capability for UMTS->EUTRAN rSR-VCC; but in the later email agreed LS R2-126122 to GERAN, it was indicated that TDD/FDD split is necessary. This CR aligns UTRAN and GERAN.
conclusion: approved

RP-121728 rSRVCC CRs RAN3 CR set REL-11 rSRVCC-RAN_UTRA-Core
conclusion: approved

10.4.7 MIMO with 64QAM for HSUPA

RP-121794 Revised WID: MIMO with 64QAM for HSUPA Nokia Siemens Networks WID rev RAN1 REL-11 MIMO_64QAM_HSUPA last approved WID: RP-111642
discussion: Ericsson: RAN1 and RAN2 core part is completed but not RAN4 64QAM core part; RAN4 64QAM part is removed here
conclusion: approved

10.4.7.1 Core part [540109, MIMO_64QAM_HSUPA-Core, 12/2012 **exception**]

RP-121554 Status report for WI Core part: MIMO with 64QAM for HSUPA, rapporteur: Nokia Siemens Networks RAN1 Report REL-11 MIMO_64QAM_HSUPA-Core
540109, WID: RP-111642, exception: RP-121262; RAN #57: 75%, Dec.12;
discussion: RAN chairman: how do we treat 64QAM?
RAN4 chairman: same as for LTE: may be specified in a future REL
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121845 CRs for the introduction of MIMO with 64QAM for HSUPA RAN1 CR set REL-11 MIMO_64QAM_HSUPA-Core
conclusion: approved

RP-121945 RAN2 agreed CRs on MIMO with 64QAM for HSUPA RAN2 CR set REL-11 MIMO_64QAM_HSUPA-Core
conclusion: approved

RP-121729 MIMO with 64QAM for HSUPA CRs RAN3 CR set REL-11 MIMO_64QAM_HSUPA-Core
conclusion: approved

RP-121908 CRs for MIMO with 64QAM for HSUPA - Core part RAN4 CR set REL-11 MIMO_64QAM_HSUPA-Core
conclusion: approved

10.4.7.2 Performance part [540209, MIMO_64QAM_HSUPA-Perf, 06/2013]

RP-121555 Status report for WI Perf. part: MIMO with 64QAM for HSUPA, rapporteur: Nokia Siemens Networks RAN4 Report REL-11 MIMO_64QAM_HSUPA-Perf
540209, WID: RP-111642; RAN #57: 15%, June 13;
conclusion: noted, approved: 30%, June 13

10.5 Open UTRA & LTE related WIs

10.5.1 Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN

10.5.1.1 Core Part [530133, eMDT_UMTSLTE-Core, 12/2012 **exception**]

RP-121556 Status report for WI Core part: Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN, rapporteur: MediaTek RAN2 Report REL-11 eMDT_UMTSLTE-Core
530133, WID: RP-121204, exception: RP-121203; RAN #57: 90%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121946 RAN2 agreed CRs on Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN RAN2 CR set REL-11 eMDT_UMTSLTE-Core
conclusion: approved

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RP-121730 eMDT CRs RAN3 CR set REL-11 eMDT_UMTSLTE-Core
includes RAN2 CR R2-125988
conclusion: approved

RP-121873 CRs for Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN - Core part RAN4 CR set REL-11 eMDT_UMTSLTE-Core
conclusion: approved

RP-121799 Mandatory support for Accessibility Measurements feature NTT DOCOMO, INC., CMCC, Deutsche Telekom,Orange, Telecom Italia, TeliaSonera, Vodafone, SOFTBANK MOBILE, KT Corp., KDDI Corporation Disc REL-11 eMDT_UMTSLTE-Core
Proposal: It is proposed for RAN to agree on mandatory support of the Accessibility Measurements feature for all Rel-11 UEs.
discussion: should bre treated together with REL-11 UE capabilities
Broadcom: is this LTE only?
NTT DOCOMO: yes
RAN chairman: specification impact?
NTT DOCOMO: no ASN.1 impact but 36.306 CR needs to be revised (note: It was clarified later offline that also no impact to 36.306 in RP-122002 is considered.)
MediaTek: so the proposal is optional for UMTS and mandatory for LTE?
NTT DOCOMO: this Tdoc is only about LTE
RAN2 chairman: by default the feature was optional i.e. for UMTS it is optional
Ericsson: we do not make all the MDT features mandatory by this proposal?
NTT DOCOMO: correct, only this specific part of the MDT feature
conclusion: noted, proposal is agreed; i.e. mandatory support of the Accessibility Measurements feature for all Rel-11 UEs for LTE but optional support for UTRA is decided
Fri morning:
NEC: status of RP-121799?
NTT DOCOMO: mandatory without capability bit so no impact on 36.306
MediaTek: some impact on UMTS spec but this can be done in next WG meeting

10.5.2 Further Self Optimizing Networks (SON) enhancements

10.5.2.1 Core Part [530130, SONenh2_LTE_UTRA-Core, 12/2012 **exception**]

RP-121557 Status report for WI Core part: Further Self Optimizing Networks (SON) enhancements, rapporteur: NSN RAN3 Report REL-11 SONenh2_LTE_UTRA-Core
530130, WID: RP-120314, exception: RP-121199; RAN #57: 70%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121947 RAN2 agreed CRs on Further Self Optimizing Networks (SON) enhancements RAN2 CR set REL-11 SONenh2_LTE_UTRA-Core
conclusion: approved

RP-121731 Further SON enhancements CRs RAN3 CR set REL-11 SONenh2_LTE_UTRA-Core
conclusion: approved

RP-121798 Mandatory support for Rel-11 RLF reporting feature NTT DOCOMO, INC., CMCC, Deutsche Telekom, Orange, Telecom Italia, TeliaSonera, Vodafone, SOFTBANK MOBILE, KT Corp., KDDI Corporation Disc REL-11 SONenh2_LTE_UTRA-Core
Proposal: It is proposed for RAN to agree that the Rel-11 RLF reporting is supportedas a mandatory feature for all Rel-11 UEs.
discussion: Qualcomm: we have some concerns about the inter-RAT part of this feature, some non-trivial implementation effort is expected
Motorola Solutions: Do we mandate MDT by mandating RLF reporting? They were introduced by independent CRs.
NTT DOCOMO: not intended
Ericsson: we would need RAN5 test cases for REL-11 to make sure that the feature is tested before terminals come to the market
RIM: why are we discussing some capabilities separate from other capabilities?
RAN chairman: just as we have the Tdoc here
conclusion: noted, offline discussion
Friday morning:

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NTT DOCOMO: originally it was intended to have all RLF parts mandatory, after offline discussion it is proposed:
- RLF for intra-LTE SON: mandatory
- RLF for inter-RAT SON: optional feature without capability bit listed in 36.306
Qualcomm: does not affect ASN.1 so not time critical
RIM: we do not need to rush
conclusion: NTT DOCOMO will bring 36.306 CR to RAN2 #59 (and not include in RP-122002) with
- RLF for intra-LTE SON: mandatory
- RLF for inter-RAT SON: optional feature without capability bit

10.5.3 E-UTRA medium range and MSR medium range/local area BS class requirements

RP-121496 Reply LS to GP-121149 on Status of the work on BS classes for MSR
(R4-126849; to: GERAN1; cc: RAN; contact: Ericsson) RAN4 LSin REL-11 medBS_class_LTE_MSR
no RAN action requested;
conclusion: noted, no LS answer

RP-121694 Reply LS to R4-126849 = RP-121496 on Status of the work on BS classes for MSR
(GP-121396; to: RAN; cc: RAN4; contact: Ericsson) GERAN1 LSin REL-11 medBS_class_LTE_MSR
RAN action requested;
discussion: Ericsson: GERAN1 endorsed the CRs
conclusion: noted, no LS answer

10.5.3.1 Core Part [530137, medBS_class_LTE_MSR-Core, 12/2012 **exception**]

RP-121558 Status report for WI Core part: E-UTRA medium range and MSR medium range/local area BS class requirements, rapporteur: Ericsson RAN4 Report REL-11 medBS_class_LTE_MSR-Core
530137, WID: RP-111383, exception: RP-121180; RAN #57: 90%, Dec.12;
discussion:
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121906 CRs for E-UTRA medium range and MSR medium range/local area BS class requirements - Core part RAN4 CR set REL-11 medBS_class_LTE_MSR-Core
conclusion: approved

RP-121715 Presentation of TR 37.809 v2.0.0 on "E-UTRA medium range and MSR medium range/local area BS class requirements" for approval Ericsson TR 37.809 REL-11 medBS_class_LTE_MSR-Core
RAN4 TR 37.809 is provided for approval
conclusion: TR 37.809 is approved as v11.0.0

10.5.3.2 Performance Part [530237, medBS_class_LTE_MSR-Perf, 12/2012]

RP-121559 Status report for WI Perf. part: E-UTRA medium range and MSR medium range/local area BS class requirements, rapporteur: Ericsson RAN4 Report REL-11 medBS_class_LTE_MSR-Perf
530237, WID: RP-111383; RAN #57: 0%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121907 CRs for E-UTRA medium range and MSR medium range/local area BS class requirements - Perf part RAN4 CR set REL-11 medBS_class_LTE_MSR-Perf
conclusion: approved

10.5.4 RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station

RP-121499 LS on MB-MSR
(R4-126874; to: GERAN1; cc: RAN; contact: Huawei) RAN4 LSin REL-11 MB_MSR_RF
no RAN action requested;
conclusion: noted, no LS answer

RP-121692 Reply LS to R4-126874 = RP-121499 on "LS on MB-MSR"
(GP-121391; to: RAN, RAN4; cc: -; contact: Huawei) GERAN1 LSin LS06c REL-11 MB_MSR_RF

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RAN action requested;
discussion: Huawei: GERAN1 endorsed CRs from RAN4 and asked 2 questions
RAN4 chairman: will consider the LS in RAN4 and come back to RAN #59
conclusion: noted, LS answer is postponed

10.5.4.1 Core Part [550115, MB_MSR_RF-Core, 12/2012 **exception**]

RP-121560 Status report for WI Core part: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station, rapporteur: Huawei RAN4 Report REL-11 MB_MSR_RF-Core
conclusion: revised in RP-121985 before presentation

RP-121985 Status report for WI Core part: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station, rapporteur: Huawei RAN4 Report REL-11 MB_MSR_RF-Core
revision of RP-121560; 550115, WID: RP-120857, exception: RP-121253; RAN #57: 50%, Dec.12;
discussion: RAN4 chairman: still some ffs and CR 36.104 issue but fine to close the WI (we have still a perf. part WI)
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121905 CRs for RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station - Core part RAN4 CR set REL-11 MB_MSR_RF-Core
conclusion: approved

RP-121760 Presentation of TR 37.812 v1.0.0: RF Requirements for Multi-band and Multi-standard radio (MB-MSR) Base Station; for approval Huawei TR 37.812 REL-11 MB_MSR_RF-Core
RAN4 TR 37.812 is provided for 1-step approval
conclusion: TR 37.812 is approved as v11.0.0

10.5.4.2 Performance Part [550215, MB_MSR_RF-Perf, 03/2013]

RP-121561 Status report for WI Perf. part: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station, rapporteur: Huawei RAN4 Report REL-11 MB_MSR_RF-Perf
550215, WID: RP-120857; RAN #57: 0%, March 13;
conclusion: noted, approved: 10%, March 13

10.5.5 Verification of radiated multi-antenna reception performance of UEs in LTE/UMTS

RP-121473 Reply LS to R4-125009 = RP-120922 on UE measurements in support of the two-stage MIMO OTA test method
(R1-124665; to: RAN4; cc: RAN, RAN2, RAN5; contact: Nokia) RAN1 LSin REL-11 HSPA_LTE_measRP_MIMO-Perf
no RAN action requested;
conclusion: noted, no LS answer

10.5.5.1 Perf. Part [550116, HSPA_LTE_measRP_MIMO-Perf, 12/2012]

RP-121562 Status report for WI Perf. part: Verification of radiated multi-antenna reception performance of UEs in LTE/UMTS, rapporteur: Vodafone RAN4 Report REL-11 HSPA_LTE_measRP_MIMO-Perf
550116, WID: RP-120368; RAN #57: 30%, Dec.12;
conclusion: noted, approved: 35%, June 13

10.5.6 Further enhancements to H(e)NB mobility- Part 1

10.5.6.1 Core Part [560113, EHNB_enh1-Core, 12/2012 **exception**]

RP-121563 Status report for WI Core part: Further enhancements to H(e)NB mobility- Part 1, rapporteur: Alcatel-Lucent RAN3 Report REL-11 EHNB_enh1-Core
560113, WID: RP-121427, exception: RP-121190; RAN #57: 40%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121948 RAN2 agreed CRs on Further enhancements to H(e)NB mobility- Part 1 RAN2 CR 36.300 set REL-11 EHNB_enh1-Core
conclusion: approved

RP-121732 Enhancements to H(e)NB mobility 1 CRs RAN3 CR set REL-11 EHNB_enh1-Core
includes RAN2 CR R2-125991
conclusion: approved

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10.5.7 Further enhancements to H(e)NB mobility- Part 2

RP-121712 Update to WID: Further enhancements to H(e)NB mobility-Part 2 Alcatel-Lucent WID rev RAN3 REL-11 EHNB_enh2
last approved WID: RP-121147; Update to remove X2-GW part (compare new REL-12 WID RP-121713)
discussion: ALU: removes still open X2-GW part
conclusion: approved

10.5.7.1 Core Part [560114, EHNB_enh2-Core, 12/2012 **exception**]

RP-121564 Status report for WI Core part: Further enhancements to H(e)NB mobility- Part 2, rapporteur: Alcatel-Lucent RAN3 Report REL-11 EHNB_enh2-Core
560114, WID: RP-121147, exception: RP-121191; RAN #57: 0%, Dec.12;
discussion: proposal is 60%, Dec.12 (it is planned to revise WID to get to 100%)
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121751 Way forward for "Further enhancements for H(e)NB mobility-Part 2" work Alcatel-Lucent Disc REL-11 EHNB_enh2-Core
discussion: Ericsson: proposal is to agree a new WI?
RANchairman: can we first agree to remove not completed part from REL-11
conclusion: noted, removal of open REL-11 part is agreed, start of a new REL-12 WI will be discussed under AI 13.1

RP-121733 Enhancements to H(e)NB mobility 2 CRs RAN3 CR set REL-11 EHNB_enh2-Core
conclusion: approved

10.6 Open LTE only related WIs (non spectrum related)

RP-121846 CRs to the introduction of Rel-11 features RAN1 CR set REL-11 LTE_CA_enh-Core, COMP_LTE_UL-Core, COMP_LTE_DL-Core, LTE_enh_dl_ctrl-Core, eICIC_enh_LTE-Core
conclusion: approved

10.6.1 Network-Based Positioning Support for LTE

10.6.1.1 Core Part [430111, LCS_LTE-NBPS-Core, 12/2012 **exception**]

RP-121565 Status report for WI Core Part: Network-Based Positioning Support for LTE, rapporteur: TruePosition RAN2 Report REL-11 LCS_LTE-NBPS-Core
430111, WID: RP-120859, exception: RP-121227; RAN #57: 85%, Dec.12;
conclusion: noted, approved: 90%, March 13; 2nd exception request provided in RP-121770

RP-121770 Exception Request for REL-11 WI Core Part: Network-Based Positioning Support for LTE TruePosition ExReq REL-11 LCS_LTE-NBPS-Core
only RAN4 core part is open
discussion: Ericsson: RAN3 to confirm range of number of transmissions? RAN3 will ask RAN4 about the range to be used
TruePosition (TP): that's why it says via LS to RAN4
Ericsson: Instead of ffs there is just a guess from RAN3 so we need to ask RAN4
TP: range is there for months, Ericsson asked in the last meeting to confirm and that's what we have here now
RAN chairman: can discuss this offline
Ericsson: wants to have this discussion online in the meeting
Andrew Corporation: These numbers exist there for a longer time after simulation activities and the values are no guesses
Ericsson: prefers "advise" instead of "confirm"
RAN3 chairman: proposes to take the text from the CR which indicates "confirm the range"
TP: supports RAN3 chairman's proposal to take text of 9.2.X "RAN4 to confirm range" of RP-121739 CR
RAN chairman: we cannot spend so much online time here revising the LS online please discuss offline and bring a revision in RP-121998
conclusion: revised in RP-121998

RP-121998 Exception Request for REL-11 WI Core Part: Network-Based Positioning Support for LTE TruePosition ExReq REL-11 LCS_LTE-NBPS-Core
conclusion: approved

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RP-121949 RAN2 agreed CRs on Network-Based Positioning Support for LTE RAN2 CR 36.305 set REL-11 LCS_LTE-NBPS-Core
conclusion: approved

RP-121734 NBPS CRs RAN3 CR set REL-11 LCS_LTE-NBPS-Core
includes RAN2 CR R2-125987
discussion: Ericsson: proposes to postpone CR until we have a complete CR set
TP: we have already included already some CRs so why do we need to wait now?
RAN chairman: usually we approve a whole core part stage 3 package together
TP: we approved already RAN1 and RAN2 CRs so no need to wait
Ericsson: so far we approved stage 2 CRs only for this WI
RAN chairman: any comments to the RAN3 CRs? no comments were raised
conclusion: postponed, it is planned to approve this RAN3 CR set together with remaining RAN4 core part CRs at RAN #59

RP-121766 3GPP TS 36.456 v2.0.0 on E-UTRA SLm General Aspects and Principles, for approval TruePosition TS 36.456 REL-11 LCS_LTE-NBPS-Core
RAN3 TR 36.456 is provided for approval
discussion: RAN chairman: TSs can be approved as soon as a TS is 80% complete
Ericsson: any urgency to publish them now?
TP: there is no reason to not approve them now
conclusion: TS 36.456 is approved as v11.0.0

RP-121767 3GPP TS 36.457 v2.0.0 on E-UTRA SLm Layer 1, for approval TruePosition TS 36.457 REL-11 LCS_LTE-NBPS-Core
RAN3 TR 36.457 is provided for approval
conclusion: TS 36.457 is approved as v11.0.0

RP-121768 3GPP TS 36.458 v2.0.0 on E-UTRA SLm Signaling Transport, for approval TruePosition TS 36.458 REL-11 LCS_LTE-NBPS-Core
RAN3 TR 36.458 is provided for approval
conclusion: TS 36.458 is approved as v11.0.0

RP-121769 3GPP TS 36.459 v2.0.0 on E-UTRA SLm Application Protocol, for approval TruePosition TS 36.459 REL-11 LCS_LTE-NBPS-Core
RAN3 TR 36.459 is provided for approval
conclusion: TS 36.459 is approved as v11.0.0

10.6.1.2 Performance Part [430211, LCS_LTE-NBPS-Perf, 12/2012]

RP-121566 Status report for WI Perf Part.: Network-Based Positioning Support for LTE, rapporteur: TruePosition RAN4 Report REL-11LCS_LTE-NBPS-Perf
430211, WID: RP-120859; RAN #57: 0%, Dec.12;
conclusion: noted, approved: 0%, June 13

10.6.2 Further Enhanced Non CA-based ICIC for LTE

10.6.2.1 Core part [510121, eICIC_enh_LTE-Core, 12/2012 **exception**]

RP-121567 Status report for WI Core part: Further Enhanced Non CA-based ICIC for LTE, rapporteur: CMCC RAN1 Report REL-11 eICIC_enh_LTE-Core
conclusion: revised in RP-121986 before presentation

RP-121986 Status report for WI Core part: Further Enhanced Non CA-based ICIC for LTE, rapporteur: CMCC RAN1 Report REL-11 eICIC_enh_LTE-Core
revision of RP-121567; 510121, WID: RP-120860, exception: RP-121430; RAN #57: 80%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121950 RAN2 agreed CRs on Further Enhanced Non CA-based ICIC for LTE RAN2 CR set REL-11 eICIC_enh_LTE-Core
conclusion: approved

RP-121872 CRs for Further Enhanced Non CA-based ICIC for LTE - Core part RAN4 CR set REL-11 eICIC_enh_LTE-Core

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conclusion: approved

10.6.2.2 Performance part [510221, eICIC_enh_LTE-Perf, 12/2012]

RP-121568 Status report for WI Perf. part: Further Enhanced Non CA-based ICIC for LTE, rapporteur: CMCC RAN4 Report REL-11 eICIC_enh_LTE-Perf
510221, WID: RP-120860; RAN #57: 30%, Dec.12;
conclusion: noted, approved: 50%, June 13

10.6.3 LTE Carrier Aggregation Enhancements

RP-121811 Updated WID for LTE Carrier Aggregation Enhancements Nokia Corporation WID (rev) RAN1 REL-11 LTE_CA_enh
last approved WID: RP-120861
discussion: CATT: list of open issues is not complete, e.g. PUSCH HARQ timing is missing
Nokia: would not like to list all details
MCC: no need to list all details but it is a bad sign if at the end of a WI we do not know what was covered in the WI; if WIDs include rather study areas than what is standardized we will also have problems in the future with time budget estimations
Nokia: suggests a reduced modification of the WID
conclusion: revised in RP-121999 which will be the approved version

RP-121999 Updated WID for LTE Carrier Aggregation Enhancements Nokia Corporation WID rev RAN1 REL-11 LTE_CA_enh
revision of RP-121811; last approved WID: RP-120861
conclusion: approved (unseen)

10.6.3.1 Core part [510130, LTE_CA_enh-Core, 12/2012 **exception**]

RP-121569 Status report for WI Core part: LTE Carrier Aggregation Enhancements, rapporteur: Nokia RAN1 Report REL-11 LTE_CA_enh-Core
510130, WID: RP-120861, exception: RP-121244; RAN #57: 70%, Dec.12;
discussion: Nokia: confirms that target date should be March 13 (error in status report)
conclusion: noted, approved: 82%, March 13; 2nd exception request provided in RP-121812

RP-121812 Second Rel-11 Work Item Exception for LTE Carrier Aggregation Enhancements –core part WI Nokia Corporation ExReq REL-11 LTE_CA_enh-Core
RAN2 and RAN4 core part open
conclusion: approved

RP-121951 RAN2 agreed CRs on LTE Carrier Aggregation Enhancements RAN2 CR set REL-11 LTE_CA_enh-Core
conclusion: approved

RP-121899 CRs for LTE Carrier Aggregation Enhancements - Core part RAN4 CR set REL-11 LTE_CA_enh-Core
conclusion: approved

10.6.3.2 Performance part [510230, LTE_CA_enh-Perf, 03/2013]

RP-121570 Status report for WI Perf. part: LTE Carrier Aggregation Enhancements, rapporteur: Nokia RAN4 Report REL-11 LTE_CA_enh-Perf
510230, WID: RP-120861; RAN #57: 5%, March 13;
conclusion: noted, approved: 30%, March 13

RP-121900 CRs for LTE Carrier Aggregation Enhancements - Perf part RAN4 CR set REL-11 LTE_CA_enh-Perf
discussion: RAN chairman: why do we need to approve this CR set now?
RAN4 chairman: similar changes to the test specs as we approved for core part
conclusion: approved

10.6.4 LTE RAN Enhancements for Diverse Data Applications

10.6.4.1 Core part [510131, LTE_eDDA-Core, 12/2012 **exception**]

RP-121571 Status report for WI Core part: LTE RAN Enhancements for Diverse Data Applications, rapporteur: RIM RAN2 Report REL-11 LTE_eDDA-Core

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510131, WID: RP-120256, exception: RP-121290; RAN #57: 95%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121952 RAN2 agreed CRs on LTE RAN Enhancements for Diverse Data Applications RAN2 CR set REL-11 LTE_eDDA-Core
conclusion: approved

10.6.5 Relays for LTE (part 2)

Note: Not yet completed REL-10 RAN4 core aspects were taken over into WI LTE_Relay2-Core at RAN #52 and REL-10 performance part was completely moved to REL-11 LTE_Relay2-Perf.

10.6.5.1 Performance part [520219, LTE_Relay2-Perf, 12/2012]

RP-121572 Status report for WI Perf. part: Relays for LTE (part 2), rapporteur: Ericsson RAN4 Report REL-11 LTE_Relay2-Perf
520219, WID: RP-110914; RAN #57: 80%, Dec.12;
conclusion: noted, approved: 85%, March 13

RP-121904 CRs for Relays for LTE (part 2) - Perf part RAN4 CR set REL-11 LTE_Relay2-Perf
conclusion: approved

10.6.6 Signalling and procedure for interference avoidance for in-device coexistence

10.6.6.1 Core part [530131, SPIA_IDC_LTE-Core, 12/2012 **exception**]

RP-121573 Status report for WI Core part: Signalling and procedure for interference avoidance for in-device coexistence, rapporteur: CMCC RAN2 Report REL-11 SPIA_IDC_LTE-Core
530131, WID: RP-111355, exception: RP-121431; RAN #57: 85%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121953 RAN2 agreed CRs on Signalling and procedure for interference avoidance for in-device coexistence RAN2 CR set REL-11 SPIA_IDC_LTE-Core
conclusion: approved

RP-121910 CRs for Signalling and procedure for interference avoidance for in-device coexistence - Core part RAN4 CR set REL-11 SPIA_IDC_LTE-Core
conclusion: approved

10.6.6.2 Performance part [530231, SPIA_IDC_LTE-Perf, 12/2012]

RP-121574 Status report for WI Perf. part: Signalling and procedure for interference avoidance for in-device coexistence, rapporteur: CMCC RAN4 Report REL-11 SPIA_IDC_LTE-Perf
530231, WID: RP-111355; RAN #57: 0%%, Dec.12;
discussion: RAN chairman: it seems we can close the WI without CRs
conclusion: noted, approved: 100%, Dec 12; WI is completed

10.6.7 Coordinated Multi-Point Operation for LTE – Uplink

10.6.7.1 Core part [530132, COMP_LTE_UL-Core, 12/2012 **exception**]

RP-121575 Status report for WI Core part: Coordinated Multi-Point Operation for LTE – Uplink, rapporteur: Huawei RAN1 Report REL-11 COMP_LTE_UL-Core
530132, WID: RP-111365, exception: RP-121432; RAN #57: 90%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121954 RAN2 agreed 36.331 CR on Coordinated Multi-Point Operation for LTE – Uplink RAN2 CR 36.331 1077 - B REL-11 COMP_LTE_UL-Core
conclusion: approved

10.6.7.2 Performance part [530232, COMP_LTE_UL-Perf, 12/2012]

RP-121576 Status report for WI Perf. part: Coordinated Multi-Point Operation for LTE – Uplink, rapporteur: Huawei RAN4 Report REL-11 COMP_LTE_UL-Perf
530232, WID: RP-111365; RAN #57: 0%, Dec.12;
discussion: RAN chairman: so also here completed without CRs
conclusion: noted, approved: 100%, Dec 12; WI is completed

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10.6.8 Coordinated Multi-Point Operation for LTE – Downlink

RP-121492 LS on UE capability for the joint operation of downlink CoMP and CA (R1-125392; to: RAN2; cc: RAN4, RAN; contact: Huawei) RAN1 LSin REL-11 COMP_LTE_DL-Core
no RAN action requested;
discussion: RAN2 chairnan: LS is taken into account in CR via RAN2 email discussion
conclusion: noted, no LS answer

10.6.8.1 Core part [530332, COMP_LTE_DL-Core, 12/2012 **exception**]

RP-121577 Status report for WI Core part: Coordinated Multi-Point Operation for LTE – Downlink, rapporteur: Samsung RAN1 Report REL-11 COMP_LTE_DL-Core
530332, WID: RP-111365, exception: RP-121449; RAN #57: 85%, Dec.12;
discussion: Samsung: the 100% are reported under the assumption that we solve the open issues during the RAN meeting
NSN: would have been nice to list the open issues
MCC: There is also an "additional comments" field on the WID cover to explain side conditions of the status level
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121753 Introducing support for Coordinated Multi-Point (CoMP) operation Samsung CR 36.331 1103 2 B REL-11 COMP_LTE_DL-Core
company contribution; resubmission of CR R2-126107; note: rev 3 R2-126126 was not agreed in RAN2 email discussion [80#13];
conclusion: revised in RP-121970 before presentation

RP-121970 Introducing support for Coordinated Multi-Point (CoMP) operation Samsung CR 36.331 1103 6 B REL-11 COMP_LTE_DL-Core
revision of RP-121753; company contribution; resubmission of CR R2-126107; note: rev 3 R2-126126 was not agreed in RAN2 email discussion [80#13]
discussion: specs manager: source to RAN is Samsung and not RAN2 so this is misleading on the CR cover; CR database will reflect this correctly
conclusion: approved

RP-121796 Introducing support for Coordinated Multi-Point (CoMP) operation Nokia Siemens Networks, Huawei, NTT DOCOMO, INC., LG Electronics Inc. CR 36.331 1103 4 B REL-11 COMP_LTE_DL-Core
company contribution; alternative proposal to RP-121753;
conclusion: revised in RP-121963 before presentation

RP-121963 Introducing support for Coordinated Multi-Point (CoMP) operation Nokia Siemens Networks, Huawei, NTT DOCOMO, INC., LG Electronics Inc., Nokia Corporation, Panasonic CR 36.331 1103 5 B REL-11 COMP_LTE_DL-Core
company contribution; alternative proposal to RP-121970
discussion: NSN: agrees that is important that we agree on one CR this week (either this one or the Samsung
ALU, Ericsson, Sharp, ZTE: support Samsung CR as it is in line with RAN1 agreements
RAN chairman: show of hands: Samsung CR: 8 companies, NSN CR: 5 companies
Huawei: Samsung CR is reflecting what was agreed in RAN1
Ericsson: is it normal to reconsider agreed CRs of WGs at RAN by show of hands?
MCC: RAN2 CR was not agreed in RAN2
NSN: topic was not clear on Friday before RAN as still discussed in RAN1 so it is appropriate to raise it at RAN
conclusion: rejected

RP-121820 On interference averaging based on CSI-IM resources Renesas Mobile Europe Ltd Disc REL-11 COMP_LTE_DL-Core
As indicated in the WI status report, RAN should discuss how to handle this topic in RAN1
discussion: NEC: topic is discussed in RAN4 so suggests that RAN1 relys on RAN4
Qualcomm: supports this proposal and was wondering why the current method is inflexible
NEC: we can continue with test methodology in RAN4 and if needed we could come back with REL-11 CR to RAN1
Fujitsu: it is quite a fundamental aspect that should also be considered in RAN1
NSN: if we still study it in RAN1 then we should have a exception sheet
Ericsson: slight preference to study it in RAN1

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Renesas: see the topic rather as an error that needs correction
Fujitsu: RAN4 has to anyway work on the topic for the perf. part but RAN1 could narrow down the scope
RAN chairman: so addressing it in RAN1 and RAN4?
Qualcomm: causes risk of duplication, prefers to do the work first in RAN4 and if needed involve RAN1
conclusion: noted, RAN4 will address the aspect first and inform RAN1 by LS, this issue will be handled as REL-11 correction (if any correction is needed).

RP-121955 RAN2 agreed 36.300 CR on Introduction of CoMP RAN2 CR 36.300 0529 1 B REL-11 COMP_LTE_DL-Core, COMP_LTE_UL-Core
conclusion: approved

10.6.8.2 Performance part [530432, COMP_LTE_DL-Perf, 06/2013]

RP-121578 Status report for WI Perf. part: Coordinated Multi-Point Operation for LTE – Downlink, rapporteur: Samsung RAN4 Report REL-11 COMP_LTE_DL-Perf
530432, WID: RP-111365; RAN #57: 5%, June 13;
conclusion: approved: 15%, June 13

10.6.9 Enhanced downlink control channel(s) for LTE

10.6.9.1 Core part [540125, LTE_enh_dl_ctrl-Core, 12/2012 **exception**]

RP-121579 Status report for WI Core part: Enhanced downlink control channel(s) for LTE, rapporteur: Alcatel-Lucent RAN1 Report REL-11 LTE_enh_dl_ctrl-Core
540125, WID: RP-120871, exception: RP-121433; RAN #57: 68%, Dec.12;
conclusion: approved: 100%, Dec 12; WI is completed

RP-121956 RAN2 agreed CRs on Enhanced downlink control channel(s) for LTE RAN2 CR set REL-11 LTE_enh_dl_ctrl-Core
conclusion: approved

10.6.9.2 Performance part [540225, LTE_enh_dl_ctrl-Perf, 03/2013]

RP-121580 Status report for WI Perf. part: Enhanced downlink control channel(s) for LTE, rapporteur: Alcatel-Lucent RAN4 Report REL-11 LTE_enh_dl_ctrl-Perf
540225, WID: RP-120871; RAN #57: 0%, March 13;
conclusion: noted, approved: 0%, March 13

10.6.10 Public Safety Broadband High Power UE for Band 14 for Region 2

10.6.10.1 Core part [550112, LTE_B14_PSBB_HPUE-Core, 12/2012 **exception**]

RP-121581 Status report for WI Core Part: Public Safety Broadband High Power UE for Band 14 for Region 2, rapporteur: Motorola Solutions RAN4 Report REL-11 LTE_B14_PSBB_HPUE-Core
550112, WID: RP-120362, exception: RP-121164; RAN #57: 70%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121879 CRs for Public Safety Broadband High Power UE for Band 14 for Region 2 - Core part RAN4 CR set REL-11 LTE_B14_PSBB_HPUE-Core
conclusion: approved

RP-121722 Presentation of TR 36.837 v1.0.0 on "Public safety broadband high power User Equipment (UE) for band 14" for approval Motorola Solutions TR 36.837 REL-11 LTE_B14_PSBB_HPUE-Core
RAN4 TR 36.837 is provided for 1-step approval
conclusion: TR 36.837 is approved as v11.0.0.

10.6.11 Improved Minimum Performance Requirements for E-UTRA: Interference Rejection

10.6.11.1 Perf. part [550113, LTE_Interf_Rej-Perf, 12/2012]

RP-121582 Status report for WI Perf. part: Improved Minimum Performance Requirements for E-UTRA: Interference Rejection, rapporteur: Renesas RAN4 Report REL-11 LTE_Interf_Rej-Perf
550113, WID: RP-120382; RAN #57: 70%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

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RP-121903 CRs for Improved Minimum Performance Requirements for E-UTRA: Interference Rejection - Perf part RAN4 CR set REL-11 LTE_Interf_Rej-Perf
conclusion: approved

10.7 Open LTE only related WIs (spectrum related)

10.7.1 Inter-band CA related WIs

10.7.1.1 LTE-Advanced Carrier Aggregation of Band 1 and Band 7

RP-122018 Revised WID for LTE-Advanced Carrier Aggregation of Band 1 and Band 7 Ericsson WID rev REL-12 LTE_CA_B1_B7
latest approved WID: RP-120904; WID update after treatment of RP-121583; WID will change release from REL-11 to REL-12 and rapporteur China Telecom from to Ericsson
discussion: Ericsson: supporting operator is not a 3GPP member so it cannot be included
conclusion: approved (rapporteur changed to Ericsson, is a REL-12 WI now with core and perf. part)

10.7.1.1.1 Core part [530125, LTE_CA_B1_B7-Core, 12/2012 **exception**]

RP-121710 Cancellation proposal for inter-band CA of Band1 and Band7 WI China Telecom Disc REL-11 LTE_CA_B1_B7-Core
discussion: China Telecom: proposal is to stop the WI
conclusion: noted

RP-121583 Status report for WI Core part: LTE-Advanced Carrier Aggregation of Band 1 and Band 7, rapporteur: China Telecom RAN4 Report REL-11 LTE_CA_B1_B7-Core
530125, WID: RP-120904, exception: RP-121151; RAN #57: 80%, Dec.12;
discussion: RAN4 chairman: we should not approve the CR if the WI is stopped
Ericsson: this band combination might be also of interest for Europe so it would be good to continue
RAN4 chairman: if there is a new a rapporteur we can do this
Ericsson: we would take over rapporteurship
Deutsche Telekom: due to terminal impact we should check whether there is real interest or just potential interest
Specs manager: the WI has to be moved to REL-12
Vodafone: any need to approve a new WI?
MCC: as it was decided to not stop the WI it will continue provided that it has at least 4 supporting companies
conclusion: noted,
WID will be revised by Ericsson in RP-122018; WI will be a REL-12 WI
approved: 80%, Sep.13, is a REL-12 WI now

RP-121880 CRs for LTE-Advanced Carrier Aggregation of Band 1 and Band 7 - Core part RAN4 CR set REL-11 LTE_CA_B1_B7-Core
discussion: MCC: as it was decided to move the WI to REL-12 we would need REL-12 CRs; furthermore RAN4 should carefully check when they plan to introduce REL-12 specs (early introduction might double the number of CRs to be provided due to REL-12 cat.A CRs)
conclusion: withdrawn

10.7.1.1.2 Performance part [530225, LTE_CA_B1_B7-Perf, 12/2012]

RP-121584 Status report for WI Perf. part: LTE-Advanced Carrier Aggregation of Band 1 and Band 7, rapporteur: China Telecom RAN4 Report REL-11 LTE_CA_B1_B7-Perf
530225, WID: RP-120904; RAN #57: 0%, Dec.12;
discussion: RAN chairman:
Specs manager: any CRs already approved for this band combination?
RAN4 chairman: not yet
conclusion: noted, approved: 0%, Sep.13, is a REL-12 WI now

RP-121881 CRs for LTE-Advanced Carrier Aggregation of Band 1 and Band 7 - Perf part RAN4 CR set REL-11 LTE_CA_B1_B7-Perf
conclusion: withdrawn

10.7.1.2 LTE Advanced Carrier Aggregation Band 2 and Band 17

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10.7.1.2.1 Performance part [510225, LTE_CA_B2_B17-Perf, 12/2012]

RP-121585 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Band 2 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B2_B17-Perf
510225, WID: RP-110432; RAN #57: 20%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121718 Introduction of CA band combination Band2 + Band17 to TS 36.307 (Rel-11) Alcatel-Lucent, AT&T CR 36.307 0102 - A REL-11 LTE_CA_B2_B17-Perf
company contribution; CR was not provided to last RAN4 meeting but is provided on RAN4 reflector
discussion: RAN4 chairman: we forgot the 2 CRs at last RAN4 meeting that's why they are provided here as company CRs
conclusion: approved

RP-121719 Introduction of CA band combination Band2 + Band17 to TS 36.307 (Rel-10) Alcatel-Lucent, AT&T CR 36.307 0103 - B REL-10 LTE_CA_B2_B17-Perf
company contribution; CR was not provided to last RAN4 meeting but is provided on RAN4 reflector
conclusion: approved

10.7.1.3 LTE Advanced Carrier Aggregation of Band 3 and Band 8

10.7.1.3.1 Core part [550118, LTE_CA_B3_B8-Core, 12/2012 **exception**]

RP-121586 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 3 and Band 8, rapporteur: KT RAN4 Report REL-11 LTE_CA_B3_B8-Core
550118, WID: RP-120907, exception: RP-121160; RAN #57: 80%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121884 CRs for LTE Advanced Carrier Aggregation of Band 3 and Band 8 - Core part RAN4 CR set REL-11 LTE_CA_B3_B8-Core
conclusion: approved

10.7.1.3.2 Performance part [550118, LTE_CA_B3_B8-Perf, 06/2013]

RP-121587 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 3 and Band 8, rapporteur: KT RAN4 Report REL-11 LTE_CA_B3_B8-Perf
550118, WID: RP-120907; RAN #57: 20%, June 13;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121885 CRs for LTE Advanced Carrier Aggregation of Band 3 and Band 8 - Perf part RAN4 CR set REL-11 LTE_CA_B3_B8-Perf
conclusion: approved

10.7.1.4 LTE Advanced Carrier Aggregation Band 4 and Band 5

10.7.1.4.1 Core part [510126, LTE_CA_B4_B5-Core, 12/2012 **exception**]

RP-121588 Status report for WI Core part: LTE Advanced Carrier Aggregation Band 4 and Band 5, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B5-Core
conclusion: revised in RP-121757 as multiple versions of RP-121588 exist

RP-121757 Status report for WI Core part: LTE Advanced Carrier Aggregation Band 4 and Band 5, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B5-Core
revision of RP-121588; 510126, WID: RP-110433, exception: RP-121207; RAN #57: 35%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121890 CRs for LTE Advanced Carrier Aggregation Band 4 and Band 5 - Core part RAN4 CR set REL-11 LTE_CA_B4_B5-Core
conclusion: approved

10.7.1.4.2 Performance part [510226, LTE_CA_B4_B5-Perf, 12/2012]

RP-121589 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Band 4 and Band 5, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B5-Perf
510226, WID: RP-110433; RAN #57: 10%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

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RP-121891 CRs for LTE Advanced Carrier Aggregation Band 4 and Band 5 - Perf part RAN4 CR set REL-11 LTE_CA_B4_B5-Perf
conclusion: approved

10.7.1.5 LTE Carrier Aggregation Band 4 and Band 7

10.7.1.5.1 Core part [530127, LTE_CA_B4_B7-Core, 12/2012 **exception**]

RP-121590 Status report for WI Core part: LTE Carrier Aggregation Band 4 and Band 7, rapporteur: Rogers Wireless RAN4 Report REL-11 LTE_CA_B4_B7-Core
530127, WID: RP-121152, exception: RP-121153; RAN #57: 65%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121892 CRs for LTE Carrier Aggregation Band 4 and Band 7 - Core part RAN4 CR set REL-11 LTE_CA_B4_B7-Core
conclusion: approved

10.7.1.5.2 Performance part [530227, LTE_CA_B4_B7-Perf, 12/2012]

RP-121591 Status report for WI Perf. part: LTE Carrier Aggregation Band 4 and Band 7, rapporteur: Rogers Wireless RAN4 Report REL-11 LTE_CA_B4_B7-Perf
530227, WID: RP-120896; RAN #57: 0%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121893 CRs for LTE Carrier Aggregation Band 4 and Band 7 - Perf part RAN4 CR set REL-11 LTE_CA_B4_B7-Perf
conclusion: approved

10.7.1.6 LTE Advanced Carrier Aggregation of Band 4 and Band 12

10.7.1.6.1 Core part [510122, LTE_CA_B4_B12-Core, 12/2012 **exception**]

RP-121592 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 4 and Band 12, rapporteur: Leap Wireless International RAN4 Report REL-11 LTE_CA_B4_B12-Core
510122, WID: RP-120877, exception: RP-121167; RAN #57: 90%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121887 CRs for LTE Advanced Carrier Aggregation of Band 4 and Band 12 - Core part RAN4 CR set REL-11 LTE_CA_B4_B12-Core
conclusion: approved

10.7.1.6.2 Performance part [510222, LTE_CA_B4_B12-Perf, 12/2012]

RP-121593 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 4 and Band 12, rapporteur: Leap Wireless International RAN4 Report REL-11 LTE_CA_B4_B12-Perf
510222, WID: RP-120877; RAN #57: 0%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121888 CRs for LTE Advanced Carrier Aggregation of Band 4 and Band 12 - Perf part RAN4 CR set REL-11 LTE_CA_B4_B12-Perf
conclusion: approved

10.7.1.7 LTE Advanced Carrier Aggregation of Band 4 and Band 13

10.7.1.7.1 Performance part [500218, LTE_CA_B4_B13-Perf, 12/2012]

RP-121594 Status report for WI Perf. Part: LTE Advanced Carrier Aggregation of Band 4 and Band 13, rapporteur: Ericsson RAN4 Report REL-11 LTE_CA_B4_B13-Perf
500218, WID: RP-120905; RAN #57: 0%, Dec.12;
discussion: RAN chairman: no CR?
Ericsson: there was a CR but it is combined in another CR
MCC: please provide the corresponding Tdoc reference
Note: Ericsson clarified later offline that there is no CR for RAN #58 addressing LTE_CA_B4_B13-Perf but that corresponding aspects are already covered in TS 36.101 Table 5.5-3. and TS 36.141 Table 5.5-3 by a former CR.
conclusion: noted, approved: 100%, Dec 12; WI is completed

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10.7.1.8 LTE Advanced Carrier Aggregation of Band 4 and Band 17

10.7.1.8.1 Performance part [500217, LTE_CA_B4_B17-Perf, 12/2012]

RP-121595 Status report for WI Perf. Part: LTE Advanced Carrier Aggregation of Band 4 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B4_B17-Perf
500217, WID: RP-111750; RAN #57: 20%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121721 Introduction of CA band combination Band4 + Band17 to TS 36.307 (Rel-10) Alcatel-Lucent, AT&T CR 36.307 0105 - B REL-10 LTE_CA_B4_B17-Perf
company contribution; CR was not provided to last RAN4 meeting but is provided on RAN4 reflector
conclusion: approved

RP-121720 Introduction of CA band combination Band4 + Band17 to TS 36.307 (Rel-11) Alcatel-Lucent, AT&T CR 36.307 0104 - A REL-11 LTE_CA_B4_B17-Perf
company contribution; CR was not provided to last RAN4 meeting but is provided on RAN4 reflector
conclusion: approved

10.7.1.9 LTE Advanced Carrier Aggregation of Band 5 and Band 12

10.7.1.9.1 Core part [510123, LTE_CA_B5_B12-Core, 12/2012 **exception**]

RP-121596 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 5 and Band 12, rapporteur: US Cellular RAN4 Report REL-11 LTE_CA_B5_B12-Core
510123, WID: RP-120221, exception: RP-121168; RAN #57: 95%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121894 CRs for LTE Advanced Carrier Aggregation of Band 5 and Band 12 - Core part RAN4 CR set REL-11 LTE_CA_B5_B12-Core
conclusion: approved

10.7.1.9.2 Performance part [510223, LTE_CA_B5_B12-Perf, 12/2012]

RP-121597 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 5 and Band 12, rapporteur: US Cellular RAN4 Report REL-11 LTE_CA_B5_B12-Perf
510223, WID: RP-120221; RAN #57: 90%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121895 CRs for LTE Advanced Carrier Aggregation of Band 5 and Band 12 - Perf part RAN4 CR set REL-11 LTE_CA_B5_B12-Perf
conclusion: approved

10.7.1.10 LTE Advanced Carrier Aggregation Band 5 and Band 17

10.7.1.10.1 Core part [510127, LTE_CA_B5_B17-Core, 12/2012 **exception**]

RP-121598 Status report for WI Core part: LTE Advanced Carrier Aggregation Band 5 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B5_B17-Core
510127, WID: RP-110434, exception: RP-121208; RAN #57: 35%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121896 CRs for LTE Advanced Carrier Aggregation Band 5 and Band 17 - Core part RAN4 CR set REL-11 LTE_CA_B5_B17-Core
conclusion: approved

10.7.1.10.2 Performance part [510227, LTE_CA_B5_B17-Perf, 12/2012]

RP-121599 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Band 5 and Band 17, rapporteur: AT&T RAN4 Report REL-11 LTE_CA_B5_B17-Perf
510227, WID: RP-110434; RAN #57: 10%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121897 CRs for LTE Advanced Carrier Aggregation Band 5 and Band 17 - Perf part RAN4 CR set REL-11 LTE_CA_B5_B17-Perf
conclusion: approved

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10.7.1.11 LTE Advanced Carrier Aggregation Bands 8 and Band 20

10.7.1.11.1 Core part [530124, LTE_CA_B8_B20-Core, 12/2012 **exception**]

RP-121600 Status report for WI Core part: LTE Advanced Carrier Aggregation Bands 8 and Band 20, rapporteur: Vodafone RAN4 Report REL-11 LTE_CA_B8_B20-Core
530124, WID: RP-120888, exception: RP-121281; RAN #57: 50%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121898 CRs for LTE Advanced Carrier Aggregation Bands 8 and Band 20 - Core part RAN4 CR set REL-11 LTE_CA_B8_B20-Core
conclusion: approved

10.7.1.11.2 Performance part [530224, LTE_CA_B8_B20-Perf, 12/2012]

RP-121601 Status report for WI Perf. part: LTE Advanced Carrier Aggregation Bands 8 and Band 20, rapporteur: Vodafone RAN4 Report REL-11 LTE_CA_B8_B20-Perf
530224, WID: RP-120888; RAN #57: 0%, Dec.12;
discussion: RAN chairman: so closed without CR
conclusion: noted, approved: 100%, Dec 12; WI is completed

10.7.1.12 LTE Advanced Carrier Aggregation of Band 11 and Band 18

10.7.1.12.1 Core part [540120, LTE_CA_B11_B18-Core, 12/2012 **exception**]

RP-121602 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 11 and Band 18, rapporteur: KDDI RAN4 Report REL-11 LTE_CA_B11_B18-Core
540120, WID: RP-120898, exception: RP-121158; RAN #57: 90%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121882 CRs for LTE Advanced Carrier Aggregation of Band 11 and Band 18 - Core part RAN4 CR set REL-11 LTE_CA_B11_B18-Core
conclusion: approved

10.7.1.12.2 Performance part [540220, LTE_CA_B11_B18-Perf, 12/2012]

RP-121603 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 11 and Band 18, rapporteur: KDDI RAN4 Report REL-11 LTE_CA_B11_B18-Perf
540220, WID: RP-120898; RAN #57: 0%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121883 CRs for LTE Advanced Carrier Aggregation of Band 11 and Band 18 - Perf part RAN4 CR set REL-11 LTE_CA_B11_B18-Perf
discussion: RAN4 chairman: for BS test specification
conclusion: approved

10.7.2 Intra-band CA related WIs

No WIs.

