Appendix 1

Petitioners' Exhibit 1010 (Part 2 of 3)
Google et al. v. KT Corporation et al.
IPR2025-00293

Curriculum Vitae

Name:	Craig Bishop
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Email:	craig@bishopcom.co.uk
Current job title:	Independent Consulting Engineer, CEO
Address:	43 Ospringe Street, Faversham, Kent, ME13 8TW

Key Skills and Experience

- 33 years Telecoms, Radio and Broadcast experience
- 26 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 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 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 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 radio interface technologies (Phy, MAC, RLC, RRC), 3GPP access and core networks (GPRS/UMTS & EPC NAS), IMS. Organisations covered include 3GPP & ETSI.

Clients served during last 10 years include: Addy Hart LLP, Alston & Bird LLP, AT&T, Baker Botts LLP, Banner Witcoff LLP, DLA Piper LLP, European Telecommunications Standards Institute (ETSI),

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Fish & Richardson P.C., Gibson Dunn LLP, Haynes and Boone LLP, Hillebrand-CE GmbH (working for third party clients as Consulting Engineer for Hillebrand-CE), Kilpatrick Townsend & Stockton, Kirkland & Ellis LLP, K&L Gates LLP, Morgan, Lewis & Bokius LLP, MckoolSmith LLP, PV Law LLP, Paul Hastings LLP, Perkins Coie LLP, Powell Gilbert LLP, Sidley Austin LLP, Samsung Electronics 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* Case 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.

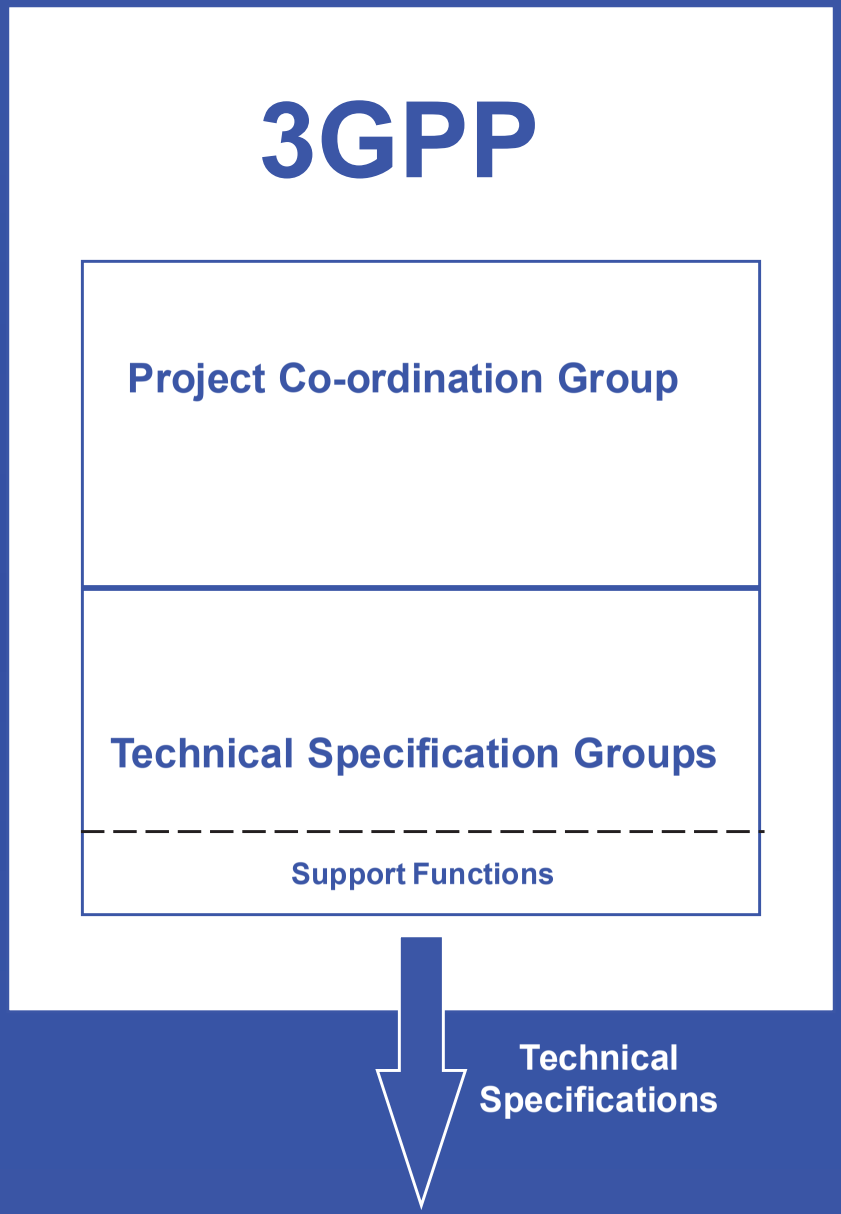
Preamble

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.

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).

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**

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.

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**

Characteristics of 3GPP (2)