10.7.3 Other WIs

10.7.3.1 New Band LTE Downlink FDD 716-728MHz

10.7.3.1.1 Core part [510128, LTE_DL_FDD700-Core, 12/2012 **exception**]

RP-121604 Status report for WI Core part: New Band LTE Downlink FDD 716-728 MHz, rapporteur: AT&T RAN4 Report REL-11 LTE_DL_FDD700-Core
510128, WID: RP-110710, exception: RP-121347; RAN #57: 75%, Dec.12;
discussion: NII: is no longer 716-728MHz but 717-728MHz do we need to revise the WID?
AT&T: the range 717-728MHz is covered in the WID, maybe a title modification is not needed
MCC: as it is explained in the WID we might not need to change the title anymore
workplan manager: we can keep the title as it is (if you do not want to modify it); another aspect: this WI is having CA aspects included without indication in the title; this should be avoided in future WIs
RAN4 chairman: this band is a bit special as it only operates with CA
conclusion: noted, approved: 100%, Dec 12; WI is completed

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RP-121735 New Band LTE Downlink FDD 716-728 MHz CRs RAN3 CR set REL-11 LTE_DL_FDD700-Core
conclusion: approved

RP-121901 CRs for New Band LTE Downlink FDD 716-728MHz - Core part RAN4 CR set REL-11 LTE_DL_FDD700-Core
conclusion: approved

10.7.3.1.2 Performance part [510228, LTE_DL_FDD700-Perf, 12/2012]

RP-121605 Status report for WI Perf. part: New Band LTE Downlink FDD 716-728 MHz, rapporteur: AT&T RAN4 Report REL-11 LTE_DL_FDD700-Perf
510228, WID: RP-110435; RAN #57: 0%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; WI is completed

RP-121902 CRs for New Band LTE Downlink FDD 716-728MHz - Perf part RAN4 CR set REL-11 LTE_DL_FDD700-Perf
conclusion: approved

10.8 Small Technical Enhancements and Improvements for Rel-11 [TEI11]

REL-11 UE capabilities:

RP-121472 LS on LTE Rel-11 UE capability list
(R1-124593; to: RAN, RAN2; cc: RAN4; contact: NTT DOCOMO) RAN1 LSin REL-11 -
RAN action requested;
conclusion: noted, no LS answer

RP-121476 LS on LTE Rel-11 UE capabilities list
(R4-125499; to: RAN, RAN2; cc: RAN1; contact: NTT DOCOMO) RAN4 LSin REL-11 -
RAN action requested;
conclusion: noted, no LS answer

RP-121479 LS on Release 11 Feature Lists – Testing and Certification Aspects
(R5-125691; to: RAN1, RAN2, RAN4; cc: RAN; contact: NTT DOCOMO) RAN5 LSin REL-11 -
no RAN action requested;
discussion: RAN5 chairman: if a feature is mandatory, a UE vendor has to show conformance even it is not deployed
conclusion: noted, no LS answer

RP-121508 Reply LS R4-125499 = RP-121476 and R1-124593 = RP-121472 on LTE Rel-11 UE capability list from RAN WG1, WG4
(R2-126096; to: RAN, RAN1, RAN4; cc: -; contact: NTT DOCOMO) RAN2 LSin REL-11 LTE_CA_enh-Core, LTE_eDDA-Core, MBMS_LTE_SC-Core, LCS_LTE-NBPS-Core, eICIC_enh_LTE-Core, SPIA_IDC_LTE-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, SIMTC-RAN_OC-Core, eMDT_UMTSLTE-Core, LTE_enh_dl_ctrl-Core, LTE_Interf_Rej-Perf, LTE_TDD_add_subframe-Core, EEA3_EIA3, vSRVCC, TEI11
RAN action requested;
discussion: Sprint: FGI was for testing and not for mandatory/optional considerations
NTT DOCOMO: RAN2 introduced a capability bit signalling instead of FGI (i.e. FGI in REL-9 and REL-10 but different approach in REL-11)
RAN2 chairman: capability bits are set when the feature is implemented and tested; we had in the past different signalling depending on whether a feature is mandatory or optional; this would have ASN.1 impact and so we decided to go for just one way of signalling; the mandatory/optional decision is clearly reflected in 36.306
RAN chairman: we have ASN.1 freeze in March and RAN2 decision is good as it decouples ASN.1 impact and mandatory/optional discussion
Sprint: how to do we guarantee that roaming UEs have a minimum feature set?
CMCC: how can we indicate in the future that it is tested?
RAN chairman: capability bit can be discussed in a similar way as FGI here in RAN in the future
Qualcomm: supports to have this discussion in RAN and not in RAN2
conclusion: noted, no LS answer

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RP-121509 LS on Release 11 UMTS capabilities and feature dependencies (R2-125963; to: RAN; cc: RAN1, RAN3, RAN4, RAN5; contact: Huawei) RAN2 LSin REL-11 Cell_FACH_enh-Core, HSDPA_MFTX-Core, HSPA_UL_TxDiv-CL-Core, HSPA_UL_TxDiv-OL-Core, 4Tx_HSDPA-Core, MIMO_64QAM_HSUPA-Core, rSRVCC-RAN_UTRA-Core, 8C_HSDPA-Core, SIMTC-RAN_OC-Core, eMDT_UMTSLTE-Core, TEI11
RAN action requested;
discussion: RAN2 vice-chairman (Huawei): 2.9.3/2.9.4 some concerns were raised after RAN2 #80 so we will discuss this again in the next RAN2 meeting (nothing to be done in RAN #58, we will come back with a solution to RAN #59)
Broadcom
conclusion: noted, no LS answer

RP-121790 Mandatory UMTS Rel-11 enhancement Broadcom Corporation, Renesas Mobile Europe Ltd Disc REL-11 TEI11
Proposal: introduce an IoT/capability bit in order not to hinder the deployment of other release 11 features
discussion: RAN2 vice-chairman (Huawei): we will discuss this at next RAN2 meeting in the UTRA section
RAN chairman: any ASN.1 impact?
RAN2 vice-chairman (Huawei): would be just 1 bit so not critical
Intel: cell reselection enhancement also open for discussion?
RAN2 vice-chairman (Huawei): this is related to idle mode so the network will not know it, so the situation is different (no signalling impact here); but we can discuss at RAN2 #81
RAN chairman: ASN.1 freeze has highest priority so please take this into account
conclusion: noted

RP-121961 RAN2 agreed CRs on Introduction of Rel-11 UE features RAN2 CRset LS01 REL-11 LTE_CA_enh-Core, LTE_eDDA-Core, eMDT_UMTSLTE-Core, SPIA_IDC_LTE-Core, SIMTC-RAN_OC-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, eICIC_enh_LTE-Core, LTE_enh_dl_ctrl-Core, LTE_Interf_Rej-Perf, LTE_TDD_add_subframe-Core, MBMS_LTE_SC-Core, TEI11
Note: See related LSs from RAN2 in RP-121508 = R2-126096 and RP-121509 = R2-125963.
discussion: RAN2 chairnan: 36.331 is stable, some ffs regarding 36.306 CR, company contribution
conclusion: partly approved, 36.331 CR in R2-126121 is approved; 36.306 CR R2-126094 is revised in RP-122002

RP-122002 Introduction of Rel-11 UE features NTT DOCOMO, INC. CR36.3060125 2 B REL-11 LTE_CA_enh-Core, LTE_eDDA-Core, eMDT_UMTSLTE-Core, SPIA_IDC_LTE-Core, SIMTC-RAN_OC-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, eICIC_enh_LTE-Core, LTE_enh_dl_ctrl-Core, LTE_Interf_Rej-Perf, LTE_TDD_add_subframe-Core, MBMS_LTE_SC-Core, TEI11
company contribution updating R2-126094 of RP-121961 to include agreements made under RP-121740.
conclusion: approved

Wideband RSRQ measurement:

RP-121494 LS on wideband RSRQ measurement (R4-126491; to: RAN2, RAN; cc: RAN1; contact: NTT DOCOMO) RAN4 LSin REL-11 LTE-RF, TEI11
LTE-RF was a REL-8 WI; RAN action requested;
conclusion: noted, no LS answer

RP-121500 LS on wideband RSRQ measurement (R4-126987; to: GERAN2, RAN; cc: RAN2; contact: NTT DOCOMO) RAN4 LSin REL-11 LTE-RF, TEI11
LTE-RF was a REL-8 WI; RAN action requested;
discussion: Qualcomm: ASN.1 impact?
NTT DOCOMO: might have ASN.1 impact (depends on solution)
conclusion: noted, no LS answer

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RP-121797 Mandatory support for wideband RSRQ measurements NTT DOCOMO, INC. Disc REL-11 TEI11, LTE_RF
Proposal: *Wideband RSRQ measurements should be mandatory with a capability bit allowing FDD/TDD differentiation.*
discussion: RAN chairman: any company who has a concern about this proposal?
Qualcomm: is this proposal only for connected or also for idle mode?
NTT DOCOMO: capbility signalling is for connected mode only
Qualcomm: feature is more critical in idle mode so we need some time to check
conclusion: noted
Fri morning:
NTT DOCOMO: proposal was to make it mandatory, but now postponed as RAN4 LS indicated support for idle mode but RAN2 has not yet discussed the specification impact
conclusion: proposal of RP-121797 is postponed, will be discussed in RAN2

BroadBand Forum Accesses Interworking (BBAI):

RP-121493 LS on Stage 3 change for broadband access network interworking
(R3-122918; to: SA2; cc: RAN, SA, SA3, CT4, SA5; contact: NEC) RAN3 LSin REL-11 BBAI
"Support for BroadBand Forum Accesses Interworking" with WI code BBAI is a REL-11 SA2 WI; no RAN action requested
conclusion: noted, no LS answer

RP-121502 LS on BBAI Support
(R3-122920; to: RAN, SA; cc: CT4, SA3, SA2; contact: Ericsson) RAN3 LSin REL-11 BBAI
"Support for BroadBand Forum Accesses Interworking" with WI code BBAI is a REL-11 SA2 WI; RAN action requested;
conclusion: noted, no LS answer

RP-121739 Technically endorsed BBAI CRs RAN3 CR set REL-11 BBAI
These CRs are technically endorsed by RAN3, see LS R3-122920; includes a 36.300 CR0543 rev - which was not provided to email agreement in RAN2
discussion: RAN3 chairman: SA2, CT4 impacts and CRs so the package needs to be discussed at SA
conclusion: RAN conditionally approved this RAN CR set (condition: SA approves the feature and all corresponding CT/SA CRs are approved)

Other:

RAN1:

RP-121847 CR to 25.224 for a clarification to be made for 1.28Mcps TDD RAN1 CR 25.224 0272 2 F REL-11 TEI11
conclusion: approved

RAN2:

RP-121957 RAN2 agreed CRs with corrections for TEI11 RAN2 CR set REL-11 TEI11
conclusion: approved

RP-121958 RAN2 agreed CRs with cat.B/C for TEI11 RAN2 CR set REL-11 TEI11
Note: CR set includes cat.B/C CRs to frozen REL-11.
conclusion: approved

RP-121959 RAN2 agreed CRs related to ROHC RAN2 CR set REL-11 TEI11
Note: CR set includes cat.B CRs to frozen REL-11.
conclusion: approved

RP-121960 RAN2 endorsed CRs on Broadcast of Time Info by Using a New SIB RAN2 CR set REL-11 TEI11
Note: The 2 CRs were only endorsed in RAN2 and they are cat.B CRs to frozen REL-11.
discussion: RAN2 chairman: RAN2 did not want to agree these CRs and leave decision to RAN
RAN chairman: any objection to approve the CRs here? noone commented
conclusion: approved

RAN3:

RP-121736 TEI11 CRs, set 1 RAN3 CR set REL-11 TEI11
discussion: Ericsson: does not want to approve 25.413 CR R3-122906 and wait for SA5

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NSN: supports Ericsson comment
ALU: Was there an LS sent from RAN3 to SA5? Surprised that the CR was then agreed in RAN3 and sent to RAN for approval
RAN chairman: so the LS was sent from RAN3 to SA5
conclusion: partly approved, i.e. all CRs of RP-121736 except 25.413 CR R3-122906 are approved; 25.413 CR R3-122906 is postponed, RAN3 will look at this when receiving SA5 reply

RP-121737 TEI11 CRs, set 2 RAN3 CR set REL-11 TEI11
conclusion: approved

RAN4:
RP-121911 CRs for Small Technical Enhancements and Improvements for Rel-11 RAN4 CR set REL-11 TEI11
conclusion: approved

11 Work Items with target Rel-12 (not related to conformance testing)

RP-121717 Phased approach for WI closing in future releases RAN4 chairman (NSN) Disc REL-12 -
for approval
Proposal: For the closing of Core WIs in which RAN4 is depending on the outcome of RAN1-3 work it is proposed:
- to consider RAN1 closing their work 6 months before the release freezing

For the closing of RAN4 performance WIs it is proposed
- to consider closing the work at maximum 6 months after corresponding core WI or release freezing.

discussion: Motorola Solutions: will we approve RAN1 CRs 6 months before REL freeze or keep them on hold? RAN1 was in the past reluctant to revisit issues that were found problematic in RAN4
RAN4 chairman: both ways are possible
RAN1 chairman: this gives us 1 year to complete RAN1 work so this has to be taken into account (some time budget proposals of REL-12 WIs/SIs consider work until June 2013)
NEC: sees similar structuring like this in SA with SA1/SA2/CT; any views from RAN2/RAN3 chairmen on considering earlier completion as well?
Ericsson: is this for REL-12 only or also for the larger number of still open REL-11 perf. parts?
RAN4 chairman: for REL-12 and future
Fujitsu: we have table for completion for each spec, so will this proposal then be taken into account there?
NEC: handling RAN4 perf. work strictly could be tricky as moving perf./testing to next REL will not help anyone (so understood strict handling more related to core WIs); unclear what will happen with perf. parts that exceed the deadline
RAN4 chairman: different handling possible, e.g. exception sheet, moving to next REL
CMCC: shares concerns with NEC
RAN4 chairman: we have to take these problems into account in advance
NEC: so does it mean that we would not approve a core WI if it is clear that perf. part can not finish in time?
RAN4 chairman: yes, we have to consider both core and perf. together
Telecom Italia: it is important that core and perf. parts are in the same REL, if perf. part is moved then also the core part should be moved to next REL
RAN chairman: 6 months deadline for RAN1 is effecting WIs/SIs which have dependency to RAN1/2/3
Motorola Solutions: we might have cases where some requirements are shifted to a later REL, we had this in the past
CMCC: timing between different WGs might also have an impact
Panasonic: RAN1 has sometimes problems to identify what will be covered in RAN4 core and what in RAN4 perf. part
RAN chairman: there could be a coordination at RAN which topics have to finish when
NEC: SA1 is forced to finish work at a certain time, so SA1 is starting on a REL before others work on this REL; so in a similar way the window for RAN1 to work on next REL

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will start 6 months than other RAN WGs; so this is just a change of the working schedule and it is possible
ALU: how to capture the targets in the WIDs/SIDs?
MCC: WIDs/SIDs have already target columns for each specification so implicitly this information can be included
Samsung: so RAN1 CRs have to be provided by Dec.2013?
RAN chairman: yes for issues that have impact on RAN2/3/4 work, smaller things and things not affecting others can have some flexibility
NEC: we might also consider to capture time planning in status reports (as updates of WIDs are usually cause some overhead)
AT&T: status LSs from RAN1 to RAN2/RAN3/RAN4 in an early phase will also help
conclusion: noted, proposal is in principle agreed, the strict handling of perf. parts needs some more discussions

11.1 UTRA only related WIs

No WIs.

11.2 UTRA & LTE related WIs

11.2.1 Further enhancements for H(e)NB mobility-Part 3

11.2.1.1 Core part [**New WI:** 570121, EHNB_enh3-Core, 06/2013]

RP-121606 Status report for WI Core part: Further enhancements for H(e)NB mobility-Part 3, rapporteur: Alcatel-Lucent RAN3 Report REL-12 EHNB_enh3-Core
570121, WID: RP-121444; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.3 LTE only related WIs (non spectrum related)

11.3.1 Carrier based HetNet ICIC for LTE

11.3.1.1 Core part [510133, LTE_CA_HetNet_ICIC-Core, 06/2013]

RP-121607 Status report for WI Core part: Carrier based HetNet ICIC for LTE, rapporteur: Nokia Siemens Networks RAN3 Report REL-12 LTE_CA_HetNet_ICIC-Core
510133, WID: RP-121198; RAN #57: 40%, June 13;
discussion: NSN: does not see that work will start in RAN1 before June 13; we could update this now or keep on hold in RAN1 until June 13
Fujitsu: it seems the plan in RAN1 does not take this into account
NSN: we will review the time plan every RAN meeting and we can reconsider
RAN1 chairman: agrees that so far no time budget is reserved for this topic, time budget information has to be provided by the rapporteur in the future and we will then review the situation
conclusion: noted, approved: 40%, WI will be kept on hold until June 13, new target is Dec 13

RP-121501 LS response to R3-121453, R3-121455, R3-121458 on carrier based ICIC (R1-125398; to: RAN3; cc: RAN; contact: Huawei) RAN1 LSin REL-12 LTE_CA_HetNet_ICIC-Core
no RAN action requested; note: Non of the 3 RAN3 LSs (R3-121453, R3-121455, R3-121458) were sent to RAN;
conclusion: noted, no LS answer

11.3.2 Further Downlink MIMO Enhancement for LTE-Advanced

11.3.2.1 Core part [**New WI:** 570120, LTE_eDL_MIMO_enh-Core, 06/2013]

RP-121608 Status report for WI Core part: Further Downlink MIMO Enhancement for LTE-Advanced, rapporteur: Alcatel-Lucent RAN1 Report REL-12 LTE_eDL_MIMO_enh-Core
570120, WID: RP-121416; RAN #57: 0%, June 13;
discussion: CATT: for simulation assumptions: proposal 2 (full buffer) and proposal 5 (full buffer and not full buffer) are contradicting, what should apply?
ALU: both, we can take this offline
conclusion: noted, approved: 4%, June 13

11.3.2.2 Performance part [**New WI:** 570220, LTE_eDL_MIMO_enh-Perf, 09/2013]

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RP-121609 Status report for WI Perf. part: Further Downlink MIMO Enhancement for LTE-Advanced, rapporteur: Alcatel-Lucent RAN4 Report REL-12 LTE_eDL_MIMO_enh-Perf
570220, WID: RP-121416; RAN #57: 0%, Sep.13;
conclusion: noted, approved: 0%, Sep.13

11.3.3 New Carrier Type for LTE

RP-121824 On Working Methodology for Phase 2 of New Carrier Type WI Motorola Mobility Disc REL-12 LTE_NCT
Proposal: It is proposed to slightly amend the approved work item RP-121415, to include a short study item phase in parallel with the first phase of NCT, so as to allow for proper identification of the benefits of the second phase of NCT (network assisted/standalone NCT) and the deployment scenarios where such benefits might accrue. A draft update to the NCT WID-Core part is provided in RP-121825.
discussion: NEC: Why does the problem not also exist in phase 1?
Motorola Mobility: in phase 1: Scell associated with Pcell so the new RAT problem occurs in phase 2
Ericsson: it's not a new RAT, it's usage of LTE without CRS; gains in energy efficiency were already shown so does not see a need for a SI
Motorola Solutions: RAN1 made some conclusions but what is the quantitave benefit we get from the feature; as this is an important decision it needs to be decided here at RAN
Samsung: if legacy UEs can not camp on that carrier then it will be a new RAT; so we agree that it is a big step
Motorola Mobility: has impact on idle mode as well so cross-WG impact which cannot just be decided in RAN1
NSN: then it would be useful to modify the WID to report some of the results of the benefits (if they are already available)
CATT: does not see why standalone NCT would lose benefits that we identified for phase 1
Huawei: first bullet will be covered by the small cell enhancement
Ericsson: we had intense discussions before starting the WI based on the identified gains, no need to study the gains anymore
Motorola Mobility: what additional savings do you get with standalone NCT/phase 2 compared to phase 1 with Scell; what is the benefit of introducing this backward incompatibility?
conclusion: noted

RP-121825 Revised WID for New Carrier Type for LTE Motorola Mobility WID rev RAN1 REL-12 LTE_NCT
last approved WID: RP-121415; note: rapporteur of LTE_NCT is Ericsson
discussion: NTT: neutral for bullet 1/2 and supports modifications of bullet 3/4/5 in revised WID from Motorola Mobility
NSN: first phase is clear, bring the gains for second phase and modify the WID
Samsung: supports to prove the gains and to add correspondin
AT&T: we would also appreciate to get also some information about the use cases of the phase 2 case
Qualcomm: agrees that phase 2 has to show higher gains to justify it
Ericsson: suggests to look at first phase so far and think until RAN #59 how to modify the WID for phase 2
Fujitsu: we have to consider time dependency with small cell enhancement studies
Ericsson: that's why phase 2 will not start before small cell enhancement study has concluded
conclusion: withdrawn

RP-122025 Revised WID on New Carrier Type for LTE Ericsson WID (rev) REL-12 LTE_NCT
last approved WID: RP-121415
discussion: Motorola Mobility: RAN1 chair needs to revisit his time planning for this
RAN chairman: yes, we will not do evaluation in the next 3 months
Qualcomm: small cell related bullet should be moved to first phase
Motorola Solutions: 36.104, 36.105 needs to be added, no impact on BS?
Fujitsu: Will all the CRs be provided at end of phase 2?
Ericsson: yes
Panasonic: RAN1 has to evaluate complexity of NCT alone for idle mode mobility? maybe not the best choice

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conclusion: revised in RP-122028

RP-122028 Revised WID on New Carrier Type for LTE Ericsson WID rev REL-12 LTE_NCT
last approved WID: RP-121415; revision of RP-122025
discussion: Ericsson: The evaluation of the benefits and the identification of the stand-alone scenarios will not happen during Q1 2013
Panasonic: Ericsson's explanation should be captured in the RAN #58 minutes
conclusion: approved. The evaluation of the benefits and the identification of the stand-alone scenarios will not happen during Q1 2013.

11.3.3.1 Core part [**New WI:** 570125, LTE_NCT-Core, 12/2013]

RP-121610 Status report for WI Core part: New Carrier Type for LTE, rapporteur: Ericsson RAN1 Report REL-12 LTE_NCT-Core
conclusion: revised in RP-121826

RP-121826 Status report for WI Core part: New Carrier Type for LTE, rapporteur: Ericsson RAN1 Report REL-12 LTE_NCT-Core
revision of RP-121610; 570125, WID: RP-121415; RAN #57: 0%, Dec.13;
conclusion: noted, approved: 2%, Dec.13

11.3.3.2 Performance part [**New WI:** 570225, LTE_NCT-Perf, 06/2014]

RP-121611 Status report for WI Perf. part: New Carrier Type for LTE, rapporteur: Ericsson RAN4 Report REL-12 LTE_NCT-Perf
conclusion: revised in RP-121827

RP-121827 Status report for WI Perf. part: New Carrier Type for LTE, rapporteur: Ericsson RAN4 Report REL-12 LTE_NCT-Perf
revision of RP-121611; 570225, WID: RP-121415; RAN #57: 0%, June 14;
conclusion: noted, approved: 0%, June 14

11.4 LTE only related WIs (spectrum related)

11.4.1 Inter-band CA related WIs

11.4.1.1 LTE Advanced inter-band Carrier Aggregation for Band 2 and Band 4

11.4.1.1.1 Core part [560117, LTE_CA_B2_B4-Core, 06/2013]

RP-121612 Status report for WI Core part: LTE Advanced inter-band Carrier Aggregation for Band 2 and Band 4, rapporteur: T-Mobile USA RAN4 Report REL-12 LTE_CA_B2_B4-Core
560117, WID: RP-121145; RAN #57: 10%, June 13;
conclusion: noted, approved: 30%, June 13

11.4.1.1.2 Performance part [560217, LTE_CA_B2_B4-Perf, 06/2013]

RP-121613 Status report for WI Perf. part: LTE Advanced inter-band Carrier Aggregation for Band 2 and Band 4, rapporteur: T-Mobile USA RAN4 Report REL-12 LTE_CA_B2_B4-Perf
560217, WID: RP-121145; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.4.1.2 LTE Advanced inter-band Carrier Aggregation of Band 1 and Band 8

RP-121707 Revision of WID on "LTE Advanced Carrier Aggregation of Band 1 and Band 8" SOFTBANK MOBILE WID (rev) RAN4 REL-12 LTE_CA_B1_B8
last approved WID: RP-121448;
conclusion: revised in RP-121829

RP-121829 Revision of WID on "LTE Advanced Carrier Aggregation of Band 1 and Band 8" SOFTBANK MOBILE WID rev RAN4 REL-12 LTE_CA_B1_B8
revision of RP-121707; last approved WID: RP-121448
discussion: NEC: 36.307 is moved from Core to Perf. part, why?
Softbank: in RAN4 36.307 is handled as perf. part
conclusion: approved

11.4.1.2.1 Core part [**New WI:** 570118, LTE_CA_B1_B8-Core, 06/2013]

RP-121614 Status report for WI Core part: LTE Advanced inter-band Carrier Aggregation of Band 1 and Band 8, rapporteur: SOFTBANK MOBILE RAN4 Report REL-12 LTE_CA_B1_B8-Core
570118, WID: RP-121448; RAN #57: 0%, June 13;
conclusion: noted, approved: 80%, June 13

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11.4.1.2.2 Performance part [**New WI:** 570218, LTE_CA_B1_B8-Perf, 06/2013]

RP-121615 Status report for WI Perf. part: LTE Advanced inter-band Carrier Aggregation of Band 1 and Band 8, rapporteur: SOFTBANK MOBILE RAN4 Report REL-12 LTE_CA_B1_B8-Perf
570218, WID: RP-121448; RAN #57: 0%, June 13;
conclusion: noted,. approved: 80%, June 13

11.4.1.3 LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 19

11.4.1.3.1 Core part [**New WI:** 570114, LTE_CA_B3_B19-Core, 06/2013]

RP-121616 Status report for WI Core part: LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 19, rapporteur: NTT DOCOMO RAN4 Report REL-12 LTE_CA_B3_B19-Core
570114, WID: RP-121174; RAN #57: 0%, June 13;
conclusion: noted, approved: 50%, June 13

11.4.1.3.2 Performance part [**New WI:** 570214, LTE_CA_B3_B19-Perf, 06/2013]

RP-121617 Status report for WI Perf. part: LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 19, rapporteur: NTT DOCOMO RAN4 Report REL-12 LTE_CA_B3_B19-Perf
570214, WID: RP-121174; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.4.1.4 LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 26

11.4.1.4.1 Core part [**New WI:** 570113, LTE_CA_B3_B26-Core, 06/2013]

RP-121618 Status report for WI Core part: LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 26, rapporteur: KT RAN4 Report REL-12 LTE_CA_B3_B26-Core
570113, WID: RP-121161; RAN #57: 0%, June 13;
conclusion: noted, approved: 80%, June 13

11.4.1.4.2 Performance part [**New WI:** 570213, LTE_CA_B3_B26-Perf, 06/2013]

RP-121619 Status report for WI Perf. part: LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 26, rapporteur: KT RAN4 Report REL-12 LTE_CA_B3_B26-Perf
570213, WID: RP-121161; RAN #57: 0%, June 13;
conclusion: noted, approved: 80%, June 13

11.4.1.5 LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 28

11.4.1.5.1 Core part [**New WI:** 570126, LTE_CA_B3_B28-Core, 06/2013]

RP-121620 Status report for WI Core part: LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 28, rapporteur: eAccess RAN4 Report REL-12 LTE_CA_B3_B28-Core
570126, WID: RP-121169; RAN #57: 0%, June 13;
conclusion: noted, approved: 60%, June 13

11.4.1.5.2 Performance part [**New WI:** 570226, LTE_CA_B3_B28-Perf, 06/2013]

RP-121621 Status report for WI Perf. part: LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 28, rapporteur: eAccess RAN4 Report REL-12 LTE_CA_B3_B28-Perf
570226, WID: RP-121169; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.4.1.6 LTE Advanced inter-band Carrier Aggregation of Band 23 and Band 29

11.4.1.6.1 Core part [**New WI:** 570112, LTE_CA_B23_B29-Core, 06/2013]

RP-121622 Status report for WI Core part: LTE Advanced inter-band Carrier Aggregation of Band 23 and Band 29, rapporteur: Dish Network RAN4 Report REL-12 LTE_CA_B23_B29-Core
570112, WID: RP-121421; RAN #57: 0%, June 13;
discussion: Dish Network: due to relation to other WI (Band 29 DL 700MHz) it was agreed in the past that LTE_CA_B23_B29 would wait but this other WI is completed now we can start
conclusion: noted, approved: 0%, June 13

11.4.1.6.2 Performance part [**New WI:** 570212, LTE_CA_B23_B29-Perf, 06/2013]

RP-121623 Status report for WI Perf. part: LTE Advanced inter-band Carrier Aggregation of Band 23 and Band 29, rapporteur: Dish Network RAN4 Report REL-12 LTE_CA_B23_B29-Perf

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570212, WID: RP-121421; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.4.1.7 LTE Advanced inter-band Carrier Aggregation of Band 38 and Band 39

RP-121741 Revised WID: LTE Advanced inter-band Carrier Aggregation of Band 38 and Band 39 CMCC WID (rev) RAN4 REL-12 LTE_CA_B38_B39
last approved WID: RP-121178; see RP-121834 instead
conclusion: withdrawn

11.4.1.7.1 Core part [**New WI:** 570115, LTE_CA_B38_B39-Core, 09/2013]

RP-121624 Status report for WI Core part: LTE Advanced inter-band Carrier Aggregation of Band 38 and Band 39, rapporteur: CMCC RAN4 Report REL-12 LTE_CA_B38_B39-Core
570115, WID: RP-121178; RAN #57: 0%, Sep.13;
discussion: CMCC: it is proposed Core and Perf part due to changed regulation status in China
Note: In the status report it said Sep.13.
conclusion: noted, approved: 10%, Dec.12, WI is stopped

11.4.1.7.2 Performance part [**New WI:** 570215, LTE_CA_B38_B39-Perf, 09/2013]

RP-121625 Status report for WI Perf. part: LTE Advanced inter-band Carrier Aggregation of Band 38 and Band 39, rapporteur: CMCC RAN4 Report REL-12 LTE_CA_B38_B39-Perf
570215, WID: RP-121178; RAN #57: 0%, Sep.13;
discussion: CMCC: it is proposed Core and Perf part due to changed regulation status in China
Note: In status report it said Sep.13.
conclusion: noted, approved: 0%, Dec.12, WI is stopped

11.4.1.8 LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL

11.4.1.8.1 Core part [550110, LTE_CA_B3_B5_2UL-Core, 06/2013]

RP-121626 Status report for WI Core part: LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL, rapporteur: SK Telecom RAN4 Report REL-12 LTE_CA_B3_B5_2UL-Core
550110, WID: RP-120867; RAN #57: 20%, June 13;
discussion: RAN chairman: we will discuss in March how to handle this WI (taking into account the approach of 5 WI cases for 2 UL)
conclusion: noted. approved: 20%, June 13

11.4.1.8.2 Performance part [550210, LTE_CA_B3_B5_2UL-Perf, 06/2013]

RP-121627 Status report for WI Perf. part: LTE Advanced Carrier Aggregation of Band 3 and Band 5 with 2UL, rapporteur: SK Telecom RAN4 Report REL-12 LTE_CA_B3_B5_2UL-Perf
error in % complete in the history table; 550210, WID: RP-120867; RAN #57: 0%, June 13;
discussion: RAN chairman: same handling as core part
conclusion: noted, approved: 0%, June 13

11.4.2 Intra-band CA related WIs

11.4.2.1 LTE-Advanced Intra-band Contiguous Carrier Aggregation in Band 1

11.4.2.1.1 Core part [560115, LTE_CA_C_B1-Core, 03/2013]

RP-121628 Status report for WI Core part: LTE-Advanced Intra-band Contiguous Carrier Aggregation in Band 1, rapporteur: KDDI RAN4 Report REL-12 LTE_CA_C_B1-Core
560115, WID: RP-120826; RAN #57: 10%, March 13;
discussion: MCC: how does RAN4 plan to handle the early completion?
conclusion: noted, approved: 10%, March 13

11.4.2.1.2 Performance part [560215, LTE_CA_C_B1-Perf, 06/2013]

RP-121629 Status report for WI Perf. part: LTE-Advanced Intra-band Contiguous Carrier Aggregation in Band 1, rapporteur: KDDI RAN4 Report REL-12 LTE_CA_C_B1-Perf
560215, WID: RP-120826; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.4.2.2 Intra-band, Non-contiguous CA for Band 3 for LTE Advanced

11.4.2.2.1 Core part [550111, LTE_CA_NC_B3-Core, 06/2013]

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RP-121630 Status report for WI Core part: Intra-band, Non-contiguous CA for Band 3 for LTE Advanced, rapporteur: SK Telecom RAN4 Report REL-12 LTE_CA_NC_B3-Core
550111, WID: RP-120383; RAN #57: 20%, June 13;
conclusion: noted, approved: 30%, June 13

11.4.2.2.2 Performance part [550211, LTE_CA_NC_B3-Perf, 06/2013]

RP-121631 Status report for WI Perf. part: Intra-band, Non-contiguous CA for Band 3 for LTE Advanced, rapporteur: SK Telecom RAN4 Report REL-12 LTE_CA_NC_B3-Perf
550211, WID: RP-120383; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

11.4.2.3 LTE-Advanced intra-band contiguous Carrier Aggregation in Band 3

11.4.2.3.1 Core part [**New WI:** 570116, LTE_CA_C_B3-Core, 09/2013]

RP-121632 Status report for WI Core part: LTE-Advanced intra-band contiguous Carrier Aggregation in Band 3, rapporteur: China Unicom RAN4 Report REL-12 LTE_CA_C_B3-Core
570116, WID: RP-121352; RAN #57: 0%, Sep.13;
conclusion: noted, approved: 50%, Sep.13

11.4.2.3.2 Performance part [**New WI:** 570216, LTE_CA_C_B3-Perf, 12/2013]

RP-121633 Status report for WI Perf. part: LTE-Advanced intra-band contiguous Carrier Aggregation in Band 3, rapporteur: China Unicom RAN4 Report REL-12 LTE_CA_C_B3-Perf
570216, WID: RP-121352; RAN #57: 0%, Dec.13;
conclusion: noted, approved: 50%, Dec.13

11.4.2.4 LTE Advanced intra-band non-contiguous Carrier Aggregation for Band 4

11.4.2.4.1 Core part [560116, LTE_CA_NC_B4-Core, 12/2013]

RP-121634 Status report for WI Core part: LTE Advanced intra-band non-contiguous Carrier Aggregation for Band 4, rapporteur: T-Mobile USA RAN4 Report REL-12 LTE_CA_NC_B4-Core
560116, WID: RP-120593; RAN #57: 10%, Dec.13;
discussion: RAN chairman: 2 UL cases have to be rediscussed at RAN #59
conclusion: noted, approved: 20%, Dec.13

11.4.2.4.2 Performance part [560216, LTE_CA_NC_B4-Perf, 12/2013]

RP-121635 Status report for WI Perf. part: LTE Advanced intra-band non-contiguous Carrier Aggregation for Band 4, rapporteur: T-Mobile USA RAN4 Report REL-12 LTE_CA_NC_B4-Perf
560216, WID: RP-120593; RAN #57: 0%, Dec.13;
conclusion: noted, approved: 0%, Dec.13

11.4.2.5 Intra-band, Non-contiguous CA for Band 25 for LTE

11.4.2.5.1 Core part [530129, LTE_CA_NC_B25-Core, 09/2013]

RP-121636 Status report for WI Core part: Intra-band, Non-contiguous CA for Band 25 for LTE, rapporteur: Sprint RAN4 Report REL-12 LTE_CA_NC_B25-Core
conclusion: revised in RP-121978

RP-121978 Status report for WI Core part: Intra-band, Non-contiguous CA for Band 25 for LTE, rapporteur: Sprint RAN4 Report REL-12 LTE_CA_NC_B25-Core
revision of RP-121636; 530129, WID: RP-120366; RAN #57: 35%, Sep.13;
conclusion: noted, approved: 40%, Sep 13

11.4.2.5.2 Performance part [530229, LTE_CA_NC_B25-Perf, 12/2013]

RP-121637 Status report for WI Perf. part: Intra-band, Non-contiguous CA for Band 25 for LTE, rapporteur: Sprint RAN4 Report REL-12 LTE_CA_NC_B25-Perf
conclusion: revised in RP-121979

RP-121979 Status report for WI Perf. part: Intra-band, Non-contiguous CA for Band 25 for LTE, rapporteur: Sprint RAN4 Report REL-12 LTE_CA_NC_B25-Perf
revision of RP-121637; 530229, WID: RP-120366; RAN #57: 35%, Dec.13;
conclusion: noted, approved: 35%, Dec. 13

11.4.3 Other WIs

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11.4.3.1 LTE in the 1670-1675MHz Band for US

11.4.3.1.1 Core part [550117, LTE_FDD_1670_US-Core, 06/2013]

RP-121638 Status report for WI Core part: LTE in the 1670-1675MHz Band for US, rapporteur: LightSquared RAN4 Report REL-12 LTE_FDD_1670_US-Core
550117, WID: RP-121397; RAN #57: 5%, June 13;
discussion: LightSquared: if related SI is approved then we could put this WI on hold, otherwise we would like to continue this WI
RAN chairman: ok, we will come back to this when treating the new SI proposal
conclusion: noted,
Lightsquared: after new SI was postponed, WI should not be on hold as in the status report and Sep.13 is proposed now
approved: 5%, Sep.13, WI will not be on hold

11.4.3.1.2 Performance part [550217, LTE_FDD_1670_US-Perf, 09/2013]

RP-121639 Status report for WI Perf. part: LTE in the 1670-1675MHz Band for US, rapporteur: LightSquared RAN4 Report REL-12 LTE_FDD_1670_US-Perf
550217, WID: RP-120360; RAN #57: 5%, Sep.13;
discussion: RAN chairman: same situation as for core part
conclusion: noted,
Lightsquared: same comment as for core part
approved: 5%, Sep.13, WI will not be on hold

11.4.3.2 Introduction of LTE 450 MHz band in Brazil

11.4.3.2.1 Core part [**New WI:** 570119, LTE450_Brazil-Core, 06/2013]

RP-121640 Status report for WI Core part: Introduction of LTE 450 MHz band in Brazil, rapporteur: Huawei RAN4 Report REL-12 LTE450_Brazil-Core
570119, WID: RP-121414; RAN #57: 0%, June 13;
conclusion: noted, approved: 10%, June 13

11.4.3.2.2 Performance part [**New WI:** 570219, LTE450_Brazil-Perf, 06/2013]

RP-121641 Status report for WI Perf. part: Introduction of LTE 450 MHz band in Brazil, rapporteur: Huawei RAN4 Report REL-12 LTE450_Brazil-Perf
570219, WID: RP-121414; RAN #57: 0%, June 13;
conclusion: noted approved: 0%, June 13

11.4.3.3 LTE in the US Wireless Communications Service (WCS) Band

11.4.3.3.1 Core part [**New WI:** 570117, LTE_WCS_band-Core, 06/2013]

RP-121642 Status report for WI Core part: LTE in the US Wireless Communications Service (WCS) Band, rapporteur: AT&T RAN4 Report REL-12 LTE_WCS_band-Core
conclusion: revised in RP-121758 as multiple versions of RP-121642 exist

RP-121758 Status report for WI Core part: LTE in the US Wireless Communications Service (WCS) Band, rapporteur: AT&T RAN4 Report REL-12 LTE_WCS_band-Core
revision of RP-121642; 570117, WID: RP-121419; RAN #57: 0%, June 13;
conclusion: noted, approved: 0%, June 13

RP-121701 Further information on WCS Band AT&T Disc REL-12 LTE_WCS_band-Core
conclusion: revised in RP-121828

RP-121828 Further information on WCS Band AT&T Disc REL-12 LTE_WCS_band-Core
revision of RP-121701
conclusion: noted

11.4.3.3.2 Performance part [**New WI:** 570217, LTE_WCS_band-Perf, 09/2013]

RP-121643 Status report for WI Perf. part: LTE in the US Wireless Communications Service (WCS) Band, rapporteur: AT&T RAN4 Report REL-12 LTE_WCS_band-Perf
570217, WID: RP-121419; RAN #57: 0%, Sep.13;
conclusion: noted, approved: 0%, Sep.13

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12 Study Items

12.1 Closed study items

RP-121962 RAN2 agreed 36.839 CR on Study on HetNet mobility enhancements for LTE RAN2 CR 36.839 0001 - F REL-11 FS_HetNet_eMOB_LTE
Note: SI FS_HetNet_eMOB_LTE was completed in 09.2012
conclusion: approved

RP-121738 Enhanced inter-CSG HeNB CR RAN3 CR set REL-11 FS_EHNB_enh
conclusion: approved

RP-121874 CRs for Study on Enhanced performance requirement for LTE UE RAN4 CR set REL-11 FS_enh_perf_UE_LTE
conclusion: approved

RP-121875 CRs for Study on UE Over The Air (OTA) test method with Head and Hand Phantoms RAN4 CR set REL-11 FS_OTA_phantoms_UTRA
conclusion: approved

12.2 Open UTRA only related SIs

12.2.1 REL-12 Study on UMTS Heterogeneous Networks [**New SI**: 570024, FS_UTRA_hetnet, 06/2013]

RP-121644 Status report for SI Study on UMTS Heterogeneous Networks, rapporteur: Huawei RAN1 Report REL-12 FS_UTRA_hetnet
570024, SID: RP-121436; RAN #57: 0%, June 13;
conclusion: noted, approved: 18%, June 13

12.3 Open UTRA & LTE related SIs

12.3.1 REL-12 Study of RF and EMC Requirements for Active Antenna Array System (AAS) Base Station [530056, FS_AAS_BS_LTE_UTRA, 12/2012]

RP-121645 Status report for SI Study of RF and EMC Requirements for Active Antenna Array System (AAS) Base Station, rapporteur: Huawei RAN4 Report REL-12 FS_AAS_BS_LTE_UTRA
530056, SID: RP-111349; RAN #57: 65%, Dec.12;
conclusion: noted, approved: 90%, March 13

RP-121761 Presentation of TR 37.840 v1.0.0: Study of RF and EMC requirements for Active Antenna Array System (AAS) Base Station; for information Huawei TR 37.840 REL-12 FS_AAS_BS_LTE_UTRA
RAN4 TR 37.840 is provided for information
conclusion: noted

12.3.2 REL-12 Study on Passive InterModulation (PIM) handling for for UTRA & LTE Base Stations [550021, FS_BS_PIM, 12/2012]

RP-121646 Status report for SI Study on Passive InterModulation (PIM) handling for for UTRA & LTE Base Stations, rapporteur: Ericsson RAN4 Report REL-12 FS_BS_PIM
550021, SID: RP-120268; RAN #57: 55%, Dec.12;
conclusion: noted, approved: 85%, March 13

12.4 Open LTE only related SIs

12.4.1 REL-12 Study on Inclusion of RF Pattern Matching as a positioning method in the E-UTRAN [500016, FS_LCS_LTE_RFPMT, 12/2012]

RP-121647 Status report for SI Study on Inclusion of RF Pattern Matching Technologies as a positioning method in the E-UTRAN, rapporteur: Polaris Wireless RAN4 Report REL-12 FS_LCS_LTE_RFPMT
500016, SID: RP-120885; RAN #57: 55%, Dec.12;
conclusion: noted, approved: 60%, June 13
Error in the history table regarding target date of RAN #57 has to be corrected

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for RAN #59.

12.4.2 REL-12 Study on Provision of low-cost MTC UEs based on LTE

[530052, FS_LC_MTC_LTE, 03/2013]

RP-121648 Status report for SI Study on Provision of low-cost MTC UEs based on LTE, rapporteur: Vodafone RAN1 Report REL-12 FS_LC_MTC_LTE
530052, SID: RP-121441; RAN #57: 90%, March 13;
conclusion: noted, approved: 90%, June 13

12.4.3 REL-12 Study on Mobile Relay for E-UTRA

[530054, FS_LTE_mobRelay, 06/2013; on hold until 12/2012]

RP-121649 Status report for SI Study on Mobile Relay for E-UTRA, rapporteur: CATT RAN3 Report REL-12 FS_LTE_mobRelay
530054, SID: RP-121443; RAN #57: 80%, June 13;
discussion: CATT: SI was on hold until Dec.12 so completion level did not change
conclusion: noted, approved: 80%, June 13

RP-121774 Discussion on RAN1 work for mobile relay study item CATT Disc REL-12 FS_LTE_mobRelay
Proposal 1: It is proposed that RAN shall discuss and agree on whether reduced RAN1 simulation efforts (e.g. by Option 2 or Option 3) can be taken for comparing performance of mobile relay and L1 repeater in RAN1.
Proposal 2: Analysis can be provided for the objective of identifying potential impact of moving cells created by mobile relay, without the need of RAN1 simulation efforts.
conclusion: noted, both proposals are agreed

RP-122010 Revised SID for Study on Mobile Relay for E-UTRA CATT SID rev REL-12 FS_LTE_mobRelay
last approved SID: RP-121443
conclusion: approved

12.4.4 REL-12 Study on LTE-HRPD inter RAT SON [550020, FS_LTE_HRPD_SON, 12/2012]

RP-121650 Status report for SI Study on LTE-HRPD inter RAT SON, rapporteur: China Telecom RAN3 Report REL-12 FS_LTE_HRPD_SON
conclusion: revised in RP-121980 (as RP-121650 had wrong target date)

RP-121980 Status report for SI Study on LTE-HRPD inter RAT SON, rapporteur: China Telecom RAN3 Report REL-12 FS_LTE_HRPD_SON
revision of RP-121650; 550020, SID: RP-120380; RAN #57: 30%, Dec.12;
discussion: NEC: why June not March?
China Telecom: based on RAN3 chairman's guidance
ZTE: shifted since some 3GPP2 guidance needed
conclusion: noted, approved: 80%, June 13

RP-121696 LS on LTE-HRPD inter RAT SON
(R3-122935; to: 3GPP2, RAN; cc: -; contact: ZTE) RAN3 LSin REL-12 FS_LTE_HRPD_SON
RAN action requested;
conclusion: noted, no LS answer

RP-121785 Presentation of TR 37.813 v1.0.0 on LTE-HRPD inter RAT SON; for information China Telecom TR 37.813 REL-12 FS_LTE_HRPD_SON
RAN3 TR 37.813 is provided for information
conclusion: noted

RP-121786 Updated SID for "Study on LTE-HRPD Inter RAT SON" China Telecom SID (rev) RAN3 REL-12 FS_LTE_HRPD_SON
last approved WID: RP-120380;
conclusion: revised in RP-121981

RP-121981 Updated SID for "Study on LTE-HRPD Inter RAT SON" China Telecom SID (rev) RAN3 REL-12 FS_LTE_HRPD_SON
revision of RP-121786; last approved WID: RP-120380;
conclusion: revised in RP-121982

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RP-121982 Updated SID for "Study on LTE-HRPD (High Rate Packet Data in 3GPP2) Inter RAT SON" China Telecom SID rev RAN3 REL-12 FS_LTE_HRPD_SON
revision of RP-121981; last approved WID: RP-120380
discussion: ZTE: also content is modified: "ANR between LTE and HRPD" is removed
conclusion: approved

12.4.5 REL-12 Study on Scenarios and Requirements of LTE Small Cell Enhancements

[**New SI**: 570023, FS_LTE_SC_enh_req, 12/2012]

RP-121651 Status report for SI Study on Scenarios and Requirements of LTE Small Cell Enhancements, rapporteur: CMCC RAN Report REL-12 FS_LTE_SC_enh_req
570023, SID: RP-121418; RAN #57: 0%, Dec.12;
conclusion: noted, approved: 100%, Dec 12; SI is completed

RP-121462 Summary of first round of email discussion about Scenarios & Requirements of LTE small cell enhancements CMCC Report REL-12 FS_LTE_SC_enh_req
conclusion: noted

RP-121464 Summary of second round of email discussion about Scenarios & Requirements of LTE small cell enhancements CMCC Report REL-12 FS_LTE_SC_enh_req
conclusion: noted

RP-121463 TR 36.932 v0.1.0 on Study on Scenarios and Requirements of LTE Small Cell Enhancements CMCC TR 36.932 REL-12 FS_LTE_SC_enh_req
status after first round of email discussion on RAN reflector
conclusion: revised in RP-121465

RP-121465 TR 36.932 v0.1.1 on Study on Scenarios and Requirements of LTE Small Cell Enhancements CMCC TR 36.932 REL-12 FS_LTE_SC_enh_req
rapporteur's summary after second round of email discussion on RAN reflector
conclusion: revised in RP-121466

RP-121466 TR 36.932 v0.1.2 on Study on Scenarios and Requirements of LTE Small Cell Enhancements CMCC TR 36.932 REL-12 FS_LTE_SC_enh_req
rapporteur's updated summary after second round of email discussion on RAN reflector
conclusion: revised in RP-121467

RP-121467 TR 36.932 v0.2.0 on Study on Scenarios and Requirements of LTE Small Cell Enhancements CMCC TR 36.932 REL-12 FS_LTE_SC_enh_req
status after second round of email discussion on RAN reflector
conclusion: revised in RP-121468

RP-121468 TR 36.932 v1.0.0 on Study on Scenarios and Requirements of LTE Small Cell Enhancements CMCC TR 36.932 REL-12 FS_LTE_SC_enh_req
RAN TR 36.932 is provided for 1-step approval
conclusion: TR 36.932 is approved as v12.0.0

RP-121491 LS requesting information on "Scenarios and Requirements for LTE Small Cell Enhancement" (L00167_000_MEF_Q412_MBH; to: RAN; cc: -; contact: Verizon) MEF (Metro Ethernet Forum) LSin REL-12 FS_LTE_SC_enh_req
RAN action requested; FS_LTE_SC_enh_req SI rapporteur (CMCC) will prepare a reply LS;
discussion: Verizon: Verizon is not involved in this topic
RAN chairman: ok, I will present it
conclusion: noted, draft LS answer is provided by CMCC in RP-121742

RP-121742 Draft reply LS to RP-121491 on backhaul study in MEF (to: MEF; cc: SA, CT; contact: CMCC) CMCC LSout REL-12 FS_LTE_SC_enh_req
discussion: RAN chairman: planned timing needs to be revised
conclusion: revised in RP-122026

RP-122026 Draft reply LS to RP-121491 on backhaul study in MEF (to: MEF; cc: SA, CT; contact: CMCC) CMCC LSout REL-12 FS_LTE_SC_enh_req
discussion: CMCC: TR 36.932 v12.0.0 is attached to the LS
Ericsson: backhaul related future work in 3GPP or MEF?
CMCC: was added on request of NSN
Ericsson: Can we remove this sentence?
NSN: No, we have to avoid duplicate standardization

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Ericsson: we have to avoid speculating about the future
NSN: Is Ericsson or anyone objecting that 3GPP has the mandate to define the small cell enhancement architecture?
Ericsson: MEF is an independent forum so we cannot mandate what they should do, they could look on backhaul aspect in parallel
AT&T: agrees with Ericsson
Sprint: backhaul can not be an after-thought, so would prefer to remove sentence
Telefonica: we could express the wish for further coordination instead
AT&T: supports this change
conclusion: revised in RP-122042 to modify the sentence acc. to the Telefonica comment

RP-122042 Reply LS to RP-121491 on backhaul study in MEF (to: Metro Ethernet Forum (MEF); cc: SA, CT; contact: CMCC) RAN LSout LS10 REL-12 FS_LTE_SC_enh_req
conclusion: approved

12.4.6 REL-12 Study on LTE FDD in the bands 1980-2010 MHz and 2170-2200 MHz

[**New SI**: 570022, FS_LTE_1980_2170_Korea, 06/2013]

RP-121652 Status report for SI Study on LTE FDD in the bands 1980-2010 MHz and 2170-2200 MHz, rapporteur: KT RAN4 Report REL-12 FS_LTE_1980_2170_Korea
570022, SID: RP-121420; RAN #57: 0%, June 13;
conclusion: noted, approved: 5%, June 13

13 New Work Items/Study Items

Note: No further REL-11 WIs/SIs are possible for RAN1/2/3/4.

RP-121706 On 3GPP RAN project management discipline RAN leadership team/WG Chairs Disc REL-12 -
presented by RAN3 chairman on behalf of RAN leadership team/WG Chairs on Tue morning
discussion: NEC: good approach but some people might be too optimistic or pessimistic, did WG chairmen review the budget values? To strict handling of completion dates; if WG has internal agreement that the WI needs to finish then we should have an extension mechanism to not have the overhead of going through a new approval process
RAN3 chairman: values were reviewed by WG chairmen (as far as budget values were provided), most of them were reasonable; not realistic time plans must come with some penalty
RAN1 chairman: some WIDs were already updated; and to extensions: yes, we need more discussions how to handle WIs/SIs timewise
Motorola Solutions: in 3GPP we work consensus based which might take more time so sees the danger of moving away from this
RIM: agrees with Motorola Solutions; how will the time management process work?
RAN4 chairman: time budgets are made for time planning purposes but there is some freedom that the WG chairman has to apply it; 1 time unit (TU) should not be considered a minimum
RAN3 chairman: time budget is online meeting time on average; confirms that WG chairmen have some flexibility on how to apply the budget; in RAN3 e.g. no topic will get more than half a day, if more than offline discussion can be considered
RAN1 chairman: might probably not apply this half day approach in RAN1; time budgets are a best estimate and we will review them from meeting to meeting
LG: time budgets is minimum or maximum time?
RAN1 chairman: review among WG chairmen will guarantee consistency among the WGs; it is neither a minimum nor a maximum but a best estimate; is a means to see how much work we can approve here at RAN
RAN3 chairman: slide 3 explains how time budget is interpreted, in line with RAN1 chairman
RAN4/RAN2 chairmen: also confirm this understanding
Motorola Mobility: We will stagger the start date of WIs? If WI is very well defined, time budget estimation would be easy but this assumes that we will at first have a SI for almost all WIs. Time constraints might have impact on spec quality as well (if no consensus and we need to treat another WI instead).

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RAN chairman: difficult to anticipate the full workplan already now , we will review the WIs/SIs also in March; asks for acceptance of time budget usage; this time provided for information and discussion in this week
Samsung: has a problem with strict deadlines under 2. of slide 2
RAN chairman: current situation is very serious with so many proposed REL-12 WIs so we have to compromise
RAN3 chairman: we could discuss point 2. of slide 2 more (maybe even until next RAN meeting)
RAN1 chairman: as we do not reach the end of any REL-12 WI/SI in the next 3 months, agrees with RAN3 chairman
CMCC: supports to discuss point 2. more
Vodafone: workplan for each WI/SI needs to be more transparent to not find out just at the end of the WI/SI that we are in trouble
Sprint: has the chairman a view on how we solve that we have more work than time budget?
NSN: trusts the WG chairmen for a fair allocation of time but confirms that is useful to check the used time budget vs. achievements from RAN meeting to RAN meeting
Ericsson: supports strict deadlines in order to be able to consider urgent market requirements
RIM: it's not yet clear how these urgent requests from the market could be addressed with the time budget approach
NEC: how do we treat work requests from other TSGs?
RAN1 chairman: we can include this in time budget plannings

conclusion: noted, slide 2 point 1."WI/SIs proposals shall include a time budget request" is agreed; RAN3 chairman will lead offline discussion about point 2 of slide 2 "WI/SI completion dates will be considered as strict deadlines".
More detailed discussion about WIs/SIs will take place on Thursday of RAN #58.

RP-121830 REL-12 time budget estimations RAN chairman (NTT DOCOMO) and RAN WG chairmen Disc REL-12 -

presented by RAN chairman on Tue morning

discussion: RAN chairman: tables are provided for information
RAN1 chairman: joint RAN1/RAN4 table, for all RAN1 WIs/SIs all values are provided and taken into account; almost 3 times the available meeting time is requested by the current REL-12 WI/SI proposals
RAN4 chairman: RAN4 part are included in RAN1 Excel sheet; also spectrum related WIs/SIs included; not all time budget values were provided; with current available data: 12 units needed in Jan. but just 8 units are available
RAN2 chairman: RAN1 and RAN3 led WIs have impact on RAN2; although we are already overloaded now this situation will be even more worse after June 2013 where RAN1/3 led WIs will have bigger impact on RAN2
RAN3 chairman: requests are exceeding slightly the 14 available units in the next quarter; RAN3 has no parallel sessions so far
RAN chairman: available capacity of WGs will be discussed together with WG status reports
Motorola Solutions: how is coordination effort (e.g. for LSs) included?
RAN1 chairman: time budget requests have to take into account if also other WGs are impacted; but there has to be some flexibility in the system to take care of unpredicatable work from other TSGs
Panasonic: does it mean that WG chairmen have to be contacted directly?
RAN chairman: requests all proponents of REL-12 WIs/SIs to provide time budget information to the WG chairmen (if not yet done) so that we can update the tables
Sprint: question to RAN1 chairman: as we have 3 times more requests than available time budget, does RAN1 chairman plan to limit approval of WIs/SIs to what is available?
RAN1 chairman: yes, since there are limitations with parallel sessions, other possibility is to reduce the scope of WIs/SIs
Telecom Italia: increasing the capacity by working in the night would not be acceptable; also scheduling more meetings is not a useful approach for increasing capacity of the WGs
Telefonica: for REL-11 we spent 3 months to discuss which WIs should be considered; deciding this week about REL-12 might not be appropriate
RAN1 chairman: we have to decide which WIs/SIs we have to start in this quarter but it is not intended to decide at this meeting which WI/SI will be shifted to REL-13 or later

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conclusion: noted, REL-12 WI/SI proponents are requested to provided time budget information as soon as possible; RAN WG chairmen are asked to update their tables before Thu

Thu morning: Status situation
RAN chairman: will take final decision on Thu afternoon
RAN1:
RAN1 chairman:
- draft version 7 under discussion;
- to discuss whether NCT can take into account eMBMS aspects
- to be seen whether half time units will be considered
- more discussion whether 2 unit COMP should start first
- 2 units over budget in Q2 2013
- some companies indicated that we consider to many WIs but noone said what we can remove
- further discussion on Thu morning coffee break

RAN2:
RAN2 chairman:
- latest draft under discussion is the Wed morning draft that was distributed
- we should only approve WIs/SIs that we will work on in Q1/2013
- request will come from SA on MTC but not urgent in Q1, can be SI in Q2
- HeNB mobility part 3 was already approved and should continue
- impact of RAN1 and RAN3 led WIs will fill up RAN2 time (from RAN1: NCT, from RAN3: LTE/UMTS interworking and energy savings)
- D2D will not impact RAN2 as just channel model is planned to be considered so far otherwise bigger impact
- small cell enhancements is the main topic to start

RAN3:
RAN3 chairman:
- update of the spreadsheet was provided via the RAN reflector
- SA2/CT1 and RAN1/RAN2 dependencies to be considered
- we will follow normal approval process, i.e. WI by WI

RAN4:
RAN4 chairman: RAN4 view provided in RP-121916, see below

RP-121775 Suggestion for Release 12 Work plan RAN chairman (NTT DOCOMO) Disc REL-12 -
discussion: RIM: phasing between TSGs may appear, which WIs are meant here?
RAN chairman: we do not need to define concrete streams here
Fujitsu: picture on slide 4: can topices also be treated in parallel in one stream?
RAN chairman: within one stream TDM was considered, i.e. no parallel topics in one stream
RIM: assistance data for 3 WIs was discussed in RAN2, with TDM we might end up with different solutions; when do we consider a WI closed?
RAN1 chairman: I made some proposals for way forwards for RAN1 in the offline discussion
conclusion: noted

RP-121916 RAN4 capacity considerations RAN4 chairman (NSN) Disc REL-12 -
conclusion: noted

Thursday late afternoon:
RP-121913 Proposal for handling of REL-12 LTE WIs and SIs for Q1 2013 RAN1 chairman (Alcatel-Lucent) Disc REL-12 -
discussion: Telefonica: wants to understand rationale for proposals to start; COMP is not on the list, why?
RAN1 chairman: we had a lot of discussion about whether to start COMP; if there is consensus about COMP to add it then we could do this (has a buffer of 2 time units)
Sprint: netw. based interference ... would be also useful to add
RAN1 chairman: there was no consensus to add it
Orange: further network assistance for advanced receivers: if we do not approve it now this will not happen in REL-12, and they provide gains in all scenarios
NSN: we should also indicate that we will do something on public safety
Ericsson: some WIs need to be postponed until March, we can then still see

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Fujitsu: For the RAN3 SI/WIs with RAN1 impact (which are already approved), will the RAN1 work be postponed?
RAN1 chairman: yes, this was the intention
Telefonica: we need to have consensus first about what is on the list
CMCC: supports Orange's comment that interference suppression receivers is important
Telecom Italia: there seems to be no consensus about the table, would prefer to have a show of hands about the proposals
Sprint: proposes D2D vs. network interference suppression show of hands
AT&T: prefers to accept the table instead of going for a show of hands
ALU: we are talking here about 1 cycle until March so we should accept the RAN1 chairman's proposal
Telefonica: we do not have consensus about the list but it seems people who are fine with the list got what they were looking for
Sprint: no way to figure out the support per WI from this approach
Mediatek: maybe RAN4 can start with interference suppression receivers
Samsung: eCOMP: we tried hard to narrow down the scope to get it in
AT&T: we can check how many people are ok with the table
RAN1 chairman: surprised by comments regarding fairness about the table; rationale of the table was: outcome of the workshop is taken into account, WIs which follow from REL-11 SIs are taken into account, channel models are essential as we cannot do anything without them and they have no impact on other WGs; the table as such is not a decision and we will approve WIs by consensus as usual; we saw that there are different views on how to use the remaining 2 units (3 possibilities: ..., do not use the 2 units, start receiver work in RAN4 first)
NEC: supports to go with the proposal in this table
NTT DOCOMO: there are 8 operators supporting further CA enhancements
RAN chairman: it was clear that this will be a difficult approach and RAN WG chairmen did a very good job merging all aspects in a way forward; we need to take a decision for the next quarter and it would be very much appreciated that RAN delegates could accept the RAN1 chairman's suggestion; we can discuss remaining parts in the next quarter
RAN chairman: anyone who objects to go forward with the RAN1 chairman's table?
Mediatek: would like to start receiver enhancements in RAN4; is already captured in RAN4 chairman's table
RAN4 chairman: it would be possible to consider the topic in RAN4 but with accepting the RAN1 table we did not decide about the WI; has seen huge number of emails on this topic and is not convinced that there is consensus on what to do in this WI
Samsung: eCOMP is revised now in RP-122014 and has 30 supporting companies, it will be difficult to start the work just in March
RAN chairman: we have a single WG meeting in the next quarter
Samsung: RAN1 needs 6 months to study some parameters; then RAN3 would have 1 year to introduce a new node (which can also be used for small cell enhancements); starting in March might be too late for RAN3 work
Nokia: COMP has interworking aspects and RAN3 was not the bottleneck so far
Telecom Italia: no objection but concerned by the process, online plenary has to decide not offline session

conclusion: noted, table is approved
ZTE: will we treat WIs/SIs that did not make it in the table?
RAN chairman: we will postpone them

RP-122045 RAN2 time budget considerations RAN2 chairman (Ericsson) Disc REL-12 -
includes latest time budget allocations for RAN2 led WIs/SIs (other numbers are just informative and might not be fully up-to-date); provided here as it was the basis for RP-121914;
note: This was an input to the discussions of the WI/SI approval process.
conclusion: not treated

RP-121914 Proposal on approval of RAN2-led work items during RAN-58 RAN2 chairman (Ericsson) Disc REL-12 -
Proposal:
1) Cleaning up Rel-11 and successfully freezing Rel-11 must have highest priority.
2) RAN-58 only approves WIs/SIs in RAN-58 that RAN2 can actually treat in Q1/2013 (This also ensures that further WIs can then be approved at RAN-59 and later plenary meetings.)

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Support approval of the following RAN2-led WIs:
LTE (up to 2 SI/WI):
a) Small Cell Enhancements for Higher Layer (DOCOMO)
b) Heterogeneous network mobility enhancements (ALU)

Joint (up to 1 SI/WI):
a) WiFi Interworking (Intel)

UTRAN (up to 1 SI/WI):
a) Study on Further EUL Enhancements (Ericsson)
However, we should also allow to discuss the already approved RAN3-led WI on "H(e)NB mobility-Part 3".
discussion: ZTE: is a reasonable proposal, we have still an MTC proposal for the joint session where we see SA impact; so we would prefer to start it now but if this is not possible then we need at least inform SA that RAN will not start this work before March; hopefully SA2 will then reply and we can adapt the scope of the RAN WI
RAN chairman: will report situation to SA but can not predict what will happen there and will report result to RAN #59
NSN: current approach is sensible
RIM: similar concerns as ZTE, proposals which do not make it for the next quarter should have some preprocessing for March to allow a quick start
RAN chairman: companies can discuss offline and bring results to RAN #59 in March
conclusion: noted, proposal is approved

RP-121915 RAN3 time budget considerations RAN3 chairman (Qualcomm) Disc REL-12 -
includes latest RAN3 values
conclusion: noted

RP-121793 Considerations on the RAN Release-12 Work Planning Nokia Siemens Networks, Nokia Disc REL-12 -
conclusion: withdrawn

13.1 New Work Items

A. RAN4 spectrum related proposals:

inter-band 1UL CA:

RP-121748 New WI proposal: LTE Advanced inter-band Carrier Aggregation of Band 2 and Band 12 US Cellular WID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B2_B12
conclusion: revised in RP-121971 before presentation

RP-121971 New WI proposal: LTE Advanced inter-band Carrier Aggregation of Band 2 and Band 12 US Cellular WID (new) RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B2_B12
discussion: shortly presented on Wed morning
conclusion: revised in RP-122024

RP-122024 New WI proposal: LTE Advanced inter-band Carrier Aggregation of Band 2 and Band 12 US Cellular WID new RAN4 s REL-12 -
revision of RP-121971; new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B2_B12
conclusion: approved

RP-121750 New WI proposal: LTE-Advanced inter-band Carrier Aggregation of Band 1 and Band 26KDDI WID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B1_B26
discussion: shortly presented on Wed morning
conclusion: approved

RP-121755 New WI proposal: LTE Advanced inter-band Carrier Aggregation of Band 3 and Band 40 KTWID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B3_B40
discussion: KT: more work needed in RAN1 so Tdoc is withdrawn
conclusion: withdrawn

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RP-121834 LTE-Advanced Carrier Aggregation of Band 39 and 41 CMCC WID new RAN4 REL-12 -

new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B39_B41

discussion: shortly presented on Wed morning
RAN4 chairman: 36.104 is mentioned in WID but we need to mention also MSR specification 37.104 (applies also to REL-12 WIDs); 37.141 also needs to be mentioned
Softbank: 37 series does not need to be mentioned as 36 series included a link to 37 series
RAN4 chairman: we can discuss this aspect offline

RAN4 chairman later: Regarding need to include MSR specifications to LTE inter-band CA WIs: checked MSR spec and there is no need to include MSR as affected specs in inter band CA core WIs. 37.104 just refers to 36.104 to indicate CA band(s).
Test specification 37.141 still list CA bands but it is corrected to be in line with the core specification 37.104 in this RAN#58. With that there is no need to list 37.141 either as affected spec in LTE inter-band CA performance WIs.
Related Tdoc R4-126242

conclusion: approved

existing REL-12 WIs: inter-band 1UL:
LTE_CA_B2_B4-Core , LTE_CA_B2_B4-Perf
LTE_CA_B1_B8-Core, LTE_CA_B1_B8-Perf
LTE_CA_B3_B19-Core, LTE_CA_B3_B19-Perf
LTE_CA_B3_B26-Core, LTE_CA_B3_B26-Perf
LTE_CA_B3_B28-Core, LTE_CA_B3_B28-Perf
LTE_CA_B23_B29-Core, LTE_CA_B23_B29-Perf
LTE_CA_B38_B39-Core, LTE_CA_B38_B39-Perf

inter-band 2UL CA:

RAN chairman: we decided at RAN #57 to have 5 classes of 2UL WIs, to be provided by RAN4?
RAN4 chairman: will be provided by interested companies (not RAN4); still discussing but companies have different views about 2 UL WIs; suggests to discuss this further offline until RAN #59 and not approve 2UL proposals at RAN #58
RAN chairman: so we postpone the new 2UL WIDs
SK Telecom: we have already a REL-12 WI for 2 UL
Motorola Solutions: we probably approved the 2 UL too early in the past and we should now follow the RAN4 chairman's structured approach
Vodafone: does not see what will change between approving a WID now and next time; if it is refining the WIDs then RAN4 should look at WID proposals
RAN4 chairman: can allocate time in next RAN4 meeting to refine the WIDs
conclusion: new WIDs for 2 UL are postponed to RAN #59, RAN4 will look at WID proposals to refine them in the next RAN4 meeting in order to come to stable WIDs for RAN #59

RP-121749 New Work Item Proposal: LTE Advanced inter-band Carrier Aggregation with 2UL CC (Class A1) SK Telecom WID new RAN4 s REL-12 -

new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_2UL_A1; compare RAN4 chairman's Tdoc RP-121129; same WI proposal as RP-121762 from Huawei; related to existing REL-12 WI LTE_CA_B3_B5_2UL?

conclusion: postponed to RAN #59

RP-121762 New WI proposal: LTE Advanced inter-band Carrier Aggregation with 2UL CC (Class A1) Huawei WID new RAN4 s REL-12 -

new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_2UL_A1; compare RAN4 chairman's Tdoc RP-121129; same WI proposal as RP-121749 from SK Telecom

conclusion: withdrawn

RP-121754 New Work Item Proposal: LTE Advanced inter-band Carrier Aggregation with 2UL CC (Class A2) KT WID new RAN4 s REL-12 -

new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_2UL_A2; compare RAN4 chairman's Tdoc RP-121129;

conclusion: postponed to RAN #59

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RP-121817 New WI proposal: LTE Advanced inter-band Carrier Aggregation with 2UL CC (Class A4) Vodafone WID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_2UL_A4; compare RAN4 chairman's Tdoc RP-121129;
conclusion: withdrawn

existing REL-12 WIs: inter-band 2UL:
LTE_CA_B3_B5_2UL-Core, LTE_CA_B3_B5_2UL-Perf

intra-band contiguous CA:
RP-121777 New WI proposal: LTE Advanced intra-band contiguous Carrier Aggregation for Band 27 NII Holdings WID (new) RAN4 s REL-12 -
conclusion: revised in RP-121832 before RAN #58
RP-121832 New WI proposal: LTE Advanced intra-band contiguous Carrier Aggregation for Band 27 NII Holdings WID (new) RAN4 s REL-12 - revision of RP-121777; new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_C_B27
discussion: shortly presented on Wed morning
conclusion: revised in RP-122003
RP-122003 New WI proposal: LTE Advanced intra-band contiguous Carrier Aggregation for Band 27 NII Holdings WID (new) RAN4 s REL-12 -
revision of RP-122003 (e.g. to correct which TS is for core and which TS is for perf part); new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_C_B27;
conclusion: revised in RP-122020
RP-122020 New WI proposal: LTE Advanced intra-band contiguous Carrier Aggregation for Band 27 NII Holdings WID new RAN4 s REL-12 -
revision of RP-122003 (e.g. to correct which TS is for core and which TS is for perf part); new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_C_B27
conclusion: approved

RP-121776 Introduction to Intra-band, Contiguous DL CA for Band 27 for LTE NII Holdings Disc REL-12 -
conclusion: withdrawn

existing REL-12 WIs: intra-band contiguous:
LTE_CA_C_B1-Core, LTE_CA_C_B1-Perf
LTE_CA_C_B3-Core, LTE_CA_C_B3-Perf

intra-band non-contiguous CA:
RP-121784 New WI proposal LTE Advanced intra-band non-contiguous Carrier Aggregation for Band 7 Telecom Italia WID new RAN4 s REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_NC_B7
discussion: Telecom Italia: will revise bandwidth combinations acc. to comments from Deutsche Telekom
conclusion: revised in RP-121988
RP-121988 New WI proposal LTE Advanced intra-band non-contiguous Carrier Aggregation for Band 7 Telecom Italia WID new RAN4 s REL-12 -
revision of RP-121784; new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_NC_B7
conclusion: approved

existing REL-12 WIs: intra-band non-contiguous:
LTE_CA_NC_B3-Core, LTE_CA_NC_B3-Perf
LTE_CA_NC_B4-Core, LTE_CA_NC_B4-Perf
LTE_CA_NC_B25-Core, LTE_CA_NC_B25-Perf

other:
none

existing REL-12 WIs: other:
LTE_FDD_1670_US-Core
LTE_FDD_1670_US-Perf
LTE450_Brazil-Core
LTE450_Brazil-Perf

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LTE_WCS_band-Core
LTE_WCS_band-Perf

B. Not spectrum related proposals for LTE only:

RP-121697 Proposed new WI: eMBMS enhancements for LTE Qualcomm WID new RAN1 REL-12 -
new WI for LTE only; leading WG: RAN1; WI code to be used: MBMS_LTE_enh2; revision of RP-121452 which was postponed at RAN #57
discussion: Qualcomm: objectives are stable, timing needs to be revised further
RAN chairman: as several companies want to comment, you should discuss this further offline until Thu
conclusion: postponed

RP-121703 New WI proposal: Hetnet Mobility Enhancements for LTE Alcatel-Lucent WID (new) RAN2 REL-12 -
new WI for LTE only; leading WG: RAN2; WI code to be used: HetNet_eMOB_LTE; note: Follow-up WI of SI FS_HetNet_eMOB_LTE that was completed at RAN #57; revision of RP-121406 which was postponed at RAN #57
discussion: shortly presented on Wed morning
ALU: LG and Fujitsu are not yet listed on the WID but also support the WI
conclusion: revised in RP-122007

RP-122007 New WI proposal: Hetnet Mobility Enhancements for LTE Alcatel-Lucent WID new RAN2 REL-12 -
revision of RP-121703; new WI for LTE only; leading WG: RAN2; WI code to be used: HetNet_eMOB_LTE; note: Follow-up WI of SI FS_HetNet_eMOB_LTE that was completed at RAN #57; note: RP-121406 was postponed at RAN #57;
conclusion: approved

RP-121708 Proposed WI on LTE Coverage Enhancements China Telecom WID new RAN1 REL-12 -
note: This is a follow-up WI of SI FS_Cov_Enh_LTE (RP-120225) which was completed at RAN #56; new WI for LTE only; leading WG: RAN1; WI code to be used: Cov_Enh_LTE; WI has core and perf. part; revision of RP-121405 which was postponed at RAN #57
discussion: shortly presented on Wed morning
China Telecom: RAN1 chairman included this topic in his time budget planning from RAN #60 onwards
conclusion: postponed, intended to start at RAN #60

RP-121709 Proposed WI on Performance Requirements of 8 Rx Antennas for LTE UL China Telecom WID new RAN4 REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_UL_8Rx-Perf; WI has perf. part only (as change from 4Rx to 8Rx has no spec impact); revision of RP-121150 which was postponed at RAN #57
discussion: shortly presented on Wed morning
conclusion: approved

RP-121711 New WI proposal: PWS - Reporting Enhancements in Warning Message Delivery: Reset/Failure/Restart one2many WID new RAN3 REL-12 -
new WI for LTE only; leading WG: RAN3; WI code to be used: REP_WMD-RFR; intended to be a BB under a CT feature
discussion: shortly presented on Wed morning by T-Mobile (rapporteur will be present on Thu)
RAN chairman: stable? also CT aspect
T-Mobile: WID is for approval in CT this week
MCC: as WI is for LTE only we will need to include this also in the title (as WI code was aligned with CT this information would otherwise be lost)

Thu evening:
Ericsson: interdependency with CT1
RAN3 chairman: we will not work on this topic in the next quarter
NEC: RAN3 might receive information from CT1 and they could work on it
NSN: CT1 meeting is in the same week as RAN3 so difficult to
MCC: incoming LSs have to be treated whatever the WI is (even if there is no WI/SI)
One2many: MME-eNode B interface is involved so RAN3 is involved

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conclusion: postponed waiting for LS from SA or CT or CT1; RAN chairman will indicate this at SA in order to ensure that RAN/RAN3 will be informed as soon as possible

RP-121713 New WID: Further enhancements for HeNB mobility-X2-GWAlcatel-Lucent WID (new) RAN3 REL-12 -
new WI for LTE only; leading WG: RAN3; WI code to be used: EHNB_enh2_X2GW; this WI should address X2-GW part taken out of REL-11 WI EHNB_enh2 (see AI 10.5.7: RP-121712)
discussion: shortly presented on Wed morning
conclusion: revised in RP-122006

RP-122006 New WID: Further enhancements for HeNB mobility-X2-GWAlcatel-Lucent WID new RAN3 REL-12 -
conclusion: approved

RP-121743 New Work Item Description: Enhancement on Signalling and Procedure for Interference Avoidance for In-device Coexistence CMCC WID new RAN2 REL-12 -
new WI for LTE only; leading WG: RAN2; WI code to be used: SPIA_IDCe_LTE-Core; compare REL-11 WI SPIA_IDC_LTE under AI 10.6.6
conclusion: withdrawn

RP-121747 New WI proposal: Smart Congestion Mitigation in E-UTRAN LG Electronics Inc. WID (new) RAN2 REL-12 -
new WI for LTE only; leading WG: RAN2; WI code to be used: SCMiti_LTE
discussion: shortly presented on Wed morning
RAN chairman: it seems many companies have comments to this proposal so discuss this further to come to a stable proposal
conclusion: revised in RP-122013

RP-122013 New WI proposal: Smart Congestion Mitigation in E-UTRAN LG Electronics Inc. WID new RAN2 REL-12 -
revision of RP-121747; new WI for LTE only; leading WG: RAN2; WI code to be used: SCMiti_LTE;
conclusion: postponed

RP-121772 New work item proposal for Further Enhancements to LTE TDD for DL-UL Interference Management and Traffic Adaptation CATT WID new RAN1 REL-12 -
new WI for LTE only; leading WG: RAN1; WI code to be used: LTE_TDD_eIMTA; note: Follow up WI to SI FS_LTE_TDD_eIMTA which was completed at RAN #56; revision of RP-121403 which was postponed at RAN #57
discussion: shortly presented on Wed morning
conclusion: approved

RP-121791 New Work Item proposal: Enhancement 2 of Minimization of Drive Tests for E-UTRAN MediaTek Inc. WID new REL-12 -
new WI for LTE only; leading WG: RAN2; WI code to be used: eMDT2_LTE-Core; revision of RP-121205 which was postponed at RAN #57
discussion: shortly presented on Wed morning
MediaTek: also Telecom Italia supports this WID; WID will be discussed further this week but can become stable by the end of this week
conclusion: postponed

RP-121792 MDT Resource Consumption MediaTek Inc. Info REL-12 -
conclusion: noted

RP-121803 New WID Proposal: Enhanced CoMP for LTE Samsung WID (new) RAN1 REL-12 -
new WI for LTE only; leading WG: RAN1; WI code to be used: COMP_LTE_enh; revision of RP-121453 which was postponed at RAN #57
discussion: shortly presented on Wed morning
Samsung: scope is stable, timing to be dsi
conclusion: revised in RP-122014

RP-122014 New WID Proposal: Enhanced CoMP for LTE Samsung WID new RAN1 REL-12 -
revision of RP-121803; new WI for LTE only; leading WG: RAN1; WI code to be used: COMP_LTE_enh; note: RP-121453 was postponed at RAN #57;
conclusion: postponed

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RP-121807 New Work Item proposal: CRS interference cancellation for homogenous deployments Ericsson WID new RAN4 REL-12 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CRSIC
discussion: shortly presented on Wed morning
RAN chairman: it seems several companies have comments, so it seems to be not so stable, please discuss further
conclusion: postponed

RP-121810 New WI: Further LTE Carrier Aggregation Enhancements Nokia Corporation WID (new) RAN1 REL-12 -
revision of RP-121245 (which was for UL only) was postponed at RAN #57
conclusion: revised in RP-121966 before RAN #58

RP-121966 New WI: Further LTE Carrier Aggregation Enhancements Nokia Corporation WID (new) RAN1 REL-12 -
revision of RP-121810; new WI for LTE only; leading WG: RAN1; WI code to be used: LTE_CA_enh2; note: proposal RP-121245 (which was for UL only) was postponed at RAN #57
discussion: shortly presented on Wed morning
Nokia: assumes that further discussion is needed
RAN chairman: several companies want to comment
conclusion: revised in RP-122022

RP-122022 New WI: Further LTE Carrier Aggregation Enhancements Nokia Corporation WID new RAN1 REL-12 -
revision of RP-121966; new WI for LTE only; leading WG: RAN1 (back to RAN1); WI code to be used: LTE_CA_enh2; note: proposal RP-121245 (which was for UL only) was postponed at RAN #57
conclusion: postponed

RP-121822 Work Item LTE RAN Further Enhancements for Diverse Data Applications Research In Motion UK Limited WID (new) RAN2 REL-12 -
new WI for LTE only; leading WG: RAN2; WI code to be used: LTE_eDDA2; revision of RP-121291 which was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: many companies have comments so please discuss offline
conclusion: revised in RP-122021 changing a WI proposal into a SI proposal; see AI 13.2

existing REL-12 WIs: *LTE only*
RAN3: LTE_CA_HetNet_ICIC-Core
RAN1/4: LTE_eDL_MIMO_enh-Core, LTE_eDL_MIMO_enh-Perf
RAN1/4: LTE_NCT-Core, LTE_NCT-Perf

C. Not spectrum related proposals for UTRA only:

RP-121714 New WID: Small Cell Positioning for UTRA Alcatel-Lucent WID new RAN3 REL-12 -
new WI for UTRA only; leading WG: RAN2; WI code to be used: UTRA_SC_Pos
discussion: shortly presented on Wed morning
RAN chairman: many companies have comments so please discuss offline
conclusion: postponed

RP-121745 New WI proposal: HSPA RRM Enhancement China Unicom WID (new) RAN2 REL-12 -
new WI for UTRA only; leading WG: RAN2; WI code to be used: HSPA_RRMenh; revision of RP-121353 (which was a SI proposal) which was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: many companies have comments so please discuss offline
Ericsson: paper seems to be a SI
conclusion: revised in RP-121989

RP-121989 New WI proposal: HSPA RRM Enhancement China Unicom WID new RAN2 REL-12 -
revision of RP-121745; new WI for UTRA only; leading WG: RAN2; WI code to be used: HSPA_RRMenh; Note: RP-121353 (which was a SI proposal) was postponed at RAN #57
conclusion: postponed

RP-121773 New work item proposal for HSPA signalling enhancements for more efficient resource usage for LCR TDD CATT WID new RAN1 REL-12 -
new WI for UTRA only; leading WG: RAN1; WI code to be used: LCR_TDD_HSPA_sign_enh

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conclusion: revised in RP-121969 before presentation

RP-121969 New work item proposal for HSPA signalling enhancements for more efficient resource usage for LCR TDD CATT WID new RAN1 REL-12 -
new WI for UTRA only; leading WG: RAN1; WI code to be used: LCR_TDD_HSPA_sign_enh
conclusion: revised in RP-121984 before presentation as multiple versions of RP-121969 exist

RP-121984 New work item proposal for HSPA signalling enhancements for more efficient resource usage for LCR TDD CATT WID new RAN1 REL-12 -
revision of RP-121969; new WI for UTRA only; leading WG: RAN1; WI code to be used: LCR_TDD_HSPA_sign_enh;
discussion: shortly presented on Wed morning
RAN chairman: seems to be stable
Thu evening:
RAN1 chairman: UMTS session has no time budget limitations so we can approve it
conclusion: approved

existing REL-12 WIs: *UTRA only*
none

D. Not spectrum related proposals for UTRA & LTE:

RP-121763 New WI proposal: RAN aspects for LIPA Mobility and SIPTO at the Local Network Huawei WID new RAN3 REL-12 -
new WI for UTRA and LTE; leading WG: RAN3; WI code to be used: LIMONET-RAN; note: LIMONET is an existing SA2 feature; revision of RP-121411 which was postponed at RAN #57
discussion: shortly presented on Wed morning
Huawei: CT approved WI in REL-11, SA decided to shift WI from REL-11 to REL12; suggests to approve RAN WI and then wait for SA decision
RAN chairman: discuss offline, also with RAN3 chairman to find an appropriate way forward; scope seems to be stable

Thu evening:
RAN3 chairman: no work will happen on this WI in the next quarter; RAN3 SA2/CT1 will do main design work and then they will come to RAN3 to do the RAN3 part
NSN: we should not set a precedence case to approve something where we know nothing will happen in the next 3 months
Huawei:
RAN3 chairman: suggest to have an LS from the other
conclusion: postponed, waiting for LS from SA or SA2 or CT; RAN chairman will indicate this at SA in order to ensure that RAN/RAN3 will be informed as soon as possible

RP-121808 On RAN work for Rel-12 MTC enhancements ZTE Disc REL-12 -
related to WI proposal RP-121809
conclusion: noted

RP-121809 New WI proposal: RAN aspects of Machine Type and other mobile data applications Communications enhancements ZTE WID (new) RAN2 REL-12 -
new WI for UTRA and LTE; leading WG: RAN2; WI code to be used: MTCe-RAN; revision of RP-121386 which was postponed at RAN #57
discussion: shortly presented on Wed morning
ZTE: would be useful to approve RAN WI now as SA has related work
Samsung: related UTRA only WI in RP-121745 so we have to decide which way we want to take
RAN chairman: discuss the proposal further offline
conclusion: revised in RP-122004 changing a WI proposal into a SI proposal; see AI 13.2

RP-121815 New WI: LTE UE TRP and TRS and UTRA Hand Phantom related UE TRP and TRS Requirements Nokia Corporation WID new REL-12 -
new WI for UTRA and LTE; leading WG: RAN4; WI code to be used: LTE_UTRA_TRP_TRS; this is a follow-up WI of the RAN4 SIs FS_LTE_OTA and FS_OTA_phantoms_UTRA both completed at RAN #57 in Sep.12; TRP = total radiated power, TRS = total radiated sensitivity
discussion: shortly presented on Wed morning
Nokia: some further updates needed but nothing major
RAN chairman: it seems to be stable

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conclusion: revised in RP-121990

RP-121990 New WI: LTE UE TRP and TRS and UTRA Hand Phantom related UE TRP and TRS Requirements Nokia Corporation WID (new) REL-12 -
revision of RP-121815; new WI for UTRA and LTE; leading WG: RAN4; WI code to be used: LTE_UTRA_TRP_TRS; this is a follow-up WI of the RAN4 SIs FS_LTE_OTA and FS_OTA_phantoms_UTRA both completed at RAN #57 in Sep.12; TRP = total radiated power, TRS = total radiated sensitivity
conclusion: revised in RP-122030 to add more supporting companies

RP-122030 New WI: LTE UE TRP and TRS and UTRA Hand Phantom related UE TRP and TRS Requirements Nokia Corporation WID new REL-12 -
revision of RP-121990; new WI for UTRA and LTE; leading WG: RAN4; WI code to be used: LTE_UTRA_TRP_TRS; this is a follow-up WI of the RAN4 SIs FS_LTE_OTA and FS_OTA_phantoms_UTRA both completed at RAN #57 in Sep.12; TRP = total radiated power, TRS = total radiated sensitivity;
conclusion: RP-122030 is approved unseen

existing REL-12 WIs: *UTRA & LTE*
RAN3: EHNB_enh3-Core

E. RAN5 UE testing proposals:
none

existing REL-12 SIs: none

13.2 New Study Items

A. RAN4 spectrum related proposals:

RP-121702 Proposed new Study on Expansion of LTE_FDD_1670_US to include 1670-1680MHz Band for LTE in the US LightSquared SID new RAN4 s REL-12 -
new SI for LTE only; leading WG: RAN4; WI code to be used: FS_LTE_FDD_1670_US; new SI to expand the spectrum defined in REL-12 WI LTE_FDD_1670_US (WID: RP-121397)
discussion: shortly presented on Wed morning
RAN4 chairman: The proposal was discussed in RAN4; what is the FCC schedule? When will the spectrum be real and not "potential" spectrum?
Lightsquared: 1675-1680 is the only part under discussion; expects mid/third quarter 2013 the band will be granted
conclusion: Fri morning:
Ericsson: would prefer to postpone this to March
Lightsquared: would be more efficient to start the SI now and wants to start the SI now
RAN chairman: seems to be difficult to approve now
postponed to March 2013

RP-121823 New SI Proposal for 2GHz FDD UTRA & LTE in Europe Solaris Mobile SID (new) RAN4 s REL-12 -
new SI for UTRA and LTE; leading WG: RAN4; WI code to be used: FS_2GFDD_EU; new SI complementing FS_LTE_1980_2170_Korea for Europe
discussion: shortly presented on Wed morning
RAN chairman: stable?
Solaris Mobile: we had some offline discussion, scope is stable
RAN chairman: Sprint/Vodafone seem to have further comments, please discuss offline
conclusion: revised in RP-122012

RP-122012 New SI Proposal for 2GHz FDD UTRA & LTE in Europe Solaris Mobile SID (new) RAN4 s REL-12 -
revision of RP-121823; new SI for UTRA and LTE; leading WG: RAN4; WI code to be used: FS_2GFDD_EU; new SI complementing FS_LTE_1980_2170_Korea for Europe
conclusion: revised in RP-122031

RP-122031 New SI Study on 2GHz FDD for UTRA and LTE in Region 1 (1980-2010MHz and 2170-2200MHz Bands) Solaris Mobile SID new RAN4 s REL-12 -
revision of RP-122012; new SI for UTRA and LTE; leading WG: RAN4; WI code to be used: FS_UTRA_LTE_1980_2170_REG1; related existing SI FS_LTE_1980_2170_Korea;
discussion: Vodafone: how will it differ from the Korean SI?
Solaris Mobile: is for a different region

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Vodafone: so larger overlap with Korean SI?
Solaris Mobile: yes
RAN4 chairman: also thought about combining both SIs, has not received any time budget information for this SI
RAN chairman: so postpone in order to bring a merged SI?
KT: prefers separate SI as regulation is different
conclusion: discuss offline what is the best way forward, we will come back on Fri

Fri morning:
Solaris Mobile: after offline discussion way forward is to start SI separately
Vodafone: still sees big overlap of both, what would be the different technical work?
Vodafone: proposes to postpone the SI
Solaris Mobile: no need to delay the work
RAN4 chairman: is fine to start the work, time budget wise we did not yet look at this
Vodafone: regulatory issue in different regions only?
RAN4 chairman: maybe different co-existence issues
Lightsquared: wonders about different handling of this SI compared to their SI
conclusion: SI RP-122031 is approved

existing REL-12 SIs:
FS_LTE_1980_2170_Korea

B. Not spectrum related proposals for LTE only:

small cells:

RP-121764 New SI proposal: Small Cell Enhancements for E-UTRA and E-UTRAN – Physical-layer Aspects Huawei SID (new) RAN1 REL-12 -
conclusion: revised in RP-121964

RP-121964 New SI proposal: Small Cell Enhancements for E-UTRA and E-UTRAN – Physical-layer Aspects Huawei SID (new) RAN1 REL-12 -
revision of RP-121764; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_SC_enh_L1; note: proposal RP-121403 was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: try to finalize the SID by Thu
conclusion: revised in RP-122005

RP-122005 New SI proposal: Small Cell Enhancements for E-UTRA and E-UTRAN – Physical-layer Aspects Huawei SID (new) RAN1 REL-12 -
revision of RP-121964; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_SC_enh_L1; note: proposal RP-121403 was postponed at RAN #57
discussion: Huawei: one sentence to be added to backward compatibility
Samsung: what sort of NCT is considered?
ALU: would have the sentence back that was removed
conclusion: revised in RP-122032

RP-122032 New SI proposal: Small Cell Enhancements for E-UTRA and E-UTRAN – Physical-layer Aspects Huawei SID new RAN1 REL-12 -
revision of RP-122005; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_SC_enh_L1; note: proposal RP-121403 was postponed at RAN #57;
conclusion: approved

RP-121802 Overview of work planned for Small Cell Enhancements for E-UTRA and E-UTRAN – Physical-layer Aspects Huawei Disc REL-12 -
related to RP-121764;
conclusion: revised in RP-121965

RP-121965 Overview of work planned for Small Cell Enhancements for E-UTRA and E-UTRAN – Physical-layer Aspects Huawei Disc REL-12 -
related to RP-121964; revision of RP-121802
discussion: RAN chairman: will be treated after SID is finalized on Thu
RAN chairman: rapporteur and RAN1 chairman should discuss before next RAN1 meeting to provide good guidance regarding which topics should be considered first
conclusion: noted

RP-121800 New Study Item Description: Small Cell Enhancements for E-UTRA and E-UTRAN – Higher-layer aspects NTT DOCOMO, INC. SID (new) RAN2 REL-12 -

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new SI for LTE only; leading WG: RAN2; WI code to be used: FS_LTE_SC_enh_hilayer; revision of RP-121236 which was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: a few companies want to comment so discuss offline to finalize
conclusion: revised in RP-122000

RP-122000 New Study Item Description: Small Cell Enhancements for E-UTRA and E-UTRAN – Higher-layer aspects NTT DOCOMO, INC. SID (new) RAN2 REL-12 -
revision of RP-121800; new SI for LTE only; leading WG: RAN2; WI code to be used: FS_LTE_SC_enh_hilayer; note: RP-121236 was postponed at RAN #57
discussion: CATT: RAN2 study should take outcome of RAN1 study into account
NTT DOCOMO: this was assumption of all supporting companies
RIM: we also support the WI
Renesas: also SA2 impact expected?
NTT DOCOMO: if SA2 impact is identified we will inform SA2
RAN chairman: this is a SI and at the moment we don't know whether there is an impact
Renesas: an indication in RAN chairman's report to SA is ok
conclusion: revised RP-122033

RP-122033 New Study Item Description: Small Cell Enhancements for E-UTRA and E-UTRAN – Higher-layer aspects NTT DOCOMO, INC. SID new RAN2 REL-12 -
revision of RP-12200; new SI for LTE only; leading WG: RAN2; WI code to be used: FS_LTE_SC_enh_hilayer; RP-121236 was postponed at RAN #57
conclusion: approved, RAN chairman will inform SA about potential impact

RP-121801 Proposed work plan for higher layer study of small cell enhancements in RAN2/3 NTT DOCOMO, INC. Disc REL-12 -
title updated from "Proposed work plan and coordination of small cell study/work in RAN2/3
discussion: RAN chairman: will be treated after SID is finalized on Thu
conclusion: revised in RP-122001 before presentation

RP-122001 Proposed work plan for higher layer study of small cell enhancements in RAN2/3 NTT DOCOMO, INC. Disc REL-12 -
discussion: RAN chairman: may be updated at RAN #59, could be useful for RAN2 chairman and rapporteur to see from this what inputs are needed in the next quarter
conclusion: noted

RP-121833 Proposed coordination among small cell related study/work NTT DOCOMO, INC. Disc REL-12 -
conclusion: withdrawn

MIMO:

RP-121788 Study on 3D-channel model for Elevation Beamforming and FD-MIMO studies for LTE Nokia Siemens Networks SID (new) RAN1 REL-12 -
conclusion: revised in RP-121917

RP-121917 Study on 3D-channel model for Elevation Beamforming and FD-MIMO studies for LTE Nokia Siemens Networks SID new RAN1 REL-12 -
revision of RP-121788; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_3D_channel; revision of RP-121412 which was postponed at RAN #57
discussion: shortly presented on Wed morning
NSN: update is needed to add some more
RAN chairman: no further comments? seems to be stable
conclusion: revised in RP-121993

RP-121993 Study on 3D-channel model for Elevation Beamforming and FD-MIMO studies for LTE Nokia Siemens Networks SID (new) RAN1 REL-12 -
revision of RP-121917; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_3D_channel; revision of RP-121412 which was postponed at RAN #57
discussion:
conclusion: revised in RP-122034 to add more supporting companies

RP-122034 Study on 3D-channel model for Elevation Beamforming and FD-MIMO studies for LTE Nokia Siemens Networks SID new RAN1 REL-12 -
revision of RP-121993; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_3D_channel; note: RP-121412 was postponed at RAN #57
conclusion: approved (unseen)

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RP-121789 Study on Downlink Enhancements for Elevation Beamforming for LTE Nokia Siemens Networks SID (new) RAN1 REL-12 -
new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_ElevationBF; revision of RP-121413 which was postponed at RAN #57
discussion: shortly presented on Wed morning
conclusion: revised in RP-121994

RP-121994 Study on Downlink Enhancements for Elevation Beamforming for LTE Nokia Siemens Networks SID new RAN1 REL-12 -
revision of RP-121789; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_ElevationBF; note: RP-121413 was postponed at RAN #57
conclusion: postponed

RP-121804 New SID Proposal: Study on Full Dimension MIMO for LTE Samsung SID (new) RAN1 REL-12 -
new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_FD_MIMO; revision of RP-121410 which was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: seems to be stable
conclusion: revised in RP-122015

RP-122015 New SID Proposal: Study on Full Dimension MIMO for LTE Samsung SID new RAN1 REL-12 -
revision of RP-121804; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_FD_MIMO; note: RP-121410 was postponed at RAN #57;
conclusion: postponed

RP-121805 Work plan for MIMO-related topics in Rel-12 Samsung, AT&T, CMCC, Nokia, Nokia Siemens Networks Disc REL-12 -
related to proposed REL-12 SIs in RP-121789, RP-121804, RP-121917
discussion: RAN chairman: considers phasing approach as discussed on Tue which is useful
conclusion: noted

Proximity/Public Safety:

RP-121699 Background on "LTE D2D Proximity Services" Study Item proposal Qualcomm Disc REL-12 -
discussion: RAN chairman: seems to be a bigger topic where a phased approach would be useful
RAN chairman: not sure that all companies are interested in all 4 parts of slide 6; we will check this on Thu so supporting companies are asked to be prepared
Huawei: slide 5: where will requirements be defined?
Qualcomm: phasing is considered in time budget request (3 phases are considered)
conclusion: noted

RP-121698 Proposed new SI: Study on LTE Device to Device Proximity Services Qualcomm SID new RAN1 REL-12 -
new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_D2D_Prox; revision of RP-121435 which was postponed at RAN #57
conclusion: revised in RP-121987 before presentation

RP-121987 Proposed new SI: Study on LTE Device to Device Proximity Services Qualcomm SID (new) RAN1 REL-12 -
revision of RP-121698; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_D2D_Prox; note: RP-121435 was postponed at RAN #57
discussion: shortly presented on Wed morning
Qualcomm: SA2 includes study phase with a TR where architecture options will be evaluated
RAN chairman: if you have further comments/questions please discuss them offline until Thu
conclusion: revised in RP-122009

RP-122009 Proposed new SI: Study on LTE Device to Device Proximity Services Qualcomm SID new RAN1 REL-12 -
revision of RP-121987; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_D2D_Prox; note: RP-121435 was postponed at RAN #57;
discussion: Orange: use cases beyond public safety will be decided by SA
Ericsson: RAN3 as secondary responsible WG should be added next time, WI will focus on channel model so far

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Sprint: are we approving the whole SI or just phase 1?
RAN chairman: whole SI is approved but updates are still possible
Telefonica: SA will use at all use cases
RAN2 chairman: we have not discussed time allocations beyond phase 1
Samsung: it is not clear in how far aspects beyond public safety
Telecom Italia: worried about the process: we are going for stage 3 here without waiting for SA decisions regarding stage 1 and stage 2
conclusion: approved, it is RAN understanding that use cases beyond public safety will be decided by SA, time budget handling beyond phase 1 will be discussed in March 2013.

RP-121816 Ensuring LTE as a good solution for Public Safety Vodafone Disc REL-12 -
related to SA1 discussions on Public Safety
discussion: Telefonica: has similar concerns as Vodafone, wants to avoid that additional requirements are coming up in SA and then RAN rejects to address them as it is too late
Huawei: Supports the proposal in the sense that it would be good if SA can provide until March the full set of requirements.
Telecom Italia: supports previous speakers
conclusion: noted

RP-121771 Extended Coverage for Public Safety (eCPS) Broadcom Corporation Disc REL-12 -
related to two WIs in SA1
discussion: Renesas: This proposal was seen in SA1 and not agreed there but anyway it is a Tdoc for SA1 and not for RAN
Qualcomm: outside of coverage/public safety has a different meaning in this paper
Broadcom: we also need to consider RAN aspects in parallel to SA
conclusion: noted

Other:

RP-122004 New SI proposal: RAN aspects of Machine Type and other mobile data applications Communications enhancements ZTE SID new RAN2 REL-12 -
revision of RP-121809 (which was a WID, see AI 13.1); new SI for UTRA and LTE; leading WG: RAN2; WI code to be used: FS_MTCe-RAN; note: RP-121386 (WID) was postponed at RAN #57;
conclusion: postponed waiting for LS from SA or SA2 or CT; RAN chairman will indicate this at SA in order to ensure that RAN/RAN2 will be informed as soon as possible

RP-122021 New Study Item proposal: Study on further LTE RAN enhancements for Diverse Data Applications Research In Motion UK Limited SID new RAN2 REL-12 -
revision of RP-121822; new WI for LTE only; leading WG: RAN2; WI code to be used: LTE_eDDA2; note: RP-121291 was postponed at RAN #57
conclusion: postponed

RP-121765 New SI proposal: Positioning enhancements for E-UTRA Huawei SID new RAN4 REL-12 -
new SI for LTE only; leading WG: RAN4; WI code to be used: FS_LCSenh_LTE;
discussion: shortly presented on Wed
Huawei: it seems we need more time to converge on the scope
conclusion: postponed

RP-121778 Study on Network-Assisted Interference Cancellation and Suppression for LTE MediaTek Inc. SID (new) RAN1 REL-12 -
conclusion: revised in RP-121831 as multiple versions of RP-121778 exist

RP-121831 Study on Network-Assisted Interference Cancellation and Suppression for LTE MediaTek Inc. SID (new) RAN1 REL-12 -
revision of RP-121778; new SI for LTE only; leading WG: RAN1; WI code to be used: LTE_NAICS; related to Disc Tdoc RP-121202 and merging also SI proposals RP-121249 from Renesas and RP-121399 from Broadcom of RAN #57
discussion: shortly presented on Wed morning
conclusion: revised in RP-121995

RP-121995 Study on Network-Assisted Interference Cancellation and Suppression for LTE MediaTek Inc. SID new RAN1 REL-12 -

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revision of RP-121831; new SI for LTE only; leading WG: RAN1; WI code to be used: LTE_NAICS; related to Disc Tdoc RP-121202 and merging also SI proposals RP-121249 from Renesas and RP-121399 from Broadcom of RAN #57

discussion: RAN1 chairman: we can discuss whether it is agreeable to start this work in RAN4 only
NEC: some coordination between RAN1 and RAN4 will be needed
Ericsson: agrees that it will consume a lot of time to start in RAN4 without guidance from RAN1
Sprint: we can think the work can start in RAN4
ALU: SID needs to be revised as some RAN4 work depends on RAN1
Orange: receiver structures can be identified by RAN4 without RAN1 input
Mediatek: work can be conducted in parallel is indicated in the SID
Qualcomm: supports to start work in RAN4
RAN chairman: try to achieve consensus offline, companies who have concerns to start in RAN4 only: NEC, Ericsson, NTT DOCOMO, LG, Samsung; we will come back on Friday

conclusion: Fri morning:
Ericsson: prefers to postpone and start in RAN1/RAN4 at the same time
Mediatek: we could also reduce also reduce scope to RAN4 only WI
conclusion: postponed to March 2013

RP-121704 New SI proposal: Push to talk over LTE Alcatel-Lucent SID (new) RAN1 REL-12 -

new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_Push2Talk; revision of RP-121211 which was postponed at RAN #57

discussion: shortly presented on Wed morning
RAN chairman: many companies have comments so please discuss offline until tomorrow

conclusion: revised in RP-122008

RP-122008 New SI proposal: Push to talk over LTE Alcatel-Lucent SID new RAN1 REL-12 -

revision of RP-121704; new SI for LTE only; leading WG: RAN1; WI code to be used: FS_LTE_Push2Talk; note: RP-121211 was postponed at RAN #57;

conclusion: postponed

RP-121744 New Study Item Proposal: Study on Energy Saving Enhancement for E-UTRAN CMCC SID (new) RAN3 REL-12 -

new SI for LTE only; leading WG: RAN3; WI code to be used: FS_Netw_Energy_enh_LTE; compare REL-11 WI Netw_Energy_LTE under AI 10.3.3

discussion: shortly presented on Wed morning
RAN chairman: 2 companies have comments so discuss proposal offline
RAN2 chairman: might belong rather to RAN2? UE impact?
Huawei: there might be an impact to the UE, in previous releases we considered an overlap but if losing coverage ...
Samsung: prefers to limit UE impact, not that RAN3 is coming with solutions that will then have bigger UE impact
Samsung: this will not work with legacy UEs?
Huawei: will be considered in SI
RAN3 chairman: if WI has UE impact then leader should be RAN2
CMCC: fine to untick UE impact box and if impact is identified later we can update later
RAN3 chairman: if we detect UE impact we would send LS to RAN3/RAN
Renesas: would like to avoid UE impact
Fujitsu: we also support the SI

conclusion: revised in RP-122035 to tick no UE impact, remove RAN2 responsibility and add further supporting companies

RP-122035 New Study Item Proposal: Study on Energy Saving Enhancement for E-UTRAN CMCC SID new RAN3 REL-12 -

revision of RP-121744; new SI for LTE only; leading WG: RAN3; WI code to be used: FS_Netw_Energy_enh_LTE; compare REL-11 WI Netw_Energy_LTE under AI 10.3.3

conclusion: approved

existing REL-12 SIs:
FS_LCS_LTE_RFPMT
FS_LC_MTC_LTE
FS_LTE_mobRelay
FS_LTE_HRPD_SON
FS_LTE_SC_enh_req

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C. Not spectrum related proposals for UTRA only:

RP-121752 New SI proposal: HNB Warning Area Alcatel-Lucent SID new RAN3 REL-12 -
new SI for UTRA only; leading WG: RAN3; WI code to be used: FS_HNB_warn_area; Study considering introduction of Emergency Warning Areas for UMTS
discussion: shortly presented by IP Access on Wed morning
RAN chairman: 2 companies have comments so discuss proposal offline
conclusion: postponed

RP-121787 New SI proposal: DCH Enhancements for UMTS Qualcomm SID new RAN1 REL-12 -
new SI for UTRA only; leading WG: RAN1; WI code to be used: FS_UTRA_DCHenh; revision of RP-121170 which was postponed at RAN #57
discussion:
conclusion: revised in RP-121973 before presentation

RP-121973 New SI proposal: DCH Enhancements for UMTS Qualcomm SID (new) RAN1 REL-12 -
revision of RP-121787; new SI for UTRA only; leading WG: RAN1; WI code to be used: FS_UTRA_DCHenh; note: RP-121170 was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: 2 companies have comments so discuss proposal offline
conclusion: revised in RP-122029

RP-122029 New SI proposal: DCH Enhancements for UMTS Qualcomm SID new RAN1 REL-12 -
revision of RP-121973; new SI for UTRA only; leading WG: RAN1; WI code to be used: FS_UTRA_DCHenh; note: RP-121170 was postponed at RAN #57
conclusion: approved

RP-121779 On Rel-12 DCH Enhancements MediaTek Inc. Disc REL-12 -
conclusion: withdrawn

RP-121806 New Study Item proposal: Study on Further EUL Enhancements Ericsson SID (new) RAN2 REL-12 -
new SI for UTRA only; leading WG: RAN2; WI code to be used: FS_EDCH_enh; revision of RP-121248 which was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: just 2 supporting companies; make sure you have at least 4
conclusion: revised in RP-122019

RP-122019 New Study Item proposal: Study on Further EUL Enhancements Ericsson SID new RAN2 REL-12 -
revision of RP-121806; new SI for UTRA only; leading WG: RAN2; WI code to be used: FS_EDCH_enh; note: RP-121248 was postponed at RAN #57
discussion: RAN2 chairman: fine to approve 1 UTRA WI
conclusion: approved

RP-121821 New SID proposal: Scalable UMTS China Unicom SID (new) RAN1 REL-12 -
new SI for UTRA only; leading WG: RAN1; WI code to be used: FS_UTRA_SCAL
conclusion: revised in RP-121992 before presentation

RP-121992 New SID proposal: Scalable UMTS China Unicom SID (new) RAN1 REL-12 -
revision of RP-121821; new SI for UTRA only; leading WG: RAN1; WI code to be used: FS_UTRA_SCAL
discussion: shortly presented on Wed morning (actually RP-121821 was presented and the difference in RP-121992 is an objective change)
conclusion: revised in RP-122017

RP-122017 New SID proposal: Scalable UMTS China Unicom SID new RAN1 REL-12 -
revision of RP-121992; new SI for UTRA only; leading WG: RAN1; WI code to be used: FS_UTRA_SCAL
discussion: RAN4 chairman: RAN4 listed as secondary resp. but no time budget information was provided
Huawei: no impact in the next quarter in RAN4 expected
RAN4 chairman: ok, then provide time budget for the future and we can approve the WI
ZTE: also support the SI
conclusion: approved

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existing REL-12 SIs:
FS_UTRA_hetnet

D. Not spectrum related proposals for UTRA & LTE:

RP-121746 New SI proposal: RAN Enhancements for UMTS/HSPA and LTE Interworking China Unicom SID (new) RAN3 REL-12 -
new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_HSPA_LTE_interworking; revision of RP-121196 which was postponed at RAN #57
conclusion: revised in RP-121991 before presentation

RP-121991 New SI proposal: RAN Enhancements for UMTS/HSPA and LTE Interworking China Unicom SID (new) RAN3 REL-12 -
revision of RP-121746; new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_HSPA_LTE_interworking; note: RP-121196 was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: 4 companies have comments so discuss proposal offline
conclusion: revised in RP-122016

RP-122016 New SI proposal: RAN Enhancements for UMTS/HSPA and LTE Interworking China Unicom SID (new) RAN3 REL-12 -
revision of RP-121991; new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_HSPA_LTE_interworking; note: RP-121196 was postponed at RAN #57
discussion: RAN2 chairman: UE impact box ticked, what is the UE impact? If any it should be rather a RAN2 WI
China Unicom: no UE impact intended
RAN chairman: then we take same approach as for energy saving topic, i.e. untick UE impact
Samsung: supports chairman's proposal
Huawei: intention is to avoid UE impact but we do not know yet
Renesas: but then this means "don't know" to be ticked
RAN chairman: if scope unclear we should rather not approve
ZTE: "don't know" box ticked is ok
TeliaSonera, Vodafone: tick no UE impact box; if RAN3 identifies UE impact then they have to come back to RAN
conclusion: revised in RP-122036 to tick no UE impact and remove secondary RAN2 responsibility.

RP-122036 New SI proposal: RAN Enhancements for UMTS/HSPA and LTE Interworking China Unicom SID new RAN3 REL-12 -
revision of RP-122016; new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_HSPA_LTE_interworking; note: RP-121196 was postponed at RAN #57;
conclusion: approved (unseen)

RP-121759 Proposal for a Study Item on next-generation SON for UTRA and LTE Nokia Siemens Networks SID new RAN3 REL-12 -
new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_UTRA_LTE_NG_SON; revision of RP-121200 which was postponed at RAN #57
conclusion: revised in RP-121977 before presentation

RP-121977 Proposal for a Study Item on next-generation SON for UTRA and LTE Nokia Siemens Networks SID (new) RAN3 REL-12 -
revision of RP-121759; new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_UTRA_LTE_NG_SON; Note: RP-121200 was postponed at RAN #57
discussion: shortly presented on Wed morning
RAN chairman: 4 companies have comments so discuss proposal offline
conclusion: revised in RP-122011

RP-122011 Proposal for a Study Item on next-generation SON for UTRA and LTE Nokia Siemens Networks SID (new) RAN3 REL-12 -
revision of RP-121977; new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_UTRA_LTE_NG_SON; Note: RP-121200 was postponed at RAN #57
discussion: NTT DOCOMO: if no UE impact why is RAN2 involved as secondary resp.
NSN: UE might have to provide some support for AAS
RAN2 chairman: we should take same approach as for other SIs and remove RAN2 as secondary responsibility.
CATT: unclear how UE configuration should be taken into account
Huawei: leftover from MRO will be included here?
conclusion: revised in RP-122037 to remove RAN2 as sec. responsible WG

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RP-122037 Proposal for a Study Item on next-generation SON for UTRA and LTE Nokia Siemens Networks SID new RAN3 REL-12 -
revision of RP-122011; new SI for UTRA and LTE; leading WG: RAN3; WI code to be used: FS_UTRA_LTE_NG_SON; Note: RP-121200 was postponed at RAN #57
conclusion: approved (unseen)

RP-121780 New Study Item Proposal on WLAN/3GPP Radio Interworking Intel Corporation SID (new) RAN2 REL-12 -
"new SI for UTRA and LTE; leading WG: RAN2; WI code to be used: FS_UTRA_LTE_WLAN_interw; revision of RP-121455 which was postponed at RAN #57
discussion: Intel: removing RAN3 as secondary responsible group planned for next version and completion date will be extended
RAN chairman: it seems apart from this it is stable
conclusion: revised in RP-121996

RP-121996 New Study Item Proposal on WLAN/3GPP Radio Interworking Intel Corporation SID (new) RAN2 REL-12 -
revision of RP-121780; new SI for UTRA and LTE; leading WG: RAN2; WI code to be used: FS_UTRA_LTE_WLAN_interw; revision of RP-121455 which was postponed at RAN #57
conclusion: revised in RP-122038

RP-122038 New Study Item Proposal on WLAN/3GPP Radio Interworking Intel Corporation SID new RAN2 REL-12 -
revision of RP-121996; new SI for UTRA and LTE; leading WG: RAN2; WI code to be used: FS_UTRA_LTE_WLAN_interw; note: RP-121455 was postponed at RAN #57;
conclusion: approved

RP-121716 New SID for Base Station specification structure Ericsson SID (new) RAN4 REL-12 -
new SI for UTRA, LTE, MSR; leading WG: RAN4; WI code to be used: FS_BSspec_struc;
discussion: shortly presented on Wed morning
RAN chairman: 3 companies have comments so discuss proposal offline
conclusion: revised in RP-122039

RP-122039 New SID for Base Station specification structure Ericsson SID new RAN4 REL-12 -
revision of RP-121716; new SI for UTRA, LTE, MSR; leading WG: RAN4; WI code to be used: FS_BSspec_struc
conclusion: approved

existing REL-12 SIs:
FS_AAS_BS_LTE_UTRA
FS_BS_PIM

E. RAN5 UE testing proposals:
none
existing REL-12 SIs: none

14 Technical co-ordination among WGs

Nothing to report

15 Outputs to other groups

Nothing to report

16 Project management

RP-121523 3GPP Support Team Report ETSI MCC Report
discussion: AT&T: VPN can often not access meeting server, can a mirror on 3GPP server be considered?
MCC: yes, we are looking at this at the moment
conclusion: noted

RP-121522 3GPP Work Plan review at Plenary #58 ETSI MCC Workplan

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conclusion: noted

17 Future meeting schedule

Meeting schedule 2010/2011/2012/2013/2014:

MEETING	DATES	LOCATION	HOST
RAN #47	16 March – 19 March 2010	Vienna, Austria	EF3
RAN #48	1 June – 4 June 2010	Seoul, Korea	TTA
RAN #49	14 Sep. – 17 Sep. 2010	San Antonio, USA	NAF3
RAN #50	7 Dec. – 10 Dec. 2010	Istanbul, Turkey	EF3
RAN #51	15 March – 18 March 2011	Kansas City, USA	Sprint Nextel
RAN #52	31 May – 3 June 2011	Bratislava, Slovakia	EF3
RAN #53	13 Sep. – 16 Sep. 2011	Fukuoka, Japan	ARIB & TTC
RAN #54	6 Dec. – 9 Dec. 2011	Berlin, Germany	EF3
RAN #55	28 Feb. – 2 March 2012	Xiamen, China	ZTE, CMCC
Workshop ***	11 June - 12 June 2012	Ljubljana, Slovenia	EF3
RAN #56	13 June – 15 June 2012	Ljubljana, Slovenia	EF3
RAN #57	4 Sep. – 7 Sep. 2012	Chicago, USA	NAF3
RAN #58	4 Dec. – 7 Dec. 2012	Barcelona, Spain	EF3
RAN #59	26 Feb. – 1 March 2013	Vienna, Austria	EF3
RAN #60	11 June – 14 June 2013	Oranjestad, Aruba	NAF3
RAN #61	3 Sep. – 6 Sep. 2013	Porto, Portugal	EF3
RAN #62	3 Dec. – 6 Dec. 2013	Korea	?
RAN #63 **	3 March – 6 March 2014	Singapore	JDSU
RAN #64	10 June – 13 June 2014	Europe	EF3
RAN #65	9 Sep. – 12 Sep. 2014	Edinburgh, Scotland	EF3
RAN #66	9 Dec. – 12 Dec. 2014	US	NAF3

***: RAN Workshop on REL-12 and onwards

**: in same week with CT and SA

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18 Any other business

TSG RAN elections in March 2013:
Tang Hai (CMCC): indicated that he will candidate as RAN chairman in the elections in March 2013
Dino Flore (Qualcomm): indicated that he will candidate as RAN chairman in the elections in March 2013
Matthew Baker (Alcatel-Lucent): indicated that he will candidate as RAN chairman in the elections in March 2013

John Humbert (Sprint): indicated that he will candidate as RAN vice-chairman in the elections in March 2013

Other:
Telecom Italia: Nicola Magnani (Telecom Italia) will not be able to continue as 3GPP ITU-R contact person
RAN chairman: we will have to see how to solve this in March 2013

19 Closing of the meeting

The TSG RAN chairman Takehiro Nakamura (NTT DOCOMO) thanked the delegates for participating and contributing to RAN meeting #58 and the RAN vice chairmen and MCC for their support of the meeting. He thanked the European Friends of 3GPP for hosting this meeting and closed the meeting with best wishes for Xmas and the New Year on Friday December 7th, 2012 at about 13:15.

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Annex A:
List of participants

The list of participants of this RAN meeting #58 is attached to this report.

Total number of participants: 195 (registered before the meeting: 223)

Annex B:
List of Tdocs

The list of Tdocs of this RAN meeting #58 is attached to this report.

Total number of Tdocs: 586 (RP-121460 - RP-122045) of which 573 Tdocs are available, i.e. 13 are not available.

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Annex C:
Incoming liaison statements (LSin)

In total 43 LSs/LTIs were received for RAN #58 (0 of them received during the meeting). All 43 LSs/LTIs were treated.

RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-121472	LS on LTE Rel-11 UE capability list (R1-124593; to: RAN, RAN2; cc: RAN4; contact: NTT DOCOMO)	RAN1	REL-11	-	yes	noted	no	treated under AI 10.8
RP-121473	Reply LS to R4-125009 = RP-120922 on UE measurements in support of the two-stage MIMO OTA test method (R1-124665; to: RAN4; cc: RAN, RAN2, RAN5; contact: Nokia)	RAN1	REL-11	HSPA_LTE_measRP_MIMO-Perf	no	noted	no	treated under AI 10.5.5
RP-121474	LS on Correction to non-backwards compatible asn1 in 25.331 Rel-9/10/11 (R2-125168; to: RAN, RAN5; cc: -; contact: Renesas)	RAN2	REL-9	TEI9	yes	noted	no	treated under AI 8.2.2; see RP-121934
RP-121475	Reply LS to S5-122600 = RP-121483 on Cooperation for Energy Efficiency Measurement (R2-126120; to: SA5; cc: RAN, SA, SA2, ETSI TC EE, ATTM; contact: Nokia Siemens Networks)	RAN2	REl-12	-	no	noted	no	treated under AI 6.2
RP-121476	LS on LTE Rel-11 UE capabilities list (R4-125499; to: RAN, RAN2; cc: RAN1; contact: NTT DOCOMO)	RAN4	REL-11	-	yes	noted	no	treated under AI 10.8
RP-121477	LS on the spurious emissions limit for the range 2010-2025 MHz (R4-126045; to: ARIB; cc: RAN; contact: Ericsson)	RAN4	REL-8	LTE-RF	no	noted	no	treated under AI 8.4.2
RP-121478	LS on the spurious emissions limit for the range 2010-2025 MHz (R4-126046; to: CCSA TC5; cc: RAN; contact: Ericsson)	RAN4	REL-8	LTE-RF	no	noted	no	treated under AI 8.4.2
RP-121479	LS on Release 11 Feature Lists – Testing and Certification Aspects (R5-125691; to: RAN1, RAN2, RAN4; cc: RAN; contact: NTT DOCOMO)	RAN5	REL-11	-	no	noted	no	treated under AI 10.8
RP-121480	Reply LS to R2-125168 = RP-121474 on RAN5 Activity relating to non-backwards compatible ASN.1 in 25.331 Rel-9/10/11 (R5-125692; to: RAN2; cc: RAN; contact: NTT DOCOMO)	RAN5	REL-9	TEI9	no	noted	no	treated under AI 8.2.2
RP-121481	Reply LS to SP-120651 = RP-121485 on Progression of normative ProSe work (S1-124515; to: SA; cc: RAN; contact: Vodafone)	SA1	REL-12	FS_ProSe	no	noted	no	

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-121482	Reply LS to R2-125167 on Inter RAT handover, Inter RAT Release with redirection, Inter RAT Reject with redirection between E-UTRAN and UTRAN (S2-124764; to: RAN2; cc: RAN, RAN3, CT1; contact: NTT DOCOMO)	SA2	REL-8	-	no	noted	no	note: R2-125167 was not provided to RAN; treated under AI 8.2.2
RP-121483	Reply LS to SP-120449 = RP-120927 on Cooperation for Energy Efficiency Measurement (S5-122600; to:SA, ETSI TC EE, ATTM, RAN2; cc: RAN, SA2; contact: Nokia Siemens Networks)	SA5	REL-12	-	no	noted	no	note: The RAN2 reply to RP-121483 is in RP-121475
RP-121484	LS to OMA on Push Server Requirements (SP-120455; to: RAN; cc: -; contact: GSMA)	SA	-	-	no	noted	no	note: This GSMA LS was forwarded from SA to RAN; SA #57 sent LS SP-120655 to GSMA.
RP-121485	LS on Progression of normative ProSe work (SP-120651; to: SA1; cc: RAN; contact: Vodafone)	SA	REL-12	FS_ProSe	no	noted	no	note: The SA1 reply to RP-121485 is in RP-121481.
RP-121486	Reply LS to RP-120884 on coordination between ITU-T and 3GPP on synchronization (ITU-T SG15 LS439; to: RAN; cc: -; contact: Ericsson)	ITU-T SG15	-	-	no	noted	no	note: This is a reply LS to RAN's LSout RP-120884 of RAN #56.
RP-121487	LS on TECHNICAL AND OPERATIONAL ASPECTS OF PASSIVE AND ACTIVE BASE STATION ANTENNAS FOR IMT SYSTEMS (ITU-R WP5D/TEMP/56(Rev.1); to: RAN, RAN4; cc: -; contact: -)	ITU-R WP5D	-	-	not explicitly	noted	postponed	no explicit RAN action requested; note: This LS was treated in RAN4 as R4-126781 and an LS answer was postponed until REL-12 SI is completed; treated under AI 7.2.2; LS answer is postponed (will be considered at RAN #59: RAN4 will provide a proposed draft LS answer to RAN #59 in March 2013)
RP-121488	LS on REVISION 12 OF RECOMMENDATION ITU-R M.1457 (ITU-R WP5D/TEMP/69; to: RAN, 3GPP ITU-R ad hoc; cc: -; contact: -)	ITU-R WP5D	-	-		noted		note: 3GPP ITU-R ad hoc looked at this LS and concluded that no action is required from 3GPP; no RAN action requested; will be treated under AI 7.2.2; no LS answer

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-121489	LS on PARAMETERS FOR LTE-ADVANCED AND WIRELESSMAN ADVANCED FOR USE IN SHARING STUDIES (ITU-R WP5D/TEMP/91(Rev.1); to: IEEE, RAN, RAN4; cc: -; contact: -)	ITU-R WP5D	-	-		noted		RAN action requested; note: RAN4 prepared an LTI answer for RAN #58 in RP-121498 = R4-126853; will be treated under AI 7.2.2; LS answer in RP-121975
RP-121490	LS on INVITATION TO PROVIDE INPUT MATERIAL FOR DEVELOPMENT OF WORKING DOCUMENT TOWARD A PRELIMINARY DRAFT NEW REPORT ON "THE USE OF IMT FOR BROADBAND PPDR APPLICATIONS" (ITU-R WP5D/TEMP/98(Rev.2); to: RAN, SA1; cc: -; contact: -)	ITU-R WP5D	-	-	not explicitly	noted	RP-122041	no explicit RAN action requested; note: LS was provided also to SA1 but no LS answer from SA1 to RAN, however see RP-121481. In RAN4 Motorola Solutions is working on an LTI for RAN #58 (draft in R4-126970) answering ITU-R WP5D/TEMP/9(rev.1) = RP-120912 =R4-124746 which RAN #57 received on the same subject, see RP-121756; RP-121490 was treated under AI 7.2.2;
RP-121491	LS requesting information on "Scenarios and Requirements for LTE Small Cell Enhancement" (L00167_000_MEF_Q412_MBH; to: RAN; cc: -; contact: Verizon)	MEF (Metro Ethernet Forum)	REL-12	FS_LTE_SC_enh_req	yes	noted	RP-122042	treated under AI 12.4.5
RP-121492	LS on UE capability for the joint operation of downlink CoMP and CA (R1-125392; to: RAN2; cc: RAN4, RAN; contact: Huawei)	RAN1	REL-11	COMP_LTE_DL-Core	no	noted	no	treated under AI 10.6.8
RP-121493	LS on Stage 3 change for broadband access network interworking (R3-122918; to: SA2; cc: RAN, SA, SA3, CT4, SA5; contact: NEC)	RAN3	REL-11	BBAI	no	noted	no	"Support for BroadBand Forum Accesses Interworking" with WI code BBAI is a REL-11 SA2 WI; treated under AI 10.8 together with CRs RP-121739
RP-121494	LS on wideband RSRQ measurement (R4-126491; to: RAN2, RAN; cc: RAN1; contact: NTT DOCOMO)	RAN4	REL-11	LTE-RF, TEI11	yes	noted	no	LTE-RF was a REL-8 WI; treated under AI 10.8

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-121495	Reply LS to GP-121137 = RP-121343 on CRs for MSR specifications (R4-126848; to: GERAN1; cc: RAN; contact: Ericsson)	RAN4	REL-9	RInImp9-RFmulti, MSR_NC	no	noted	no	RInImp9-RFmulti was a REL-9 WI, MSR_NC was a REL-10 WI; treated under AI 8.4.5.2
RP-121496	Reply LS to GP-121149 on Status of the work on BS classes for MSR (R4-126849; to: GERAN1; cc: RAN; contact: Ericsson)	RAN4	REL-11	medBS_class_LTE_MSR	no	noted	no	treated under AI 10.5.3
RP-121497 ***	Proposed Reply LTI to ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744 on Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies (R4-126852; to: RAN; cc: -; contact: Ericsson)	RAN4	-	-	yes	noted	no	note: RAN #57 answered part 1 of ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744 in RP-121450; RP-121497 = R4-126852 is a proposal for a reply to part 2; will be treated under AI 7.2.2; no LS answer to RAN4 but final LSout to ITU-R WP5D in RP-121974
RP-121498 ***	Proposed Reply LTI to ITU-R WP5D/TEMP/91(Rev.1) = RP-121489 = R4-126780 on Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies (R4-126853; to: RAN; cc: -; contact: Ericsson)	RAN4	-	-	yes	noted	no	note: This is a reply proposal from RAN4 to RP-121489 from ITU-R WP5D; will be treated under AI 7.2.2; no LS answer to RAN4 but final LSout to ITU-R WP5D in RP-121975
RP-121499	LS on MB-MSR (R4-126874; to: GERAN1; cc: RAN; contact: Huawei)	RAN4	REL-11	MB_MSR_RF	no	noted	no	treated under AI 10.5.4
RP-121500	LS on wideband RSRQ measurement (R4-126987; to: GERAN2, RAN; cc: RAN2; contact: NTT DOCOMO)	RAN4	REL-11	LTE-RF, TEI11	yes	noted	no	LTE-RF was a REL-8 WI; treated under AI 10.8
RP-121501	LS response to R3-121453, R3-121455, R3-121458 on carrier based ICIC (R1-125398; to: RAN3; cc: RAN; contact: Huawei)	RAN1	REL-12	LTE_CA_HetNet_ICIC-Core	no	noted	no	note: Non of the 3 RAN3 LSs (R3-121453, R3-121455, R3-121458) were sent to RAN; treated under AI 11.3.1.1

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-121502	LS on BBAI Support (R3-122920; to: RAN, SA; cc: CT4, SA3, SA2; contact: Ericsson)	RAN3	REL-11	BBAI	yes	noted	no	"Support for BroadBand Forum Accesses Interworking" with WI code BBAI is a REL-11 SA2 WI; treated under AI 10.8 together with CRs RP-121739; no LS answer but CRs RP-121739 are conditionally approved (condition: SA approves the feature and all corresponding CT/SA CRs are approved)
RP-121503	LS ON REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R F.1763: Radio interface standards for broadband wireless access systems in the fixed service operating below 66 GHz (ITU-R WP5A/TEMP/61v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact:)	ITU-R WP5A	-	-	not explicitly	noted	no	treated under AI 7.2.1
RP-121504	LS on WRC-15 AGENDA ITEM 1.1: Consideration of Spectrum Estimates for terrestrial mobile broadband (excluding IMT) applications (ITU-R WP5A/TEMP/73(Rev.1)v3; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -)	ITU-R WP5A	-	-	not explicitly	noted	no	treated under AI 7.2.1
RP-121505	LS ON REQUEST FOR INPUT FOR A REVISION OF RECOMMENDATION ITU-R M.1450-4: Characteristics of broadband radio local area networks (ITU-R WP5A/TEMP/75v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI ERM-TG11, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -)	ITU-R WP5A	-	-	not explicitly	noted	no	treated under AI 7.2.1

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-121506	LS ON INVITATION TO SUBMIT CONTRIBUTIONS TO PRELIMINARY DRAFT NEW REPORT ITU-R M.[LMS.ATG] SYSTEMS FOR PUBLIC MOBILE COMMUNICATIONS WITH AIRCRAFT (ITU-R WP5A/TEMP/81v2; to: 4G Americas, 3GPP, 3GPP RAN, 3GPP2, ARIB, ATIS, AWG, BBF, CCSA, CDG, ETSI, ETSI TC BRAN, ETSI TC DECT, ETSI TC ERM, GSMA, iBurst Associaton, IEEE, TIA, TIA TR-45, TIA TR-45.3, TIA TR-45.5, TTA, TTC, UMTS Forum, WGA, Wi-Fi Alliance, WiMAX Forum, XGP Forum; cc: -; contact: -)	ITU-R WP5A	-	-	not explicitly	noted	no	treated under AI 7.2.1
RP-121508	Reply LS R4-125499 = RP-121476 and R1-124593 = RP-121472 on LTE Rel-11 UE capability list from RAN WG1, WG4 (R2-126096; to: RAN, RAN1, RAN4; cc: -; contact: NTT DOCOMO)	RAN2	REL-11	LTE_CA_enh-Core, LTE_eDDA-Core, MBMS_LTE_SC-Core, LCS_LTE-NBPS-Core, eICIC_enh_LTE-Core, SPIA_IDC_LTE-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, SIMTC-RAN_OC-Core, eMDT_UMTSLTE-Core, LTE_enh_dl_ctrl-Core, LTE_Interf_Rej-Perf, LTE_TDD_add_subframe-Core, EEA3_EIA3, vSRVCC, TEI11	yes	noted	no	treated under AI 10.8

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RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-121509	LS on Release 11 UMTS capabilities and feature dependencies (R2-125963; to: RAN; cc: RAN1, RAN3, RAN4, RAN5; contact: Huawei)	RAN2	REL-11	Cell_FACH_enh-Core, HSDPA_MFTX-Core, HSPA_UL_TxDiv-CL-Core, HSPA_UL_TxDiv-OL-Core, 4Tx_HSDPA-Core, MIMO_64QAM_HSUPA-Core, rSRVCC-RAN_UTRA-Core, 8C_HSDPA-Core, SIMTC-RAN_OC-Core, eMDT_UMTSLTE-Core, TEI11	yes	noted	no	treated under AI 10.8
RP-121692	Reply LS to R4-126874 = RP-121499 on "LS on MB-MSR" (GP-121391; to: RAN, RAN4; cc: -; contact: Huawei)	GERAN1	REL-11	MB_MSR_RF	yes	noted	postponed	treated under AI 10.5.4
RP-121693	Reply LS to R4-126848 = RP-121495 on CRs for MSR specifications (GP-121395; to: RAN; cc: RAN4; contact: Ericsson)	GERAN1	REL-9	RInImp9-RFmulti, MSR_NC	yes	noted	no	RInImp9-RFmulti was a REL-9 WI, MSR_NC was a REL-10 WI; treated under AI 8.4.5.2
RP-121694	Reply LS to R4-126849 = RP-121496 on Status of the work on BS classes for MSR (GP-121396; to: RAN; cc: RAN4; contact: Ericsson)	GERAN1	REL-11	medBS_class_LTE_MSR	yes	noted	no	treated under AI 10.5.3
RP-121695	Response LS to R2-125159 on reporting the UE E-UTRAN Capabilities for rSRVCC from GERAN to E-UTRAN (GP-121402; to: RAN2; cc: RAN3, SA2, RAN, SA; contact: Ericsson)	GERAN2	REL-11	rSRVCC-GERAN	no	noted	no	note: R2-125159 of RAN2 #79bis was not sent to/cc RAN; treated under AI 10.4.6
RP-121696	LS on LTE-HRPD inter RAT SON (R3-122935; to: 3GPP2, RAN; cc: -; contact: ZTE)	RAN3	REL-12	FS_LTE_HRPD_SON	yes	noted	no	treated under AI 12.4.4;
RP-121919	Reply LS to S5-122600 = RP-121483 on Cooperation for Energy Efficiency Measurements (ETSI TC EE(12)000036; to: SA5, SA, RAN2; cc: RAN, SA2, ETSI TC ATTM; contact: Alcatel-Lucent)	ETSI TC EE	REL-12	-	no	noted	no	treated under AI 6.2

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***: uses Letter to ITU template (LTI)

Petitioners' Exhibit 1014, p. 603
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Annex D:
Outgoing liaison statements (LSout)

Only final outgoing LSs are listed here.
5 outgoing LSs/LTIs (0 of them approved by email after RAN #58):

final LS Tdoc	title	to	cc	contact	reply to	release	WI	comments
RP-121974	Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies	ITU-R WP5D	RAN4	Ericsson	ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744	-	-	note: RAN #57 answered part 1 of ITU-R WP5D/TEMP/28 = RP-120914 = R4-124744 in RP-121450; RP-121497 = R4-126852; this document is a reply to part 2; will be sent out via 3GPP LS coordinator
RP-121975	Parameters for LTE-Advanced and WirelessMAN Advanced for use in sharing studies	ITU-R WP5D	RAN4	Ericsson	ITU-R WP5D/TEMP/91(Rev.1) = RP-121489 = R4-126780	-	-	revision of RP-121498; this is a reply proposal to RP-121489 from ITU-R WP5D; will be sent out via 3GPP LS coordinator
RP-122041 ***	Draft response Letter on Preliminary Draft New Report on the use of IMT for Broadband PPDR applications	SA	-	Motorola Solutions	ITU-R WP5D/TEMP/98(Rev.2) = RP-121490			
RP-122042	Backhaul study in MEF	Metro Ethernet Forum (MEF)	SA, CT	CMCC	MEF LS in RP-121491	REL-12	FS_LTE_SC_enh_req	
RP-122044	Release 9 FGI bit handling	Nokia Siemens Networks	RAN5	-	-	REL-9	TEI9	

***: uses Letter to ITU template (LTI)

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Annex E:
List of Change Requests (CRs)

This list of 1452 CRs includes all CRs submitted to RAN #58.

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.101	0918	1	Rel-11	B	RP-121877	R4-126076	approved	CR to TS 25.101 due to introduction of OLTD	11.3.0	11.4.0	R4	HSPA_UL_TxDiv-OL-Core
25.101	0921	-	Rel-9	F	RP-121848	R4-125282	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	9.10.0	9.11.0	R4	RInImp-UMTS1700
25.101	0922	-	Rel-10	A	RP-121848	R4-125283	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	10.7.0	10.8.0	R4	RInImp-UMTS1700
25.101	0923	-	Rel-11	A	RP-121848	R4-125284	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	11.3.0	11.4.0	R4	RInImp-UMTS1700
25.101	0924	1	Rel-10	F	RP-121867	R4-125879	approved	Cleaning of 25.101 Performance sections Rel-10	10.7.0	10.8.0	R4	TEI10
25.101	0925	-	Rel-11	A	RP-121867	R4-125418	approved	Cleaning of 25.101 Performance sections Rel-11	11.3.0	11.4.0	R4	TEI10
25.101	0926	1	Rel-10	F	RP-121867	R4-125921	approved	Japanese regulatory requirements for DC-HSUPA spurious emissions	10.7.0	10.8.0	R4	TEI10
25.101	0927	-	Rel-11	A	RP-121867	R4-125585	approved	Japanese regulatory requirements for DC-HSUPA spurious emissions	11.3.0	11.4.0	R4	TEI10
25.101	0929	1	Rel-9	F	RP-121856	R4-125924	approved	Alignment of inconsistent Rx core requirements with dual uplinks	9.10.0	9.11.0	R4	RANimp-DC_HSUPA
25.101	0930	-	Rel-10	A	RP-121856	R4-125766	approved	Alignment of inconsistent Rx core requirements with dual uplinks	10.7.0	10.8.0	R4	RANimp-DC_HSUPA
25.101	0931	-	Rel-11	A	RP-121856	R4-125768	approved	Alignment of inconsistent Rx core requirements with dual uplinks	11.3.0	11.4.0	R4	RANimp-DC_HSUPA
25.101	0933	1	Rel-11	B	RP-121908	R4-126909	approved	Introduction of UL MIMO to TS 25.101	11.3.0	11.4.0	R4	MIMO_64QAM_HSUPA-Core
25.101	0934	1	Rel-11	B	RP-121876	R4-126908	approved	CR to TS 25.101 due to introduction of CLTD	11.3.0	11.4.0	R4	HSPA_UL_TxDiv-CL-Core
25.101	0935	-	Rel-11	B	RP-121901	R4-126730	approved	Introduction of Band 29	11.3.0	11.4.0	R4	LTE_DL_FDD700-Core
25.101	0937	-	Rel-11	B	RP-121876	R4-126971	approved	F-TPICH out of quality handling for UL CLTD and UL MIMO	11.3.0	11.4.0	R4	HSPA_UL_TxDiv-CL-Core, MIMO_64QAM_HSUPA-Core
25.104	0638	-	Rel-9	F	RP-121848	R4-125290	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	9.8.0	9.9.0	R4	RInImp-UMTS1700
25.104	0639	-	Rel-10	A	RP-121848	R4-125291	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	10.7.0	10.8.0	R4	RInImp-UMTS1700
25.104	0640	-	Rel-11	A	RP-121848	R4-125292	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	11.3.0	11.4.0	R4	RInImp-UMTS1700

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25.104	0642	1	Rel-11	B	RP-121868	R4-126906	approved	Introduction of 4X4MIMO	11.3.0	11.4.0	R4	4Tx_HSDPA-Core
25.104	0643	-	Rel-11	B	RP-121901	R4-126732	approved	Introduction of Band 29	11.3.0	11.4.0	R4	LTE_DL_FDD700-Core
25.104	0644	1	Rel-11	B	RP-121905	R4-127003	approved	Introduction of multi-band BS to TS 25.104	11.3.0	11.4.0	R4	MB_MSR_RF-Core
25.105	0295	1	Rel-11	B	RP-121905	R4-127004	approved	Introduction of requirements for BS capable of multi-band operation	11.1.0	11.2.0	R4	MB_MSR_RF-Core
25.106	0092	1	Rel-10	F	RP-121867	R4-126040	approved	Introduction of Spurious Emission limits and Input Intermodulation requirements towards missing UTRA and E-UTRA TDD frequency bands	10.3.0	10.4.0	R4	TEI10
25.106	0093	-	Rel-10	F	RP-121867	R4-125675	approved	Introduction of a Note on non deployment of operating bands with overlapping frequency ranges for the tables for Input Intermodulation requirements	10.3.0	10.4.0	R4	TEI10
25.106	0094	1	Rel-10	F	RP-121858	R4-125922	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	10.3.0	10.4.0	R4	RInImp9-UMTSLTE800
25.106	0095	-	Rel-11	A	RP-121867	R4-125683	approved	Introduction of Spurious Emission limits and Input Intermodulation requirements towards missing UTRA and E-UTRA TDD frequency bands	11.0.0	11.1.0	R4	TEI10
25.106	0096	-	Rel-11	A	RP-121867	R4-125687	approved	Introduction of a Note on non deployment of operating bands with overlapping frequency ranges for the tables for Input Intermodulation requirements	11.0.0	11.1.0	R4	TEI10
25.106	0097	-	Rel-11	A	RP-121858	R4-125691	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	11.0.0	11.1.0	R4	RInImp9-UMTSLTE800
25.106	0098	-	Rel-10	F	RP-121867	R4-126180	approved	The special cases for protection of UTRA Band III and Band X in co-existence and co-location with UTRA Repeaters	10.3.0	10.4.0	R4	TEI10
25.106	0100	-	Rel-11	A	RP-121867	R4-126184	approved	The special cases for protection of UTRA Band III and Band X in co-existence and co-location with UTRA Repeaters	11.0.0	11.1.0	R4	TEI10
25.123	0538	-	Rel-10	F	RP-121851	R4-125207	approved	Handover Requirements for UTRA TDD to E-UTRA for 25.123 Rel-10	10.6.0	10.7.0	R4	LTE-RF
25.123	0539	-	Rel-11	A	RP-121851	R4-125208	approved	Handover Requirements for UTRA TDD to E-UTRA for 25.123 Rel-11	11.0.0	11.1.0	R4	LTE-RF
25.123	0542	1	Rel-11	B	RP-121873	R4-126834	approved	MDT requirements in Rel-11	11.0.0	11.1.0	R4	eMDT_UMTSLTE-Core
25.133	1215	1	Rel-11	B	RP-121876	R4-125906	approved	Introduction of uplink closed loop transmit diversity in 25.133	11.2.0	11.3.0	R4	HSPA_UL_TxDiv-CL-Core
25.133	1217	1	Rel-10	F	RP-121867	R4-125878	approved	Editorial corrections	10.7.0	10.8.0	R4	TEI10
25.133	1218	-	Rel-11	A	RP-121867	R4-125390	approved	Editorial corrections	11.2.0	11.3.0	R4	TEI10
25.133	1223	1	Rel-11	B	RP-121908	R4-126809	approved	Introduction of UL MIMO to TS 25.133	11.2.0	11.3.0	R4	MIMO_64QAM_HSUPA-Core

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25.133	1224	1	Rel-9	F	RP-121859	R4-126836	approved	UTRAN CSG Proximity Indication Requirements (Rel-9)	9.13.0	9.14.0	R4	TEI9
25.133	1225	2	Rel-10	F	RP-121867	R4-126932	approved	Addition of Annexes A.6.4.1.2 and A.6.4.2.2 considering CS+PS RAB combination parameters for â€œTransport format combination selection in UEâ€• requirement.	10.7.0	10.8.0	R4	TEI10
25.133	1227	1	Rel-11	B	RP-121869	R4-126811	approved	Requirements for Network Controlled Mobility in Enhanced CELL_FACH	11.2.0	11.3.0	R4	Cell_FACH_enh-Core
25.133	1228	1	Rel-11	B	RP-121869	R4-126810	approved	Performance requirement for 2/10msec TTI selection when operating Enhanced Uplink in CELL_FACH or idle mode	11.2.0	11.3.0	R4	Cell_FACH_enh-Core
25.133	1230	1	Rel-8	F	RP-121849	R4-126799	approved	Correction to RRM Measurement Requirements	8.17.0	8.18.0	R4	LTE-RF
25.133	1231	1	Rel-9	F	RP-121849	R4-126800	approved	Correction to RRM Measurement Requirements	9.13.0	9.14.0	R4	LTE-RF
25.133	1232	1	Rel-11	B	RP-121873	R4-126833	approved	MDT requirements in Rel-11	11.2.0	11.3.0	R4	eMDT_UMTSLTE-Core
25.133	1233	-	Rel-11	A	RP-121867	R4-126956	approved	Addition of Annexes A.6.4.1.2 and A.6.4.2.2 considering CS+PS RAB combination parameters for "Transport format combination selection in UE" requirement	11.2.0	11.3.0	R4	TEI10
25.133	1234	-	Rel-10	A	RP-121849	R4-126954	approved	Correction to RRM Measurement Requirements	10.7.0	10.8.0	R4	LTE-RF
25.133	1235	-	Rel-11	A	RP-121849	R4-126955	approved	Correction to RRM Measurement Requirements	11.2.0	11.3.0	R4	LTE-RF
25.141	0638	-	Rel-9	F	RP-121848	R4-125294	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	9.10.0	9.11.0	R4	RInImp-UMTS1700
25.141	0639	-	Rel-10	A	RP-121848	R4-125295	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	10.7.0	10.8.0	R4	RInImp-UMTS1700
25.141	0640	-	Rel-11	A	RP-121848	R4-125296	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band III	11.3.0	11.4.0	R4	RInImp-UMTS1700
25.141	0641	-	Rel-11	F	RP-121909	R4-125818	approved	Correct f_offsetmax definition for a BS operating in non-contiguous spectrum in TS25.141	11.3.0	11.4.0	R4	NC_4C_HSDPA-Perf
25.141	0642	-	Rel-11	B	RP-121902	R4-126739	approved	Introduction of Band 29	11.3.0	11.4.0	R4	LTE_DL_FDD700-Perf
25.143	0110	1	Rel-10	F	RP-121867	R4-126041	approved	Introduction of Spurious Emission limits and Input Intermodulation requirements towards missing UTRA and E-UTRA TDD frequency bands	10.3.0	10.4.0	R4	TEI10
25.143	0111	-	Rel-10	F	RP-121867	R4-125677	approved	Introduction of a Note on non deployment of operating bands with overlapping frequency ranges for the tables for Input Intermodulation requirements	10.3.0	10.4.0	R4	TEI10
25.143	0112	1	Rel-10	F	RP-121858	R4-125923	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	10.3.0	10.4.0	R4	RInImp9-UMTSLTE800
25.143	0113	-	Rel-11	A	RP-121867	R4-125685	approved	Introduction of Spurious Emission limits and Input Intermodulation requirements towards missing UTRA and E-UTRA TDD frequency bands	11.0.0	11.1.0	R4	TEI10

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25.143	0114	-	Rel-11	A	RP-121867	R4-125689	approved	Introduction of a Note on non deployment of operating bands with overlapping frequency ranges for the tables for Input Intermodulation requirements	11.0.0	11.1.0	R4	TEI10
25.143	0115	-	Rel-11	A	RP-121858	R4-125693	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	11.0.0	11.1.0	R4	RInImp9-UMTSLTE800
25.143	0116	-	Rel-10	F	RP-121867	R4-126181	approved	The special cases for protection of UTRA Band III and Band X in co-existence and co-location with UTRA Repeaters	10.3.0	10.4.0	R4	TEI10
25.143	0118	-	Rel-11	A	RP-121867	R4-126185	approved	The special cases for protection of UTRA Band III and Band X in co-existence and co-location with UTRA Repeaters	11.0.0	11.1.0	R4	TEI10
25.201	0040	-	Rel-11	B	RP-121845	R1-125400	approved	Introduction of uplink MIMO and 64QAM	11.0.0	11.1.0	R1	MIMO_64QAM_HSUPA-Core
25.211	0296	5	Rel-11	B	RP-121845	R1-125270	approved	Introduction of uplink MIMO and 64QAM	11.1.0	11.2.0	R1	MIMO_64QAM_HSUPA-Core
25.211	0297	6	Rel-11	B	RP-121843	R1-125358	approved	Introduction of 4Tx_HSDPA in 25.211	11.1.0	11.2.0	R1	4Tx_HSDPA-Core
25.211	0305	1	Rel-11	F	RP-121838	R1-125277	approved	Removal of the relative amplitude weighting factor between EAI and AI	11.1.0	11.2.0	R1	RANimp-UplinkEnhState
25.211	0306	1	Rel-11	F	RP-121844	R1-125274	approved	Clarifications and corrections to HSDPA Multiflow	11.1.0	11.2.0	R1	HSDPA_MFTX-Core
25.211	0307	1	Rel-11	F	RP-121842	R1-125262	approved	Clarification of TTI Alignment	11.1.0	11.2.0	R1	Cell_FACH_enh-Core
25.211	0308	-	Rel-11	F	RP-121842	R1-125260	approved	Correction to common E-RGCH	11.1.0	11.2.0	R1	Cell_FACH_enh-Core
25.212	0312	5	Rel-11	B	RP-121845	R1-125271	approved	Introduction of uplink MIMO and 64QAM	11.3.0	11.4.0	R1	MIMO_64QAM_HSUPA-Core
25.212	0313	5	Rel-11	B	RP-121843	R1-125359	approved	Introduction of 4Tx_HSDPA in 25.212	11.3.0	11.4.0	R1	4Tx_HSDPA-Core
25.212	0315	1	Rel-10	F	RP-121840	R1-124583	approved	Clarification of HS-SCCH order for MC-HSPA	10.3.0	10.4.0	R1	4C_HSDPA-Core
25.212	0316	1	Rel-11	A	RP-121840	R1-124584	approved	Clarification of HS-SCCH order for MC-HSPA	11.3.0	11.4.0	R1	4C_HSDPA-Core
25.212	0317	1	Rel-11	F	RP-121844	R1-125275	approved	Clarifications and corrections to HSDPA Multiflow	11.3.0	11.4.0	R1	HSDPA_MFTX-Core
25.212	0318	1	Rel-11	F	RP-121842	R1-125263	approved	Clarification of HS-SCCH order information	11.3.0	11.4.0	R1	Cell_FACH_enh-Core
25.213	0115	6	Rel-11	B	RP-121845	R1-125272	approved	Introduction of uplink MIMO and 64QAM	11.3.0	11.4.0	R1	MIMO_64QAM_HSUPA-Core
25.213	0116	6	Rel-11	B	RP-121843	R1-125360	approved	Introduction of 4Tx_HSDPA in 25.213	11.3.0	11.4.0	R1	4Tx_HSDPA-Core
25.214	0688	5	Rel-11	B	RP-121845	R1-125273	approved	Introduction of uplink MIMO and 64QAM	11.3.0	11.4.0	R1	MIMO_64QAM_HSUPA-Core
25.214	0689	5	Rel-11	B	RP-121843	R1-125361	approved	Introduction of 4Tx_HSDPA in 25.214	11.3.0	11.4.0	R1	4Tx_HSDPA-Core
25.214	0692	-	Rel-11	F	RP-121841	R1-124464	approved	Clarification of UE procedure for receiving HS-SCCH orders in the CELL_DCH state	11.3.0	11.4.0	R1	HSPA_UL_TxDiv-CL-Core
25.214	0695	-	Rel-11	F	RP-121841	R1-124524	approved	Clarification of F-TPICH configuration	11.3.0	11.4.0	R1	HSPA_UL_TxDiv-CL-Core

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25.214	0697	2	Rel-11	F	RP-121842	R1-125278	approved	Clarification to the procedure of NodeB Triggered HS-DPCCH	11.3.0	11.4.0	R1	Cell_FACH_enh-Core
25.214	0699	2	Rel-11	F	RP-121844	R1-125276	approved	Clarifications and corrections to HSDPA Multiflow	11.3.0	11.4.0	R1	HSDPA_MFTX-Core
25.214	0700	1	Rel-11	F	RP-121842	R1-125264	approved	Clarification of the some aspects of Further Enhancements to CELL_FACH	11.3.0	11.4.0	R1	Cell_FACH_enh-Core
25.214	0701	-	Rel-11	F	RP-121836	1- 125279	approved	Power scaling handling for Multi-RAB	11.3.0	11.4.0	R1	EDCH-Phys
25.224	0272	2	Rel-11	F	RP-121847	R1-125265	approved	Clarification about the frequency on which UE initiates uplink synchronization in enhanced CELL_PCH state for 1.28Mcps TDD	11.0.0	11.1.0	R1	TEI11
25.302	0215	-	Rel-11	B	RP-121942	R2-125205	approved	Introduction of 4Tx-HSDPA in 25.302	11.1.0	11.2.0	R2	4Tx_HSDPA-Core
25.302	0216	1	Rel-11	B	RP-121945	R2-125922	approved	Introduction of UL MIMO with 64QAM in TS 25.302	11.1.0	11.2.0	R2	MIMO_64QAM_HSUPA-Core
25.302	0217	-	Rel-11	B	RP-121943	R2-125962	approved	Introduction of Multiflow and CLTD	11.1.0	11.2.0	R2	HSDPA_MFTX-Core, HSPA_UL_TxDiv-CL-Core
25.304	0342	-	Rel-10	F	RP-121936	R2-125207	approved	Clarification to measurement rules for inter-Freq&RAT layers without absolute priority being assigned	10.6.0	10.7.0	R2	LTE-L23, TEI10
25.304	0343	-	Rel-11	A	RP-121936	R2-125208	approved	Clarification to measurement rules for inter-Freq&RAT layers without absolute priority being assigned	11.0.0	11.1.0	R2	LTE-L23, TEI10
25.304	0344	-	Rel-11	F	RP-121957	R2-125209	approved	Correction to absolute priority cell reselection	11.0.0	11.1.0	R2	LTE-L23, TEI11
25.304	0345	2	Rel-11	B	RP-121941	R2-125936	approved	Introduction of Further Enhancements to CELL_FACH in 25.304	11.0.0	11.1.0	R2	Cell_FACH_enh-Core
25.304	0346	-	Rel-11	B	RP-121946	R2-125211	approved	Introduction of MDT accessibility measurements	11.0.0	11.1.0	R2	eMDT_UMTSLTE-Core
25.304	0347	-	Rel-11	F	RP-121941	R2-125212	approved	Clarification of absolute priority based measurements and reselection in CELL_FACH State	11.0.0	11.1.0	R2	Cell_FACH_enh-Core
25.304	0348	-	Rel-11	C	RP-121958	R2-125860	approved	Inter-RAT Treselection enhancement	11.0.0	11.1.0	R2	TEI11
25.304	0350	-	Rel-11	F	RP-121925	R2-125940	approved	TEMP_OFFSET value for CSG cells not in the neighbor cell list	11.0.0	11.1.0	R2	HNB-supp, TEI11
25.306	0387	-	Rel-9	F	RP-121923	R2-125213	approved	Adding the capability of supporting MAC-ehs window size extension	9.9.0	9.10.0	R2	RANimp-L2DataRates,TEI9
25.306	0388	-	Rel-10	A	RP-121923	R2-125214	approved	Adding the capability of supporting MAC-ehs window size extension	10.8.0	10.9.0	R2	RANimp-L2DataRates,TEI9
25.306	0389	-	Rel-11	A	RP-121923	R2-125215	approved	Adding the capability of supporting MAC-ehs window size extension	11.3.0	11.4.0	R2	RANimp-L2DataRates,TEI9
25.306	0390	1	Rel-11	B	RP-121818	-	approved	CR on rSRVCC capability indicator to 25.306	11.3.0	11.4.0	R2	rSRVCC-RAN_UTRA-Core
25.306	0390	-	Rel-11	B	RP-121944	R2-125216	rejected	CR on rSRVCC capability indicator to 25.306	11.3.0		R2	rSRVCC-RAN_UTRA-Core
25.306	0391	1	Rel-11	B	RP-121942	R2-125625	approved	Introduction of 4Tx-HSDPA in 25.306	11.3.0	11.4.0	R2	4Tx_HSDPA-Core
25.306	0392	1	Rel-11	B	RP-121941	R2-125942	approved	Introduction of Further Enhancements to CELL_FACH in 25.306	11.3.0	11.4.0	R2	Cell_FACH_enh-Core
25.306	0393	1	Rel-11	B	RP-121943	R2-125829	approved	Introduction of further Multiflow agreements in TS 25.306.	11.3.0	11.4.0	R2	HSDPA_MFTX-Core

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25.306	0394	1	Rel-11	B	RP-121945	R2-125923	approved	Introduction of MIMO with 64QAM HSUPA in 25.306	11.3.0	11.4.0	R2	MIMO_64QAM_HSUPA-Core
25.306	0395	-	Rel-10	C	RP-121937	R2-125960	approved	Introduction of UM RLC re-establishment via reconfiguration	10.8.0	10.9.0	R2	TEI10
25.306	0396	-	Rel-11	C	RP-121937	R2-125961	approved	Introduction of UM RLC re-establishment via reconfiguration	11.3.0	11.4.0	R2	TEI10
25.306	0399	-	Rel-11	B	RP-121942	R2-125927	approved	L2 buffer sizes for 4Tx-HSDPA and UL MIMO with 64QAM combinations	11.3.0	11.4.0	R2	4Tx_HSDPA-Core, MIMO_64QAM_HSUPA-Core
25.306	0400	-	Rel-11	B	RP-121938	R2-125921	approved	Introduction of non-contiguous multi-cell operation	11.3.0	11.4.0	R2	NC_4C_HSDPA-Core
25.306	0401	-	Rel-11	B	RP-121958	R2-125937	approved	Introduction of Inter-frequency measurements on configured carriers without compressed mode	11.3.0	11.4.0	R2	TEI11
25.306	0402	-	Rel-10	B	RP-121922	R2-126005	approved	Introduction of Multiple Frequency Band Indicators capability	10.8.0	10.9.0	R2	TEI10
25.306	0403	-	Rel-11	A	RP-121922	R2-126006	approved	Introduction of Multiple Frequency Band Indicators capability	11.3.0	11.4.0	R2	TEI10
25.307	0186	-	Rel-4	B	RP-121922	R2-126007	approved	Multiple frequency band indicators per cell	4.19.0	4.20.0	R2	TEI10
25.307	0187	-	Rel-5	B	RP-121922	R2-126008	approved	Multiple frequency band indicators per cell	5.18.0	5.19.0	R2	TEI10
25.307	0188	-	Rel-6	B	RP-121922	R2-126009	approved	Multiple frequency band indicators per cell	6.15.0	6.16.0	R2	TEI10
25.307	0189	-	Rel-7	B	RP-121922	R2-126010	approved	Multiple frequency band indicators per cell	7.11.0	7.12.0	R2	TEI10
25.307	0190	-	Rel-8	B	RP-121922	R2-126011	approved	Multiple frequency band indicators per cell	8.9.0	8.10.0	R2	TEI10
25.307	0191	-	Rel-9	B	RP-121922	R2-126012	approved	Multiple frequency band indicators per cell	9.5.0	9.6.0	R2	TEI10
25.307	0192	-	Rel-10	B	RP-121922	R2-126013	approved	Multiple frequency band indicators per cell	10.3.0	10.4.0	R2	TEI10
25.307	0193	-	Rel-11	B	RP-121922	R2-126014	approved	Multiple frequency band indicators per cell	11.0.0	11.1.0	R2	TEI10
25.308	0130	-	Rel-11	F	RP-121941	R2-125221	approved	Corrections to HS-DSCH DRX operation with second DRX cycle	11.2.0	11.3.0	R2	Cell_FACH_enh-Core
25.308	0131	-	Rel-11	F	RP-121942	R2-125222	approved	Update of 4Tx-HSDPA stage-2	11.2.0	11.3.0	R2	4Tx_HSDPA-Core
25.308	0133	-	Rel-11	F	RP-121938	R2-125914	approved	Stage 2 Update for Intra-band NC 4C-HSDPA Operation	11.2.0	11.3.0	R2	NC_4C_HSDPA-Core
25.319	0108	2	Rel-11	B	RP-121945	R2-125931	approved	Introduction of UL MIMO with 64QAM in TS 25.319	11.5.0	11.6.0	R2	MIMO_64QAM_HSUPA-Core
25.321	0780	-	Rel-8	F	RP-121925	R2-125224	approved	Clarification for standalone periodic SI when TEBS=0	8.16.0	8.17.0	R2	RANimp-UplinkEnhState
25.321	0781	-	Rel-9	A	RP-121925	R2-125225	approved	Clarification for standalone periodic SI when TEBS=0	9.9.0	9.10.0	R2	RANimp-UplinkEnhState
25.321	0782	-	Rel-10	A	RP-121925	R2-125226	approved	Clarification for standalone periodic SI when TEBS=0	10.7.0	10.8.0	R2	RANimp-UplinkEnhState
25.321	0783	-	Rel-11	A	RP-121925	R2-125227	approved	Clarification for standalone periodic SI when TEBS=0	11.2.0	11.3.0	R2	RANimp-UplinkEnhState
25.321	0784	-	Rel-11	B	RP-121942	R2-125228	approved	Introduction of 4Tx-HSDPA in 25.321	11.2.0	11.3.0	R2	4Tx_HSDPA-Core
25.321	0785	2	Rel-11	B	RP-121941	R2-125944	approved	Introduction of Further Enhancements to CELL_FACH in 25.321	11.2.0	11.3.0	R2	Cell_FACH_enh-Core
25.321	0786	2	Rel-11	B	RP-121945	R2-125933	approved	Introduction of UL MIMO with 64QAM in TS 25.321	11.2.0	11.3.0	R2	MIMO_64QAM_HSUPA-Core

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25.322	0404	-	Rel-11	B	RP-121943	R2-125230	approved	Introduction of further Multiflow agreements in TS 25.322	11.0.0	11.1.0	R2	HSDPA_MFTX-Core
25.331	5187	-	Rel-8	F	RP-121925	R2-125231	approved	Clarification to the handling of IE Different Tx diversity mode configuration from serving HS-DSCH cell	8.20.0	8.21.0	R2	RANimp-DCHSDPA
25.331	5188	-	Rel-9	A	RP-121925	R2-125232	approved	Clarification to the handling of IE Different Tx diversity mode configuration from serving HS-DSCH cell	9.12.0	9.13.0	R2	RANimp-DCHSDPA
25.331	5189	-	Rel-10	A	RP-121925	R2-125233	approved	Clarification to the handling of IE Different Tx diversity mode configuration from serving HS-DSCH cell	10.9.0	10.10.0	R2	RANimp-DCHSDPA
25.331	5190	-	Rel-11	A	RP-121925	R2-125234	approved	Clarification to the handling of IE Different Tx diversity mode configuration from serving HS-DSCH cell	11.3.0	11.4.0	R2	RANimp-DCHSDPA
25.331	5191	-	Rel-8	F	RP-121925	R2-125235	approved	Corrections to intra-UTRAN SR-VCC handover procedure	8.20.0	8.21.0	R2	RANimp-HSPAVoIP
25.331	5192	-	Rel-9	A	RP-121925	R2-125236	approved	Corrections to intra-UTRAN SR-VCC handover procedure	9.12.0	9.13.0	R2	RANimp-HSPAVoIP
25.331	5193	-	Rel-10	A	RP-121925	R2-125237	approved	Corrections to intra-UTRAN SR-VCC handover procedure	10.9.0	10.10.0	R2	RANimp-HSPAVoIP
25.331	5194	-	Rel-11	A	RP-121925	R2-125238	approved	Corrections to intra-UTRAN SR-VCC handover procedure	11.3.0	11.4.0	R2	RANimp-HSPAVoIP
25.331	5195	1	Rel-9	F	RP-121934	R2-125676	approved	Correction to non-backwards compatible ASN.1	9.12.0	9.13.0	R2	TEI9
25.331	5196	1	Rel-10	A	RP-121934	R2-125678	approved	Correction to non-backwards compatible ASN.1	10.9.0	10.10.0	R2	TEI9
25.331	5197	1	Rel-11	A	RP-121934	R2-125679	approved	Correction to non-backwards compatible ASN.1	11.3.0	11.4.0	R2	TEI9
25.331	5198	-	Rel-10	F	RP-121937	R2-125242	approved	Clarification to logging of PLMN identity in ANR	10.9.0	10.10.0	R2	ANR_UTRAN-Core
25.331	5199	-	Rel-11	A	RP-121937	R2-125243	approved	Clarification to logging of PLMN identity in ANR	11.3.0	11.4.0	R2	ANR_UTRAN-Core
25.331	5200	-	Rel-10	F	RP-121937	R2-125244	approved	Corrections to Inter-frequency detected set measurements	10.9.0	10.10.0	R2	Interf_dset_meas_UMTS
25.331	5201	-	Rel-11	A	RP-121937	R2-125245	approved	Corrections to Inter-frequency detected set measurements	11.3.0	11.4.0	R2	Interf_dset_meas_UMTS
25.331	5202	-	Rel-10	C	RP-121925	R2-125246	approved	Removal of SR-VCC triggered by cell update confirm	10.9.0	10.10.0	R2	RANimp-HSPAVoIP, TEI10
25.331	5203	-	Rel-11	C	RP-121925	R2-125247	approved	Removal of SR-VCC triggered by cell update confirm	11.3.0	11.4.0	R2	RANimp-HSPAVoIP, TEI10
25.331	5206	-	Rel-11	F	RP-121941	R2-125250	approved	Clarification of absolute priority based measurements and reselection in CELL_FACH State	11.3.0	11.4.0	R2	Cell_FACH_enh-Core
25.331	5207	-	Rel-11	F	RP-121957	R2-125251	approved	Clarification on the setting of CSFB Indicator in RRC Connection Request	11.3.0	11.4.0	R2	LTE-L23, TEI11
25.331	5208	-	Rel-11	F	RP-121946	R2-125252	approved	Clarifications for Logging of Connection Establishment Failure Information	11.3.0	11.4.0	R2	eMDT_UMTSLTE-Core
25.331	5209	-	Rel-11	F	RP-121943	R2-125253	approved	Correction to ACK-NACK repetition factor for Multiflow assisting cells	11.3.0	11.4.0	R2	HSDPA_MFTX-Core
25.331	5210	-	Rel-11	F	RP-121957	R2-125254	approved	Correction to the IE 'Timing maintained Synchronization indicator' for F-DPCH	11.3.0	11.4.0	R2	TEI11

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25.331	5211	1	Rel-11	B	RP-121819	-	approved	CR to 25.331 on the Introduction of rSRVCC feature	11.3.0	11.4.0	R2	rSRVCC-RAN_UTRA-Core
25.331	5211	-	Rel-11	B	RP-121944	R2-125255	rejected	CR to 25.331 on the Introduction of rSRVCC feature	11.3.0		R2	rSRVCC-RAN_UTRA-Core
25.331	5212	2	Rel-11	B	RP-121942	R2-125945	approved	Introduction of 4Tx-HSDPA in 25.331	11.3.0	11.4.0	R2	4Tx_HSDPA-Core
25.331	5213	-	Rel-11	B	RP-121943	R2-125257	approved	Introduction of additional values for DeltaACK and DeltaNACK	11.3.0	11.4.0	R2	HSDPA_MFTX-Core, TEI11
25.331	5214	2	Rel-11	B	RP-121941	R2-125943	approved	Introduction of Further Enhancements to CELL_FACH in 25.331	11.3.0	11.4.0	R2	Cell_FACH_enh-Core
25.331	5215	3	Rel-11	B	RP-121945	R2-125925	approved	Introduction of UL MIMO with 64QAM in TS 25.331	11.3.0	11.4.0	R2	MIMO_64QAM_HSUPA-Core
25.331	5216	-	Rel-11	F	RP-121943	R2-125919	approved	Correction to MAC-hs reset procedure for Multiflow	11.3.0	11.4.0	R2	HSDPA_MFTX-Core
25.331	5217	-	Rel-11	F	RP-121943	R2-125920	approved	Correction to the indications of multiflow timing	11.3.0	11.4.0	R2	HSDPA_MFTX-Core
25.331	5218	-	Rel-11	C	RP-121958	R2-125861	approved	Inter-RAT Treselection enhancement	11.3.0	11.4.0	R2	TEI11
25.331	5219	-	Rel-11	F	RP-121957	R2-125929	approved	Rapporteur's corrections for 25.331 RRC specification	11.3.0	11.4.0	R2	TEI11
25.331	5220	-	Rel-10	C	RP-121922	R2-126123	approved	Clarification on UE support and prioritisation between bands for Multiple Frequency Band Indicators	10.9.0	10.10.0	R2	TEI10
25.331	5221	1	Rel-11	A	RP-121922	R2-126125	approved	Clarification on UE support and prioritisation between bands for Multiple Frequency Band Indicators	11.3.0	11.4.0	R2	TEI10
25.331	5230	1	Rel-10	F	RP-121937	R2-125934	approved	Removal of invalid condition to stop ANR logging duration timer T327	10.9.0	10.10.0	R2	ANR_UTRAN-Core
25.331	5231	1	Rel-11	A	RP-121937	R2-125935	approved	Removal of invalid condition to stop ANR logging duration timer T327	11.3.0	11.4.0	R2	ANR_UTRAN-Core
25.331	5233	-	Rel-11	F	RP-121957	R2-125918	approved	Removing UE behavior discrepancy in case of radio link failure during ongoing reconfiguration	11.3.0	11.4.0	R2	TEI11
25.331	5234	-	Rel-11	B	RP-121923	R2-125926	approved	Introduction of enhanced serving cell change for UL 16QAM and UL 64QAM	11.3.0	11.4.0	R2	RANimp-16QamUplink, RANimp-HSDSCH, MIMO_64QAM_HSUPA-Core, TEI11
25.331	5235	1	Rel-7	F	RP-121923	R2-125952	approved	Corrections to Cell Update when UE experiences failure	7.22.0	7.23.0	R2	TEI7
25.331	5236	-	Rel-8	A	RP-121923	R2-125948	approved	Corrections to Cell Update when UE experiences failure	8.20.0	8.21.0	R2	TEI7
25.331	5237	-	Rel-9	A	RP-121923	R2-125949	approved	Corrections to Cell Update when UE experiences failure	9.12.0	9.13.0	R2	TEI7
25.331	5238	1	Rel-10	C	RP-121937	R2-125958	approved	Introduction of UM RLC re-establishment via reconfiguration	10.9.0	10.10.0	R2	TEI10
25.331	5239	-	Rel-11	C	RP-121937	R2-125959	approved	Introduction of UM RLC re-establishment via reconfiguration	11.3.0	11.4.0	R2	TEI10
25.331	5242	-	Rel-10	C	RP-121935	R2-125900	approved	Introduction of a periodic measurement for DC-HSUPA	10.9.0	10.10.0	R2	RANimp-DC_HSUPA, TEI10
25.331	5243	-	Rel-11	C	RP-121935	R2-125901	approved	Introduction of a periodic measurement for DC-HSUPA	11.3.0	11.4.0	R2	RANimp-DC_HSUPA, TEI10

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25.331	5252	2	Rel-11	B	RP-121937	R2-126133	approved	CR to 25.331 on Allow network to exclude some cells being detected and reported in intra&inter-freq detected set operation	11.3.0	11.4.0	R2	Interf_dset_meas_UMTS, TEI11
25.331	5256	-	Rel-8	F	RP-121925	R2-125903	approved	Correction on the deactivation of the secondary cell reception	8.20.0	8.21.0	R2	RANimp-DCHSDPA
25.331	5257	-	Rel-9	A	RP-121925	R2-125904	approved	Correction on the deactivation of the secondary cell reception	9.12.0	9.13.0	R2	RANimp-DCHSDPA
25.331	5258	-	Rel-10	A	RP-121925	R2-125905	approved	Correction on the deactivation of the secondary cell reception	10.9.0	10.10.0	R2	RANimp-DCHSDPA
25.331	5259	-	Rel-11	A	RP-121925	R2-125906	approved	Correction on the deactivation of the secondary cell reception	11.3.0	11.4.0	R2	RANimp-DCHSDPA
25.331	5262	-	Rel-11	F	RP-121957	R2-125907	approved	Correction to the variable SYSTEM_INFORMATION_CONTAINER	11.3.0	11.4.0	R2	LTE-L23, TEI11
25.331	5265	-	Rel-11	F	RP-121957	R2-125930	approved	Delay in checking SRB 1-4 mapping on PCH to FACH transition	11.3.0	11.4.0	R2	TEI11
25.331	5266	1	Rel-11	A	RP-121937	R2-125955	approved	Range of Logging Relative Threshold for UTRAN ANR	11.3.0	11.4.0	R2	ANR_UTRAN-Core
25.331	5271	-	Rel-11	F	RP-121946	R2-125853	approved	Removing the IE Contention Detected in Accessiability Measurement(option 3)	11.3.0	11.4.0	R2	eMDT_UMTSLTE-Core
25.331	5272	1	Rel-11	B	RP-121958	R2-125863	approved	Introduction of wideband RSRQ measurements	11.3.0	11.4.0	R2	LTE-L23, TEI11
25.331	5273	-	Rel-9	F	RP-121934	R2-125847	approved	Correction to INTER RAT HANDOVER INFO for UMTS TDD/FDD capable UE	9.12.0	9.13.0	R2	TEI9
25.331	5274	-	Rel-10	A	RP-121934	R2-125848	approved	Correction to INTER RAT HANDOVER INFO for UMTS TDD/FDD capable UE	10.9.0	10.10.0	R2	TEI9
25.331	5275	-	Rel-11	A	RP-121934	R2-125849	approved	Correction to INTER RAT HANDOVER INFO for UMTS TDD/FDD capable UE	11.3.0	11.4.0	R2	TEI9
25.331	5285	-	Rel-11	B	RP-121958	R2-125938	approved	Introduction of Inter-frequency measurements on configured carriers without compressed mode	11.3.0	11.4.0	R2	TEI11
25.331	5286	1	Rel-10	F	RP-121923	R2-125950	approved	Corrections to Cell Update when Cell Update message size exceeds the used transport format size	10.9.0	10.10.0	R2	TEI10
25.331	5287	-	Rel-11	A	RP-121923	R2-125951	approved	Corrections to Cell Update when Cell Update message size exceeds the used transport format size	11.3.0	11.4.0	R2	TEI10
25.331	5288	-	Rel-10	F	RP-121937	R2-125956	approved	Range of Logging Relative Threshold for UTRAN ANR	10.9.0	10.10.0	R2	ANR_UTRAN-Core
25.401	0140	2	Rel-11	F	RP-121736	R3-122852	approved	Documenting the Description of Extended S-RNTI and RNC-ID operation	11.0.0	11.1.0	R3	TEI11
25.413	1196	-	Rel-11	F	RP-121736	R3-122444	approved	ASN.1 correction	11.1.0	11.2.0	R3	TEI11
25.413	1197	-	Rel-11	F	RP-121736	R3-122447	approved	Improved granularity for the time UE stayed in cell for enhanced relocation	11.1.0	11.2.0	R3	TEI11
25.413	1198	-	Rel-11	B	RP-121728	R3-122451	approved	Introduction of rSRVCC	11.1.0	11.2.0	R3	rSRVCC-RAN_UTRA-Core
25.413	1202	2	Rel-11	B	RP-121728	R3-122888	approved	Introduction of the support for rSRVCC network sharing	11.1.0	11.2.0	R3	rSRVCC-RAN_UTRA-Core

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25.413	1203	-	Rel-11	F	RP-121737	R3-122509	approved	Rapporteur editorial corrections	11.1.0	11.2.0	R3	TEI11
25.413	1204	2	Rel-11	B	RP-121730	R3-122901	approved	Multi-PLMN MDT	11.1.0	11.2.0	R3	eMDT_UMTSLTE-Core
25.413	1205	1	Rel-11	F	RP-121736	R3-122906	postponed	Addition of TCE IP in UPLINK INFORMATION EXCHANGE REQUEST message	11.1.0		R3	TEI11
25.413	1207	1	Rel-10	F	RP-121724	R3-122872	approved	Adding restriction on Management Based MDT Allowed IE propagation	10.7.0	10.8.0	R3	MDT_UMTSLTE-Core
25.413	1208	1	Rel-11	B	RP-121732	R3-122816	approved	Introduction of connectivity between HNB and RNC via HNB-GW for RNSAP signaling: Enhanced Relocation between HNB and RNC	11.1.0	11.2.0	R3	EHNB_enh1-Core
25.413	1209	2	Rel-11	B	RP-121730	R3-122932	approved	Introduction of new MDT measurements	11.1.0	11.2.0	R3	eMDT_UMTSLTE-Core
25.413	1211	2	Rel-11	B	RP-121739	R3-122912	approved	New Information for BBF access	11.1.0	11.2.0	R3	BBAI
25.413	1214	2	Rel-11	F	RP-121736	R3-122826	approved	Clarification of E-UTRAN Service Handover IE for inter-RAT roaming restrictions	11.1.0	11.2.0	R3	TEI11
25.423	1766	2	Rel-11	B	RP-121730	R3-122834	approved	Introduction of UPH in dedicated measurement procedure	11.3.1	11.4.0	R3	eMDT_UMTSLTE-Core
25.423	1767	-	Rel-11	B	RP-121726	R3-122445	approved	Supporting MIMO with four transmit antennas	11.3.1	11.4.0	R3	4Tx_HSDPA-Core
25.423	1768	3	Rel-11	B	RP-121727	R3-122890	approved	Introduction of Multiflow in TS 25.423	11.3.1	11.4.0	R3	HSDPA_MFTX-Core
25.423	1769	2	Rel-11	B	RP-121729	R3-122844	approved	Introduction of Uplink MIMO and 64QAM in TS 25.423	11.3.1	11.4.0	R3	MIMO_64QAM_HSUPA-Core
25.423	1771	2	Rel-11	B	RP-121725	R3-122885	approved	Introduction of Further Enhancements to CELL_FACH feature	11.3.1	11.4.0	R3	Cell_FACH_enh-Core
25.423	1779	1	Rel-11	F	RP-121737	R3-122760	approved	Specification cleanup before freeze	11.3.1	11.4.0	R3	TEI11
25.423	1780	-	Rel-11	B	RP-121726	R3-122785	approved	ESCC support in MIMO with four transmit antennas	11.3.1	11.4.0	R3	4Tx_HSDPA-Core
25.425	0165	-	Rel-11	B	RP-121725	R3-122549	approved	Introduction of Further Enhancements to CELL_FACH feature	11.0.0	11.1.0	R3	Cell_FACH_enh-Core
25.425	0166	2	Rel-11	B	RP-121727	R3-122874	approved	Supporting Multi Flow Operation	11.0.0	11.1.0	R3	HSDPA_MFTX-Core
25.425	0167	1	Rel-11	B	RP-121725	R3-122876	approved	2nd DRX cycle and fallback to PRACH R99	11.0.0	11.1.0	R3	Cell_FACH_enh-Core
25.433	1959	1	Rel-11	B	RP-121730	R3-122762	approved	Introduction of UPH in dedicated measurement procedure	11.2.0	11.3.0	R3	eMDT_UMTSLTE-Core
25.433	1960	-	Rel-8	F	RP-121723	R3-122430	approved	Introduction of Common E-DCH Implicit Release Timer	8.12.0	8.13.0	R3	TEI8
25.433	1961	-	Rel-9	A	RP-121723	R3-122432	approved	Introduction of Common E-DCH Implicit Release Timer	9.8.0	9.9.0	R3	TEI8
25.433	1962	-	Rel-10	A	RP-121723	R3-122433	approved	Introduction of Common E-DCH Implicit Release Timer	10.7.0	10.8.0	R3	TEI8
25.433	1963	-	Rel-11	A	RP-121723	R3-122434	approved	Introduction of Common E-DCH Implicit Release Timer	11.2.0	11.3.0	R3	TEI8
25.433	1964	-	Rel-8	F	RP-121723	R3-122437	approved	Correction to DL control channel power control for E-DCH in Cell_FACH	8.12.0	8.13.0	R3	RANimp-UplinkEnhState
25.433	1965	-	Rel-9	A	RP-121723	R3-122438	approved	Correction to DL control channel power control for E-DCH in Cell_FACH	9.8.0	9.9.0	R3	RANimp-UplinkEnhState
25.433	1966	-	Rel-10	A	RP-121723	R3-122439	approved	Correction to DL control channel power control for E-DCH in Cell_FACH	10.7.0	10.8.0	R3	RANimp-UplinkEnhState

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25.433	1967	-	Rel-11	A	RP-121723	R3-122440	approved	Correction to DL control channel power control for E-DCH in Cell_FACH	11.2.0	11.3.0	R3	RANimp-UplinkEnhState
25.433	1968	-	Rel-11	B	RP-121726	R3-122446	approved	Supporting MIMO with four transmit antennas	11.2.0	11.3.0	R3	4Tx_HSDPA-Core
25.433	1969	-	Rel-11	F	RP-121737	R3-122474	approved	Editorial and minor corrections	11.2.0	11.3.0	R3	TEI11
25.433	1970	3	Rel-11	B	RP-121727	R3-122889	approved	Introduction of Multiflow in TS 25.433	11.2.0	11.3.0	R3	HSDPA_MFTX-Core
25.433	1971	2	Rel-11	B	RP-121729	R3-122843	approved	Introduction of Uplink MIMO and 64QAM in TS 25.433	11.2.0	11.3.0	R3	MIMO_64QAM_HSUPA-Core
25.433	1972	2	Rel-11	B	RP-121725	R3-122878	approved	Introduction of Further Enhancements to CELL_FACH feature	11.2.0	11.3.0	R3	Cell_FACH_enh-Core
25.433	1975	-	Rel-11	B	RP-121726	R3-122786	approved	ESCC support in MIMO with four transmit antennas	11.2.0	11.3.0	R3	4Tx_HSDPA-Core
25.435	0284	2	Rel-11	B	RP-121725	R3-122879	approved	Introduction of Further Enhancements to CELL_FACH feature	11.0.0	11.1.0	R3	Cell_FACH_enh-Core
25.435	0289	2	Rel-11	B	RP-121727	R3-122875	approved	Supporting Multi Flow Operation	11.0.0	11.1.0	R3	HSDPA_MFTX-Core
25.435	0290	1	Rel-11	B	RP-121725	R3-122877	approved	2nd DRX cycle and fallback to PRACH R99	11.0.0	11.1.0	R3	Cell_FACH_enh-Core
25.435	0291	-	Rel-10	F	RP-121724	R3-122795	approved	Correction of missing EI in figure 2B of HS-DSCH Data Frame Type 2	10.4.0	10.5.0	R3	TEI10
25.435	0292	-	Rel-11	A	RP-121724	R3-122796	approved	Correction of missing EI in figure 2B of HS-DSCH Data Frame Type 2	11.0.0	11.1.0	R3	TEI10
25.435	0293	-	Rel-11	B	RP-121727	R3-122921	approved	Merge of all changes from CRs to Figure 21B and corresponding descriptions	11.0.0	11.1.0	R3	HSDPA_MFTX-Core, Cell_FACH_enh-Core
25.461	0082	-	Rel-11	F	RP-121736	R3-122455	approved	Introduction of band 22 in TS 25.461	11.1.0	11.2.0	R3	RInImp8-UMTSLTE3500, TEI11
25.461	0083	1	Rel-11	B	RP-121735	R3-122891	approved	Introduction of Band 29 into TS 25.461	11.1.0	11.2.0	R3	LTE_DL_FDD700-Core
25.466	0049	-	Rel-11	F	RP-121736	R3-122456	approved	Introduction of band 22 in TS 25.466	11.2.0	11.3.0	R3	RInImp8-UMTSLTE3500, TEI11
25.466	0050	1	Rel-11	B	RP-121735	R3-122892	approved	Introduction of Band 29 into TS 25.466	11.2.0	11.3.0	R3	LTE_DL_FDD700-Core
25.467	0184	-	Rel-11	F	RP-121736	R3-122431	approved	Clarification of target HNB behaviour in case of Relocation Failure	11.0.0	11.1.0	R3	TEI11
25.467	0185	2	Rel-11	B	RP-121732	R3-122863	approved	Introduction of connectivity between HNB and RNC via HNB-GW for RNSAP signalling: soft handover between HNB and RNC	11.0.0	11.1.0	R3	EHNB_enh1-Core
25.467	0188	2	Rel-11	B	RP-121732	R3-122823	approved	Introduction of connectivity between HNB and RNC via HNB-GW for RNSAP signaling: Enhanced Relocation between HNB and RNC	11.0.0	11.1.0	R3	EHNB_enh1-Core
25.467	0189	1	Rel-11	B	RP-121733	R3-122886	approved	Support or Legacy UEs hand-in	11.0.0	11.1.0	R3	EHNB_enh2-Core
25.467	0190	2	Rel-11	B	RP-121739	R3-122914	approved	New Information for BBF access	11.0.0	11.1.0	R3	BBAI
25.467	0193	-	Rel-11	B	RP-121733	R3-122822	approved	Support of the Target HNB Cell Disambiguation at the HNB-GW	11.0.0	11.1.0	R3	EHNB_enh2-Core
25.468	0041	-	Rel-11	F	RP-121737	R3-122477	approved	Editorial and minor corrections	11.0.0	11.1.0	R3	TEI11

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25.469	0090	-	Rel-11	A	RP-121724	R3-122473	approved	Add missing cause values for Iurh support	11.0.0	11.1.0	R3	HNB_HENB_mob_enh-Core
25.469	0091	-	Rel-11	F	RP-121737	R3-122475	approved	Editorial and minor corrections	11.0.0	11.1.0	R3	TEI11
25.469	0093	2	Rel-11	B	RP-121739	R3-122913	approved	New Information for BBF access	11.0.0	11.1.0	R3	BBAI
25.469	0095	-	Rel-10	F	RP-121724	R3-122934	approved	Add missing cause values for Iurh support	10.2.0	10.3.0	R3	HNB_HENB_mob_enh-Core
25.471	0006	-	Rel-11	F	RP-121737	R3-122476	approved	Editorial and minor corrections	11.0.0	11.1.0	R3	TEI11
25.914	0023	1	Rel-11	F	RP-121912	R4-125952	approved	Test method update for devices with multiple receive antennas	11.2.0	11.3.0	R4	UEAnt_FSTest
25.914	0024	-	Rel-11	F	RP-121912	R4-126100	approved	Corrections to Random Uncertainty for LME	11.2.0	11.3.0	R4	UEAnt_FSTest
25.914	0025	-	Rel-11	F	RP-121875	R4-126411	approved	Data browsing mode measurement uncertainty	11.2.0	11.3.0	R4	FS_OTA_phantoms_UTRA
34.108	0911	-	Rel-11	F	RP-121654	R5-125082	approved	Addition of new condition A19b to defualt message content for Radio Bearer setup message	11.3.0	11.4.0	R5	TEI7_Test
34.108	0912	-	Rel-11	F	RP-121673	R5-125248	approved	Addition of 16QAM releted IEs to RB Setup message for DC-HSUPA	11.3.0	11.4.0	R5	RANimp-DC_HSUPA_UEConTest
34.108	0913	-	Rel-11	F	RP-121663	R5-125400	approved	Correction to MAC-ehs window size in RB SETUP message(DC-HSDPA)	11.3.0	11.4.0	R5	TEI8_Test
34.108	0914	-	Rel-11	F	RP-121705	R5-125480	approved	Addition of a connection set up procedure for CS+PS multi RAB combination.	11.3.0	11.4.0	R5	TEI_Test
34.108	0915	-	Rel-11	F	RP-121663	R5-125676	approved	Clarification of IPv6 signalling	11.3.0	11.4.0	R5	TEI8_Test
34.108	0916	-	Rel-11	F	RP-121654	R5-125677	approved	Correction to default RADIO BEARER SETUP message (FDD) condition A28a for support of MIMO/Non-MIMO Co-existence Tests	11.3.0	11.4.0	R5	TEI7_Test
34.108	0917	-	Rel-11	F	RP-121680	R5-125688	approved	Update of the default RADIO BEARER SETUP message (FDD) for support of 4C HSDPA	11.3.0	11.4.0	R5	4C_HSDPA-UEConTest
34.108	0918	-	Rel-11	F	RP-121653	R5-126014	approved	Correction some parameters value in 34.108 for LCR TDD	11.3.0	11.4.0	R5	TEI4_Test
34.114	0052	-	Rel-11	F	RP-121687	R5-125411	approved	Corrections to Uncertainty related to the use of Phantoms	11.2.0	11.3.0	R5	UEAnt_FSTest-UEConTest
34.114	0053	-	Rel-11	F	RP-121687	R5-125412	approved	Corrections to Random Uncertainty	11.2.0	11.3.0	R5	UEAnt_FSTest-UEConTest
34.114	0054	-	Rel-11	F	RP-121687	R5-125414	approved	Corrections to Scope related to UEs and laptops using the SISO/SIMO mode	11.2.0	11.3.0	R5	UEAnt_FSTest-UEConTest
34.114	0055	-	Rel-11	F	RP-121687	R5-125415	approved	Clarifications to Receiver Performance for SIMO mode	11.2.0	11.3.0	R5	UEAnt_FSTest-UEConTest
34.114	0056	-	Rel-11	F	RP-121687	R5-125838	approved	Modification to Uncertainty contributions for LME & LEE	11.2.0	11.3.0	R5	UEAnt_FSTest-UEConTest
34.114	0057	-	Rel-11	F	RP-121687	R5-125839	approved	Corrections to examples of uncertainty budget calculations	11.2.0	11.3.0	R5	UEAnt_FSTest-UEConTest
34.121-1	1460	-	Rel-10	F	RP-121673	R5-125249	approved	Introduction of new UE Relative Code Domain Power Accuracy test case for DC-HSUPA with 16QAM	10.4.0	10.5.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1461	-	Rel-10	F	RP-121654	R5-125250	approved	Correction to UE output power level during relative CDP measurement in TC 5.2E	10.4.0	10.5.0	R5	TEI7_Test

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34.121-1	1462	-	Rel-10	F	RP-121680	R5-125255	approved	Adding connection diagram for 4C-HSDPA tests	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1463	-	Rel-10	F	RP-121680	R5-125256	approved	Test system uncertainties, test tolerances and statistical testing for 4C-HSDPA tests	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1464	-	Rel-10	F	RP-121680	R5-125258	approved	Corrections to many 4C-HSDPA performance tests in section 9	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1465	-	Rel-10	F	RP-121655	R5-125387	approved	Addition of Band 26 in RSRP/RSRQ accuracy requirements in 34.121-1	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1466	-	Rel-10	F	RP-121655	R5-125389	approved	Correction to exception messages in RRM 8.7.12 in 34.121-1	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1467	-	Rel-10	F	RP-121655	R5-125392	approved	Correction to Inter-system Handover in 34.121-1	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1468	-	Rel-10	F	RP-121663	R5-125401	approved	Addition of message exceptions in 9.2.1J/9.2.1K/9.2.1L	10.4.0	10.5.0	R5	TEI8_Test
34.121-1	1469	-	Rel-10	F	RP-121680	R5-125639	approved	4C-HSDPA related updates to Annexure	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1470	-	Rel-10	F	RP-121655	R5-125822	approved	Correction to exception messages in RRM 8.7.10 in 34.121-1	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1471	-	Rel-10	F	RP-121655	R5-125823	approved	Correction to RRM 8.6.7.2/8.6.7.2 in 34.121-1	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1472	-	Rel-10	F	RP-121655	R5-125824	approved	Update of Annex K	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1473	-	Rel-10	F	RP-121688	R5-125834	approved	Introduction of Band 27 to TS 34.121-1	10.4.0	10.5.0	R5	LTE_e850_LB-UEConTest
34.121-1	1474	-	Rel-10	F	RP-121680	R5-125840	approved	Addition of new test cases 9.2.1GC and 9.2.1GD	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1475	-	Rel-10	F	RP-121680	R5-125841	approved	New 4C-HSDPA Blocking test cases	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1476	-	Rel-10	F	RP-121680	R5-125842	approved	New 4C-HSDPA Reference Sensitivity test cases	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1477	-	Rel-10	F	RP-121680	R5-125843	approved	New 4C-HSDPA Maximum input level test cases	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1478	-	Rel-10	F	RP-121680	R5-125844	approved	New 4C-HSDPA Spurious response test cases	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1479	-	Rel-10	F	RP-121680	R5-125845	approved	New 4C-HSDPA intermodulation characteristics test cases	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1480	-	Rel-10	F	RP-121680	R5-125846	approved	4C HSDPA related updates to General sections of 34.121-1	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1481	-	Rel-10	F	RP-121655	R5-125864	approved	Correction to test applicability of inter-RAT measurement related TCs(TS34.121-1)	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1482	-	Rel-10	F	RP-121655	R5-125905	approved	Completing TC8.3.4d, Handover from UTRAN FDD to E-UTRAN TDD unknown cell	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-1	1483	-	Rel-10	F	RP-121673	R5-126061	approved	Updating incomplete DC-HSUPA test cases in 34.121-1	10.4.0	10.5.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1484	-	Rel-10	F	RP-121673	R5-126062	approved	Splitting DC-HSUPA test case 5.2BA, 5.9C and 5.10C.	10.4.0	10.5.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1485	-	Rel-10	F	RP-121705	R5-125914	approved	Introduction of new RRM Test Case 8.4.3.1A	10.4.0	10.5.0	R5	TEI_Test
34.121-1	1486	-	Rel-10	F	RP-121680	R5-125918	approved	New 4C HSDPA - CQI reporting TC	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-1	1487	-	Rel-10	F	RP-121654	R5-125926	approved	Removing redundant testing for Type3/Type3i UEs (34.121-1)	10.4.0	10.5.0	R5	TEI7_Test
34.121-1	1488	-	Rel-10	F	RP-121655	R5-125927	approved	Alignment of UE antenna connection in HSDPA and E-DCH performance tests	10.4.0	10.5.0	R5	LTE-UEConTest_RF

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34.121-1	1489	-	Rel-10	F	RP-121655	R5-125904	approved	Completing TC8.3.4b, Handover from UTRAN FDD to E-UTRAN TDD	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-2	0130	-	Rel-10	F	RP-121680	R5-125259	approved	Adding applicability for many 4C-HSDPA tests into TS 34.121-2	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-2	0131	-	Rel-10	F	RP-121655	R5-125863	approved	Correction to applicability of inter-RAT measurement related TCs(TS34.121-2)	10.4.0	10.5.0	R5	LTE-UEConTest_RF
34.121-2	0133	-	Rel-10	F	RP-121673	R5-125913	approved	Adding missing DC-HSUPA test cases to 34.121-2	10.4.0	10.5.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-2	0134	-	Rel-10	F	RP-121665	R5-125915	approved	Addition of Test Case applicability for new RRM Test Case 8.4.3.1A	10.4.0	10.5.0	R5	TEI10_Test
34.121-2	0135	-	Rel-10	F	RP-121680	R5-125919	approved	Applicability changes for test case 9.2.1GC and 9.2.1GD	10.4.0	10.5.0	R5	4C_HSDPA-UEConTest
34.121-2	0136	-	Rel-10	F	RP-121654	R5-125928	approved	Removing redundant testing for Type3/Type3i UEs (34.121-2)	10.4.0	10.5.0	R5	TEI7_Test
34.122	0418	-	Rel-11	F	RP-121655	R5-125396	approved	Correction to UTRA TDD to E-UTRA FDD Handover in 34.122	11.3.0	11.4.0	R5	LTE-UEConTest_RF
34.122	0419	-	Rel-11	F	RP-121655	R5-125825	approved	Correction to wait time for RSRP/RSRQ tests in 34.122	11.3.0	11.4.0	R5	LTE-UEConTest_RF
34.122	0420	-	Rel-11	F	RP-121672	R5-125826	approved	Completing TC8.3.3d, UTRAN TDD to E-UTRAN TDD Handover unknown target cell	11.3.0	11.4.0	R5	TEI11_Test
34.122	0421	-	Rel-11	F	RP-121672	R5-125827	approved	Completing TC8.3.3c, UTRAN TDD to E-UTRAN FDD Handover unknown target cell	11.3.0	11.4.0	R5	TEI11_Test
34.122	0422	-	Rel-11	F	RP-121672	R5-125828	approved	Completing TC8.3.3e, UTRAN TDD to GSM Handover non-synchronization target cell	11.3.0	11.4.0	R5	TEI11_Test
34.122	0423	-	Rel-11	F	RP-121672	R5-125829	approved	Correction of TC8.3.3a, UTRAN TDD to E-UTRAN FDD Handover	11.3.0	11.4.0	R5	TEI11_Test
34.122	0424	-	Rel-11	F	RP-121672	R5-125830	approved	Correction of TC8.3.3b, UTRAN TDD to E-UTRAN TDD Handover	11.3.0	11.4.0	R5	TEI11_Test
34.123-1	3203	-	Rel-10	F	RP-121679	R5-125192	approved	Correction to ANR for UTRAN test case 8.7.1.1	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3204	-	Rel-10	F	RP-121679	R5-125193	approved	Correction to ANR for UTRAN test case 8.7.1.1a	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3205	-	Rel-10	F	RP-121679	R5-125194	approved	Correction to ANR for UTRAN test case 8.7.1.2	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3206	-	Rel-10	F	RP-121679	R5-125196	approved	Correction to ANR for UTRAN test case 8.7.1.2a	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3207	-	Rel-10	F	RP-121679	R5-125197	approved	Correction to ANR for UTRAN test case 8.7.1.3	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3208	-	Rel-10	F	RP-121679	R5-125198	approved	Correction to ANR for UTRAN test case 8.7.1.3a	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3209	-	Rel-10	F	RP-121679	R5-125199	approved	Correction to ANR for UTRAN test case 8.7.1.4	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3210	-	Rel-10	F	RP-121679	R5-125201	approved	Correction to ANR for UTRAN test case 8.7.1.4a	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3211	-	Rel-10	F	RP-121679	R5-125202	approved	Correction to ANR for UTRAN test case 8.7.1.5	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3212	-	Rel-10	F	RP-121679	R5-125203	approved	Correction to ANR for UTRAN test case 8.7.1.5a	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3213	-	Rel-10	F	RP-121679	R5-125205	approved	Correction to ANR for UTRAN IRAT (GERAN) test case 8.7.2.1	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest
34.123-1	3214	-	Rel-10	F	RP-121679	R5-125206	approved	Correction to ANR for UTRAN IRAT (GERAN) test case 8.7.2.1a	10.2.2	10.3.0	R5	ANR_UTRAN-UEConTest

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34.123-1	3215	-	Rel-10	F	RP-121664	R5-125409	approved	Addition of new RRC test case 8.1.2.27 to verify UE configures according to default configuration#23 as specified in RRC Connection Setup message.	10.2.2	10.3.0	R5	TEI9_Test
34.123-1	3216	-	Rel-10	F	RP-121653	R5-125440	approved	Correction to measurement test case 8.4.1.45	10.2.2	10.3.0	R5	TEI4_Test
34.123-1	3217	-	Rel-10	F	RP-121653	R5-125444	approved	Addition EPLMN in test step 8b and 28b in test case 12.4.1.4a.	10.2.2	10.3.0	R5	TEI4_Test
34.123-1	3219	-	Rel-10	F	RP-121654	R5-125486	approved	Correction to LCR TDD Test Case 8.2.2.36b	10.2.2	10.3.0	R5	TEI7_Test
34.123-1	3220	-	Rel-10	F	RP-121676	R5-125516	approved	Update of MDT test case 8.6.2.2	10.2.2	10.3.0	R5	MDT_UMTSLTE-UEConTest
34.123-1	3221	-	Rel-10	F	RP-121676	R5-125517	approved	Update of MDT test case 8.6.2.3	10.2.2	10.3.0	R5	MDT_UMTSLTE-UEConTest
34.123-1	3222	-	Rel-10	F	RP-121676	R5-125518	approved	Update of MDT test case 8.6.2.4	10.2.2	10.3.0	R5	MDT_UMTSLTE-UEConTest
34.123-1	3223	-	Rel-10	F	RP-121676	R5-125519	approved	Update of MDT test case 8.6.2.5	10.2.2	10.3.0	R5	MDT_UMTSLTE-UEConTest
34.123-1	3224	-	Rel-10	F	RP-121676	R5-125520	approved	Update of MDT test case 8.6.2.6	10.2.2	10.3.0	R5	MDT_UMTSLTE-UEConTest
34.123-1	3225	-	Rel-10	F	RP-121676	R5-125521	approved	Update of MDT test case 8.6.2.7	10.2.2	10.3.0	R5	MDT_UMTSLTE-UEConTest
34.123-1	3226	-	Rel-10	F	RP-121664	R5-125618	approved	Addition of new RRC test case 8.2.2.84 to verify the default radio configuration for Cell_FACH provided in Radio Bearer Reconfiguration message.	10.2.2	10.3.0	R5	TEI9_Test
34.123-1	3227	-	Rel-10	F	RP-121665	R5-125678	approved	Correction of Attach type in GMM test case 12.4.1.4c	10.2.2	10.3.0	R5	TEI10_Test
34.123-1	3228	-	Rel-10	F	RP-121665	R5-125679	approved	Update 8.1.5.7 in Rel-10	10.2.2	10.3.0	R5	TEI10_Test
34.123-1	3229	-	Rel-10	F	RP-121705	R5-125680	approved	Correction to type of detach in 9.4.5.3, 12.4.1.4a test cases	10.2.2	10.3.0	R5	TEI_Test
34.123-1	3230	-	Rel-10	F	RP-121654	R5-125681	approved	Corrections to Test Case 8.2.2.71 and 8.2.2.72	10.2.2	10.3.0	R5	TEI7_Test
34.123-1	3231	-	Rel-10	F	RP-121705	R5-125682	approved	Removal of UTRA TC 6.2.1.10	10.2.2	10.3.0	R5	TEI_Test
34.123-1	3232	-	Rel-10	F	RP-121680	R5-125689	approved	Update of Test Case 8.2.2.80	10.2.2	10.3.0	R5	4C_HSDPA-UEConTest
34.123-1	3233	-	Rel-10	F	RP-121680	R5-125690	approved	Update to Test Case 8.2.2.83	10.2.2	10.3.0	R5	4C_HSDPA-UEConTest
34.123-1	3234	-	Rel-10	F	RP-121680	R5-125695	approved	Addition of new testcase 8.2.1.44 for successful Activation of 3C-HSDPA and 4C-HSDPA for different bands.	10.2.2	10.3.0	R5	4C_HSDPA-UEConTest
34.123-1	3235	-	Rel-10	F	RP-121705	R5-125746	approved	Correction of UTRA GMM TC 12.4.1.3	10.2.2	10.3.0	R5	TEI_Test
34.123-1	3236	-	Rel-10	F	RP-121663	R5-126069	approved	Update test cases of Elementary procedures for LTE capable UEs (TCs in section 9 and 12)	10.2.2	10.3.0	R5	TEI8_Test
34.123-1	3237	-	Rel-10	F	RP-121665	R5-126032	approved	Update of GMM test case 12.4.1.4a	10.2.2	10.3.0	R5	TEI10_Test
34.123-2	0616	-	Rel-10	F	RP-121705	R5-125285	approved	Removal of applicability for UTRA TC 6.2.1.10	10.2.0	10.3.0	R5	TEI_Test
34.123-2	0617	-	Rel-10	F	RP-121679	R5-125343	approved	Corrections to applicability table for ANR for UTRAN test cases	10.2.0	10.3.0	R5	ANR_UTRAN-UEConTest

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34.123-2	0618	-	Rel-10	F	RP-121664	R5-125418	approved	Addition of applicability for new Test Case 8.1.2.27 testing default configuration#23.	10.2.0	10.3.0	R5	TEI9_Test
34.123-2	0619	-	Rel-10	F	RP-121664	R5-125437	approved	Correction to the applicability statement for test case 8.3.11.18.	10.2.0	10.3.0	R5	TEI9_Test
34.123-2	0620	-	Rel-10	F	RP-121664	R5-125619	approved	Addition of applicability for new Test Case 8.2.2.84 testing default configuration for Cell_FACH	10.2.0	10.3.0	R5	TEI9_Test
34.123-2	0621	-	Rel-10	F	RP-121680	R5-125696	approved	Addition of applicability for new Test Case 8.2.1.44	10.2.0	10.3.0	R5	4C_HSDPA-UEConTest
34.123-2	0622	-	Rel-10	F	RP-121654	R5-125719	approved	Correction to the applicability for test case 8.3.11.15 in TS 34.123-2	10.2.0	10.3.0	R5	TEI7_Test
34.123-2	0623	-	Rel-10	F	RP-121654	R5-126015	approved	Correction to ICS for MB MF Test Cases	10.2.0	10.3.0	R5	TEI7_Test
34.123-2	0624	-	Rel-10	F	RP-121664	R5-126016	approved	Correction to ICS for Enhanced FACH test cases	10.2.0	10.3.0	R5	TEI9_Test
34.123-3	2991	-	Rel-10	F	RP-121664	R5-125121	approved	34123-3: Routine maintenance and updates	10.1.0	10.2.0	R5	TEI9_Test
34.123-3	2992	-	Rel-10	F	RP-121679	R5-125257	approved	Introduction of PIXIT parameter for ANR measurement and logging wait time	10.1.0	10.2.0	R5	ANR_UTRAN-UEConTest
34.123-3	2993	-	Rel-10	F	RP-121667	R5s120601	approved	Regression CR for UTRA wk23 ATS	10.1.0	10.2.0	R5	TEI_Test
34.123-3	2994	-	Rel-10	F	RP-121667	R5s120616	approved	Correction to NAS test cases to allow any value for power off during USIM removal	10.1.0	10.2.0	R5	TEI_Test
34.123-3	2995	-	Rel-10	F	RP-121667	R5s120624	approved	Correction to UTRA ETWS test case 8.1.1.13	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	2996	-	Rel-10	F	RP-121667	R5s120626	approved	Correction to UTRA RRC test case 8.2.2.59	10.1.0	10.2.0	R5	TEI7_Test
34.123-3	2997	-	Rel-10	F	RP-121667	R5s120627	approved	Adding Guard Timer extension for manul PLMN test cases	10.1.0	10.2.0	R5	TEI_Test
34.123-3	2998	-	Rel-10	F	RP-121667	R5s120630	approved	Correction to UTRA test case 6.2.1.1	10.1.0	10.2.0	R5	TEI_Test
34.123-3	2999	-	Rel-10	F	RP-121667	R5s120631	approved	Correction to UTRA RRC test case 8.3.1.47	10.1.0	10.2.0	R5	TEI7_Test
34.123-3	3000	-	Rel-10	B	RP-121667	R5s120635	approved	Addition of GCF WI-112 UTRA test case 14.7.1a	10.1.0	10.2.0	R5	TEI7_Test
34.123-3	3001	-	Rel-10	F	RP-121667	R5s120640	approved	Correction to UTRA test case 6.1.1.14	10.1.0	10.2.0	R5	TEI7_Test
34.123-3	3002	-	Rel-10	B	RP-121667	R5s120645	approved	Addition of GCF WI-112 UTRA test case 14.7.6a	10.1.0	10.2.0	R5	TEI7_Test
34.123-3	3003	-	Rel-10	F	RP-121667	R5s120674	approved	Correction to CSoverHSPA test cases 7.3.7.2 and 8.3.1.48	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	3004	-	Rel-10	F	RP-121667	R5s120687	approved	Corrections to ETWS testcase 8.1.1.13	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	3005	-	Rel-10	F	RP-121667	R5s120712	approved	Regression CR for UTRA 12wk35 ATS	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	3006	-	Rel-10	F	RP-121667	R5s120716	approved	Correction to eCall test cases 13.3.1.6 & 13.3.1.10	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	3007	-	Rel-10	F	RP-121667	R5s120792	approved	Correction to IR_U test cases 6.2.1.7 and 6.2.1.8	10.1.0	10.2.0	R5	TEI_Test
34.123-3	3008	-	Rel-10	F	RP-121667	R5s120794	approved	Correction to UTRA test case 7.1.7.1	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	3009	-	Rel-10	F	RP-121667	R5s120803	approved	Correction to UTRA Capability test case 8.1.5.7	10.1.0	10.2.0	R5	TEI_Test
34.123-3	3010	-	Rel-10	F	RP-121667	R5s120804	approved	Correction to Rel-6 UTRA testcases	10.1.0	10.2.0	R5	TEI6_Test
34.123-3	3011	-	Rel-10	F	RP-121667	R5s120805	approved	Corrections to Rel-8 UTRA test cases	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	3012	-	Rel-10	F	RP-121667	R5s120806	approved	Correction to Inter-RAT (3G-2G) test cases	10.1.0	10.2.0	R5	TEI_Test
34.123-3	3013	-	Rel-10	F	RP-121667	R5s120807	approved	Correction in GERAN preamble part for IR_G test cases	10.1.0	10.2.0	R5	TEI7_Test

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34.123-3	3014	-	Rel-10	F	RP-121667	R5s120814	approved	Correction to UTRA test case 8.1.1.13	10.1.0	10.2.0	R5	TEI8_Test
34.123-3	3015	-	Rel-10	F	RP-121667	R5s120840	approved	Corrections to UTRA SMS test case 16.3 for CS only Domain	10.1.0	10.2.0	R5	TEI_Test
34.123-3	3016	-	Rel-10	F	RP-121666	-	approved	Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A	10.1.0	10.2.0	R5	TEI7_Test
34.229-1	0391	-	Rel-9	F	RP-121663	R5-125288	approved	Correction of default message contents in Annex A	9.10.0	9.11.0	R5	TEI8_Test
34.229-1	0392	-	Rel-9	F	RP-121663	R5-125289	approved	Correction of 11.2	9.10.0	9.11.0	R5	TEI8_Test
34.229-1	0393	-	Rel-9	F	RP-121664	R5-125575	approved	Correction to references	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0394	-	Rel-9	F	RP-121664	R5-125578	approved	Updates to 12-21 - MO MTSI Video call	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0395	-	Rel-9	F	RP-121664	R5-125579	approved	Updates to 12-22 - MT MTSI Video call	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0396	-	Rel-9	F	RP-121664	R5-125580	approved	Updates to 17.1 - MO Speech, add video remove video	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0397	-	Rel-9	F	RP-121664	R5-125581	approved	Updates to 17.2 - MT Speech, add video remove video	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0398	-	Rel-9	F	RP-121664	R5-125588	approved	Update test case 19.5.6	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0399	-	Rel-9	F	RP-121664	R5-125589	approved	Update test case 19.5.1	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0400	-	Rel-9	F	RP-121664	R5-125590	approved	Update test case 19.5.7	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0401	-	Rel-9	F	RP-121664	R5-125591	approved	Update test case 19.5.8	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0402	-	Rel-9	F	RP-121664	R5-125592	approved	Update test case 19.5.10	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0403	-	Rel-9	F	RP-121664	R5-125595	approved	Update test case 19.3.1	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0404	-	Rel-9	F	RP-121664	R5-125616	approved	Update test case 19.1.5	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0405	-	Rel-9	F	RP-121664	R5-125771	approved	Removal of location accuracy requirement from Emergency Services test cases	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0406	-	Rel-9	F	RP-121664	R5-125772	approved	Update generic procedure C.11	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0407	-	Rel-9	F	RP-121663	R5-125773	approved	IMS MTSI TC 15.28 correction	9.10.0	9.11.0	R5	TEI8_Test
34.229-1	0408	-	Rel-9	F	RP-121663	R5-125774	approved	IMS MTSI TC 15.8 correction	9.10.0	9.11.0	R5	TEI8_Test
34.229-1	0409	-	Rel-10	F	RP-121685	R5-126003	approved	Update the default messages for aSRVCC	9.10.0	10.0.0	R5	aSRVCC-UEConTest
34.229-1	0410	-	Rel-10	F	RP-121685	R5-126004	approved	Addition of new generic test procedures for aSRVCC	9.10.0	10.0.0	R5	aSRVCC-UEConTest
34.229-1	0411	-	Rel-9	F	RP-121664	R5-126025	approved	Location stimulus clarification for Emergency Services test cases	9.10.0	9.11.0	R5	TEI9_Test
34.229-1	0412	-	Rel-9	F	RP-121663	R5-126033	approved	IMS extend IMS_CC test case 8.1 for LTE	9.10.0	9.11.0	R5	TEI8_Test
34.229-1	0413	-	Rel-9	F	RP-121663	R5-126034	approved	IMS Default content of ACK	9.10.0	9.11.0	R5	TEI8_Test
34.229-2	0110	-	Rel-9	F	RP-121664	R5-125617	approved	Update applicability for emergency test cases	9.10.0	9.11.0	R5	TEI9_Test
34.229-2	0111	-	Rel-10	F	RP-121685	R5-126005	approved	Update to ICS proforma table for Additional information	9.10.0	10.0.0	R5	aSRVCC-UEConTest
34.229-3	0077	-	Rel-9	F	RP-121664	R5-125120	approved	34229-3: Routine maintenance and updates	9.5.0	9.6.0	R5	TEI9_Test
34.229-3	0078	-	Rel-9	B	RP-121669	R5s120605	approved	Addition of GCF WI-103 IMS test case 12.12	9.5.0	9.6.0	R5	TEI8_Test
34.229-3	0079	-	Rel-9	B	RP-121669	R5s120607	approved	Addition of GCF WI-103 IMS test case 12.13	9.5.0	9.6.0	R5	TEI8_Test

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34.229-3	0080	-	Rel-9	B	RP-121669	R5s120609	approved	Addition of GCF WI-103 IMS test case 15.11	9.5.0	9.6.0	R5	TEI8_Test
34.229-3	0081	-	Rel-9	F	RP-121669	R5s120729	approved	IMS TTCN correction	9.5.0	9.6.0	R5	TEI8_Test
34.229-3	0082	-	Rel-9	B	RP-121669	R5s120730	approved	Addition of GCF WI-103 IMS test case 15.8	9.5.0	9.6.0	R5	TEI8_Test
34.229-3	0083	-	Rel-9	B	RP-121669	R5s120732	approved	Addition of GCF WI-103 IMS test case 15.12	9.5.0	9.6.0	R5	TEI8_Test
34.229-3	0084	-	Rel-9	B	RP-121669	R5s120733	approved	Addition of GCF WI-103 IMS test case 15.27	9.5.0	9.6.0	R5	TEI8_Test
34.229-3	0085	-	Rel-9	B	RP-121669	R5s120736	approved	Addition of GCF WI-103 IMS test case 15.28	9.5.0	9.6.0	R5	TEI8_Test
34.229-3	0086	-	Rel-9	F	RP-121668	-	approved	CR to 34.229-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.229-3 (prose), Annex A	9.5.0	9.6.0	R5	TEI8_Test
36.101	1362	-	Rel-11	B	RP-121884	R4-125022	approved	Introduction of CA_3_8 RF requirements to TS 36.101	11.2.0	11.3.0	R4	LTE_CA_B3_B8-Core
36.101	1363	-	Rel-11	F	RP-121870	R4-125072	approved	Removal of square brackets for Band 27 in Table 5.6.1-1	11.2.0	11.3.0	R4	LTE_e850_LB-Core
36.101	1365	1	Rel-10	F	RP-121861	R4-125888	approved	Some changes related to CA tests and overview table of DL measurement channels	10.8.0	10.9.0	R4	LTE_CA-Perf
36.101	1366	-	Rel-11	A	RP-121861	R4-125104	approved	Some changes related to CA tests and overview table of DL measurement channels	11.2.0	11.3.0	R4	LTE_CA-Perf
36.101	1367	-	Rel-10	F	RP-121860	R4-125108	approved	Correction of eICIC CQI tests	10.8.0	10.9.0	R4	eICIC_LTE-Perf
36.101	1368	-	Rel-11	A	RP-121860	R4-125109	approved	Correction of eICIC CQI tests	11.2.0	11.3.0	R4	eICIC_LTE-Perf
36.101	1369	-	Rel-10	F	RP-121860	R4-125110	approved	Correction of eICIC demodulation tests	10.8.0	10.9.0	R4	eICIC_LTE-Perf
36.101	1370	-	Rel-11	A	RP-121860	R4-125111	approved	Correction of eICIC demodulation tests	11.2.0	11.3.0	R4	eICIC_LTE-Perf
36.101	1372	1	Rel-10	F	RP-121862	R4-125891	approved	Correction of SNR definition	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1373	-	Rel-10	F	RP-121862	R4-125143	approved	Correction on CSI-RS subframe offset parameter	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1374	-	Rel-11	A	RP-121862	R4-125145	approved	Correction on CSI-RS subframe offset parameter	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1375	1	Rel-10	F	RP-121862	R4-125883	approved	Correction on FRC table in CSI test	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1376	-	Rel-11	A	RP-121862	R4-125148	approved	Correction on FRC table in CSI test	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1379	-	Rel-8	F	RP-121849	R4-125154	approved	Correction of PCFICH power parameter setting	8.19.0	8.20.0	R4	LTE-RF
36.101	1380	-	Rel-9	A	RP-121849	R4-125156	approved	Correction of PCFICH power parameter setting	9.13.1	9.14.0	R4	LTE-RF
36.101	1381	1	Rel-10	F	RP-121862	R4-125886	approved	Correction of reference channel table for TDD eDL-MIMIO RI test	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1382	-	Rel-11	A	RP-121862	R4-125158	approved	Correction of reference channel table for TDD eDL-MIMIO RI test	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1384	1	Rel-9	F	RP-121850	R4-125872	approved	OCNG patterns for Sustained Data rate testing	9.13.1	9.14.0	R4	LTE-RF
36.101	1385	-	Rel-10	A	RP-121850	R4-125171	approved	OCNG patterns for Sustained Data rate testing	10.8.0	10.9.0	R4	LTE-RF
36.101	1386	-	Rel-11	A	RP-121850	R4-125172	approved	OCNG patterns for Sustained Data rate testing	11.2.0	11.3.0	R4	LTE-RF
36.101	1387	1	Rel-10	F	RP-121867	R4-125884	approved	Introduction of one periodic CQI test for CA deployments	10.8.0	10.9.0	R4	TEI10
36.101	1388	1	Rel-11	A	RP-121867	R4-125885	approved	Introduction of one periodic CQI test for CA deployments	11.2.0	11.3.0	R4	TEI10
36.101	1396	-	Rel-11	B	RP-121894	R4-125236	approved	Introduction of CA_B5_B12 in 36.101	11.2.0	11.3.0	R4	LTE_CA_B5_B12-Core

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36.101	1399	-	Rel-9	F	RP-121850	R4-125286	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band 3	9.13.1	9.14.0	R4	LTE-RF
36.101	1400	-	Rel-10	A	RP-121850	R4-125287	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band 3	10.8.0	10.9.0	R4	LTE-RF
36.101	1401	-	Rel-11	F	RP-121850	R4-125288	approved	Introducing the additional frequency bands of 5 MHz x 2 in 1.7 GHz in Japan to Band 3	11.2.0	11.3.0	R4	LTE-RF
36.101	1403	-	Rel-10	F	RP-121860	R4-125330	approved	CR on eICIC RI test	10.8.0	10.9.0	R4	eICIC_LTE-Perf
36.101	1404	-	Rel-10	F	RP-121861	R4-125357	approved	Correction of some errors in reference sensitivity for CA in TS 36.101 (R10)	10.8.0	10.9.0	R4	LTE_CA-Core
36.101	1406	1	Rel-11	F	RP-121887	R4-125960	approved	Reference sensitivity for the small bandwidth of CA_4-12	11.2.0	11.3.0	R4	LTE_CA_B4_B12-Core
36.101	1407	-	Rel-11	A	RP-121860	R4-125368	approved	CR on eICIC RI test	11.2.0	11.3.0	R4	eICIC_LTE-Perf
36.101	1408	1	Rel-10	F	RP-121862	R4-125887	approved	Cleaning of 36.101 Performance sections Rel-10	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1409	-	Rel-11	A	RP-121862	R4-125454	approved	Cleaning of 36.101 Performance sections Rel-11	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1415	1	Rel-10	F	RP-121861	R4-126048	approved	Out-of-band blocking requirements for inter-band carrier aggregation	10.8.0	10.9.0	R4	LTE_CA-Core
36.101	1416	-	Rel-11	A	RP-121861	R4-125516	approved	Out-of-band blocking requirements for inter-band carrier aggregation	11.2.0	11.3.0	R4	LTE_CA-Core
36.101	1417	1	Rel-10	F	RP-121860	R4-125899	approved	Brackets clean up for eICIC CSI/demodulation	10.8.0	10.9.0	R4	eICIC_LTE-Perf
36.101	1418	-	Rel-11	F	RP-121861	R4-125545	approved	Adding missed SNR reference values for CA soft buffer tests	11.2.0	11.3.0	R4	LTE_CA-Perf
36.101	1422	-	Rel-11	B	RP-121890	R4-125564	approved	Introduction of CA_4A-5A into 36.101	11.2.0	11.3.0	R4	LTE_CA_B4_B5-Core
36.101	1430	-	Rel-10	F	RP-121867	R4-125629	approved	Clean up of specification R10	10.8.0	10.9.0	R4	TEI10
36.101	1431	-	Rel-11	A	RP-121867	R4-125630	approved	Clean up of specification R11	11.2.0	11.3.0	R4	TEI10
36.101	1432	1	Rel-8	F	RP-121852	R4-125992	approved	Band 1 to Band 33 and Band 39 UE coexistence requirements	8.19.0	8.20.0	R4	TEI8
36.101	1434	1	Rel-9	F	RP-121859	R4-125993	approved	Band 1 to Band 33 and Band 39 UE coexistence requirements	9.13.1	9.14.0	R4	TEI9
36.101	1435	1	Rel-10	F	RP-121867	R4-125994	approved	Band 1 to Band 33 and Band 39 UE coexistence requirements	10.8.0	10.9.0	R4	TEI10
36.101	1436	-	Rel-11	A	RP-121867	R4-125725	approved	Band 1 to Band 33 and Band 39 UE coexistence requirements	11.2.0	11.3.0	R4	TEI10
36.101	1437	1	Rel-11	D	RP-121871	R4-125959	approved	Editorial corrections for Band 26	11.2.0	11.3.0	R4	e850_UB-Core
36.101	1438	-	Rel-11	B	RP-121896	R4-125737	approved	Introduction of Band 5 + Band 17 inter-band CA configuration into 36.101	11.2.0	11.3.0	R4	LTE_CA_B5_B17-Core
36.101	1441	-	Rel-10	F	RP-121862	R4-125809	approved	Correction of eDL-MIMO RI test and RMC table for the CSI test	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1442	-	Rel-11	A	RP-121862	R4-125812	approved	Correction of eDL-MIMO RI test and RMC table for the CSI test	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1443	-	Rel-10	F	RP-121861	R4-125813	approved	Minor correction to ceiling function example - rel10	10.8.0	10.9.0	R4	LTE_CA-Core
36.101	1444	-	Rel-11	A	RP-121861	R4-125817	approved	Minor correction to ceiling function example - rel11	11.2.0	11.3.0	R4	LTE_CA-Core

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36.101	1449	-	Rel-11	A	RP-121862	R4-126026	approved	Correction of SNR definition	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1450	-	Rel-11	A	RP-121860	R4-126022	approved	Brackets clean up for eICIC CSI/demodulation	11.2.0	11.3.0	R4	eICIC_LTE-Perf
36.101	1454	1	Rel-10	F	RP-121860	R4-126791	approved	CR on eICIC RI testing (Rel-10)	10.8.0	10.9.0	R4	eICIC_LTE-Perf
36.101	1455	-	Rel-11	A	RP-121860	R4-126143	approved	CR on eICIC RI testing (Rel-11)	11.2.0	11.3.0	R4	eICIC_LTE-Perf
36.101	1458	-	Rel-10	F	RP-121862	R4-126156	approved	Correction on FRC table	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1459	-	Rel-11	A	RP-121862	R4-126157	approved	Correction on FRC table	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1461	1	Rel-11	B	RP-121879	R4-126904	approved	CR for LTE B14 HPUE (Power Class 1)	11.2.0	11.3.0	R4	LTE_B14_PSBB_HPUE-Core
36.101	1462	-	Rel-9	F	RP-121862	R4-126192	approved	Adding references to the appropriate beamforming model (Rel-9)	9.13.1	9.14.0	R4	LTE_eDL_MIMO
36.101	1463	-	Rel-10	F	RP-121862	R4-126193	approved	Adding references to the appropriate beamforming model (Rel-10)	10.8.0	10.9.0	R4	LTE_eDL_MIMO
36.101	1464	-	Rel-11	A	RP-121862	R4-126194	approved	Adding references to the appropriate beamforming model (Rel-11)	11.2.0	11.3.0	R4	LTE_eDL_MIMO
36.101	1465	1	Rel-11	B	RP-121898	R4-126999	approved	Introduction of CA_8_20 RF requirements into TS36.101	11.2.0	11.3.0	R4	LTE_CA_B8_B20-Core
36.101	1466	-	Rel-10	F	RP-121866	R4-126213	approved	Maintenance of Band 23 UE Coexistence	10.8.0	10.9.0	R4	S_Band_LTE_ATC_MSS-Core
36.101	1468	1	Rel-11	B	RP-121882	R4-126869	approved	Introduction of inter-band CA_11-18 into TS36.101	11.2.0	11.3.0	R4	LTE_CA_B11_B18-Core
36.101	1472	1	Rel-11	B	RP-121903	R4-126817	approved	Introduction of advanced receivers demodulation performance (FDD)	11.2.0	11.3.0	R4	LTE_Interf_Rej-Perf
36.101	1473	1	Rel-11	B	RP-121903	R4-126818	approved	Introduction of performance requirements for verifying the receiver type for advanced receivers (FDD/TDD)	11.2.0	11.3.0	R4	LTE_Interf_Rej-Perf
36.101	1474	-	Rel-11	F	RP-121886	R4-126335	approved	CR to remove the square bracket of A-MPR in TS36.101	11.2.0	11.3.0	R4	LTE_CA_B38-Core
36.101	1476	-	Rel-11	A	RP-121861	R4-126348	approved	Correction of some errors in reference sensitivity for CA in TS 36.101 (R11)	11.2.0	11.3.0	R4	LTE_CA-Core
36.101	1480	1	Rel-11	B	RP-121903	R4-126819	approved	Introduction of Advanced Receivers Test Cases for TDD	11.2.0	11.3.0	R4	LTE_Interf_Rej-Perf
36.101	1490	1	Rel-11	B	RP-121901	R4-126923	approved	Introduction of Band 29	11.2.0	11.3.0	R4	LTE_DL_FDD700-Core
36.101	1491	2	Rel-8	F	RP-121849	R4-126973	approved	Low-channel Band 1 coexistence with PHS	8.19.0	8.20.0	R4	LTE-RF
36.101	1492	-	Rel-9	A	RP-121849	R4-126576	approved	Low-channel Band 1 coexistence with PHS	9.13.1	9.14.0	R4	LTE-RF
36.101	1493	-	Rel-10	A	RP-121849	R4-126578	approved	Low-channel Band 1 coexistence with PHS	10.8.0	10.9.0	R4	LTE-RF
36.101	1494	-	Rel-11	A	RP-121849	R4-126579	approved	Low-channel Band 1 coexistence with PHS	11.2.0	11.3.0	R4	LTE-RF
36.101	1498	1	Rel-11	F	RP-121861	R4-126863	approved	Completion of the tables of bandwidth combinations specified for CA	11.2.0	11.3.0	R4	LTE_CA-Core
36.101	1499	1	Rel-11	F	RP-121861	R4-126974	approved	Exceptions to REFSENS requirements for class A2 CA combinations	11.2.0	11.3.0	R4	LTE_CA-Core
36.101	1500	-	Rel-11	B	RP-121892	R4-126607	approved	Introduction of carrier aggregation configuration CA_4-7	11.2.0	11.3.0	R4	LTE_CA_B4_B7-Core
36.101	1501	1	Rel-8	F	RP-121862	R4-126790	approved	Clean up CR for Rel-8	8.19.0	8.20.0	R4	LTE_eDL_MIMO

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36.101	1502	-	Rel-9	A	RP-121862	R4-126648	approved	Clean up CR for Rel_9	9.13.1	9.14.0	R4	LTE_eDL_MIMO
36.101	1504	-	Rel-11	D	RP-121870	R4-126722	approved	Editorial corrections to Band 27 specifications	11.2.0	11.3.0	R4	LTE_e850_LB-Core
36.101	1505	-	Rel-11	F	RP-121878	R4-126749	approved	Band 28 AMPR for DTV protection	11.2.0	11.3.0	R4	LTE_APAC700-Core
36.101	1506	1	Rel-8	F	RP-121852	R4-126840	approved	UE-UE coexistence between bands with small frequency separation	8.19.0	8.20.0	R4	TEI8
36.101	1507	-	Rel-9	A	RP-121852	R4-126761	approved	UE-UE coexistence between bands with small frequency separation	9.13.1	9.14.0	R4	TEI8
36.101	1508	-	Rel-10	A	RP-121852	R4-126762	approved	UE-UE coexistence between bands with small frequency separation	10.8.0	10.9.0	R4	TEI8
36.101	1509	1	Rel-11	F	RP-121852	R4-126913	approved	UE-UE coexistence between bands with small frequency separation	11.2.0	11.3.0	R4	TEI8
36.101	1510	-	Rel-11	B	RP-121911	R4-126767	approved	Adding UE-UE Coexistence Requirement for Band 3 and Band 26	11.2.0	11.3.0	R4	TEI11
36.101	1512	-	Rel-10	F	RP-121860	R4-126774	approved	Applicable OFDM symbols of Noc_2 for PDCCH/PCFICH ABS-MBSFN test cases	10.8.0	10.9.0	R4	eICIC_LTE-Perf
36.101	1513	-	Rel-11	A	RP-121866	R4-126876	approved	Maintenance of Band 23 UE Coexistence	11.2.0	11.3.0	R4	S_Band_LTE_ATC_MSS-Core
36.101	1514	-	Rel-10	F	RP-121851	R4-126815	approved	Corrections to TM4 rank indicator Test 3	10.8.0	10.9.0	R4	LTE-RF
36.101	1515	-	Rel-11	F	RP-121851	R4-126816	approved	Corrections to TM4 rank indicator Test 3	11.2.0	11.3.0	R4	LTE-RF
36.101	1516	-	Rel-10	F	RP-121861	R4-126935	approved	Correction of test configuraitons and FRC for CA demodulation with power imbalance	10.8.0	10.9.0	R4	LTE_CA-Core
36.101	1517	-	Rel-11	A	RP-121861	R4-126936	approved	Correction of test configuraitons and FRC for CA demodulation with power imbalance	11.2.0	11.3.0	R4	LTE_CA-Core
36.101	1518	-	Rel-11	A	RP-121860	R4-126949	approved	Applicable OFDM symbols of Noc_2 for PDCCH/PCFICH ABS-MBSFN test cases	11.2.0	11.3.0	R4	eICIC_LTE-Perf
36.104	0330	-	Rel-11	B	RP-121884	R4-125023	approved	Introduction of CA band combination Band 3 + Band 8 to TS 36.104	11.2.0	11.3.0	R4	LTE_CA_B3_B8-Core
36.104	0331	-	Rel-11	B	RP-121861	R4-125031	approved	Introduction of CA band combination Band4 + Band5 to TS 36.104	11.2.0	11.3.0	R4	LTE_CA-Core
36.104	0332	-	Rel-11	B	RP-121896	R4-125032	approved	Introduction of CA band combination Band5 + Band17 to TS 36.104	11.2.0	11.3.0	R4	LTE_CA_B5_B17-Core
36.104	0333	-	Rel-11	B	RP-121906	R4-125038	approved	Introduction of medium range BS class to TS 36.104 (clause 1-5)	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Core, medBS_class_LTE_MSR-Perf
36.104	0334	-	Rel-11	B	RP-121880	R4-125075	withdrawn	Introduction of CA band combination Band1+Band7 to TS 36.104	11.2.0		R4	LTE_CA_B1_B7-Core
36.104	0335	-	Rel-11	F	RP-121861	R4-125106	approved	Correction of performance requirements of PUCCH format2 with DTX	11.2.0	11.3.0	R4	LTE_CA-Perf

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36.104	0338	-	Rel-11	C	RP-121855	R4-125438	approved	Modification of ouput power requirement for LA E-UTRA BS	11.2.0	11.3.0	R4	LTEimp-Pico_eNB-RF
36.104	0339	1	Rel-10	F	RP-121861	R4-125874	approved	Cleanup of 36.141 performance	10.8.0	10.9.0	R4	LTE_CA-Perf
36.104	0340	-	Rel-11	A	RP-121861	R4-125446	approved	Correction on BS demodulation performance	11.2.0	11.3.0	R4	LTE_CA-Perf
36.104	0342	-	Rel-10	F	RP-121867	R4-125616	approved	Clean up of specification R10	10.8.0	10.9.0	R4	TEI10
36.104	0343	-	Rel-11	A	RP-121867	R4-125618	approved	Clean up of specification R11	11.2.0	11.3.0	R4	TEI10
36.104	0344	1	Rel-11	F	RP-121911	R4-126033	approved	Modification on E-UTRA transmitter requirements	11.2.0	11.3.0	R4	TEI11
36.104	0348	1	Rel-11	B	RP-121899	R4-125945	approved	Implementing NC CA in LTE LA	11.2.0	11.3.0	R4	LTE_CA_enh-Core
36.104	0349	-	Rel-11	B	RP-121894	R4-125700	approved	Introduction of CA_B5_B12 in 36.104	11.2.0	11.3.0	R4	LTE_CA_B5_B12-Core
36.104	0351	-	Rel-11	F	RP-121899	R4-125819	approved	Correction to intra-band non-contiguous carrier aggregation bands acronym	11.2.0	11.3.0	R4	LTE_CA_enh-Core
36.104	0352	2	Rel-11	B	RP-121906	R4-126919	approved	CR for TS 36.104 transmitter characteristics (Clause 6) due to introduction of Medium Range BS	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Core
36.104	0353	1	Rel-11	B	RP-121906	R4-126879	approved	E-UTRA MR BS receiver requirements	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Core
36.104	0354	1	Rel-11	B	RP-121899	R4-126855	approved	Further corrections for NC CA in LTE LA BS	11.2.0	11.3.0	R4	LTE_CA_enh-Core
36.104	0355	-	Rel-11	B	RP-121887	R4-126219	approved	Introduction of CA_4-12 into TS 36.104	11.2.0	11.3.0	R4	LTE_CA_B4_B12-Core
36.104	0356	-	Rel-11	B	RP-121882	R4-126236	approved	Introduction of inter-band CA_11-18 into TS36.104	11.2.0	11.3.0	R4	LTE_CA_B11_B18-Core
36.104	0357	-	Rel-11	B	RP-121907	R4-126366	approved	Introduction of new BS classes to E-UTRA core specification (performance part)	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Perf
36.104	0358	1	Rel-10	F	RP-121867	R4-126842	approved	Modificaiton on ACLR requirement	10.8.0	10.9.0	R4	TEI10
36.104	0361	-	Rel-10	F	RP-121863	R4-126583	approved	Removal of brackets around medium correlation in table	10.8.0	10.9.0	R4	LTE_UL_MIMO-Perf
36.104	0362	-	Rel-11	A	RP-121863	R4-126584	approved	Removal of brackets around medium correlation in table	11.2.0	11.3.0	R4	LTE_UL_MIMO-Perf
36.104	0363	-	Rel-11	B	RP-121892	R4-126718	approved	Introduction of inter-band CA_4-7 into TS 36.104	11.2.0	11.3.0	R4	LTE_CA_B4_B7-Core
36.104	0364	-	Rel-11	B	RP-121901	R4-126728	approved	Introduction of Band 29	11.2.0	11.3.0	R4	LTE_DL_FDD700-Core
36.106	0043	1	Rel-10	F	RP-121858	R4-125927	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	10.5.1	10.6.0	R4	RInImp9-UMTSLTE800
36.106	0044	-	Rel-10	F	RP-121867	R4-125698	approved	The special cases for protection of E-UTRA Band 3 and Band 10 in co-existence and co-location with E-UTRA Repeaters	10.5.1	10.6.0	R4	TEI10
36.106	0045	-	Rel-11	A	RP-121858	R4-125705	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	11.0.1	11.1.0	R4	RInImp9-UMTSLTE800
36.106	0046	-	Rel-11	A	RP-121867	R4-125709	approved	The special cases for protection of E-UTRA Band 3 and Band 10 in co-existence and co-location with E-UTRA Repeaters	11.0.1	11.1.0	R4	TEI10
36.106	0047	-	Rel-10	F	RP-121867	R4-126188	approved	The special cases for protection of E-UTRA Band 42 in co-existence and co-location with E-UTRA FDD Repeaters	10.5.1	10.6.0	R4	TEI10

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36.106	0048	-	Rel-11	A	RP-121867	R4-126190	approved	The special cases for protection of E-UTRA Band 42 in co-existence and co-location with E-UTRA FDD Repeaters	11.0.1	11.1.0	R4	TEI10
36.113	0039	1	Rel-11	B	RP-121901	R4-126924	approved	Introduction of Band 29 into TS 36.113	11.1.0	11.2.0	R4	LTE_DL_FDD700-Core
36.116	0002	-	Rel-11	F	RP-121904	R4-126149	approved	Correction of relay demodulation requirements	11.0.0	11.1.0	R4	LTE_Relay2-Perf
36.116	0003	-	Rel-11	F	RP-121904	R4-126297	approved	Corrections on Relay backhaul link R-PDCCH performance	11.0.0	11.1.0	R4	LTE_Relay2-Perf
36.124	0023	1	Rel-11	B	RP-121901	R4-126925	approved	Introduction of Band 29 into TS 36.124	11.1.0	11.2.0	R4	LTE_DL_FDD700-Core
36.133	1458	-	Rel-11	B	RP-121899	R4-125091	approved	Random Access Core Requirement for Scell	11.2.0	11.3.0	R4	LTE_CA_enh-Core
36.133	1459	-	Rel-11	F	RP-121861	R4-125096	approved	Correction on CA TDD RSTD measurement accuracy test cases R11	11.2.0	11.3.0	R4	LTE_CA-Core
36.133	1460	-	Rel-10	F	RP-121849	R4-125097	approved	Correction to high priority cell measurement of UTRA TDD R10	10.8.1	10.9.0	R4	LTE-RF
36.133	1461	-	Rel-11	A	RP-121849	R4-125098	approved	Correction to high priority cell measurement of UTRA TDD R11	11.2.0	11.3.0	R4	LTE-RF
36.133	1466	-	Rel-10	F	RP-121861	R4-125178	approved	Clarification of Test Requirements for CA RSRP, RSRQ Test Cases	10.8.1	10.9.0	R4	LTE_CA-core
36.133	1467	-	Rel-11	A	RP-121861	R4-125180	approved	Clarification of Test Requirements for CA RSRP, RSRQ Test Cases	11.2.0	11.3.0	R4	LTE_CA-core
36.133	1468	-	Rel-9	F	RP-121850	R4-125199	approved	Remove [ ] from 10% requirement in RRM Test cases A.4.2.7 and A.4.2.8	9.13.0	9.14.0	R4	LTE-RF
36.133	1469	-	Rel-10	A	RP-121850	R4-125201	approved	Remove [ ] from 10% requirement in RRM Test cases A.4.2.7 and A.4.2.8	10.8.1	10.9.0	R4	LTE-RF
36.133	1470	-	Rel-11	A	RP-121850	R4-125203	approved	Remove [ ] from 10% requirement in RRM Test cases A.4.2.7 and A.4.2.8	11.2.0	11.3.0	R4	LTE-RF
36.133	1474	-	Rel-10	F	RP-121861	R4-125275	approved	Correction to RSTD Measurement Reporting Delay for Carrier Aggregation Test Cases	10.8.1	10.9.0	R4	LTE_CA-Core
36.133	1478	-	Rel-10	F	RP-121854	R4-125385	approved	RSTD accuracy requirements under intra-frequency HO	10.8.1	10.9.0	R4	LCS_LTE
36.133	1485	1	Rel-10	F	RP-121861	R4-125870	approved	Clean up for CA	10.8.1	10.9.0	R4	LTE_CA-Core
36.133	1486	1	Rel-11	F	RP-121861	R4-125871	approved	Clean up for CA	11.2.0	11.3.0	R4	LTE_CA-Core
36.133	1487	-	Rel-11	F	RP-121911	R4-125755	approved	Clarification of CPICH RSCP side conditions	11.2.0	11.3.0	R4	TEI11
36.133	1488	-	Rel-10	F	RP-121867	R4-125757	approved	Editorial corrections	10.8.1	10.9.0	R4	TEI10
36.133	1489	-	Rel-11	A	RP-121867	R4-125758	approved	Editorial corrections	11.2.0	11.3.0	R4	TEI10
36.133	1496	-	Rel-10	F	RP-121867	R4-125787	approved	Band correction in RRM requirements	10.8.1	10.9.0	R4	TEI10
36.133	1497	-	Rel-11	A	RP-121867	R4-125789	approved	Band correction in RRM requirements	11.2.0	11.3.0	R4	TEI10
36.133	1499	-	Rel-11	A	RP-121861	R4-126021	approved	Correction to RSTD Measurement Reporting Delay for Carrier Aggregation Test Cases	11.2.0	11.3.0	R4	LTE_CA-Core
36.133	1505	-	Rel-10	F	RP-121861	R4-126093	approved	Band-dependent RRM requirements for CA	10.8.1	10.9.0	R4	LTE_CA-core
36.133	1506	-	Rel-11	A	RP-121861	R4-126094	approved	Band-dependent RRM requirements for CA	11.2.0	11.3.0	R4	LTE_CA-core

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36.133	1507	1	Rel-11	F	RP-121872	R4-126946	approved	CR on RLM Requirements for FeICIC	11.2.0	11.3.0	R4	eICIC_enh_LTE-Core
36.133	1512	1	Rel-9	F	RP-121859	R4-126837	approved	E-UTRAN CSG Proximity Indication Requirements (Rel-9)	9.13.0	9.14.0	R4	TEI9
36.133	1514	-	Rel-9	F	RP-121854	R4-126226	approved	Correction of OCNG Patterns for UE Rx - Tx Time Difference Test Cases	9.13.0	9.14.0	R4	LCS_LTE
36.133	1515	-	Rel-10	A	RP-121854	R4-126227	approved	Correction of OCNG Patterns for UE Rx - Tx Time Difference Test Cases	10.8.1	10.9.0	R4	LCS_LTE
36.133	1516	-	Rel-11	A	RP-121854	R4-126228	approved	Correction of OCNG Patterns for UE Rx - Tx Time Difference Test Cases	11.2.0	11.3.0	R4	LCS_LTE
36.133	1517	1	Rel-11	B	RP-121872	R4-126982	approved	Cell identification requirements in FeICIC	11.2.0	11.3.0	R4	eICIC_enh_LTE-Core
36.133	1521	1	Rel-10	F	RP-121851	R4-126802	approved	Time offset correction in CA test cases R10	10.8.1	10.9.0	R4	LTE-RF
36.133	1522	-	Rel-11	A	RP-121851	R4-126271	approved	Time offset correction in CA test cases R11	11.2.0	11.3.0	R4	LTE-RF
36.133	1523	1	Rel-10	F	RP-121851	R4-126803	approved	Time offset correction in CA RSTD test cases R10	10.8.1	10.9.0	R4	LTE-RF
36.133	1525	-	Rel-9	F	RP-121854	R4-126278	approved	Clarification on inter-frequency RSTD measurement accuracy requirement R9	9.13.0	9.14.0	R4	LCS_LTE
36.133	1528	1	Rel-10	F	RP-121854	R4-126940	approved	Clarification on RSTD measurement requirement under HO and Pcell changing R10	10.8.1	10.9.0	R4	LCS_LTE
36.133	1529	1	Rel-11	F	RP-121854	R4-126941	approved	Clarification on RSTD measurement requirement under HO and Pcell changing R11	11.2.0	11.3.0	R4	LCS_LTE
36.133	1530	2	Rel-11	B	RP-121910	R4-126831	approved	Introduction the IDC requirements in 36.133 Rel-11	11.2.0	11.3.0	R4	SPIA_IDC_LTE-Core
36.133	1534	-	Rel-8	F	RP-121849	R4-126359	approved	Correction on test cases for handover to UTRAN TDD for Rel-8	8.19.0	8.20.0	R4	LTE-RF
36.133	1535	-	Rel-9	A	RP-121849	R4-126360	approved	Correction on test cases for handover to UTRAN TDD for Rel-9	9.13.0	9.14.0	R4	LTE-RF
36.133	1536	-	Rel-10	A	RP-121849	R4-126361	approved	Correction on test cases for handover to UTRAN TDD for Rel-10	10.8.1	10.9.0	R4	LTE-RF
36.133	1537	-	Rel-11	A	RP-121849	R4-126363	approved	Correction on test cases for handover to UTRAN TDD for Rel-11	11.2.0	11.3.0	R4	LTE-RF
36.133	1542	-	Rel-11	B	RP-121910	R4-126486	approved	RRM requirements under IDC	11.2.0	11.3.0	R4	SPIA_IDC_LTE-Core
36.133	1544	1	Rel-10	F	RP-121867	R4-126929	approved	Editorial corrections RRM	10.8.1	10.9.0	R4	TEI10
36.133	1545	-	Rel-11	A	RP-121867	R4-126620	approved	Editorial corrections RRM	11.2.0	11.3.0	R4	TEI10
36.133	1546	-	Rel-8	F	RP-121852	R4-126621	approved	Conditions in CSG reselection requirements	8.19.0	8.20.0	R4	TEI8
36.133	1547	-	Rel-9	A	RP-121852	R4-126622	approved	Conditions in CSG reselection requirements	9.13.0	9.14.0	R4	TEI8
36.133	1548	-	Rel-10	A	RP-121852	R4-126624	approved	Conditions in CSG reselection requirements	10.8.1	10.9.0	R4	TEI8
36.133	1549	-	Rel-11	A	RP-121852	R4-126625	approved	Conditions in CSG reselection requirements	11.2.0	11.3.0	R4	TEI8
36.133	1550	-	Rel-8	F	RP-121852	R4-126628	approved	Correcting inconsistency between inter-RAT UTRA measurements and requirements	8.19.0	8.20.0	R4	TEI8
36.133	1551	-	Rel-9	A	RP-121852	R4-126631	approved	Correcting inconsistency between inter-RAT UTRA measurements and requirements	9.13.0	9.14.0	R4	TEi8

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36.133	1552	-	Rel-10	A	RP-121852	R4-126633	approved	Correcting inconsistency between inter-RAT UTRA measurements and requirements	10.8.1	10.9.0	R4	TEI8
36.133	1553	-	Rel-11	A	RP-121852	R4-126636	approved	Correcting inconsistency between inter-RAT UTRA measurements and requirements	11.2.0	11.3.0	R4	TEI8
36.133	1554	-	Rel-10	F	RP-121861	R4-126637	approved	Refsens requirements for CA capable UE	10.8.1	10.9.0	R4	LTE_CA-Core
36.133	1555	-	Rel-11	A	RP-121861	R4-126641	approved	Refsens requirements for CA capable UE	11.2.0	11.3.0	R4	LTE_CA-Core
36.133	1558	1	Rel-11	F	RP-121854	R4-126930	approved	Intra-frequency RSTD accuracy requirements account for serving cell bandwidth	11.2.0	11.3.0	R4	LCS_LTE
36.133	1559	1	Rel-11	F	RP-121854	R4-126931	approved	Clarification on the total number of cells for RSTD inter-frequency measurement	11.2.0	11.3.0	R4	LCS_LTE
36.133	1560	3	Rel-10	F	RP-121860	R4-126952	revised	Clarification of the TDM pattern conditions	10.8.1		R4	eICIC_LTE-Core
36.133	1560	4	Rel-10	A	RP-121972	-	revised	Clarification of the TDM pattern conditions	10.8.1		R4	eICIC_LTE-Core
36.133	1560	5	Rel-10	F	RP-121983	-	approved	Clarification of the TDM pattern conditions	10.8.1	10.9.0	R4	eICIC_LTE-Core
36.133	1561	1	Rel-11	A	RP-121860	R4-126948	approved	Clarification of the TDM pattern conditions	11.2.0	11.3.0	R4	eICIC_LTE-Core
36.133	1562	1	Rel-11	B	RP-121873	R4-126832	approved	MDT requirements in Rel-11	11.2.0	11.3.0	R4	eMDT_UMTSLTE-Core
36.133	1563	-	Rel-11	B	RP-121901	R4-126746	approved	Introduction of Band 29	11.2.0	11.3.0	R4	LTE_DL_FDD700-Core
36.133	1564	-	Rel-10	F	RP-121861	R4-126950	approved	Impact of Insertion Loss on RRM CA Test Cases	10.8.1	10.9.0	R4	LTE_CA
36.141	0374	-	Rel-11	B	RP-121885	R4-125024	approved	Introduction of CA band combination Band 3 + Band 8 to TS 36.141	11.2.0	11.3.0	R4	LTE_CA_B3_B8-Perf
36.141	0375	-	Rel-11	B	RP-121891	R4-125033	approved	Introduction of CA band combination Band4 + Band5 to TS 36.141	11.2.0	11.3.0	R4	LTE_CA_B4_B5-Perf
36.141	0376	-	Rel-11	B	RP-121897	R4-125034	approved	Introduction of CA band combination Band5 + Band17 to TS 36.141	11.2.0	11.3.0	R4	LTE_CA_B5_B17-Perf
36.141	0377	-	Rel-11	B	RP-121881	R4-125076	withdrawn	Introduction of CA band combination Band1+Band7 to TS 36.141	11.2.0		R4	LTE_CA_B1_B7-Perf
36.141	0381	-	Rel-11	C	RP-121855	R4-125441	approved	Modification of ouput power requirement for LA E-UTRA BS	11.2.0	11.3.0	R4	LTEimp-Pico_eNB-RF
36.141	0383	-	Rel-10	F	RP-121867	R4-125621	approved	Clean up of specification R10	10.8.0	10.9.0	R4	TEI10
36.141	0384	1	Rel-11	F	RP-121911	R4-126034	approved	Modification on E-UTRA transmitter requirements	11.2.0	11.3.0	R4	TEI11
36.141	0385	-	Rel-11	A	RP-121867	R4-125626	approved	Clean up of specification R11	11.2.0	11.3.0	R4	TEI10
36.141	0387	1	Rel-10	F	RP-121867	R4-125873	approved	Correction on BS demodulation performance	10.8.0	10.9.0	R4	TEI10
36.141	0388	-	Rel-11	A	RP-121867	R4-125674	approved	Cleanup of 36.141 performance	11.2.0	11.3.0	R4	TEI10
36.141	0389	-	Rel-11	B	RP-121900	R4-125690	approved	Implementing NC CA in LTE LA	11.2.0	11.3.0	R4	LTE_CA_enh-Perf
36.141	0390	-	Rel-11	B	RP-121895	R4-125707	approved	Introduction of CA_B5_B12 in 36.141	11.2.0	11.3.0	R4	LTE_CA_B5_B12-Perf
36.141	0391	-	Rel-11	F	RP-121911	R4-125791	approved	Correcting missing figure and subclause numbering in TS 36.141	11.2.0	11.3.0	R4	TEI11
36.141	0393	-	Rel-11	F	RP-121900	R4-125820	approved	Correction to intra-band non-contiguous carrier aggregation bands acronym	11.2.0	11.3.0	R4	LTE_CA_enh-Perf

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36.141	0395	-	Rel-11	A	RP-121853	R4-126109	approved	CR to add the rated ouput power for 8 Tx antennas	11.2.0	11.3.0	R4	HeNB-RF_FDD
36.141	0396	1	Rel-10	F	RP-121853	R4-126844	approved	CR to add the rated ouput power for 8 Tx antennas	10.8.0	10.9.0	R4	HeNB-RF_FDD
36.141	0398	-	Rel-11	A	RP-121867	R4-126118	approved	Correction to test requirement of operating band unwanted emissions	11.2.0	11.3.0	R4	TEI10
36.141	0399	-	Rel-10	F	RP-121867	R4-126119	approved	Correction to test requirement of operating band unwanted emissions	10.8.0	10.9.0	R4	TEI10
36.141	0400	-	Rel-11	B	RP-121900	R4-126120	approved	Further corrections for NC CA in LTE LA BS	11.2.0	11.3.0	R4	LTE_CA_enh-Perf
36.141	0401	1	Rel-11	B	RP-121907	R4-126918	approved	CR for TS 36.141 transmitter characteristics (Clause 6) due to introduction of Medium Range BS	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Perf
36.141	0402	-	Rel-11	B	RP-121888	R4-126220	approved	Introduction of CA_4-12 into TS 36.141	11.2.0	11.3.0	R4	LTE_CA_B4_B12-Perf
36.141	0403	-	Rel-11	B	RP-121883	R4-126240	approved	Introduction of inter-band CA_11-18 into TS36.141	11.2.0	11.3.0	R4	LTE_CA_B11_B18-Perf
36.141	0404	-	Rel-11	B	RP-121907	R4-126367	approved	Introduction of new BS classes to E-UTRA test specification (performance part)	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Perf
36.141	0405	1	Rel-11	B	RP-121907	R4-126878	approved	E-UTRA MR BS receiver requirement	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Perf
36.141	0406	1	Rel-10	F	RP-121867	R4-126843	approved	Modificaiton on ACLR requirement	10.8.0	10.9.0	R4	TEI10
36.141	0407	-	Rel-11	B	RP-121907	R4-126438	approved	Introduction of medium range BS class to TS 36.141 (clause 1-5)	11.2.0	11.3.0	R4	medBS_class_LTE_MSR-Perf
36.141	0408	-	Rel-11	F	RP-121911	R4-126469	approved	Allowing two antenna ports configuration in TAE test procedure for MIMO and Tx diversity	11.2.0	11.3.0	R4	LTE-RF
36.141	0410	-	Rel-11	B	RP-121911	R4-126581	approved	Replace TBD with final requirements for PUCCH format 2 with DTX detection	11.2.0	11.3.0	R4	TEI11
36.141	0411	-	Rel-10	F	RP-121863	R4-126587	approved	Removal of brackets around medium correlation in table	10.8.0	10.9.0	R4	LTE_UL_MIMO-Perf
36.141	0412	-	Rel-11	A	RP-121863	R4-126591	approved	Removal of brackets around medium correlation in table	11.2.0	11.3.0	R4	LTE_UL_MIMO-Perf
36.141	0413	-	Rel-11	F	RP-121911	R4-126662	approved	Clarification of Doppler shift for moving propagation conditions test	11.2.0	11.3.0	R4	TEI11
36.141	0414	-	Rel-10	F	RP-121867	R4-126698	approved	Clarification of BS RF channels to be tested for ACLR	10.8.0	10.9.0	R4	TEI10
36.141	0415	-	Rel-11	A	RP-121867	R4-126699	approved	Clarification of BS RF channels to be tested for ACLR	11.2.0	11.3.0	R4	TEI10
36.141	0416	1	Rel-11	F	RP-121911	R4-126864	approved	Correction of BS test configuration table	11.2.0	11.3.0	R4	TEI11
36.141	0417	-	Rel-11	B	RP-121893	R4-126719	approved	Introduction of inter-band CA_4-7 into TS 36.141	11.2.0	11.3.0	R4	LTE_CA_B4_B7-Perf
36.141	0418	-	Rel-11	B	RP-121902	R4-126740	approved	Introduction of Band 29	11.2.0	11.3.0	R4	LTE_DL_FDD700-Perf
36.143	0044	1	Rel-10	F	RP-121858	R4-125928	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	10.5.0	10.6.0	R4	RInImp9-UMTSLTE800
36.143	0045	1	Rel-10	F	RP-121867	R4-125926	approved	The special cases for protection of E-UTRA Band 3 and Band 10 in co-existence and co-location with E-UTRA Repeaters	10.5.0	10.6.0	R4	TEI10

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36.143	0046	-	Rel-10	F	RP-121867	R4-125702	approved	Correction of the inconsistence sub-clause reference in the tables of Spurious Emission limits for co-existence and co-location of E-UTRA-FDD Repeater with other systems	10.5.0	10.6.0	R4	TEI10
36.143	0047	-	Rel-10	F	RP-121865	R4-125704	approved	Update on the upper frequency limit for Spurious Emissions for Repeater	10.5.0	10.6.0	R4	RInImp8-UMTSLTE3500
36.143	0048	-	Rel-11	A	RP-121858	R4-125706	approved	Modifications of frequency ranges for E-UTRA Band 6, 18, 19 in the Tables for Spurious Emission limits and Input Intermodulation requirements	11.0.0	11.1.0	R4	RInImp9-UMTSLTE800
36.143	0049	-	Rel-11	A	RP-121867	R4-125710	approved	The special cases for protection of E-UTRA Band 3 and Band 10 in co-existence and co-location with E-UTRA Repeaters	11.0.0	11.1.0	R4	TEI10
36.143	0050	-	Rel-11	A	RP-121867	R4-125716	approved	Correction of the inconsistence sub-clause reference in the tables of Spurious Emission limits for co-existence and co-location of E-UTRA-FDD Repeater with other systems	11.0.0	11.1.0	R4	TEI10
36.143	0051	-	Rel-11	A	RP-121865	R4-125717	approved	Update on the upper frequency limit for Spurious Emissions for Repeater	11.0.0	11.1.0	R4	RInImp8-UMTSLTE3500
36.143	0052	-	Rel-10	F	RP-121867	R4-126189	approved	The special cases for protection of E-UTRA Band 42 in co-existence and co-location with E-UTRA FDD Repeaters	10.5.0	10.6.0	R4	TEI10
36.143	0053	-	Rel-11	A	RP-121867	R4-126191	approved	The special cases for protection of E-UTRA Band 42 in co-existence and co-location with E-UTRA FDD Repeaters	11.0.0	11.1.0	R4	TEI10
36.201	0007	-	Rel-11	B	RP-121846	R1-125401	approved	Introduction of Rel-11 features	11.0.0	11.1.0	R1	COMP_LTE_UL-Core, COMP_LTE_DL-Core, LTE_enh_dl_ctrl-Core
36.211	0174	-	Rel-10	F	RP-121839	R1-125287	approved	Correction to assumed CSI-RS transmissions in secondary cells	10.5.0	10.6.0	R1	LTE_eDL_MIMO-Core
36.211	0175	-	Rel-11	A	RP-121839	R1-125288	approved	Correction to assumed CSI-RS transmissions in secondary cells	11.0.0	11.1.0	R1	LTE_eDL_MIMO-Core
36.211	0176	-	Rel-11	C	RP-121846	R1-125402	approved	Finalisation for introducing Rel-11 features	11.0.0	11.1.0	R1	LTE_CA_enh-Core, COMP_LTE_UL-Core, COMP_LTE_DL-Core, LTE_enh_dl_ctrl-Core, eICIC_enh_LTE-Core
36.212	0140	-	Rel-10	F	RP-121839	R1-124066	approved	Correction on bit sequence for channel coding of RI on PUCCH	10.6.0	10.7.0	R1	LTE_eDL_MIMO-Core
36.212	0142	-	Rel-10	F	RP-121839	R1-125337	approved	Correction to the parameter ue-Category-v10xy	10.6.0	10.7.0	R1	LTE_CA-Core
36.212	0143	-	Rel-11	A	RP-121839	R1-125338	approved	Correction to the parameter ue-Category-v10xy	11.0.0	11.1.0	R1	LTE_CA-Core

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36.212	0144	-	Rel-11	C	RP-121846	R1-125403	approved	Finalisation for introducing Rel-11 features	11.0.0	11.1.0	R1	LTE_CA_enh-Core, COMP_LTE_UL-Core, COMP_LTE_DL-Core, LTE_enh_dl_ctrl-Core, eICIC_enh_LTE-Core
36.213	0391	-	Rel-10	F	RP-121839	R1-124565	approved	Correction of codebook subsampling for PUCCH 2-1 to the duplicated description	10.7.0	10.8.0	R1	LTE_eDL_MIMO-Core
36.213	0392	-	Rel-10	F	RP-121839	R1-125339	approved	Correction to the parameter ue-Category-v10xy	10.7.0	10.8.0	R1	LTE_CA-Core
36.213	0393	-	Rel-11	A	RP-121839	R1-125340	approved	Correction to the parameter ue-Category-v10xy	11.0.0	11.1.0	R1	LTE_CA-Core
36.213	0394	-	Rel-10	F	RP-121837	R1-125386	approved	Correction of reference signal scrambling sequence initialization for SPS in transmission mode 7	10.7.0	10.8.0	R1	LTE-Phys
36.213	0395	-	Rel-11	A	RP-121837	R1-125397	approved	Correction of reference signal scrambling sequence initialization for SPS in transmission mode 7	11.0.0	11.1.0	R1	LTE-Phys
36.213	0396	-	Rel-11	C	RP-121846	R1-125404	approved	Finalisation for introducing Rel-11 features	11.0.0	11.1.0	R1	LTE_CA_enh-Core, COMP_LTE_UL-Core, COMP_LTE_DL-Core, LTE_enh_dl_ctrl-Core, eICIC_enh_LTE-Core
36.214	0019	1	Rel-11	F	RP-121837	R1-125399	approved	Correcting inconsistency between inter-RAT UTRA measurements and requirements	11.0.0	11.1.0	R1	LTE-Phys
36.300	0502	-	Rel-11	B	RP-121953	R2-125260	approved	Addition of the stage-2 agreements on IDC	11.3.0	11.4.0	R2	SPIA_IDC_LTE-Core
36.300	0503	-	Rel-11	F	RP-121940	R2-125261	approved	Clarification on PCell SIB15	11.3.0	11.4.0	R2	MBMS_LTE_SC-Core
36.300	0504	-	Rel-11	F	RP-121957	R2-125262	approved	Clarification on Radio link failure recovery	11.3.0	11.4.0	R2	LTE-L23, TEI11
36.300	0505	-	Rel-11	B	RP-121959	R2-125263	approved	CR to 36.300 on introducing ROHC context continue for intra-ENB handover	11.3.0	11.4.0	R2	LTE-L23, TEI11
36.300	0506	-	Rel-11	C	RP-121958	R2-125264	approved	Introduction of network sharing for CDMA2000 inter-working	11.3.0	11.4.0	R2	LTE-L23, TEI11
36.300	0510	-	Rel-11	F	RP-121932	R2-125875	approved	Correction on effect of MBMS on unicast mobility procedures	11.3.0	11.4.0	R2	MBMS_LTE, TEI11
36.300	0512	-	Rel-11	F	RP-121957	R2-126004	approved	Clarification on sending timing advance updates	11.3.0	11.4.0	R2	LTE-L23, TEI11
36.300	0513	-	Rel-11	F	RP-121957	R2-125866	approved	Clarification on inter-RAT handover	11.3.0	11.4.0	R2	LTE-L23, TEI11
36.300	0516	-	Rel-9	F	RP-121932	R2-125876	approved	Correction to padding on RLC UM PDU corresponding to MTCH/MCCH	9.9.0	9.10.0	R2	MBMS_LTE
36.300	0517	-	Rel-10	A	RP-121932	R2-125877	approved	Correction to padding on RLC UM PDU corresponding to MTCH/MCCH	10.8.0	10.9.0	R2	MBMS_LTE
36.300	0518	-	Rel-11	A	RP-121932	R2-125878	approved	Correction to padding on RLC UM PDU corresponding to MTCH/MCCH	11.3.0	11.4.0	R2	MBMS_LTE
36.300	0519	-	Rel-11	F	RP-121952	R2-125899	approved	Stage 2 aspects of UE assistance information	11.3.0	11.4.0	R2	LTE_eDDA-Core

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36.300	0521	-	Rel-11	B	RP-121950	R2-126033	approved	Stage 2 for the FeICIC	11.3.0	11.4.0	R2	eICIC_enh_LTE-Core
36.300	0526	-	Rel-9	F	RP-121933	R2-125888	approved	correction for Inter-RAT ANR	9.9.0	9.10.0	R2	LTE-L23, TEI9
36.300	0527	-	Rel-10	A	RP-121933	R2-125889	approved	correction for Inter-RAT ANR	10.8.0	10.9.0	R2	LTE-L23, TEI9
36.300	0528	-	Rel-11	A	RP-121933	R2-125890	approved	correction for Inter-RAT ANR	11.3.0	11.4.0	R2	LTE-L23, TEI9
36.300	0529	1	Rel-11	B	RP-121955	R2-126076	approved	Introduction of CoMP	11.3.0	11.4.0	R2	COMP_LTE_DL-Core, COMP_LTE_UL-Core
36.300	0530	-	Rel-11	B	RP-121948	R2-125971	approved	HeNB Mobility enhancement	11.3.0	11.4.0	R2	EHNB_enh1-Core
36.300	0531	-	Rel-11	F	RP-121957	R2-125972	approved	Verification of HeNB	11.3.0	11.4.0	R2	TEI11
36.300	0532	-	Rel-11	F	RP-121957	R2-125974	approved	Clarification of scenario for Handover Report procedure	11.3.0	11.4.0	R2	TEI11
36.300	0533	-	Rel-11	F	RP-121957	R2-125975	approved	Correction of GUMMEI Type for RN	11.3.0	11.4.0	R2	TEI11
36.300	0534	-	Rel-11	B	RP-121948	R2-125976	approved	UE context release in source HeNB GW after X2 handover from HeNB to eNB	11.3.0	11.4.0	R2	EHNB_enh1-Core
36.300	0535	-	Rel-11	F	RP-121947	R2-125978	approved	Update of the stage-2 MRO specification for inter-RAT failure detection	11.3.0	11.4.0	R2	SONenh2_LTE_UTRA-Core
36.300	0536	-	Rel-11	F	RP-121947	R2-125979	approved	Update of the stage-2 MRO specification for intra-RAT HetNet failure detection	11.3.0	11.4.0	R2	SONenh2_LTE_UTRA-Core
36.300	0537	-	Rel-11	F	RP-121947	R2-125980	approved	Update of the stage-2 MRO specification for inter-RAT ping-pong detection	11.3.0	11.4.0	R2	SONenh2_LTE_UTRA-Core
36.300	0538	-	Rel-11	F	RP-121936	R2-125983	approved	Restriction of Resource Allocation during SCell activation	11.3.0	11.4.0	R2	LTE_CA-Core, TEI11
36.300	0539	-	Rel-11	F	RP-121932	R2-125984	approved	Misc corrections on MBMS	11.3.0	11.4.0	R2	MBMS_LTE, TEI11
36.300	0540	-	Rel-11	F	RP-121957	R2-125985	approved	Correction on UE Radio Capability Match	11.3.0	11.4.0	R2	TEI11
36.300	0541	-	Rel-11	F	RP-121957	R2-125990	approved	Clarification on the use of HRL in GWCN scenarios	11.3.0	11.4.0	R2	TEI11
36.300	0542	-	Rel-11	B	RP-121732	R2-125991	approved	Membership Verification for HeNB Enhanced Mobility	11.3.0	11.4.0	R2	EHNB_enh1-Core
36.300	0543	-	Rel-11	B	RP-121739	R3-122915	approved	New Information for BBF access	11.3.0	11.4.0	R2	BBAI
36.302	0036	-	Rel-11	B	RP-121951	R2-126047	approved	Correction to parallel PRACH, SRS and PUSCH/PUCCH transmission	11.0.0	11.1.0	R2	LTE_CA_enh-Core
36.302	0037	-	Rel-11	B	RP-121956	R2-126060	approved	Introduction of EPDCCH in TS 36.302	11.0.0	11.1.0	R2	LTE_enh_dl_ctrl-Core
36.304	0196	-	Rel-11	F	RP-121940	R2-125265	approved	Clarification of MBMS Prioritisation	11.1.0	11.2.0	R2	MBMS_LTE_SC-Core
36.304	0197	-	Rel-11	F	RP-121957	R2-125266	approved	Correction to absolute priority cell reselection	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.304	0198	-	Rel-11	B	RP-121946	R2-125267	approved	Introduction of MDT accessibility measurements	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
36.304	0199	1	Rel-11	C	RP-121958	R2-125871	approved	RAN overload handling using RRC Reject	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.305	0044	-	Rel-9	F	RP-121931	R2-125269	approved	Cleanup of TS36.305	9.9.0	9.10.0	R2	LCS_LTE
36.305	0045	-	Rel-10	A	RP-121931	R2-125270	approved	Cleanup of TS36.305	10.4.0	10.5.0	R2	LCS_LTE
36.305	0046	-	Rel-11	A	RP-121931	R2-125271	approved	Cleanup of TS36.305	11.1.0	11.2.0	R2	LCS_LTE
36.305	0047	-	Rel-9	F	RP-121931	R2-126064	approved	Addition of Network Triggered Service Request for LPP and LPPa Positioning	9.9.0	9.10.0	R2	LCS_LTE

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36.305	0048	-	Rel-10	A	RP-121931	R2-126065	approved	Addition of Network Triggered Service Request for LPP and LPPa Positioning	10.4.0	10.5.0	R2	LCS_LTE
36.305	0049	-	Rel-11	A	RP-121931	R2-126066	approved	Addition of Network Triggered Service Request for LPP and LPPa Positioning	11.1.0	11.2.0	R2	LCS_LTE
36.305	0050	-	Rel-11	F	RP-121931	R2-125973	approved	Correction of E-CID Measurement Initiation	11.1.0	11.2.0	R2	LCS_LTE, TEI11
36.305	0051	-	Rel-10	F	RP-121931	R2-125981	approved	Correlation of LPPa class 2 procedures involved in an LPPa transaction	10.4.0	10.5.0	R2	LCS_LTE, TEI10
36.305	0052	-	Rel-11	A	RP-121931	R2-125982	approved	Correlation of LPPa class 2 procedures involved in an LPPa transaction	11.1.0	11.2.0	R2	LCS_LTE, TEI10
36.305	0053	-	Rel-11	B	RP-121949	R2-125986	approved	Network Based Positioning Support SRS Update	11.1.0	11.2.0	R2	LCS_LTE-NBPS-Core
36.305	0054	-	Rel-11	B	RP-121734	R2-125987	postponed	Network Based Positioning Support SRS Update for intra-MME handover	11.1.0		R2	LCS_LTE-NBPS-Core
36.305	0055	-	Rel-11	F	RP-121949	R2-125989	approved	SLmAP Stage 2 Clarification	11.1.0	11.2.0	R2	LCS_LTE-NBPS-Core
36.306	0119	-	Rel-10	F	RP-121936	R2-125272	approved	Power Management Indicator in PHR	10.7.0	10.8.0	R2	LTE_CA-Core
36.306	0120	-	Rel-11	A	RP-121936	R2-125273	approved	Power Management Indicator in PHR	11.1.0	11.2.0	R2	LTE_CA-Core
36.306	0123	1	Rel-10	F	RP-121936	R2-126048	approved	Clarification on UL CA in supportedBandCombination	10.7.0	10.8.0	R2	LTE_CA-Core
36.306	0124	1	Rel-11	A	RP-121936	R2-126049	approved	Clarification on UL CA in supportedBandCombination	11.1.0	11.2.0	R2	LTE_CA-Core
36.306	0125	1	Rel-11	B	RP-121961	R2-126094	revised	Introduction of Rel-11 UE features	11.1.0		R2	LTE_CA_enh-Core, LTE_eDDA-Core, eMDT_UMTSLTE-Core, SPIA_IDC_LTE-Core, SIMTC-RAN_OC-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, eICIC_enh_LTE-Core, LTE_enh_dl_ctrl-Core, LTE_Interf_Rej-Perf, LTE_TDD_add_subframe-Core, MBMS_LTE_SC-Core, TEI11

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36.306	0125	2	Rel-11	B	RP-122002	-	approved	Introduction of Rel-11 UE features	11.1.0	11.2.0	R2	LTE_CA_enh-Core, LTE_eDDA-Core, eMDT_UMTSLTE-Core, SPIA_IDC_LTE-Core, SIMTC-RAN_OC-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, eICIC_enh_LTE-Core, LTE_enh_dl_ctrl-Core, LTE_Interf_Rej-Perf, LTE_TDD_add_subframe-Core, MBMS_LTE_SC-Core, TEI11
36.306	0132	-	Rel-11	B	RP-121960	R2-125993	approved	Broadcast of Time Info by Using a New SIB	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.307	0080	-	Rel-10	B	RP-121884	R4-125025	approved	Introduction of CA_3A-8A to TS 36.307	10.5.0	10.6.0	R4	LTE_CA_B3_B8-Core
36.307	0085	-	Rel-10	B	RP-121890	R4-125565	approved	Introduction of CA_4A-5A into 36.307	10.5.0	10.6.0	R4	LTE_CA_B4_B5-Core
36.307	0086	-	Rel-11	A	RP-121890	R4-125566	approved	Introduction of CA_4A-5A into 36.307	11.2.0	11.3.0	R4	LTE_CA_B4_B5-Core
36.307	0087	-	Rel-10	B	RP-121889	R4-125661	approved	Introduction of CA band combination Band4 + Band13 to TS 36.307 (Rel-10)	10.5.0	10.6.0	R4	LTE_CA_B4_B13-Core
36.307	0088	-	Rel-11	A	RP-121889	R4-125663	approved	Introduction of CA band combination Band4 + Band13 to TS 36.307 (Rel-11)	11.2.0	11.3.0	R4	LTE_CA_B4_B13-Core
36.307	0089	-	Rel-10	B	RP-121894	R4-125718	approved	Introduction of CA_B5_B12 in 36.307	10.5.0	10.6.0	R4	LTE_CA_B5_B12-Core
36.307	0090	-	Rel-10	B	RP-121896	R4-125739	approved	Introduction of Band 5 + Band 17 inter-band CA configuration into 36.307	10.5.0	10.6.0	R4	LTE_CA_B5_B17-Core
36.307	0091	-	Rel-11	A	RP-121896	R4-125740	approved	Introduction of Band 5 + Band 17 inter-band CA configuration into 36.307	11.2.0	11.3.0	R4	LTE_CA_B5_B17-Core
36.307	0092	-	Rel-11	A	RP-121884	R4-125961	approved	Introduction of CA_3A-8A to TS 36.307	11.2.0	11.3.0	R4	LTE_CA_B3_B8-Core
36.307	0093	-	Rel-11	A	RP-121894	R4-125962	approved	Introduction of CA_B5_B12 in 36.307	11.2.0	11.3.0	R4	LTE_CA_B5_B12-Core
36.307	0094	-	Rel-10	B	RP-121887	R4-126222	approved	Introduction of CA_4-12 into TS 36.307 (Rel-10)	10.5.0	10.6.0	R4	LTE_CA_B4_B12-Core
36.307	0095	-	Rel-11	B	RP-121887	R4-126223	approved	Introduction of CA_4-12 into TS 36.307 (Rel-11)	11.2.0	11.3.0	R4	LTE_CA_B4_B12-Core
36.307	0096	-	Rel-10	B	RP-121882	R4-126243	approved	[Rel-10] Introduction of inter-band CA_11-18 into TS36.307	10.5.0	10.6.0	R4	LTE_CA_B11_B18-Core
36.307	0097	-	Rel-11	B	RP-121882	R4-126248	approved	[Rel-11] Introduction of inter-band CA_11-18 into TS36.307	11.2.0	11.3.0	R4	LTE_CA_B11_B18-Core
36.307	0098	-	Rel-10	B	RP-121861	R4-126613	approved	Release-independent implementation of carrier aggregation configuration CA_4-7	10.5.0	10.6.0	R4	LTE_CA-Core , LTE_CA-Perf
36.307	0099	-	Rel-11	A	RP-121861	R4-126614	approved	Release-independent implementation of carrier aggregation configuration CA_4-7	11.2.0	11.3.0	R4	LTE_CA-Core , LTE_CA-Perf
36.307	0100	-	Rel-10	B	RP-121901	R4-126742	approved	Introduction of Band 29	10.5.0	10.6.0	R4	LTE_DL_FDD700-Core

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36.307	0101	-	Rel-11	A	RP-121901	R4-126744	approved	Introduction of Band 29	11.2.0	11.3.0	R4	LTE_DL_FDD700-Core
36.307	0102	-	Rel-11	A	RP-121718	-	approved	Introduction of CA band combination Band2 + Band17 to TS 36.307 (Rel-11)	11.2.0	11.3.0	R4	LTE_CA_B2_B17-Perf
36.307	0103	-	Rel-10	B	RP-121719	-	approved	Introduction of CA band combination Band2 + Band17 to TS 36.307 (Rel-10)	10.5.0	10.6.0	R4	LTE_CA_B2_B17-Perf
36.307	0104	-	Rel-11	A	RP-121720	-	approved	Introduction of CA band combination Band4 + Band17 to TS 36.307 (Rel-11)	11.2.0	11.3.0	R4	LTE_CA_B4_B17-Perf
36.307	0105	-	Rel-10	B	RP-121721	-	approved	Introduction of CA band combination Band4 + Band17 to TS 36.307 (Rel-10)	10.5.0	10.6.0	R4	LTE_CA_B4_B17-Perf
36.314	0028	-	Rel-11	F	RP-121946	R2-125274	approved	CR to 36.314 on Scheduled IP Throughput for MDT in DL	11.0.0	11.1.0	R2	eMDT_UMTSLTE-Core
36.314	0029	2	Rel-11	F	RP-121946	R2-125854	approved	CR to 36.314 on Scheduled IP Throughput for MDT in UL	11.0.0	11.1.0	R2	eMDT_UMTSLTE-Core
36.321	0582	-	Rel-10	F	RP-121936	R2-125276	approved	Clarification on DRX for Relay	10.6.0	10.7.0	R2	LTE_Relay-Core
36.321	0583	-	Rel-11	A	RP-121936	R2-125277	approved	Clarification on DRX for Relay	11.0.0	11.1.0	R2	LTE_Relay-Core
36.321	0584	-	Rel-10	F	RP-121936	R2-125278	approved	Clarification on V field in Extended PHR MAC CE	10.6.0	10.7.0	R2	LTE_CA-Core
36.321	0585	-	Rel-11	A	RP-121936	R2-125279	approved	Clarification on V field in Extended PHR MAC CE	11.0.0	11.1.0	R2	LTE_CA-Core
36.321	0586	1	Rel-11	F	RP-121951	R2-125593	approved	Clarification related to CA enhancement in MAC	11.0.0	11.1.0	R2	LTE_CA_enh-Core
36.321	0588	-	Rel-11	F	RP-121957	R2-125282	approved	Clarification of the Note in 5.2	11.0.0	11.1.0	R2	LTE-L23, TEI11
36.321	0590	-	Rel-11	D	RP-121951	R2-126042	approved	TAG Acronym	11.0.0	11.1.0	R2	LTE_CA_enh-Core
36.321	0594	-	Rel-11	F	RP-121951	R2-126052	approved	Corrections for CA-enhancement in MAC	11.0.0	11.1.0	R2	LTE_CA_enh-Core
36.321	0599	-	Rel-11	B	RP-121956	R2-126059	approved	CR on MAC layer support of ePDCCH	11.0.0	11.1.0	R2	LTE_enh_dl_ctrl-Core
36.321	0624	2	Rel-11	F	RP-121957	R2-126097	approved	CR to 36.321 on Annex for DRX Timers	11.0.0	11.1.0	R2	LTE-L23, TEI11
36.323	0100	-	Rel-11	B	RP-121959	R2-125283	approved	CR to 36.323 on introducing ROHC context continue for intra-ENB handover	11.0.0	11.1.0	R2	LTE-L23, TEI11
36.323	0104	1	Rel-11	F	RP-121959	R2-126115	approved	ROHC mode upon handover	11.0.0	11.1.0	R2	LTE-L23, TEI11
36.323	0105	-	Rel-10	F	RP-121936	R2-126002	approved	Prevention of HFN de-synchronization due to PDCP SN over-allocation	10.1.0	10.2.0	R2	LTE-L23, TEI10
36.323	0106	-	Rel-11	A	RP-121936	R2-126003	approved	Prevention of HFN de-synchronization due to PDCP SN over-allocation	11.0.0	11.1.0	R2	LTE-L23, TEI10
36.331	1061	-	Rel-9	F	RP-121933	R2-125284	approved	Correction related to differentiating UTRAN modes in FGIs	9.12.0	9.13.0	R2	LTE-L23, TEI9
36.331	1062	-	Rel-10	A	RP-121933	R2-125285	approved	Correction related to differentiating UTRAN modes in FGIs	10.7.0	10.8.0	R2	LTE-L23, TEI9
36.331	1063	-	Rel-11	A	RP-121933	R2-125286	approved	Correction related to differentiating UTRAN modes in FGIs	11.1.0	11.2.0	R2	LTE-L23, TEI9
36.331	1064	-	Rel-10	F	RP-121936	R2-125287	approved	Processing delay for RRCConnectionReconfiguration	10.7.0	10.8.0	R2	LTE_CA-Core
36.331	1065	-	Rel-11	A	RP-121936	R2-125288	approved	Processing delay for RRCConnectionReconfiguration	11.1.0	11.2.0	R2	LTE_CA-Core
36.331	1066	2	Rel-11	B	RP-121953	R2-126114	approved	Addition of the stage-3 agreements on IDC	11.1.0	11.2.0	R2	SPIA_IDC_LTE-Core
36.331	1067	3	Rel-11	B	RP-121951	R2-126075	approved	Carrier Aggregation Enhancement RAN1 parameters	11.1.0	11.2.0	R2	LTE_CA_enh-Core
36.331	1068	1	Rel-11	F	RP-121957	R2-126127	approved	Clarification of SR period	11.1.0	11.2.0	R2	LTE-L23, TEI11

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36.331	1069	1	Rel-11	F	RP-121957	R2-125859	approved	Clarification on HandoverCommand message	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1070	-	Rel-11	F	RP-121957	R2-125293	approved	Clarification on mobility related issues	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1071	1	Rel-11	F	RP-121946	R2-125851	approved	Correction of the signaling for Uncertainty and Confidence	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
36.331	1072	2	Rel-11	F	RP-121940	R2-126077	approved	Corrections to MBMS Service Continuity	11.1.0	11.2.0	R2	MBMS_LTE_SC-Core
36.331	1073	-	Rel-11	F	RP-121940	R2-125296	approved	CR to 36.331 on SIB15 acquisition	11.1.0	11.2.0	R2	MBMS_LTE_SC-Core
36.331	1074	1	Rel-11	F	RP-121957	R2-126134	approved	Handling of 1xCSFB failure	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1075	-	Rel-11	F	RP-121957	R2-125298	approved	Miscellaneous corrections	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1076	1	Rel-11	C	RP-121958	R2-125833	approved	RAN overload control using RRC connection Rejection	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1077	-	Rel-11	B	RP-121954	R2-125300	approved	RRC support for CoMP in UL	11.1.0	11.2.0	R2	COMP_LTE_UL-Core
36.331	1078	-	Rel-11	F	RP-121951	R2-125301	approved	Some clarification to Carrier aggregation enhancements	11.1.0	11.2.0	R2	LTE_CA_enh-Core
36.331	1079	1	Rel-11	F	RP-121939	R2-125850	approved	Validity of EAB SIB and acquisition of SIB1	11.1.0	11.2.0	R2	SIMTC-RAN_OC-Core
36.331	1082	-	Rel-8	C	RP-121922	R2-126109	approved	Clarification for Multiple Frequency Band Indicators feature	8.17.0	8.18.0	R2	TEI8
36.331	1083	-	Rel-9	A	RP-121922	R2-126110	approved	Clarification for Multiple Frequency Band Indicators feature	9.12.0	9.13.0	R2	TEI8
36.331	1084	-	Rel-10	A	RP-121922	R2-126111	approved	Clarification for Multiple Frequency Band Indicators feature	10.7.0	10.8.0	R2	TEI8
36.331	1085	-	Rel-11	A	RP-121922	R2-126112	approved	Clarification for Multiple Frequency Band Indicators feature	11.1.0	11.2.0	R2	TEI8
36.331	1086	-	Rel-8	F	RP-121924	R2-126087	approved	Moving the TM5 capability	8.17.0	8.18.0	R2	LTE-L23
36.331	1087	-	Rel-9	F	RP-121924	R2-126088	approved	Moving the TM5 capability	9.12.0	9.13.0	R2	LTE-L23, TEI9
36.331	1088	1	Rel-10	A	RP-121924	R2-126132	approved	Moving the TM5 capability	10.7.0	10.8.0	R2	LTE-L23, TEI9
36.331	1089	1	Rel-11	A	RP-121924	R2-126129	approved	Moving the TM5 capability	11.1.0	11.2.0	R2	LTE-L23, TEI9
36.331	1093	1	Rel-11	B	RP-121959	R2-126128	approved	CR to 36.331 on introducing ROHC context continue for intra-ENB handover	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1100	-	Rel-11	F	RP-121946	R2-125855	approved	Correction on MDT multi-PLMN support	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
36.331	1102	-	Rel-11	F	RP-121953	R2-126038	approved	Clarification and alignment of handling of other configuration	11.1.0	11.2.0	R2	LTE_eDDA-Core, SPIA_IDC_LTE-Core
36.331	1103	2	Rel-11	B	RP-121753	-	revised	Introducing support for Coordinated Multi-Point (CoMP) operation	11.1.0		R2	COMP_LTE_DL-Core
36.331	1103	4	Rel-11	B	RP-121796	-	revised	Introducing support for Coordinated Multi-Point (CoMP) operation	11.1.0		R2	COMP_LTE_DL-Core
36.331	1103	5	Rel-11	B	RP-121963	-	rejected	Introducing support for Coordinated Multi-Point (CoMP) operation	11.1.0		R2	COMP_LTE_DL-Core
36.331	1103	6	Rel-11	B	RP-121970	-	approved	Introducing support for Coordinated Multi-Point (CoMP) operation	11.1.0	11.2.0	R2	COMP_LTE_DL-Core
36.331	1105	2	Rel-11	A	RP-121922	R2-126131	approved	Introducing further UE aspects regarding multi band cells	11.1.0	11.2.0	R2	LTE-L23, LTE-RF, TEI10
36.331	1120	-	Rel-11	C	RP-121947	R2-125857	approved	CR to 36.331 on additional information in RLF report for inter-RAT MRO	11.1.0	11.2.0	R2	SONenh2_LTE_UTRA-Core
36.331	1125	1	Rel-11	F	RP-121952	R2-126078	approved	Correction on Power preference indication	11.1.0	11.2.0	R2	LTE_eDDA-Core
36.331	1126	1	Rel-10	F	RP-121936	R2-126073	approved	Measurement reporting of Scells	10.7.0	10.8.0	R2	LTE_CA-Core

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36.331	1127	1	Rel-11	B	RP-121950	R2-126104	approved	SIB1 provisioning via dedicated signalling	11.1.0	11.2.0	R2	eICIC_enh_LTE-Core
36.331	1128	2	Rel-11	A	RP-121936	R2-126130	approved	Measurement reporting of Scells	11.1.0	11.2.0	R2	LTE_CA-Core
36.331	1129	1	Rel-11	B	RP-121956	R2-126116	approved	Introduction of EPDCCH parameters in TS 36.331	11.1.0	11.2.0	R2	LTE_enh_dl_ctrl-Core
36.331	1130	2	Rel-11	B	RP-121961	R2-126121	approved	Introduction of Rel-11 UE capabilities	11.1.0	11.2.0	R2	LTE_CA_enh-Core, LTE_eDDA-Core, eMDT_UMTSLTE-Core, SPIA_IDC_LTE-Core, COMP_LTE_DL-Core, COMP_LTE_UL-Core, eICIC_enh_LTE-Core, LTE_enh_dl_ctrl-Core, LTE_TDD_add_subframe-Core, TEI11
36.331	1131	-	Rel-11	B	RP-121958	R2-125862	approved	Introducion of wideband RSRQ measurements	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1132	1	Rel-9	F	RP-121929	R2-126036	postponed	Update on setting of FGI bit 27	9.12.0		R2	LTE-L23, TEI9
36.331	1133	-	Rel-10	A	RP-121929	R2-125885	postponed	Update on setting of FGI bit 27	10.7.0		R2	LTE-L23, TEI9
36.331	1134	1	Rel-11	A	RP-121929	R2-126037	postponed	Update on setting of FGI bit 27	11.1.0		R2	LTE-L23, TEI9
36.331	1135	-	Rel-9	F	RP-121930	R2-126081	postponed	Update on setting of FGI bit 28	9.12.0		R2	LTE-L23, TEI9
36.331	1136	-	Rel-10	F	RP-121930	R2-126082	postponed	Update on setting of FGI bit 28	10.7.0		R2	LTE-L23, TEI10
36.331	1137	-	Rel-11	A	RP-121930	R2-126083	postponed	Update on setting of FGI bit 28	11.1.0		R2	LTE-L23, TEI10
36.331	1138	-	Rel-9	F	RP-121927	R2-126084	postponed	Update on setting of FGI bit 14	9.12.0		R2	LTE-L23, TEI9
36.331	1139	-	Rel-10	F	RP-121927	R2-126085	postponed	Update on setting of FGI bit 14	10.7.0		R2	LTE-L23, TEI10
36.331	1140	-	Rel-11	A	RP-121927	R2-126086	postponed	Update on setting of FGI bit 14	11.1.0		R2	LTE-L23, TEI10
36.331	1141	-	Rel-9	F	RP-121926	R2-126098	rejected	Update on setting of FGI bit 9	9.12.0		R2	LTE-L23, TEI9
36.331	1142	-	Rel-10	A	RP-121926	R2-126099	rejected	Update on setting of FGI bit 9	10.7.0		R2	LTE-L23, TEI9
36.331	1143	-	Rel-11	A	RP-121926	R2-126100	rejected	Update on setting of FGI bit 9	11.1.0		R2	LTE-L23, TEI9
36.331	1146	-	Rel-11	C	RP-121958	R2-126068	approved	Introduction of network sharing for CDMA2000 inter-working	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1157	-	Rel-11	B	RP-121960	R2-125992	approved	Broadcast of Time Info by Using a New SIB	11.1.0	11.2.0	R2	LTE-L23, TEI11
36.331	1166	-	Rel-9	F	RP-121924	R2-126091	rejected	The setting of FGI1 and FGI2	9.12.0		R2	LTE-L23, TEI9
36.331	1167	-	Rel-10	A	RP-121924	R2-126092	rejected	The setting of FGI1 and FGI2	10.7.0		R2	LTE-L23, TEI9
36.331	1168	-	Rel-11	A	RP-121924	R2-126093	rejected	The setting of FGI1 and FGI2	11.1.0		R2	LTE-L23, TEI9
36.331	1172	1	Rel-8	F	RP-121922	R2-126108	approved	Introducing further UE aspects regarding multi band cells	8.17.0	8.18.0	R2	LTE-L23, LTE-RF
36.331	1173	-	Rel-9	A	RP-121922	R2-126044	approved	Introducing further UE aspects regarding multi band cells	9.12.0	9.13.0	R2	LTE-L23, LTE-RF
36.331	1174	1	Rel-10	F	RP-121922	R2-126117	approved	Introducing further UE aspects regarding multi band cells	10.7.0	10.8.0	R2	LTE-L23, LTE-RF, TEI10
36.331	1175	-	Rel-11	F	RP-121957	R2-126069	approved	GERAN measurement object at ANR	11.1.0	11.2.0	R2	LTE-L23, TEI11

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36.331	1176	-	Rel-9	F	RP-121928	R2-126101	rejected	Update on setting of FGI bit 23	9.12.0		R2	LTE-L23, TEI9
36.331	1177	-	Rel-10	A	RP-121928	R2-126102	rejected	Update on setting of FGI bit 23	10.7.0		R2	LTE-L23, TEI9
36.331	1178	-	Rel-11	A	RP-121928	R2-126103	rejected	Update on setting of FGI bit 23	11.1.0		R2	LTE-L23, TEI9
36.331	1179	-	Rel-9	F	RP-121781	-	rejected	Update on setting of FGI bit 29	9.12.0		R2	TEI9, LTE-L23
36.331	1180	-	Rel-10	A	RP-121782	-	rejected	Update on setting of FGI bit 29	10.7.0		R2	TEI9, LTE-L23
36.331	1181	-	Rel-11	A	RP-121783	-	rejected	Update on setting of FGI bit 29	11.1.0		R2	TEI9, LTE-L23
36.355	0075	1	Rel-9	F	RP-121931	R2-126034	approved	Correcting the referencing of QoS parameters	9.8.0	9.9.0	R2	LCS_LTE
36.355	0076	1	Rel-10	A	RP-121931	R2-126035	approved	Correcting the referencing of QoS parameters	10.6.0	10.7.0	R2	LCS_LTE
36.355	0077	-	Rel-11	A	RP-121931	R2-125881	approved	Correcting the referencing of QoS parameters	11.0.0	11.1.0	R2	LCS_LTE
36.355	0078	-	Rel-9	F	RP-121931	R2-125882	approved	Correction to missing field description in GNSS-AcquisitionAssistance IE	9.8.0	9.9.0	R2	LCS_LTE
36.355	0079	-	Rel-10	A	RP-121931	R2-125883	approved	Correction to missing field description in GNSS-AcquisitionAssistance IE	10.6.0	10.7.0	R2	LCS_LTE
36.355	0080	-	Rel-11	A	RP-121931	R2-125884	approved	Correction to missing field description in GNSS-AcquisitionAssistance IE	11.0.0	11.1.0	R2	LCS_LTE
36.401	0059	1	Rel-11	F	RP-121737	R3-122866	approved	Rapporteur update of 36.401	11.0.0	11.1.0	R3	TEI11
36.413	1048	3	Rel-11	B	RP-121730	R3-122897	approved	Introduction of new MDT measurements	11.1.0	11.2.0	R3	eMDT_UMTSLTE-Core
36.413	1049	-	Rel-11	F	RP-121736	R3-122458	approved	Verification of HeNB	11.1.0	11.2.0	R3	TEI11
36.413	1052	2	Rel-11	B	RP-121732	R3-122922	approved	Membership verification during Path Switch Request procedure (Option A)	11.1.0	11.2.0	R3	EHNB_enh1-Core
36.413	1056	1	Rel-11	F	RP-121737	R3-122865	approved	Rapporteur editorial corrections	11.1.0	11.2.0	R3	TEI11
36.413	1057	-	Rel-11	F	RP-121737	R3-122512	approved	Rapporteur correction of constants' names	11.1.0	11.2.0	R3	TEI11
36.413	1061	2	Rel-11	B	RP-121730	R3-122899	approved	Multi-PLMN MDT	11.1.0	11.2.0	R3	eMDT_UMTSLTE-Core
36.413	1062	-	Rel-11	F	RP-121736	R3-122570	approved	Correction of Capacity Match Request	11.1.0	11.2.0	R3	TEI11
36.413	1068	2	Rel-11	B	RP-121731	R3-122884	approved	Introduce support for Inter-RAT MRO	11.1.0	11.2.0	R3	SONenh2_LTE_UTRA-Core
36.413	1074	2	Rel-11	B	RP-121739	R3-122916	approved	New Information for BBF access	11.1.0	11.2.0	R3	BBAI
36.413	1075	1	Rel-11	F	RP-121736	R3-122908	approved	Establishment of UE-associated logical S1-connection in eNB	11.1.0	11.2.0	R3	TEI11
36.421	0002	1	Rel-11	D	RP-121737	R3-122864	approved	Rapporteur editorial cleanup	11.0.0	11.1.0	R3	TEI11
36.423	0548	-	Rel-11	B	RP-121731	R3-122428	approved	Addition of Mobility Information	11.2.0	11.3.0	R3	SONenh2_LTE_UTRA-Core
36.423	0549	3	Rel-11	B	RP-121730	R3-122898	approved	Introduction of new MDT measurements	11.2.0	11.3.0	R3	eMDT_UMTSLTE-Core
36.423	0550	1	Rel-11	B	RP-121732	R3-122925	approved	HeNB mobility enhancement when target is hybrid HeNB	11.2.0	11.3.0	R3	EHNB_enh1-Core
36.423	0552	2	Rel-11	B	RP-121730	R3-122900	approved	Multi-PLMN MDT	11.2.0	11.3.0	R3	eMDT_UMTSLTE-Core

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36.423	0564	-	Rel-11	F	RP-121731	R3-122685	approved	Clarification on successful handover for HO report procedure	11.2.0	11.3.0	R3	SONenh2_LTE_UTRA-Core
36.423	0569	2	Rel-11	F	RP-121737	R3-122871	approved	X2AP Rapporteur Update	11.2.0	11.3.0	R3	TEI11
36.440	0009	1	Rel-11	F	RP-121736	R3-122818	approved	Add M3 Setup and Configure Update function	11.0.0	11.1.0	R3	TEI11
36.443	0064	-	Rel-11	F	RP-121737	R3-122514	approved	Rapporteur editorial corrections	11.0.0	11.1.0	R3	TEI11
36.444	0043	1	Rel-10	F	RP-121724	R3-122806	approved	Correction of MBMS Session Start Partial Success	10.3.0	10.4.0	R3	TEI10
36.444	0044	1	Rel-11	A	RP-121724	R3-122807	approved	Correction of MBMS Session Start Partial Success	11.3.0	11.4.0	R3	TEI10
36.455	0036	-	Rel-11	F	RP-121736	R3-122443	approved	Correction on Uncertainty Altitude	11.0.0	11.1.0	R3	TEI11
36.455	0039	4	Rel-11	B	RP-121734	R3-122927	postponed	Network Based Positioning Support in LTE	11.0.0		R3	LCS_LTE-NBPS-Core
36.508	0356	-	Rel-10	F	RP-121681	R5-125107	approved	Addition of new connection diagram for UL-MIMO testing	10.2.0	10.3.0	R5	LTE_UL_MIMO-UEConTest
36.508	0357	-	Rel-10	F	RP-121659	R5-125116	approved	Update to test procedure sequence 6.4.2.7A for check that UE is camped on E-UTRAN cell upon mobility from another RAT	10.2.0	10.3.0	R5	LTE-UEConTest_SIG
36.508	0358	-	Rel-10	F	RP-121677	R5-125187	approved	Introduction of connection diagrams for CA tests	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.508	0359	-	Rel-10	F	RP-121685	R5-125219	approved	Addition of default message contents for ESM NOTIFICATION message	10.2.0	10.3.0	R5	aSRVCC-UEConTest
36.508	0360	-	Rel-10	F	RP-121659	R5-125283	approved	Modification of measurement configuration for UTRAN FDD SIG	10.2.0	10.3.0	R5	LTE-UEConTest_SIG
36.508	0361	-	Rel-10	F	RP-121659	R5-125287	approved	Clarification of table 6.6.2-1	10.2.0	10.3.0	R5	LTE-UEConTest_SIG
36.508	0362	-	Rel-10	F	RP-121656	R5-125303	approved	Addition of channel bandwidth tested for E-UTRA FDD band 19	10.2.0	10.3.0	R5	LTE-UEConTest_RF
36.508	0363	-	Rel-10	F	RP-121656	R5-125370	approved	Correction of circulator in connection diagrams	10.2.0	10.3.0	R5	LTE-UEConTest_RF
36.508	0364	-	Rel-10	F	RP-121656	R5-125372	approved	Correction to test channel numbers for Band 26	10.2.0	10.3.0	R5	LTE-UEConTest_RF
36.508	0365	-	Rel-10	F	RP-121656	R5-125373	approved	Update of Chw Bw Parameters for 1.4MHz and 3MHz	10.2.0	10.3.0	R5	LTE-UEConTest_RF
36.508	0366	-	Rel-10	F	RP-121659	R5-125530	approved	Update generic procedure 4.5A.7	10.2.0	10.3.0	R5	LTE-UEConTest_SIG
36.508	0367	-	Rel-10	F	RP-121659	R5-125545	approved	Update of default ROUTING AREA UPDATE REQUEST message	10.2.0	10.3.0	R5	LTE-UEConTest_SIG
36.508	0368	-	Rel-10	F	RP-121690	R5-125573	approved	CA_38: Addition of new test frequency for CA band 38	10.2.0	10.3.0	R5	LTE_CA_intraC_inter_UEConTest
36.508	0369	-	Rel-10	F	RP-121689	R5-125778	approved	Addition of Band 28 definition	10.2.0	10.3.0	R5	LTE_APAC700-UEConTest
36.508	0370	-	Rel-10	F	RP-121685	R5-125792	approved	Add generic procedure for IMS MO speech and aSRVCC	10.2.0	10.3.0	R5	aSRVCC-UEConTest
36.508	0371	-	Rel-10	F	RP-121677	R5-125800	approved	Modification to state 3A-RF-CA initial conditions of clause 5.2A.4	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.508	0372	-	Rel-10	F	RP-121688	R5-125832	approved	Introduction of Band 27 to TS 36.508	10.2.0	10.3.0	R5	LTE_e850_LB-UEConTest
36.508	0373	-	Rel-10	F	RP-121677	R5-125933	approved	Update of RF Reference system configurations in 36.508	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.508	0374	-	Rel-10	F	RP-121659	R5-126020	approved	Using not null integrity protection and ciphering algorithms by defaul	10.2.0	10.3.0	R5	LTE-UEConTest_SIG
36.508	0375	-	Rel-10	F	RP-121677	R5-126053	approved	Introducing default channel bandwidth for CA signalling testing	10.2.0	10.3.0	R5	LTE_CA-UEConTest

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36.521-1	0749	-	Rel-10	F	RP-121681	R5-125109	approved	Update of TC6.6.3B.2 for Spurious emissions band UE co-existence for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0750	-	Rel-10	F	RP-121681	R5-125110	approved	Update of TC6.6.3B.3 for Additional spurious emissions for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0751	-	Rel-10	F	RP-121656	R5-125146	approved	Corrections to Test Procedure of TC 6.6.2.3 ACLR	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0752	-	Rel-10	F	RP-121681	R5-125147	approved	Updates for TC 6.2.3B MPR for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0753	-	Rel-10	F	RP-121681	R5-125148	approved	Updates for TC 6.6.2.1B SEM for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0754	-	Rel-10	F	RP-121681	R5-125149	approved	Updates for TC 6.6.2.2B A-SEM for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0755	-	Rel-10	F	RP-121681	R5-125150	approved	Updates for TC 6.6.2.3B ACLR for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0756	-	Rel-10	F	RP-121656	R5-125215	approved	Correction of TC 6.6.2.1	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0757	-	Rel-10	F	RP-121656	R5-125252	approved	Adding normative reference for core requirements in TC 6.2.4	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0758	-	Rel-10	F	RP-121656	R5-125253	approved	Adding normative reference for core requirements for many section 9 tests	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0759	-	Rel-10	F	RP-121656	R5-125254	approved	Correction of table references in sub clause G.X	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0760	-	Rel-10	F	RP-121677	R5-125260	approved	CR to TC 7.4A: Splitting the CA Maximum input level test case	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0761	-	Rel-10	F	RP-121677	R5-125263	approved	RF Cl G.3A: General corrections and completion of Annex G.3A with TDD tests	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0762	-	Rel-10	F	RP-121656	R5-125304	approved	Updates for Minimum requirements of 6.2.5 Configured UE transmitted Output Power	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0763	-	Rel-10	F	RP-121689	R5-125309	approved	Addition of Band 28 definition to Chap.5	10.3.0	10.4.0	R5	LTE_APAC700-UEConTest
36.521-1	0764	-	Rel-10	F	RP-121689	R5-125311	approved	Addition of Band 28 to 6.2.2 MOP	10.3.0	10.4.0	R5	LTE_APAC700-UEConTest
36.521-1	0765	-	Rel-10	F	RP-121689	R5-125314	approved	Addition of Band 28 to 7.3 Refsens	10.3.0	10.4.0	R5	LTE_APAC700-UEConTest
36.521-1	0766	-	Rel-10	F	RP-121677	R5-125321	approved	Updates for TC6.6.1A: Occupied bandwidth for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0767	-	Rel-10	F	RP-121677	R5-125322	approved	Updates for TC6.6.2.3A: ACLR for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0768	-	Rel-10	F	RP-121677	R5-125323	approved	Updates for TC6.6.3.1A: Transmitter Spurious emissions for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0769	-	Rel-10	F	RP-121677	R5-125346	approved	TC 6.2.4A.1 A-MPR for CA updates	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0770	-	Rel-10	F	RP-121656	R5-125351	approved	Correction to LTE Rx TCs UL allocation location	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0771	-	Rel-10	F	RP-121656	R5-125365	approved	Uncertainties and Test Tolerances for Rel-9 CQI Reporting under fading conditions, PUCCH 1-0 Tests	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0772	-	Rel-10	F	RP-121656	R5-125374	approved	Clean up of Tx tests	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0773	-	Rel-10	F	RP-121656	R5-125405	approved	Addition of 15MHz and 20MHz Bandwidths for Band 23	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0774	-	Rel-10	F	RP-121656	R5-125407	approved	RF TC 6.6.3.2: Clarification and corrections	10.3.0	10.4.0	R5	LTE-UEConTest_RF

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36.521-1	0775	-	Rel-10	F	RP-121677	R5-125417	approved	Additions to test description for TC 7.5A.1 Adjacent Channel Selectivity (ACS) for CA (intra-band contiguous DL CA and UL CA)	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0776	-	Rel-10	F	RP-121677	R5-125422	approved	Introduction to CA_1 & CA_40 TC 7.5A.2 Adjacent Channel Selectivity (ACS) for CA (intra-band contiguous DL CA without UL CA)	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0777	-	Rel-10	F	RP-121656	R5-125443	approved	Corrections of RMC for receiver characteristics	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0778	-	Rel-10	F	RP-121656	R5-125445	approved	Corrections of FRC subframe allocations for performance requirements	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0779	-	Rel-10	F	RP-121684	R5-125450	approved	Introduction of TC 9.2.2.1_D FDD CQI Reporting under AWGN conditions - PUCCH 1-1 for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0780	-	Rel-10	F	RP-121684	R5-125451	approved	Introduction of TC 9.2.2.2_D TDD CQI Reporting under AWGN conditions - PUCCH 1-1 for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0781	-	Rel-10	F	RP-121684	R5-125452	approved	Introduction of TC 9.3.2.2.1_D FDD CQI Reporting under fading conditions - PUCCH 1-1 for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0782	-	Rel-10	F	RP-121684	R5-125453	approved	Introduction of TC 9.3.2.2.2_D TDD CQI Reporting under fading conditions - PUCCH 1-1 for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0783	-	Rel-10	F	RP-121684	R5-125454	approved	Additions of eDL-MIMO to Annex A	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0784	-	Rel-10	F	RP-121684	R5-125455	approved	Additions of eDL-MIMO to Annex B Propagation Conditions for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0785	-	Rel-10	F	RP-121684	R5-125456	approved	Additions of eDL-MIMO to Annex F	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0786	-	Rel-10	F	RP-121684	R5-125463	approved	Additions to TC 9.4.2.1.1_D FDD PMI Reporting - PUSCH 1-2 (Multiple PMI) for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0787	-	Rel-10	F	RP-121684	R5-125464	approved	Additions to TC 9.4.2.1.2_D TDD PMI Reporting - PUSCH 1-2 (Multiple PMI) for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0788	-	Rel-10	F	RP-121684	R5-125465	approved	Additions to TC 9.5.1.1_D FDD RI Reporting for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0789	-	Rel-10	F	RP-121684	R5-125466	approved	Additions to TC 9.5.1.2_D TDD RI Reporting for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0790	-	Rel-10	F	RP-121656	R5-125593	approved	RF TC 6.2.4: Minor correction to test points for NS_15	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0791	-	Rel-10	F	RP-121681	R5-125594	approved	RF TC 6.2.4B: Minor correction to test points for NS_15	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0792	-	Rel-10	F	RP-121686	R5-125610	approved	TS 36-521-1: MPR correction for band 26	10.3.0	10.4.0	R5	e850_UB-UEConTest
36.521-1	0793	-	Rel-10	F	RP-121677	R5-125801	approved	Updates of 6.3.3A UE Transmit OFF power for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0794	-	Rel-10	F	RP-121677	R5-125802	approved	Update of Annex F in 36.521-1	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0795	-	Rel-10	F	RP-121677	R5-125803	approved	Updates for 6.3.4A ON/OFF time mask for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest

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36.521-1	0796	-	Rel-10	F	RP-121677	R5-125804	approved	Addition of Transmitter test case - Transmit intermodulation for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0797	-	Rel-10	F	RP-121681	R5-125835	approved	Update of TC6.6.3B.1 for Transmitter Spurious emissions for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0798	-	Rel-10	F	RP-121684	R5-125851	approved	Introduction of TC 8.3.1.2.1_D FDD PDSCH Dual-layer Spatial Multiplexing for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0799	-	Rel-10	F	RP-121684	R5-125852	approved	Introduction of TC 8.3.2.2.1_D TDD PDSCH Dual-layer Spatial Multiplexing for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0800	-	Rel-10	F	RP-121684	R5-125853	approved	Additions to Annex G for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0801	-	Rel-10	F	RP-121684	R5-125854	approved	Correctons to Annex H for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0802	-	Rel-10	F	RP-121684	R5-125855	approved	Additions to TC 8.3.2.1.2_D TDD Single-Layer Spatial Multiplexing on antenna ports without a simultaneous transmission for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0803	-	Rel-10	F	RP-121684	R5-125856	approved	Additions to TC 8.3.2.1.3_D TDD Single-Layer Spatial Multiplexing on antenna ports with a simultaneous transmission for eDL-MIMO	10.3.0	10.4.0	R5	LTE_eDL_MIMO-UEConTest
36.521-1	0804	-	Rel-10	F	RP-121688	R5-125857	approved	Introduction of Band 27 to TS 36.521-1	10.3.0	10.4.0	R5	LTE_e850_LB-UEConTest
36.521-1	0805	-	Rel-10	F	RP-121677	R5-125858	approved	Updates to TC 8.2.2.3.1_A.1 for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0806	-	Rel-10	F	RP-121677	R5-125859	approved	Addition of new test case 8.2.1.4.2_A.1 for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0807	-	Rel-10	F	RP-121677	R5-125860	approved	Addition of new test case 8.2.2.4.2_A.1 for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0808	-	Rel-10	F	RP-121677	R5-125861	approved	Addition of sustained downlink data rate TC 8.7.1.1_A.1 for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0809	-	Rel-10	F	RP-121677	R5-125862	approved	Addition of sustained downlink data rate TC 8.7.1.1_A.2 for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0810	-	Rel-10	F	RP-121677	R5-125866	approved	Update of RF TC for 36.521-1 _ 6.3.5A.2.1 Power Control Relative power tolerance for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0811	-	Rel-10	F	RP-121656	R5-125867	approved	Update TC 6.6.3.2_1 Spurious emission band UE co-existence(Release 9 and forward)	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0812	-	Rel-10	F	RP-121656	R5-125868	approved	Correction to test applicability in 6.2.4 A-MPR test case	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0813	-	Rel-10	F	RP-121656	R5-125869	approved	Corection to test parameter in Perf 8.2.1 of 36.521-1	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0814	-	Rel-10	F	RP-121656	R5-125870	approved	Clarification of AG level for 8.7 sustained data rate test of 36.521-1	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0815	-	Rel-10	F	RP-121656	R5-125871	approved	Correction to SNR test points in test procedure	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0816	-	Rel-10	F	RP-121656	R5-125872	approved	Clarification of random precoding granularity	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0817	-	Rel-10	F	RP-121677	R5-125873	approved	Update of General sections for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0818	-	Rel-10	F	RP-121677	R5-125874	approved	Introduction to CA_1-5 TC 7.5A.3 Adjacent Channel Selectivity (ACS) for CA (inter-band DL CA without UL CA)	10.3.0	10.4.0	R5	LTE_CA-UEConTest

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36.521-1	0819	-	Rel-10	F	RP-121677	R5-125875	approved	Addition of a new TC 6.3.5A.3.1 Aggregate power control tolerance for CA(intra-band contiguous DL CA and UL CA)	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0820	-	Rel-10	F	RP-121677	R5-125876	approved	Addition of a new TC 6.6.3.2A.1 Spurious emission band UE co-existence for CA(intra-band contiguous DL CA and UL CA)	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0821	-	Rel-10	F	RP-121689	R5-125890	approved	Addition of Band 28 to 6.6.3.2 Spurious emission band UE co-existence	10.3.0	10.4.0	R5	LTE_APAC700-UEConTest
36.521-1	0822	-	Rel-10	F	RP-121689	R5-125891	approved	Addition of Band 28 to 6.6.3.3 Additional spurious emissions	10.3.0	10.4.0	R5	LTE_APAC700-UEConTest
36.521-1	0823	-	Rel-10	F	RP-121681	R5-125892	approved	UE output power definition for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0824	-	Rel-10	F	RP-121681	R5-125893	approved	Update TC 6.2.4B Additional maximum power reduction (A-MPR) for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0825	-	Rel-10	F	RP-121681	R5-125894	approved	Update TC 6.5.2B.1 Error vector magnitude (EVM) for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0826	-	Rel-10	F	RP-121681	R5-125895	approved	Update TC 6.2.5B Configured trasmitted output power for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0827	-	Rel-10	F	RP-121681	R5-125896	approved	Update TC 7.3B Reference sensitivity level for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0828	-	Rel-10	F	RP-121681	R5-125897	approved	Update TC 7.4B Maximum input level for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0829	-	Rel-10	F	RP-121681	R5-125898	approved	Update TC 7.5B Adjacent Channel Selectivity (ACS) for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0830	-	Rel-10	F	RP-121681	R5-125899	approved	Update TC 7.6.1B In-band blocking for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0831	-	Rel-10	F	RP-121681	R5-125900	approved	Update TC 7.6.2B Out-of-band blocking for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0832	-	Rel-10	F	RP-121681	R5-125901	approved	Update TC 7.6.3B Narrow band blocking for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0833	-	Rel-10	F	RP-121681	R5-125902	approved	Update TC 7.7B Spurious response for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0834	-	Rel-10	F	RP-121681	R5-125903	approved	Update TC 7.8.1B Wide band intermodulation for UL-MIMO	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-1	0835	-	Rel-10	F	RP-121682	R5-125906	approved	New RF TC for 36.521-1_8.2.1.2.3_Enhanced ICIC for LTE	10.3.0	10.4.0	R5	eICIC_LTE-UEConTest
36.521-1	0836	-	Rel-10	F	RP-121682	R5-125907	approved	New RF TC for 36.521-1_8.4.1.2.3_Enhanced ICIC for LTE	10.3.0	10.4.0	R5	eICIC_LTE-UEConTest
36.521-1	0837	-	Rel-10	F	RP-121682	R5-125908	approved	TDD CQI Reporting under AWGN conditions-PUCCH 1-0-Demod subframe overlaps with aggressor cell ABS (eICIC)	10.3.0	10.4.0	R5	eICIC_LTE-UEConTest
36.521-1	0838	-	Rel-10	F	RP-121682	R5-125909	approved	TDD PHICH Transmit Diversity 2x2-Demod subframe overlaps with aggressor cell ABS (eICIC)	10.3.0	10.4.0	R5	eICIC_LTE-UEConTest
36.521-1	0839	-	Rel-10	F	RP-121682	R5-125910	approved	TDD PDSCH Open Loop Spatial Multiplexing 2x2 Demod subframe overlaps with aggressor cell ABS (eICIC)	10.3.0	10.4.0	R5	eICIC_LTE-UEConTest
36.521-1	0840	-	Rel-10	F	RP-121656	R5-126063	approved	Update of Perf 8.7.1.1 and 8.7.2.1 of 36.521-1	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0841	-	Rel-10	F	RP-121677	R5-125924	approved	CR to 8.2.1.1.1_A: Correction to an average throughput measurement	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0842	-	Rel-10	F	RP-121677	R5-125925	approved	CR to 8.2.1.3.1_A: Correction to an average throughput measurement	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0843	-	Rel-10	F	RP-121656	R5-126065	approved	Clarification of RB position in 9.4.1 and 9.4.2	10.3.0	10.4.0	R5	LTE-UEConTest_RF

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36.521-1	0844	-	Rel-10	F	RP-121690	R5-125931	approved	Additions to test description TC 6.2.5A.1 and 6.2.5A.2 including CA_1A-19A and CA_1A-21A updaes	10.3.0	10.4.0	R5	LTE_CA_intraC_inter_UEConTest
36.521-1	0845	-	Rel-10	F	RP-121690	R5-125932	approved	Updates for TC7.3A: Reference sensitivity level for CA including CA_41C, CA_1-19 and CA_1-21	10.3.0	10.4.0	R5	LTE_CA_intraC_inter_UEConTest
36.521-1	0846	-	Rel-10	F	RP-121677	R5-125934	approved	Update of RF TC for 36.521-1 _ 6.3.5A.1.1 Power Control Absolute power tolerance for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0847	-	Rel-10	F	RP-121677	R5-125935	approved	Updates for TC6.5.1A: Frequency error for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0848	-	Rel-10	F	RP-121656	R5-126066	approved	Update of minimum test time in Annex G.3.5	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-1	0849	-	Rel-10	F	RP-121690	R5-126043	approved	Updates for 5.2A operating bands for CA_7, CA_38, CA_41, CA_1-18, CA_1-19, CA_1-21, CA_2-17, CA_3-5, CA_3-7, CA_3-8, CA_3-20, CA_4-12, CA_4-13, CA_4-17, CA_4-20	10.3.0	10.4.0	R5	LTE_CA_intraC_inter_UEConTest
36.521-1	0850	-	Rel-10	F	RP-121690	R5-126044	approved	Updates for 5.4.2A channel bandwidth for CA_7, CA_38, CA_41, CA_1-18, CA_1-19, CA_1-21, CA_2-17, CA_3-5, CA_3-7, CA_3-8, CA_3-20, CA_4-12, CA_4-13, CA_4-17, CA_4-20	10.3.0	10.4.0	R5	LTE_CA_intraC_inter_UEConTest
36.521-1	0851	-	Rel-10	F	RP-121678	R5-124010	approved	RF Cl 8.1.1: Update of the CA capability table	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0852	-	Rel-10	F	RP-121678	R5-124013	approved	RF Cl 8.7.2.1A: Update of test structure according to the work plan	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0853	-	Rel-10	F	RP-121678	R5-124082	approved	Correction to TC 7.5.1 Adjacent Channel Selectivty (ACS)	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0854	-	Rel-10	F	RP-121678	R5-124116	approved	Addition to test description for SEM for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0855	-	Rel-10	F	RP-121678	R5-124123	approved	Addition to minimum requirement for TC 6.5.2A.3.1 in-band emissions for non allocated RB for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0856	-	Rel-10	F	RP-121678	R5-124125	approved	TC 6.2.2A.1 UE MOP for CA updates	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0857	-	Rel-10	F	RP-121678	R5-124126	approved	CR to Annex G.3A.5: Minimum number of samples for CA performance tests	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0858	-	Rel-10	F	RP-121678	R5-124131	approved	Additions to test case for TC 6.2.3A.1 Maximum Power Reduction (MPR) for CA (intra-band contiguous DL CA and UL CA)	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0859	-	Rel-10	F	RP-121678	R5-124133	approved	Introduction to TC 6.6.3.3A.1 Additional spurious emissions for CA (intra-band contiguous DL CA and UL CA)	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0860	-	Rel-10	F	RP-121678	R5-124139	approved	TC 6.3.2A.1 Minimum Output Power for CA introduction	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0861	-	Rel-10	F	RP-121678	R5-124149	approved	RF TC 8.2.2.1.1_A: Adjusting test procedure and requirements to completed Annex G.3A	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0862	-	Rel-10	F	RP-121678	R5-124160	approved	TC 7.6.1A.x In-band blocking for CA introduction	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0863	-	Rel-10	F	RP-121678	R5-124163	approved	TC 7.6.2A.x Out-of-band blocking for CA introduction	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0864	-	Rel-10	F	RP-121678	R5-124164	approved	TC 7.6.3A.x Narrow-band blocking for CA introduction	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0865	-	Rel-10	F	RP-121678	R5-124165	approved	TC 7.7A.x Spurious response for CA introduction	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-1	0866	-	Rel-10	F	RP-121678	R5-124166	approved	Addition of Receiver test case - Wideband intermodulation for CA	10.3.0	10.4.0	R5	LTE_CA-UEConTest

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36.521-1	0867	-	Rel-10	F	RP-121678	R5-124186	approved	RF: Addition of references to connection diagrams in CA tests	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-2	0075	-	Rel-10	F	RP-121656	R5-125251	approved	Removing FGI bit 5 from section four RRM test cases	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-2	0076	-	Rel-10	F	RP-121689	R5-125390	approved	Adding bands 28 and 44 to TS36.521-2	10.3.0	10.4.0	R5	LTE_APAC700-UEConTest
36.521-2	0077	-	Rel-10	F	RP-121656	R5-125821	approved	Correction to Additional Information for RRM 4.3.4.3	10.3.0	10.4.0	R5	LTE-UEConTest_RF
36.521-2	0078	-	Rel-10	F	RP-121688	R5-125833	approved	Introduction of Band 27 to TS 36.521-2	10.3.0	10.4.0	R5	LTE_e850_LB-UEConTest
36.521-2	0079	-	Rel-10	F	RP-121681	R5-125836	approved	Update applicability of UL-MIMO related conformance test cases	10.3.0	10.4.0	R5	LTE_UL_MIMO-UEConTest
36.521-2	0080	-	Rel-10	F	RP-121689	R5-125920	approved	Applicability removal of RRM TC8.12.1	10.3.0	10.4.0	R5	LTE_APAC700-UEConTest
36.521-2	0081	-	Rel-10	F	RP-121677	R5-126049	approved	Updates to the applicability of CA RF Tx tests	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-2	0082	-	Rel-10	F	RP-121678	R5-124138	approved	Updates to the applicability of CA RF Performance tests	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-2	0083	-	Rel-10	F	RP-121678	R5-124168	approved	Updates to the applicability of CA RF Rx tests	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-2	0084	-	Rel-10	F	RP-121678	R5-124169	approved	Appicability for new RRM CA related TCs	10.3.0	10.4.0	R5	LTE_CA-UEConTest
36.521-3	0627	-	Rel-10	F	RP-121677	R5-125209	approved	RRM TC 9.1.6.1: General updates and corrections	10.2.1	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0628	-	Rel-10	F	RP-121677	R5-125210	approved	RRM TC 9.1.6.2: General updates and corrections	10.2.1	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0629	-	Rel-10	F	RP-121682	R5-125328	approved	RRM Annex C: Addition of physical channel settings for eICIC tests	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0630	-	Rel-10	F	RP-121682	R5-125335	approved	RRM Annex A: Addition of measurement channels for eICIC tests	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0631	-	Rel-10	F	RP-121682	R5-125337	approved	RRM New TC 7.3.9: Test skeleton for E-UTRAN FDD Radio Link Monitoring Out-of-sync with non-MBSFN ABS	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0632	-	Rel-10	F	RP-121682	R5-125338	approved	RRM New TC 7.3.10: Test skeleton for E-UTRAN TDD Radio Link Monitoring Out-of-sync with non-MBSFN ABS	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0633	-	Rel-10	F	RP-121682	R5-125339	approved	RRM New TC 7.3.11: Test skeleton for E-UTRAN FDD Radio Link Monitoring In-sync with non-MBSFN ABS	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0634	-	Rel-10	F	RP-121682	R5-125340	approved	RRM New TC 7.3.12: Test skeleton for E-UTRAN TDD Radio Link Monitoring In-sync with non-MBSFN ABS	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0635	-	Rel-10	F	RP-121682	R5-125341	approved	RRM New TC 8.1.7: Test skeleton for E-UTRAN FDD-FDD Intra-Frequency Event-Triggered Reporting with non-MBSFN ABS	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0636	-	Rel-10	F	RP-121682	R5-125342	approved	RRM New TC 8.2.5: Test skeleton for E-UTRAN TDD-TDD Intra-Frequency Event-Triggered Reporting with non-MBSFN ABS	10.2.1	10.3.0	R5	eICIC_LTE-UEConTest
36.521-3	0637	-	Rel-10	F	RP-121657	R5-125344	approved	RRM TC 9.6.2: General corrections	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0638	-	Rel-10	F	RP-121657	R5-125363	approved	Update Test cases 5.2.3+5.2.6 uncertainties for >3GHz	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0639	-	Rel-10	F	RP-121657	R5-125364	approved	Fading margin for RRM Test cases 8.3.1, 8.3.2, 8.4.1, 8.4.2, 8.14.1 and 8.15.1	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0640	-	Rel-10	F	RP-121657	R5-125366	approved	Procedure and requirements for Test cases 4.2.7 and 4.2.8	10.2.1	10.3.0	R5	LTE-UEConTest_RF

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36.521-3	0641	-	Rel-10	F	RP-121657	R5-125368	approved	Correction of RSRP values in the Test Requirement for RRM Test case 5.3.1	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0642	-	Rel-10	F	RP-121657	R5-125382	approved	Clean up of TDD related RRM tests in 36.521-3	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0643	-	Rel-10	F	RP-121677	R5-125427	approved	Correction to TC 9.2.5.1 FDD Absolute RSRQ for E-UTRA Carrier Aggregation tests	10.2.1	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0644	-	Rel-10	F	RP-121677	R5-125430	approved	Correction to TC 9.2.6.1 TDD Absolute RSRQ for E-UTRA Carrier Aggregation tests	10.2.1	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0645	-	Rel-10	F	RP-121657	R5-125538	approved	RRM TC 9.6.1: Introduction of GSM RSSI acurracy for E-UTRAN FDD	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0646	-	Rel-10	F	RP-121657	R5-125549	approved	Uncertainties and Test Tolerances for TC 4.5.2.1	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0647	-	Rel-10	F	RP-121657	R5-125551	approved	Uncertainties and Test Tolerances for TC 5.3.5	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0648	-	Rel-10	F	RP-121657	R5-125553	approved	Uncertainties and Test Tolerances for TC 8.14.2	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0649	-	Rel-10	F	RP-121657	R5-125555	approved	Uncertainties and Test Tolerances for TC 8.15.2	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0650	-	Rel-10	F	RP-121657	R5-125557	approved	Uncertainties and Test Tolerances for TC 8.14.3 and 8.15.3	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0651	-	Rel-10	F	RP-121657	R5-125559	approved	Uncertainties and Test Tolerances for TC 9.2.4A.1	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0652	-	Rel-10	F	RP-121657	R5-125561	approved	Uncertainties and Test Tolerances for TC 9.2.4A.2	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0653	-	Rel-10	F	RP-121657	R5-125812	approved	Correction to RRM 9.3.1 in 36.521-3	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0654	-	Rel-10	F	RP-121657	R5-125813	approved	Addition of new TC 8.16.1 E-UTRAN FDD event triggered reporting under deactivated SCell in non-DRX including uncertainties and Test Tolerances	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0655	-	Rel-10	F	RP-121657	R5-125814	approved	Addition of new TC 8.16.2 E-UTRAN TDD event triggered reporting under deactivated SCell in non-DRX including uncertainties and Test Tolerances	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0656	-	Rel-10	F	RP-121688	R5-125865	approved	Introduction of Band 27 to TS 36.521-3	10.2.1	10.3.0	R5	LTE_e850_LB-UEConTest
36.521-3	0657	-	Rel-10	F	RP-121677	R5-125878	approved	Correction to TC 9.2.5.2 FDD Relative RSRQ for E-UTRA Carrier Aggregation tests	10.2.1	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0658	-	Rel-10	F	RP-121677	R5-125879	approved	Correction to TC 9.2.6.2 TDD Relative RSRQ for E-UTRA Carrier Aggregation tests	10.2.1	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0659	-	Rel-10	F	RP-121657	R5-125888	approved	Correction to accuracy requirements in RSRP/RSRQ test for Band 26in 36.521-3	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0660	-	Rel-10	F	RP-121657	R5-125889	approved	Correction to RRM 9.4.1 in 36.521-3	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0661	-	Rel-10	F	RP-121657	R5-125922	approved	Update Test Procedure and Test Tolerances for UE Transmit Timing Accuracy	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0662	-	Rel-10	F	RP-121657	R5-126064	approved	Correction to RRM 4.2.7 in 36.521-3	10.2.1	10.3.0	R5	LTE-UEConTest_RF
36.521-3	0663	-	Rel-10	F	RP-121677	R5-126045	approved	Addition of a new TC 9.1.7.1 TDD Absolute RSRP Accuracy E-UTRA for Carrier Aggregation	10.2.1	10.3.0	R5	LTE_CA-UEConTest

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36.521-3	0664	-	Rel-10	F	RP-121677	R5-126046	approved	Addition of a new TC 9.1.7.2 TDD Relative RSRP Accuracy E-UTRA for Carrier Aggregation	10.2.1	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0665	-	Rel-11	F	RP-121657	R5-125576	approved	Correction to Table 9.2.1.1.5-2 in subclause 9.2.1.1.5	10.2.1	11.0.0	R5	LTE-UEConTest_RF
36.521-3	0667	-	Rel-10	F	RP-121678	R5-124155	approved	New TC(8.20) introduction of inter-frequency/RAT measurements in CA mode	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0668	-	Rel-10	F	RP-121678	R5-124172	approved	Correction to TC 8.16.3 E-UTRAN FDD-FDD Event Triggered reporting on deactivated SCell with PCell interruption in non-DRX for CA	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0669	-	Rel-10	F	RP-121678	R5-124173	approved	Corrections to TC 8.16.4 E-UTRAN TDD-TDD Event Triggered reporting on deactivated SCell with PCell interruption in non-DRX for CA	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0670	-	Rel-10	F	RP-121678	R5-124174	approved	Introduction of default RRC messages exceptions for Carrier Aggregation	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.521-3	0671	-	Rel-10	F	RP-121678	R5-124180	approved	Addition of new cell configuration mapping for CA related test cases	10.2.0	10.3.0	R5	LTE_CA-UEConTest
36.523-1	1978	-	Rel-11	F	RP-121660	R5-125074	approved	GCF P3: Update of TC 9.2.1.1.19 to apply to all types of attach	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1979	-	Rel-11	F	RP-121660	R5-126067	approved	GCF Priority U1 - Correction to EMM test case 9.2.3.3.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1980	-	Rel-11	F	RP-121660	R5-125080	approved	GCF WI-151 - Correction to LTE FDD-TDD Inter-mode test case 6.1.1.1a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1981	-	Rel-11	F	RP-121660	R5-125087	approved	GCF Priority 3: Correction to EMM test case 9.2.3.1.16	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1982	-	Rel-11	F	RP-121660	R5-125126	approved	GCF Priority 4 - Correction to EUTRA Idle Mode test case 6.1.1.6a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1983	-	Rel-11	F	RP-121677	R5-125130	approved	Split of CA TC 7.1.3.11 to Intra-band contiguous CA and Inter-band CA	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	1984	-	Rel-11	F	RP-121660	R5-125132	approved	GCF Priority 3 - Update to Multilayer procedure test cases 13.1.3, 13.3.2.1 and 13.3.2.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1985	-	Rel-11	F	RP-121664	R5-125154	approved	GCF Priority X - Corrections_TCs_8.4.7.x	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	1986	-	Rel-11	F	RP-121664	R5-125155	approved	GCF Priority X - Renumbering test case 8.4.7.11 to 8.4.7.10	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	1987	-	Rel-11	F	RP-121664	R5-125172	approved	Correction of RSRQ EUTRA 6.1.2.18	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	1988	-	Rel-11	F	RP-121664	R5-125173	approved	Correction of RSRQ EUTRA-GERAN 6.2.3.1a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	1989	-	Rel-11	F	RP-121660	R5-125200	approved	GCF Priority 3 - Editorial correction for test case 9.2.1.1.25	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1990	-	Rel-11	F	RP-121660	R5-125204	approved	GCF Priority 3 - Update test case 9.2.1.1.26	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1991	-	Rel-11	F	RP-121679	R5-125207	approved	Correction to ANR for UTRAN IRAT (E-UTRAN) test case 8.7.1	11.0.0	11.1.0	R5	ANR_UTRAN-UEConTest
36.523-1	1992	-	Rel-11	F	RP-121660	R5-125232	approved	GCF Priority 1 - Correction to Idle Mode test case 6.2.3.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1993	-	Rel-11	F	RP-121660	R5-125233	approved	GCF Priority u1: Correction to RRC test case 8.1.3.7	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1994	-	Rel-11	F	RP-121660	R5-125234	approved	GCF Priority u1: Correction to RRC test case 8.4.2.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG

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36.523-1	1995	-	Rel-11	F	RP-121660	R5-125235	approved	GCF Priority u2: Correction to RRC test case 8.4.2.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1996	-	Rel-11	F	RP-121677	R5-125272	approved	Correction to CA test case 8.2.2.4.1	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	1997	-	Rel-11	F	RP-121660	R5-125274	approved	GCF Priority U1 - Update test case 6.2.3.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	1998	-	Rel-11	F	RP-121664	R5-125276	approved	Clarification to Local Emergency list provided by the NWK and more	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	1999	-	Rel-11	F	RP-121660	R5-125317	approved	GCF Priority 1 - Correction to PDCP test cases 7.3.4.1 and 7.3.4.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2000	-	Rel-11	F	RP-121660	R5-125333	approved	GCF Priority 3 - Update of TC 9.2.3.1.27	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2001	-	Rel-11	F	RP-121676	R5-125525	approved	Addition of new MDT test case 8.6.7.2	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	2002	-	Rel-11	F	RP-121676	R5-125526	approved	Addition of new MDT test case 8.6.7.3	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	2003	-	Rel-11	F	RP-121660	R5-125532	approved	Update to GCF P3 TCs 9.2.2.1.3 and 9.2.2.1.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2004	-	Rel-11	F	RP-121660	R5-125584	approved	GCF Priority G1 - Update test case 13.4.3.5	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2005	-	Rel-11	F	RP-121660	R5-125633	approved	GCF Priority U2 - Correction to UTRA-EUTRA test case 8.4.2.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2006	-	Rel-11	F	RP-121660	R5-125634	approved	GCF Priority U2 - Correction to EMM test case 9.2.3.2.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2007	-	Rel-11	F	RP-121660	R5-125640	approved	GCF WI-151 - Correction to LTE FDD-TDD Inter-mode test case 6.1.1.4a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2008	-	Rel-11	F	RP-121660	R5-125657	approved	Editorial corrections to some EMM test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2009	-	Rel-11	F	RP-121682	R5-125662	approved	GCF Priority X - Correction to Rel-10 eICIC test case 8.3.1.20	11.0.0	11.1.0	R5	eICIC_LTE-UEConTest
36.523-1	2010	-	Rel-10	F	RP-121665	R5-125663	approved	Removal of technical content in 36.523-1 v10.2.0 and substitution with pointer to the next Release	10.2.0	10.3.0	R5	TEI10_Test
36.523-1	2011	-	Rel-11	F	RP-121660	R5-125683	approved	GCF Priority 4 - Correction to EMM test case 9.2.3.2.13	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2012	-	Rel-11	F	RP-121677	R5-125685	approved	Split of CA TC 7.1.9.1 to Intra-band contiguous CA and Inter-band CA	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2013	-	Rel-11	F	RP-121660	R5-125697	approved	GCF Priority 4: Update of EMM test cases 9.2.1.1.1b, 9.2.1.1.15a, 9.2.1.1.16a, 9.2.3.1.15a and 9.2.3.1.18a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2014	-	Rel-11	F	RP-121660	R5-125702	approved	GCF Priority 1 - Correction to PDCP test case 7.3.3.1, 7.3.3.2, 7.3.3.3 and 7.3.3.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2015	-	Rel-11	F	RP-121660	R5-125703	approved	GCF Priority 1 - Correction to EUTRA RRC test case 8.5.4.1	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2016	-	Rel-11	F	RP-121660	R5-125704	approved	GCF Priority 1 - Correction to EMM test case 9.2.3.3.5a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2017	-	Rel-11	F	RP-121660	R5-125705	approved	GCF Priority 2 - Correction to Idle Mode testcases refering to 36.508 6.4.2.7A-2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2018	-	Rel-11	F	RP-121660	R5-125707	approved	GCF Priority 2 - Update test case 9.2.2.2.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2019	-	Rel-11	F	RP-121660	R5-125708	approved	GCF Priority 3 - Correction to EMM test case 9.3.1.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG

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Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.523-1	2020	-	Rel-11	F	RP-121660	R5-125710	approved	GCF Priority 3 - Correction to EMM test case 9.2.2.1.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2021	-	Rel-11	F	RP-121660	R5-125711	approved	GCF Priority 3 - Update test case 9.2.1.1.24	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2022	-	Rel-11	F	RP-121660	R5-125712	approved	GCF Priority 3 - update of TC 9.2.1.1.24	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2023	-	Rel-11	F	RP-121660	R5-125713	approved	GCF Priority 3: Modification of TC 6.1.2.13	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2024	-	Rel-11	F	RP-121660	R5-125714	approved	GCF priority 3: Modification of TC 8.3.1.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2025	-	Rel-11	F	RP-121660	R5-125715	approved	GCF priority 3: Modification of TC 8.3.2.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2026	-	Rel-11	F	RP-121660	R5-125716	approved	GCF Priority 2: Modification of EMM TC 9.2.2.1.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2027	-	Rel-11	F	RP-121660	R5-125717	approved	GCF priority 2: Modification of TC 8.3.1.1	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2028	-	Rel-11	F	RP-121660	R5-125718	approved	GCF priority 2: Modification of TC 8.3.1.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2029	-	Rel-11	F	RP-121660	R5-125720	approved	GCF Priority 4 - Corrections to Single Frequency EUTRA Idle Mode test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2030	-	Rel-11	F	RP-121660	R5-125721	approved	GCF Priority 4 - Correction to EUTRA Idle Mode test case 6.1.2.9a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2031	-	Rel-11	F	RP-121664	R5-125722	approved	Correction of Rel-9 inter-band test case 8.3.1.16	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2032	-	Rel-11	F	RP-121660	R5-125723	approved	Correction to Rel-9 EUTRA FDD-TDD test case 8.2.4.14a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2033	-	Rel-11	F	RP-121660	R5-125724	approved	Correction to Rel-9 EUTRA FDD-TDD test case 8.2.4.15a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2034	-	Rel-11	F	RP-121660	R5-125725	approved	GCF Priority 4: Update of EMM test case 9.2.3.2.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2035	-	Rel-11	F	RP-121660	R5-125726	approved	GCF Priority 4: Corrections to user PLMN reselection test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2036	-	Rel-11	F	RP-121660	R5-125728	approved	GCF Priority 4 - Correction to test case 6.3.5	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2037	-	Rel-11	F	RP-121660	R5-125729	approved	GCF Priority U1 - Update test case 6.2.3.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2038	-	Rel-11	F	RP-121660	R5-125730	approved	GCF Priority u1 - Correction to preamble in 6.2.2.8/6.2.3.3/6.2.3.3a/6.4.5 test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2039	-	Rel-11	F	RP-121660	R5-125731	approved	GCF Priority u1: Modification of TC 6.2.3.13	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2040	-	Rel-11	F	RP-121660	R5-125732	approved	GCF Priority u1: Modification of TC 6.2.3.32	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2041	-	Rel-11	F	RP-121660	R5-125733	approved	GCF Priority u1 - Update to RRC test case 8.3.2.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2042	-	Rel-11	F	RP-121660	R5-125734	approved	GCF Priority u1 - Update to RRC test case 8.3.2.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2043	-	Rel-11	F	RP-121660	R5-125735	approved	GCF priority u1: Modification of TC 8.3.2.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2044	-	Rel-11	F	RP-121660	R5-125736	approved	GCF priority u1: Modification of TC 8.3.2.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2045	-	Rel-11	F	RP-121660	R5-126068	approved	GCF Priority u1 - Correction to EMM test case 9.2.3.3.5	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2046	-	Rel-11	F	RP-121660	R5-125738	approved	GCF Priority u1: Modification of EMM TC 9.2.3.2.1a	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2047	-	Rel-11	F	RP-121660	R5-125740	approved	GCF Priority u1 - Update to SRVCC test cases 13.4.3.1, 13.4.3.2, 13.4.3.4 and 13.4.3.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2048	-	Rel-11	F	RP-121660	R5-125741	approved	GCF Priority U1 - Update test case 13.4.3.1	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2049	-	Rel-11	F	RP-121660	R5-125742	approved	GCF Priority U1 - Update test case 13.4.3.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2050	-	Rel-11	F	RP-121660	R5-125743	approved	GCF Priority U1 - Update test case 13.4.3.4	11.0.0	11.1.0	R5	LTE-UEConTest_SIG

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36.523-1	2051	-	Rel-11	F	RP-121660	R5-125744	approved	GCF Priority u2 - Update to RRC test case 8.3.3.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2052	-	Rel-11	F	RP-121660	R5-125747	approved	GCF P4: Update of TC 9.2.1.1.3 to clarify applicability of all types of attach and more	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2053	-	Rel-11	F	RP-121660	R5-125748	approved	GCF P4: Update of TC 9.2.1.1.4 to clarify applicability of all types of attach and more	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2054	-	Rel-11	F	RP-121660	R5-125749	approved	GCF priority g1: Modification of TC 8.3.2.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2055	-	Rel-11	F	RP-121660	R5-125750	approved	GCF priority g2: Modification of TC 8.3.2.1	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2058	-	Rel-11	F	RP-121660	R5-125753	approved	GCF Priority m1 - Update of RRC test cases 8.3.2.5 and 8.3.2.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2059	-	Rel-11	F	RP-121660	R5-125754	approved	GCF Priority i1 - Correction to LTE FDD-TDD Inter-mode test case 13.4.1.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2060	-	Rel-11	F	RP-121660	R5-125756	approved	Correction to test cases 6.1.2.15, 6.1.2.15a and 6.1.2.15b	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2061	-	Rel-11	F	RP-121660	R5-125757	approved	Correction to EUTRANFeatureGroupIndicators in EMM test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2062	-	Rel-11	F	RP-121660	R5-125758	approved	Correction to TS 36.523-1 TC 9.2.3.1.5 "Periodic tracking area update / Accepted"	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2063	-	Rel-11	F	RP-121660	R5-125759	approved	Correction to Multi-layer test cases 13.1.7,13.1.8,13.1.9,13.1.10	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2064	-	Rel-11	F	RP-121664	R5-125761	approved	Correction of RSRQ EUTRA-UTRAN 6.2.3.33	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2065	-	Rel-11	F	RP-121664	R5-125762	approved	Correction of RSRQ EUTRA-UTRAN 8.3.2.3a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2066	-	Rel-11	F	RP-121664	R5-125763	approved	Update of test case 11.2.11	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2067	-	Rel-11	F	RP-121664	R5-125764	approved	GCF WI-154 - Correction to IMS Emergency Call test case 11.2.2	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2068	-	Rel-11	F	RP-121664	R5-125765	approved	GCF WI-151 - Correction to LTE FDD-TDD Inter-mode test case 8.3.1.13a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2069	-	Rel-11	F	RP-121664	R5-125766	approved	GCF Priority X - Updates of e1xCSFB TC_13.1.17	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2070	-	Rel-11	F	RP-121664	R5-125767	approved	Correction of RSRQ EUTRA-UTRAN 6.2.3.3a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2071	-	Rel-11	F	RP-121664	R5-125768	approved	Correction of RSRQ EUTRA-UTRAN 6.2.3.4a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2072	-	Rel-11	F	RP-121664	R5-125769	approved	Correction of RSRQ EUTRA-UTRAN 6.2.3.5a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2073	-	Rel-11	F	RP-121660	R5-125770	approved	GCF Priority 1 - Update of test case 8.5.4.1 to Clarify FGI 33 - 36	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2074	-	Rel-11	F	RP-121674	R5-125775	approved	Update PWS Rel-9 test case 18.1.1	11.0.0	11.1.0	R5	PWS-RAN_UEConTest
36.523-1	2075	-	Rel-11	F	RP-121674	R5-125776	approved	Correction to PWS Rel-9 test case 18.1.3	11.0.0	11.1.0	R5	PWS-RAN_UEConTest
36.523-1	2076	-	Rel-11	F	RP-121683	R5-125781	approved	GCF Priority X - Addition of New Rel-10 H(e)NB test case 6.3.10	11.0.0	11.1.0	R5	HNB_HENB_mob_enh-UEConTest_LTE
36.523-1	2077	-	Rel-11	F	RP-121683	R5-125782	approved	GCF Priority X - Addition of new Rel-10 H(e)NB test case 6.3.12	11.0.0	11.1.0	R5	HNB_HENB_mob_enh-UEConTest_LTE
36.523-1	2078	-	Rel-11	F	RP-121683	R5-125783	approved	GCF Priority X - Addition of New Rel-10 H(e)NB test case 6.3.11	11.0.0	11.1.0	R5	HNB_HENB_mob_enh-UEConTest_LTE

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36.523-1	2079	-	Rel-11	F	RP-121676	R5-125785	approved	Location stimulus clarification for MDT test cases	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	2080	-	Rel-11	F	RP-121676	R5-125786	approved	New E-UTRAN MDT test case 8.6.2.9	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	2081	-	Rel-11	F	RP-121676	R5-125787	approved	New E-UTRAN MDT test case 8.6.4.7	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	2082	-	Rel-11	F	RP-121676	R5-125788	approved	New E-UTRAN MDT test case 8.6.6.4	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	2083	-	Rel-11	F	RP-121676	R5-125789	approved	Update of MDT test cases 8.6.5.1 and 8.6.7.1	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-1	2084	-	Rel-11	F	RP-121681	R5-125790	approved	Addition of new TC 7.1.4.22: Correct HARQ process handling / UL MIMO	11.0.0	11.1.0	R5	LTE_UL_MIMO-UEConTest
36.523-1	2085	-	Rel-11	F	RP-121685	R5-125793	approved	GCF Priority X - Addition of new test case 13.4.3.7	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2086	-	Rel-11	F	RP-121685	R5-125794	approved	GCF Priority X - Addition of new test case 13.4.3.8	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2087	-	Rel-11	F	RP-121685	R5-125795	approved	GCF Priority X - Addition of new test case 13.4.3.9	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2088	-	Rel-11	F	RP-121685	R5-125796	approved	GCF Priority X - Addition of new test case 13.4.3.10	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2089	-	Rel-11	F	RP-121685	R5-125797	approved	GCF Priority X - Addition of new test case 13.4.3.11	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2090	-	Rel-11	F	RP-121685	R5-125798	approved	GCF Priority X - Addition of new test case 13.4.3.12	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2091	-	Rel-11	F	RP-121685	R5-125799	approved	GCF Priority X - Addition of new test case 13.4.3.13	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2092	-	Rel-11	F	RP-121685	R5-126000	approved	Add aSRVCC test case 13.4.3.14	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2093	-	Rel-11	F	RP-121685	R5-126001	approved	Add aSRVCC test case 13.4.3.16	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-1	2094	-	Rel-11	F	RP-121677	R5-126006	approved	Splitting of CA test case 7.1.4.19 to Intra-band Contiguous CA and Inter-band CA	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2095	-	Rel-11	F	RP-121677	R5-126007	approved	Renumbering TC 7.1.4.23 and Splitting it to intra-band contiguous CA and inter-band CA	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2096	-	Rel-11	F	RP-121677	R5-126008	approved	GCF Priority X - Update of Carrier Aggregation test case 8.4.2.7	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2097	-	Rel-11	F	RP-121660	R5-126019	approved	GCF Priority U1 - Update test case 6.2.1.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2098	-	Rel-11	F	RP-121660	R5-126021	approved	GCF Priority 1 - Correction to EUTRA MAC test cases 7.1.7.1.1, 7.1.7.1.2, 7.1.7.1.3, 7.1.7.1.4, 7.1.7.1.5, 7.1.7.1.6 and 7.1.7.2.1	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2099	-	Rel-11	F	RP-121660	R5-126022	approved	GCF Priority g1: Correction to EUTRA to GERAN HO test case 8.4.3.3	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2100	-	Rel-11	F	RP-121660	R5-126023	approved	GCF Priority U1 - Correction to EMM test case 9.2.3.3.2	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2101	-	Rel-11	F	RP-121660	R5-126024	approved	GCF Priority 3 - Correction to EMM test case 9.3.1.6	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-1	2102	-	Rel-11	F	RP-121664	R5-126026	approved	Correction of RSRQ EUTRA 8.3.1.3a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2103	-	Rel-11	F	RP-121664	R5-126028	approved	Correction of RSRQ EUTRA 6.1.2.3a	11.0.0	11.1.0	R5	TEI9_Test
36.523-1	2104	-	Rel-11	F	RP-121664	R5-126029	approved	Correction of RSRQ EUTRA 6.1.2.17	11.0.0	11.1.0	R5	TEI9_Test

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36.523-1	2105	-	Rel-11	F	RP-121677	R5-126030	approved	Addition of new CA related test case: CA / Correct handling of MAC control information / Buffer Status / UL data arrive in the UE Tx buffer / Extended buffer size	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2106	-	Rel-11	F	RP-121677	R5-126070	approved	GCF Priority 1 - Update of test case 8.5.4.1 to add Carrier Aggregation IEs	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2107	-	Rel-11	F	RP-121677	R5-126071	approved	Addition of New Carrier Aggregation test case for A5	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2108	-	Rel-11	F	RP-121677	R5-126073	approved	Addition of New Carrier Aggregation test case for PCell Change SCell no Change	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2109	-	Rel-11	F	RP-121677	R5-126074	approved	Addition of New Carrier Aggregation test case for Event A6	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2110	-	Rel-11	F	RP-121677	R5-126075	approved	Addition of New Carrier Aggregation test case for Event A1 and Event A2	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-1	2111	-	Rel-11	F	RP-121677	R5-126076	approved	Addition of New Carrier Aggregation test case for RLF	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-2	0367	-	Rel-11	F	RP-121661	R5-125075	approved	GCF P3: Update of applicability of TC 9.2.1.1.19	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0368	-	Rel-11	F	RP-121661	R5-125117	approved	Addition of new PICS for Support of automatic ATTACH in E-UTRAN	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0369	-	Rel-11	F	RP-121661	R5-125128	approved	Correction of LTE-UTRA FDD TCs Release	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0370	-	Rel-11	F	RP-121677	R5-125131	approved	Split of CA TC 7.1.3.11 Applicability	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-2	0371	-	Rel-11	F	RP-121661	R5-125208	approved	Update of EMM TC applicability	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0372	-	Rel-11	F	RP-121661	R5-125270	approved	GCF Priority 3 - Correction to applicability for test case 6.2.2.5	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0373	-	Rel-11	F	RP-121661	R5-125277	approved	Additional information applicability to TDD devices	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0374	-	Rel-11	F	RP-121672	R5-125282	approved	Editorial updates to 36.523-2	11.0.0	11.1.0	R5	TEI11_Test
36.523-2	0375	-	Rel-11	F	RP-121677	R5-125286	approved	Correction to applicability condition C134 for Carrier Aggregation	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-2	0376	-	Rel-11	F	RP-121689	R5-125348	approved	Adding bands 28 and 44 to TS36.523-2	11.0.0	11.1.0	R5	LTE_APAC700-UEConTest
36.523-2	0377	-	Rel-11	F	RP-121676	R5-125406	approved	Addition of applicability of new E-UTRAN MDT test cases	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0378	-	Rel-11	F	RP-121676	R5-125524	approved	Applicability of new MDT test cases	11.0.0	11.1.0	R5	MDT_UMTSLTE-UEConTest
36.523-2	0380	-	Rel-11	F	RP-121661	R5-125637	approved	GCF Priority X - Correction to applicability of Rel9 EUTRA Interband test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0381	-	Rel-10	F	RP-121665	R5-125664	approved	Removal of technical content in 36.523-2 v10.2.0 and substitution with pointer to the next Release	10.2.0	10.3.0	R5	TEI10_Test
36.523-2	0382	-	Rel-11	F	RP-121661	R5-125727	approved	GCF Priority 4: Corrections to user PLMN reselection test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG
36.523-2	0383	-	Rel-11	F	RP-121688	R5-125745	approved	Introduction of Band 27 to TS 36.523-2	11.0.0	11.1.0	R5	LTE_e850_LB-UEConTest
36.523-2	0384	-	Rel-11	F	RP-121661	R5-125760	approved	GCF Priority x - Update to Squal based EUTRA Idle mode test cases	11.0.0	11.1.0	R5	LTE-UEConTest_SIG

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36.523-2	0385	-	Rel-11	F	RP-121664	R5-125777	approved	GCF Priority X - Updates Applicability for renumbering 8.4.7.11 to 8.4.7.10	11.0.0	11.1.0	R5	TEI9_Test
36.523-2	0386	-	Rel-11	F	RP-121683	R5-125784	approved	Addition of applicability statement for new H(e)NB test cases	11.0.0	11.1.0	R5	HNB_HENB_mob_enh-UEConTest_LTE
36.523-2	0387	-	Rel-11	F	RP-121681	R5-125791	approved	Appicability for new UL MIMO test case 7.1.4.22	11.0.0	11.1.0	R5	LTE_UL_MIMO-UEConTest
36.523-2	0388	-	Rel-11	F	RP-121685	R5-126002	approved	Applicability of new test cases for aSRVCC	11.0.0	11.1.0	R5	aSRVCC-UEConTest
36.523-2	0389	-	Rel-11	F	RP-121677	R5-126009	approved	Applicability for splitted CA test cases 7.1.4.19 and 7.1.4.20	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-2	0390	-	Rel-11	F	RP-121677	R5-126010	approved	Aligning LTE CA ICS proforma tables for test case applicability conditions with UE Capability signalling	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-2	0391	-	Rel-11	F	RP-121677	R5-126011	approved	Split of CA TC 7.1.9.1	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-2	0392	-	Rel-11	F	RP-121677	R5-126031	approved	Applicability of new CA test case 7.1.4.18 CA / Correct handling of MAC control information / Buffer Status / UL data arrive in the UE Tx buffer / Extended buffer size	11.0.0	11.1.0	R5	LTE_CA-UEConTest
36.523-2	0393	-	Rel-11	F	RP-121674	R5-126072	approved	Addition of applicability statement for new Rel-10 Carrier Aggregation test cases	11.0.0	11.1.0	R5	PWS-RAN_UEConTest
36.523-3	1298	-	Rel-10	F	RP-121662	R5-125091	approved	Correction to system information scheduling in section 7.7.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1299	-	Rel-10	F	RP-121662	R5-125093	approved	Correction to delay after RRC CONN REL in section 7.18	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1300	-	Rel-10	F	RP-121662	R5-125127	approved	Update guidelines for TC executions	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1301	-	Rel-10	F	RP-121662	R5-125133	approved	New PIXIT to minimize loopback delay	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1302	-	Rel-10	F	RP-121662	R5-125278	approved	Change of default value for px_RRC_CipheringAlgorithm	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1303	-	Rel-10	F	RP-121662	R5-125755	approved	36523-3: Routine maintenance and updates	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1304	-	Rel-10	F	RP-121671	R5s120597	approved	Correction to UT function for “UE Switch On” in LTE/SAE ATS	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1305	-	Rel-10	B	RP-121671	R5s120611	approved	LTE_TDD: Addition of GCF WI-091 EUTRA Idle mode testcase 6.1.1.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1306	-	Rel-10	B	RP-121671	R5s120613	approved	LTE_TDD: Addition of GCF WI-091 EUTRA RRC test case 8.3.3.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1307	-	Rel-10	F	RP-121671	R5s120615	approved	Correction for GERAN initialisation functions	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1308	-	Rel-10	B	RP-121671	R5s120617	approved	Addition of GCF WI-081 EUTRA Manual CSG Testcase 6.3.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1309	-	Rel-10	B	RP-121671	R5s120619	approved	LTE_TDD: Addition of GCF WI-097 EMM testcase 9.2.3.2.13	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1310	-	Rel-10	F	RP-121671	R5s120623	approved	Correction to EUTRA RRC test case 8.5.4.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1311	-	Rel-10	F	RP-121671	R5s120628	approved	Correction to EMM test case 9.2.3.1.17	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1312	-	Rel-10	F	RP-121671	R5s120629	approved	Correction to EUTRA MAC test case 7.1.3.9	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1313	-	Rel-10	B	RP-121671	R5s120632	approved	LTE_TDD: Addition of GCF WI-092 EMM testcase 9.3.1.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1314	-	Rel-10	F	RP-121671	R5s120634	approved	Correction to EUTRA MAC test case 7.1.6.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG

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36.523-3	1315	-	Rel-10	F	RP-121671	R5s120637	approved	Correction to EUTRA-GERAN Multi-Layer test cases 13.1.7, 13.1.8, 13.1.9 and 13.1.10	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1316	-	Rel-10	F	RP-121671	R5s120638	approved	Correction to EUTRA-GERAN Idle Mode test case 6.2.3.17	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1317	-	Rel-10	F	RP-121671	R5s120639	approved	Correction to EMM test case 9.2.3.3.5a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1318	-	Rel-10	F	RP-121671	R5s120641	approved	Correction to EUTRA test cases	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1319	-	Rel-10	F	RP-121671	R5s120642	approved	Correction to function f_IPv4IPv6_IcmpEchoReply	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1320	-	Rel-10	B	RP-121671	R5s120643	approved	LTE_TDD: Addition of GCF WI-097 EMM testcase 9.2.3.2.14	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1321	-	Rel-10	B	RP-121671	R5s120647	approved	Addition of EUTRA test case 6.1.2.15b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1322	-	Rel-10	B	RP-121671	R5s120649	approved	Addition of GCF WI-086 EMM test case 9.2.3.2.1b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1323	-	Rel-10	B	RP-121671	R5s120651	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 6.1.1.3a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1324	-	Rel-10	B	RP-121671	R5s120653	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 8.1.3.11a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1325	-	Rel-10	B	RP-121671	R5s120655	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 8.2.4.10	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1326	-	Rel-10	F	RP-121671	R5s120657	approved	Correction for GERAN PTC initialisation	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1327	-	Rel-10	F	RP-121671	R5s120658	approved	Correction to EUTRA MAC test case 7.1.6.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1328	-	Rel-10	F	RP-121671	R5s120659	approved	Correction to EUTRA InterRAT test function	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1329	-	Rel-10	F	RP-121671	R5s120660	approved	Correction to EUTRA InterRAT Testcases	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1330	-	Rel-10	B	RP-121671	R5s120661	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 6.1.1.1a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1331	-	Rel-10	B	RP-121671	R5s120663	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 13.4.1.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1332	-	Rel-10	F	RP-121671	R5s120666	approved	Correction to Selection Expressions in LTE/SAE ATS	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1333	-	Rel-10	F	RP-121671	R5s120667	approved	Correction to EUTRA MAC Testcase 7.1.3.9	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1334	-	Rel-10	F	RP-121671	R5s120668	approved	Correction to EUTRA GCF WI-086 Multilayer Testcase 13.1.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1335	-	Rel-10	F	RP-121671	R5s120669	approved	Correction to EUTRA GCF WI-086 EMM Testcase 9.2.1.2.1b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1336	-	Rel-10	F	RP-121671	R5s120670	approved	Correction to EUTRA Idle Mode test case 6.2.3.15	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1337	-	Rel-10	F	RP-121671	R5s120671	approved	Correction to EUTRA GCF WI-086 RRC Testcase 8.4.1.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1338	-	Rel-10	F	RP-121671	R5s120672	approved	Correction to Multilayer test case 13.4.2.4	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1339	-	Rel-10	F	RP-121671	R5s120673	approved	Correction to f_UTRAN_CS_Fallback_WithHandover function	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1340	-	Rel-10	B	RP-121671	R5s120675	approved	Addition of Rel 9 EUTRA RRC Interband Testcase 8.3.1.12	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1341	-	Rel-10	B	RP-121671	R5s120677	approved	Addition of Rel 9 EUTRA RRC Interband Testcase 8.3.1.14	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1342	-	Rel-10	B	RP-121671	R5s120679	approved	Addition of Rel 9 EUTRA RRC Interband Testcase 13.4.1.4	10.1.0	10.2.0	R5	LTE-UEConTest_SIG

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36.523-3	1343	-	Rel-10	B	RP-121671	R5s120681	approved	Addition of Rel 9 EUTRA RRC Interband Testcase 8.3.1.15	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1344	-	Rel-10	F	RP-121671	R5s120683	approved	Correction to EUTRA EMM Testcase 9.2.3.1.23 and 9.2.3.2.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1345	-	Rel-10	F	RP-121671	R5s120684	approved	Correction to GCF WI-081 EUTRA CSG Testcase 6.3.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1346	-	Rel-10	F	RP-121671	R5s120685	approved	Correction to Idle ModeTest Cases 6.1.1.3, 6.1.1.3b and 6.2.1.4.	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1347	-	Rel-10	F	RP-121671	R5s120686	approved	Correction to GCF WI-086 UTRA<>EUTRA RRC Testcases 8.4.2.2 & 8.4.2.4	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1348	-	Rel-10	F	RP-121671	R5s120688	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.3.3.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1349	-	Rel-10	B	RP-121671	R5s120689	approved	LTE_TDD: Addition of GCF WI-097 EUTRA RRC Testcase 8.4.3.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1350	-	Rel-10	B	RP-121671	R5s120693	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 8.2.4.13a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1351	-	Rel-10	F	RP-121671	R5s120695	approved	Corrections to Eutra EMM Test case 9.2.3.4.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1352	-	Rel-10	F	RP-121671	R5s120696	approved	Corrections to EUTRA EMM Test case 9.2.3.1.16	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1353	-	Rel-10	F	RP-121671	R5s120697	approved	Correction to GCF WI-086 EMM test case 9.2.3.3.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1354	-	Rel-10	F	RP-121671	R5s120698	approved	Corrections to EMM test case 9.2.1.1.7a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1355	-	Rel-10	F	RP-121671	R5s120699	approved	Corrections to Multi-layer test case 13.1.9	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1356	-	Rel-10	B	RP-121671	R5s120700	approved	Addition of Rel-9 LTE Multi-layer Procedures test case 13.3.1.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1357	-	Rel-10	F	RP-121671	R5s120702	approved	Correction to EUTRA EMM Testcase 9.2.3.2.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1358	-	Rel-10	F	RP-121671	R5s120703	approved	Corrections to EMM test case 9.2.3.3..4	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1359	-	Rel-10	B	RP-121671	R5s120704	approved	Addition of Rel 9 EUTRA RRC Interband Testcase 8.3.1.13	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1360	-	Rel-10	F	RP-121671	R5s120706	approved	Corrections to EUTRA RRC test case 8.5.4.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1361	-	Rel-10	F	RP-121671	R5s120707	approved	Corrections to EUTRA EMM test case 9.2.3.3.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1362	-	Rel-10	F	RP-121671	R5s120708	approved	Corrections to EUTRA Idle Mode Test case 6.2.3.19	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1363	-	Rel-10	B	RP-121671	R5s120709	approved	Addition of Rel-9 LTE Multi-layer Procedures test case 13.4.1.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1364	-	Rel-10	F	RP-121671	R5s120711	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.3.3.4.	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1365	-	Rel-10	B	RP-121671	R5s120713	approved	Addition of GCF WI-151 EUTRA FDD-TDD Testcase 8.3.1.12a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1366	-	Rel-10	F	RP-121671	R5s120715	approved	Corrections to EMM test case 9.2.3.3.5a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1367	-	Rel-10	F	RP-121671	R5s120719	approved	Correction to UTRAN functions	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1368	-	Rel-10	F	RP-121671	R5s120720	approved	Corrections to function f_EUTRA_RmvFbdnPLMN function	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1369	-	Rel-10	F	RP-121671	R5s120721	approved	Corrections to EMM test case 9.2.2.1.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1370	-	Rel-10	B	RP-121671	R5s120722	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 8.3.1.14a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1371	-	Rel-10	F	RP-121671	R5s120724	approved	Correction to EMM test case 9.2.1.2.15	10.1.0	10.2.0	R5	LTE-UEConTest_SIG

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36.523-3	1372	-	Rel-10	B	RP-121671	R5s120725	approved	Addition of GCF WI-151 LTE FDD-TDD Inter-mode test case 8.3.1.13a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1373	-	Rel-10	F	RP-121671	R5s120727	approved	Corrections to IMS procedures in LTE test suite	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1374	-	Rel-10	F	RP-121671	R5s120728	approved	Correction to EUTRA EMM test case 9.2.3.3.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1375	-	Rel-10	B	RP-121671	R5s120738	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.1.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1376	-	Rel-10	B	RP-121671	R5s120740	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.2.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1377	-	Rel-10	B	RP-121671	R5s120742	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.2.8	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1378	-	Rel-10	B	RP-121671	R5s120744	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.3.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1379	-	Rel-10	B	RP-121671	R5s120746	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.3.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1380	-	Rel-10	B	RP-121671	R5s120748	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.3.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1381	-	Rel-10	B	RP-121671	R5s120750	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.3.13	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1382	-	Rel-10	B	RP-121671	R5s120752	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.3.31	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1383	-	Rel-10	B	RP-121671	R5s120754	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.3.32	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1384	-	Rel-10	B	RP-121671	R5s120756	approved	LTE_TDD: Addition of GCF WI-096 RRC test case 8.1.3.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1385	-	Rel-10	B	RP-121671	R5s120758	approved	LTE_TDD: Addition of GCF WI-096 RRC test case 8.5.2.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1386	-	Rel-10	B	RP-121671	R5s120760	approved	LTE_TDD: Addition of GCF WI-096 EMM test case 9.2.1.2.1b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1387	-	Rel-10	B	RP-121671	R5s120762	approved	LTE_TDD: Addition of GCF WI-096 EMM test case 9.2.2.1.10	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1388	-	Rel-10	B	RP-121671	R5s120764	approved	LTE_TDD: Addition of GCF WI-096 EMM test case 9.2.3.3.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1389	-	Rel-10	F	RP-121671	R5s120768	approved	Corrections to Multi-layer test cases 13.1.7,13.1.8,13.1.9,13.1.10	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1390	-	Rel-10	F	RP-121671	R5s120769	approved	Correction to fl_EUTRA_RRC_Procedure_Latency function	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1391	-	Rel-10	F	RP-121671	R5s120770	approved	Correction to GCF WI-086 EUTRA<>UTRA Testcases 6.2.1.3 and 8.3.3.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1392	-	Rel-10	F	RP-121671	R5s120771	approved	Correction to GCF WI-082 EUTRA Multilayer Testcase 13.3.1.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1393	-	Rel-10	B	RP-121671	R5s120772	approved	Addition of Rel 9 GCF WI-151 EUTRA RRC Testcase 6.1.2.16	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1394	-	Rel-10	B	RP-121671	R5s120774	approved	Addition of GCF WI-087 Multi layer test case 13.4.2.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1395	-	Rel-10	B	RP-121671	R5s120776	approved	Addition of Rel-9 EUTRA-UTRAN RRC test case 8.1.3.6a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1396	-	Rel-10	F	RP-121671	R5s120778	approved	Correction to GCF WI-086 E-UTRA to UTRAN RRC test case 8.4.1.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG

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36.523-3	1397	-	Rel-10	B	RP-121671	R5s120779	approved	LTE_TDD : Addition of Rel9 EUTRA Multilayer Testcase 13.3.1.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1398	-	Rel-10	B	RP-121671	R5s120781	approved	LTE_TDD : Addition of Rel9 EUTRA Multilayer Testcase 13.4.1.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1399	-	Rel-10	B	RP-121671	R5s120783	approved	Addition of Rel 9 RSRQ Idle Mode Testcase 6.1.2.2a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1400	-	Rel-10	B	RP-121671	R5s120785	approved	Addition of GCF WI-151 EUTRA FDD-TDD Intermode Testcase 6.1.2.15a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1401	-	Rel-10	F	RP-121671	R5s120787	approved	Correction to EMM Test Case 9.2.1.2.1d	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1402	-	Rel-10	F	RP-121671	R5s120788	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.1.2.1d	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1403	-	Rel-10	F	RP-121671	R5s120789	approved	Correction to EUTRA Idle Mode Testcase 6.1.2.9a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1404	-	Rel-10	F	RP-121671	R5s120790	approved	Correction to GCF WI-086 EMM test case 9.2.3.3.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1405	-	Rel-10	F	RP-121671	R5s120791	approved	Corrections to EUTRA Idle Mode Test Cases	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1406	-	Rel-10	F	RP-121671	R5s120793	approved	Correction to GCF WI-087 LTE<>GERAN Testcase 6.2.3.24	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1407	-	Rel-10	F	RP-121671	R5s120797	approved	LTE_TDD: Addition of GCF WI-096 Idle Mode test case 6.2.3.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1408	-	Rel-10	F	RP-121671	R5s120799	approved	Correction to f_UTRAN_LocationUpdate_WithoutLAUReq function	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1409	-	Rel-10	F	RP-121671	R5s120800	approved	Correction to ESM test cases 10.8.5 and 10.8.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1410	-	Rel-10	F	RP-121671	R5s120801	approved	Correction to Idle Mode test case 6.2.2.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1411	-	Rel-10	F	RP-121671	R5s120802	approved	Correction to GERAN XID procedure	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1412	-	Rel-10	B	RP-121671	R5s120808	approved	Addition of Rel9 EUTRA RRC test case 8.5.1.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1413	-	Rel-10	F	RP-121671	R5s120810	approved	Corrections to EUTRA RRC test case 8.5.4.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1414	-	Rel-10	F	RP-121671	R5s120811	approved	Correction to Idle Mode test case 6.2.1.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1415	-	Rel-10	B	RP-121671	R5s120812	approved	Addition of GCF WI-151 EUTRA FDD-TDD Inter-mode test case 8.2.4.14a.	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1416	-	Rel-10	F	RP-121671	R5s120815	approved	Correction to EUTRA Idle Mode Test Case 6.2.1.4	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1417	-	Rel-10	B	RP-121671	R5s120817	approved	Addition of GCF WI-151 EUTRA FDD-TDD Inter-mode test case 8.2.4.15a.	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1418	-	Rel-10	F	RP-121671	R5s120819	approved	Correction to f_UTRAN_CS_Fallback_WithHandover function	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1419	-	Rel-10	F	RP-121671	R5s120820	approved	Correction to EUTRA Multi Layer test case 13.3.2.2	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1420	-	Rel-10	F	RP-121671	R5s120821	approved	Correction to f_GetTestcaseAttrib_Eutra_Release function	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1421	-	Rel-10	F	RP-121671	R5s120822	approved	Correction to GCF WI-081 MAC test cases 7.1.7.1.x and 7.1.7.2.1 for Band 18.	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1422	-	Rel-10	F	RP-121671	R5s120823	approved	Correction to GCF WI-086 EUTRA RRC Testcase 8.4.1.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1423	-	Rel-10	F	RP-121671	R5s120824	approved	Correction to GCF WI-087 EUTRA RRC Testcase 9.2.1.2.1b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG

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36.523-3	1424	-	Rel-10	F	RP-121671	R5s120825	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.3.2.1b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1425	-	Rel-10	F	RP-121671	R5s120826	approved	Correction to Rel9 EUTRA Multilayer Testcase 13.3.1.3	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1426	-	Rel-10	B	RP-121671	R5s120827	approved	Addition of Rel9 EUTRA RRC Interband Testcase 8.3.1.16.	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1427	-	Rel-10	F	RP-121671	R5s120829	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.1.2.1c	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1428	-	Rel-10	F	RP-121671	R5s120831	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.3.2.1c	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1429	-	Rel-10	F	RP-121671	R5s120832	approved	Correction to GCF WI-082 EUTRA CSG Testcase 6.3.5	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1430	-	Rel-10	F	RP-121671	R5s120833	approved	Correction to GCF WI-087 EUTRA EMM Testcase 9.2.1.2.13	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1431	-	Rel-10	F	RP-121671	R5s120834	approved	Correction to GCF WI-086 EUTRA EMM Testcase 9.2.3.2.1b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1432	-	Rel-10	F	RP-121671	R5s120835	approved	Correction to GCF WI-087 EUTRA EMM Testcases 9.2.3.2.3, 9.2.1.2.1b, 9.2.3.2.1b	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1433	-	Rel-10	F	RP-121671	R5s120836	approved	Correction to Rel 9 GCF WI-151 EUTRA RRC Testcase 6.1.2.15a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1434	-	Rel-10	F	RP-121671	R5s120837	approved	Correction to GCF WI-087 EUTRA EMM Testcase 9.2.3.4.1	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1435	-	Rel-10	F	RP-121671	R5s120838	approved	Correction to GCF WI-087 EUTRA EMM Testcase 9.2.3.1.6	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1436	-	Rel-10	F	RP-121671	R5s120839	approved	Correction to Rel9 EUTRA Hybrid Cell Testcase 6.4.1	10.1.0	10.2.0	R5	TEI9_Test
36.523-3	1437	-	Rel-10	F	RP-121671	R5s120841	approved	Correction to Rel 9 GCF WI-151 EUTRA RRC Testcase 6.1.1.3a	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1438	-	Rel-10	F	RP-121671	R5s120842	approved	Correction to Testcase Release Applicability of Rel9 EUTRA Testcases.	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.523-3	1439	-	Rel-10	B	RP-121671	R5s120843	approved	LTE_TDD : Addition of Rel9 GCF WI-150 EUTRA RSRQ Idle Mode Testcase 6.1.2.2a	10.1.0	10.2.0	R5	TEI9_Test
36.523-3	1440	-	Rel-10	F	RP-121670	-	approved	CR to 36.523-3: Add new verified and e-mail agreed TTCN test cases in the TC lists in 36.523-3 (prose), Annex A	10.1.0	10.2.0	R5	LTE-UEConTest_SIG
36.820	0002	-	Rel-11	F	RP-121878	R4-126750	approved	Band 28 UE emissions at 692-698 MHz and AMPR for DTV protection	11.1.0	11.2.0	R4	LTE_APAC700-Core
36.826	0001	-	Rel-11	F	RP-121904	R4-125893	approved	TP for 36.826 Relay on backhaul link conformance test	11.0.0	11.1.0	R4	LTE_Relay2-Perf
36.826	0003	1	Rel-11	F	RP-121904	R4-126807	approved	Correction of R-PDCCH conformance test	11.0.0	11.1.0	R4	LTE_Relay2-Perf
36.826	0004	1	Rel-11	F	RP-121904	R4-126806	approved	Corrections on Relay backhaul link R-PDCCH performance	11.0.0	11.1.0	R4	LTE_Relay2-Perf
36.829	0002	-	Rel-11	F	RP-121874	R4-125502	approved	CR for DIP and link-level evaluation results on G=-2.5dB for advanced receiver	11.0.0	11.1.0	R4	FS_enh_perf_UE_LTE, LTE_Interf_Rej
36.830	0001	-	Rel-11	F	RP-121886	R4-126336	approved	CR to capture the simulation results of A-MPR to TR36.830	11.0.0	11.1.0	R4	LTE_CA_B38-Core
36.839	0001	-	Rel-11	F	RP-121962	R2-125828	approved	Correction to align plots on HO failure rate with the data in tabular	11.0.0	11.1.0	R2	FS_HetNet_eMOB_LTE
36.903	0046	-	Rel-10	F	RP-121677	R5-125356	approved	Add Test Tolerance analyses for TS 36.521-3 Test cases 8.16.1 and 8.16.2	9.5.0	10.0.0	R5	LTE_CA-UEConTest

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36.903	0047	-	Rel-10	F	RP-121675	R5-125362	approved	Update TS 36.521-3 Test cases 5.2.3+5.2.6 Test Tolerance analyses for >3GHz	9.5.0	10.0.0	R5	LTE-UEConTest_LTE3500
36.903	0048	-	Rel-9	F	RP-121658	R5-125558	approved	Addition of uncertainites and test tolerance definition and analysis for TC 9.2.4A.1	9.5.0	9.6.0	R5	LTE-UEConTest_RF
36.903	0049	-	Rel-9	F	RP-121658	R5-125815	approved	Addition of uncertainites and test tolerance definition and analysis for TC 4.5.2.1	9.5.0	9.6.0	R5	LTE-UEConTest_RF
36.903	0050	-	Rel-9	F	RP-121658	R5-125816	approved	Addition of uncertainites and test tolerance definition and analysis for TC 5.3.5	9.5.0	9.6.0	R5	LTE-UEConTest_RF
36.903	0051	-	Rel-9	F	RP-121658	R5-125817	approved	Addition of uncertainites and test tolerance definition and analysis for TC 8.14.2	9.5.0	9.6.0	R5	LTE-UEConTest_RF
36.903	0052	-	Rel-9	F	RP-121658	R5-125818	approved	Addition of uncertainites and test tolerance definition and analysis for TC 8.15.2	9.5.0	9.6.0	R5	LTE-UEConTest_RF
36.903	0053	-	Rel-9	F	RP-121658	R5-125819	approved	Addition of uncertainites and test tolerance definition and analysis for TC 8.14.3 and 8.15.3	9.5.0	9.6.0	R5	LTE-UEConTest_RF
36.903	0054	-	Rel-9	F	RP-121658	R5-125820	approved	Addition of uncertainites and test tolerance definition and analysis for TC 9.2.4A.2	9.5.0	9.6.0	R5	LTE-UEConTest_RF
37.104	0092	1	Rel-9	F	RP-121857	R4-125933	approved	Modification to increase GSM Carrier Power in MSR BS for Band Category 2	9.7.0	9.8.0	R4	RInImp9-RFmulti
37.104	0093	1	Rel-10	A	RP-121857	R4-125934	approved	Modification to increase GSM Carrier Power in MSR BS for Band Category 2	10.8.0	10.9.0	R4	RInImp9-RFmulti
37.104	0094	-	Rel-11	B	RP-121906	R4-125041	approved	Introduction of new BS classes to MSR specification (general parts)	11.2.1	11.3.0	R4	medBS_class_LTE_MSR
37.104	0095	-	Rel-11	A	RP-121857	R4-125042	approved	Correction to additional BS spurious emissions limits for BC2	11.2.1	11.3.0	R4	RInImp9-RFmulti
37.104	0096	-	Rel-10	A	RP-121857	R4-125043	approved	Correction to additional BS spurious emissions limits for BC2	10.8.0	10.9.0	R4	RInImp9-RFmulti
37.104	0097	-	Rel-9	F	RP-121857	R4-125044	approved	Correction to additional BS spurious emissions limits for BC2	9.7.0	9.8.0	R4	RInImp9-RFmulti
37.104	0098	-	Rel-11	A	RP-121859	R4-125048	approved	Correction of PHS protection requirement	11.2.1	11.3.0	R4	TEI9
37.104	0099	-	Rel-10	A	RP-121859	R4-125049	approved	Correction of PHS protection requirement	10.8.0	10.9.0	R4	TEI9
37.104	0100	-	Rel-9	F	RP-121859	R4-125050	approved	Correction of PHS protection requirement	9.7.0	9.8.0	R4	TEI9
37.104	0101	2	Rel-11	B	RP-121906	R4-126043	approved	Introduction of new BS classes to MSR specification (Clause 6)	11.2.1	11.3.0	R4	medBS_class_LTE_MSR
37.104	0102	-	Rel-11	B	RP-121906	R4-125472	approved	Introduction of new BS classes to MSR specification (receiver part)	11.2.1	11.3.0	R4	medBS_class_LTE_MSR-Core
37.104	0103	1	Rel-10	F	RP-121867	R4-125931	approved	Modification on ACLR requirement	10.8.0	10.9.0	R4	TEI10
37.104	0104	1	Rel-11	A	RP-121867	R4-125932	approved	Modification on ACLR requirement	11.2.1	11.3.0	R4	TEI10
37.104	0106	-	Rel-10	F	RP-121867	R4-125633	approved	Clean up of specification R10	10.8.0	10.9.0	R4	TEI10
37.104	0107	-	Rel-11	A	RP-121867	R4-125634	approved	Clean up of specification R11	11.2.1	11.3.0	R4	TEI10

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37.104	0108	1	Rel-11	B	RP-121905	R4-126857	approved	Introduction of multi-band operation to MSR specification (section 4)	11.2.1	11.3.0	R4	MB_MSR_RF-Core
37.104	0109	1	Rel-11	B	RP-121905	R4-126854	approved	CR for TS37.104(Clause 1-3) due to introduction of multi-band MSR operation	11.2.1	11.3.0	R4	MB_MSR_RF-Core
37.104	0110	1	Rel-11	B	RP-121905	R4-126859	approved	Introduction of MB-MSR to MSR specification (Clause 6)	11.2.1	11.3.0	R4	MB_MSR_RF-Core
37.104	0111	1	Rel-10	F	RP-121864	R4-126845	approved	Transmitter IM correction for MSR-NC	10.8.0	10.9.0	R4	MSR_NC-Core
37.104	0112	-	Rel-11	A	RP-121864	R4-126356	approved	Transmitter IM correction for MSR-NC	11.2.1	11.3.0	R4	MSR_NC-Core
37.104	0113	-	Rel-11	B	RP-121905	R4-126379	approved	Applicability of requirements for MB-MSR	11.2.1	11.3.0	R4	MB_MSR_RF-Core
37.104	0115	-	Rel-11	F	RP-121899	R4-126600	approved	Update CA reference to include Non Contiguous CA band combinations	11.2.1	11.3.0	R4	LTE_CA_enh-Core
37.104	0116	-	Rel-11	B	RP-121901	R4-126737	approved	Introduction of Band 29	11.2.1	11.3.0	R4	LTE_DL_FDD700-Core
37.104	0117	1	Rel-11	B	RP-121905	R4-126871	approved	Introduction of MB-MSR to MSR core specification (Clause 7)	11.2.1	11.3.0	R4	MB_MSR_RF-Core
37.104	0118	-	Rel-11	A	RP-121857	R4-126966	approved	Modification to increase GSM Carrier Power in MSR BS for Band Category 2	11.2.1	11.3.0	R4	RInImp9-RFmulti
37.141	0156	1	Rel-9	F	RP-121857	R4-125935	approved	Modification to increase GSM Carrier Power in MSR BS for Band Category 2	9.8.0	9.9.0	R4	RInImp9-RFmulti
37.141	0157	1	Rel-10	A	RP-121857	R4-125936	approved	Modification to increase GSM Carrier Power in MSR BS for Band Category 2	10.8.0	10.9.0	R4	RInImp9-RFmulti
37.141	0158	-	Rel-11	A	RP-121857	R4-125045	approved	Correction to additional BS spurious emissions limits for BC2	11.2.1	11.3.0	R4	RInImp9-RFmulti
37.141	0159	-	Rel-10	A	RP-121857	R4-125046	approved	Correction to additional BS spurious emissions limits for BC2	10.8.0	10.9.0	R4	RInImp9-RFmulti
37.141	0160	-	Rel-9	F	RP-121857	R4-125047	approved	Correction to additional BS spurious emissions limits for BC2	9.8.0	9.9.0	R4	RInImp9-RFmulti
37.141	0161	-	Rel-11	A	RP-121859	R4-125051	approved	Correction of PHS protection requirement	11.2.1	11.3.0	R4	TEI9
37.141	0162	-	Rel-10	A	RP-121859	R4-125052	approved	Correction of PHS protection requirement	10.8.0	10.9.0	R4	TEI9
37.141	0163	-	Rel-9	F	RP-121859	R4-125053	approved	Correction of PHS protection requirement	9.8.0	9.9.0	R4	TEI9
37.141	0164	-	Rel-10	F	RP-121867	R4-125635	approved	Clean up of specification R10	10.8.0	10.9.0	R4	TEI10
37.141	0165	-	Rel-11	A	RP-121867	R4-125637	approved	Clean up of specification R11	11.2.1	11.3.0	R4	TEI10
37.141	0166	-	Rel-11	B	RP-121907	R4-126104	approved	Introduction of new BS classes to MSR specification (general parts)	11.2.1	11.3.0	R4	medBS_class_LTE_MSR-Perf
37.141	0167	-	Rel-11	A	RP-121867	R4-126116	approved	Correction to test requirement of operating band unwanted emissions	11.2.1	11.3.0	R4	TEI10
37.141	0168	-	Rel-10	F	RP-121867	R4-126117	approved	Correction to test requirement of operating band unwanted emissions	10.8.0	10.9.0	R4	TEI10
37.141	0169	-	Rel-11	B	RP-121907	R4-126320	approved	Introduction of new BS classes to TS37.141 (Transmitter part)	11.2.1	11.3.0	R4	medBS_class_LTE_MSR-Perf
37.141	0170	1	Rel-10	F	RP-121864	R4-126846	approved	Transmitter IM correction for MSR-NC	10.8.0	10.9.0	R4	MSR_NC-Perf

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Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
37.141	0171	-	Rel-11	A	RP-121864	R4-126358	approved	Transmitter IM correction for MSR-NC	11.2.1	11.3.0	R4	MSR_NC-Perf
37.141	0172	-	Rel-11	B	RP-121907	R4-126365	approved	Introduction of new BS classes to MSR test specification (receiver part)	11.2.1	11.3.0	R4	medBS_class_LTE_MSR-Perf
37.141	0174	-	Rel-10	F	RP-121867	R4-126376	approved	Removal of conflicts in ACLR requirement	10.8.0	10.9.0	R4	TEI10
37.141	0175	-	Rel-11	A	RP-121867	R4-126377	approved	Removal of conflicts in ACLR requirement	11.2.1	11.3.0	R4	TEI10
37.141	0177	-	Rel-10	F	RP-121861	R4-126595	approved	Change to CA combination list from table to reference	10.8.0	10.9.0	R4	LTE_CA-Perf
37.141	0178	-	Rel-11	A	RP-121861	R4-126599	approved	Change to CA combination list from table to reference	11.2.1	11.3.0	R4	LTE_CA-Perf
37.141	0179	1	Rel-10	F	RP-121867	R4-126851	approved	Clarification of BS output power test under extreme power supply conditions	10.8.0	10.9.0	R4	TEI10
37.141	0180	-	Rel-11	A	RP-121867	R4-126708	approved	Clarification of BS output power test under extreme power supply conditions	11.2.1	11.3.0	R4	TEI10
37.141	0181	-	Rel-11	B	RP-121902	R4-126741	approved	Introduction of Band 29	11.2.1	11.3.0	R4	LTE_DL_FDD700-Perf
37.141	0182	-	Rel-11	A	RP-121857	R4-126967	approved	Modification to increase GSM Carrier Power in MSR BS for Band Category 2	11.2.1	11.3.0	R4	RInImp9-RFmulti
37.320	0051	-	Rel-11	B	RP-121946	R2-125303	approved	MDT Open Issues Resolutions	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
37.320	0052	-	Rel-11	F	RP-121946	R2-125852	approved	Removing the IE Contention Detected in Accessiability Measurement(option 3)	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
37.320	0054	-	Rel-11	F	RP-121946	R2-125977	approved	Stage-2 update for MDT enhancements	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
37.320	0055	-	Rel-11	B	RP-121730	R2-125988	approved	Multi-PLMN MDT	11.1.0	11.2.0	R2	eMDT_UMTSLTE-Core
37.571-1	0015	-	Rel-10	F	RP-121665	R5-125136	approved	Corrections to references	10.1.0	10.2.0	R5	TEI10_Test
37.571-1	0016	-	Rel-10	F	RP-121665	R5-125188	approved	Correction to LPP Message Content for GNSS Moving Scenario Test	10.1.0	10.2.0	R5	TEI10_Test
37.571-1	0017	-	Rel-9	F	RP-121664	R5-125665	approved	Removal of technical content in 37.571-1 v9.2.1 and substitution with pointer to the next Release	9.2.1	9.3.0	R5	TEI9_Test
37.571-1	0018	-	Rel-10	F	RP-121677	R5-125806	approved	New test case 10.1 FDD RSTD Measurement Reporting Delay for Carrier Aggregation	10.1.0	10.2.0	R5	LTE_CA-UEConTest
37.571-1	0019	-	Rel-10	F	RP-121677	R5-125807	approved	New test case 10.2 TDD RSTD Measurement Reporting Delay for Carrier Aggregation	10.1.0	10.2.0	R5	LTE_CA-UEConTest
37.571-1	0020	-	Rel-10	F	RP-121677	R5-125808	approved	New test case 10.3 FDD RSTD Measurement Accuracy for Carrier Aggregation	10.1.0	10.2.0	R5	LTE_CA-UEConTest
37.571-1	0021	-	Rel-10	F	RP-121677	R5-125809	approved	New test case 10.4.TDD RSTD Measurement Accuracy for Carrier Aggregation	10.1.0	10.2.0	R5	LTE_CA-UEConTest
37.571-1	0022	-	Rel-10	F	RP-121689	R5-125831	approved	Adding bands 28 and 44 to TS 37.571-1	10.1.0	10.2.0	R5	LTE_APAC700-UEConTest
37.571-1	0023	-	Rel-10	F	RP-121665	R5-125847	approved	Corrections to procedures for RSTD tests	10.1.0	10.2.0	R5	TEI10_Test
37.571-1	0024	-	Rel-10	F	RP-121665	R5-125848	approved	Correction of OCNG Patterns for UE Rx - Tx Time Difference Test Cases	10.1.0	10.2.0	R5	TEI10_Test
37.571-1	0025	-	Rel-10	F	RP-121665	R5-125916	approved	Add editor's note for value of Iprs for test case 9.1.4	10.1.0	10.2.0	R5	TEI10_Test

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Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
37.571-1	0026	-	Rel-10	F	RP-121678	R5-124120	approved	New common text for test cases 10.1 - 10.4 for RSTD for Carrier Aggregation	10.1.0	10.2.0	R5	LTE_CA-UEConTest
37.571-2	0020	-	Rel-9	F	RP-121664	R5-125666	approved	Removal of technical content in 37.571-2 v9.2.0 and substitution with pointer to the next Release	9.2.0	9.3.0	R5	TEI9_Test
37.571-3	0004	-	Rel-10	F	RP-121664	R5-125119	approved	Add new PICS and post-fix for conditions	10.1.1	10.2.0	R5	TEI9_Test
37.571-3	0005	-	Rel-9	F	RP-121664	R5-125667	approved	Removal of technical content in 37.571-3 v9.1.0 and substitution with pointer to the next Release	9.1.0	9.2.0	R5	TEI9_Test
37.571-3	0006	-	Rel-10	F	RP-121678	R5-124121	approved	Applicabilities for new test cases 10.1 - 10.4 for RSTD for Carrier Aggregation	10.1.1	10.2.0	R5	LTE_CA-UEConTest
37.571-4	0002	-	Rel-9	F	RP-121664	R5-125668	approved	Removal of technical content in 37.571-4 v9.0.0 and substitution with pointer to the next Release	9.0.0	9.1.0	R5	TEI9_Test
37.571-5	0015	-	Rel-10	F	RP-121665	R5-125577	approved	Correction to Reference UE Position value	10.1.0	10.2.0	R5	TEI10_Test
37.571-5	0016	-	Rel-9	F	RP-121664	R5-125669	approved	Removal of technical content in 37.571-5 v9.3.0 and substitution with pointer to the next Release	9.3.0	9.4.0	R5	TEI9_Test
37.571-5	0017	-	Rel-10	F	RP-121664	R5-125779	approved	LBS Sig: Corrections to GLONASS acquisition assistance data	10.1.0	10.2.0	R5	TEI9_Test
37.571-5	0018	-	Rel-10	F	RP-121664	R5-125780	approved	LBS Sig: Corrections to GNSS assistance data	10.1.0	10.2.0	R5	TEI9_Test
37.571-5	0019	-	Rel-10	F	RP-121664	R5-125849	approved	LBS Perf: Correction of coordinates for GNSS Scenario #2 and #5	10.1.0	10.2.0	R5	TEI9_Test
37.571-5	0020	-	Rel-10	F	RP-121664	R5-125850	approved	LBS Perf: Corrections to GNSS assistance data	10.1.0	10.2.0	R5	TEI9_Test
37.571-5	0021	-	Rel-10	F	RP-121664	R5-125917	approved	LBS Perf: Corrections to GLONASS acquisition assistance data	10.1.0	10.2.0	R5	TEI9_Test
37.571-5	0022	-	Rel-10	F	RP-121678	R5-124122	approved	OTDOA data for new test cases 10.1 - 10.4 for RSTD for Carrier Aggregation	10.1.0	10.2.0	R5	LTE_CA-UEConTest
37.803	0002	1	Rel-11	F	RP-121738	R3-122933	approved	Scope of Enhanced inter-CSG HeNB	11.0.0	11.1.0	R3	FS_EHNB_enh
37.901	0018	-	Rel-11	F	RP-121672	R5-125371	approved	Correction to Tables in relation to Reference Test Points for LTE	11.4.0	11.5.0	R5	TEI11_Test
37.901	0019	-	Rel-11	F	RP-121672	R5-126048	approved	Adding editors notes to LTE reference system configurations	11.4.0	11.5.0	R5	TEI11_Test
37.901	0020	-	Rel-11	F	RP-121672	R5-126054	approved	Update for LTE/UDP Power Sweep Performance Test	11.4.0	11.5.0	R5	TEI11_Test

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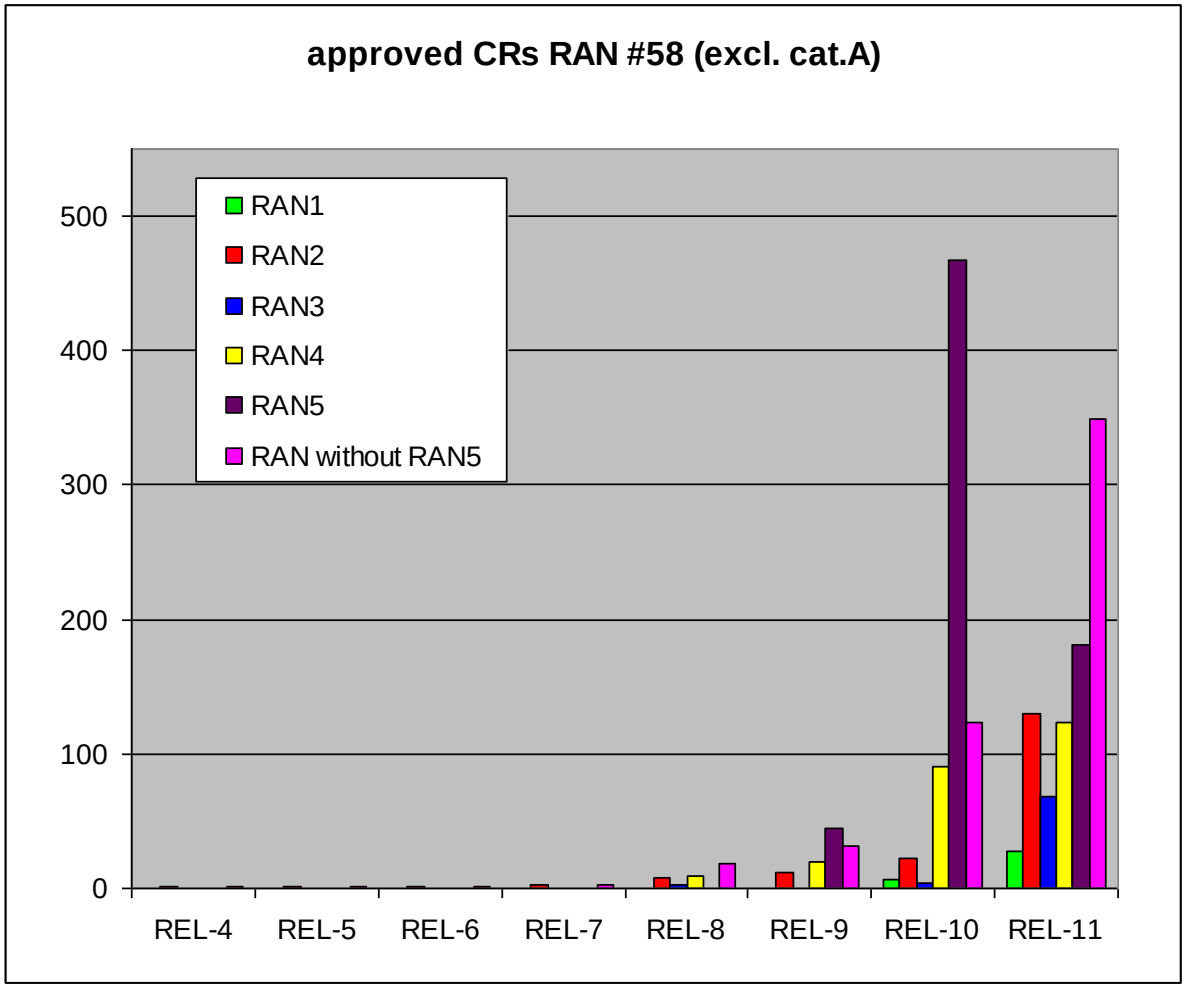


Fig. E-1: Approved CRs (excluding category A CRs) of RAN #58 per WG and release

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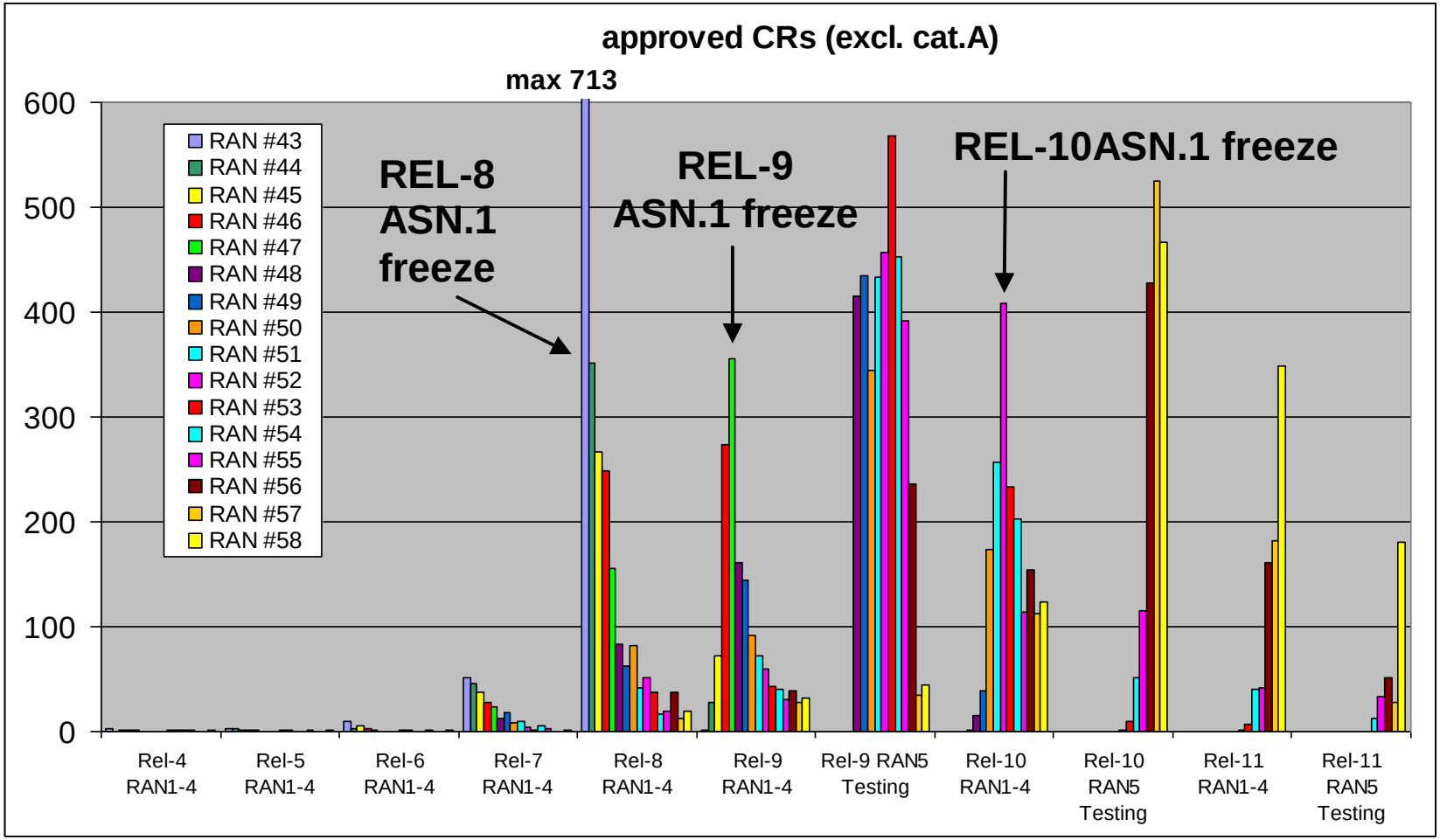


Fig. E-2: Approved CRs (excluding category A CRs) of previous RAN meetings per release
ASN.1 freeze: REL-8: RAN #43, REL-9: RAN #47, REL-10: RAN #52, REL-11: RAN #59

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Annex F:
Summary of RAN work items (WI) and study items (SI)

An overview of recent RAN work items and study items (including the new WIs & SIs approved at this meeting) is attached to this report.

This overview is used as input for the 3GPP workplan which lists all 3GPP work and study items.

Annex G:
Actions decided by RAN #58

No specific actions were defined.

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Annex H:
History

Document history		
Date	**TSG RAN Tdoc**	**Subject**
03.12.2012	-	Skeleton report for RAN #58 provided before the meeting.
11.12.2012	-	Draft report of RAN #58 v1.0 (this version is also submitted as SP-120911 to SA #58 for information)
22.02.2013	RP-130002	Draft Report of RAN #58 v2.0 (with revision marks compared to v1.0)
01.03.2013	RP-130363	Report of RAN #58 as approved by RAN #59

In case of comments/questions/corrections please contact:

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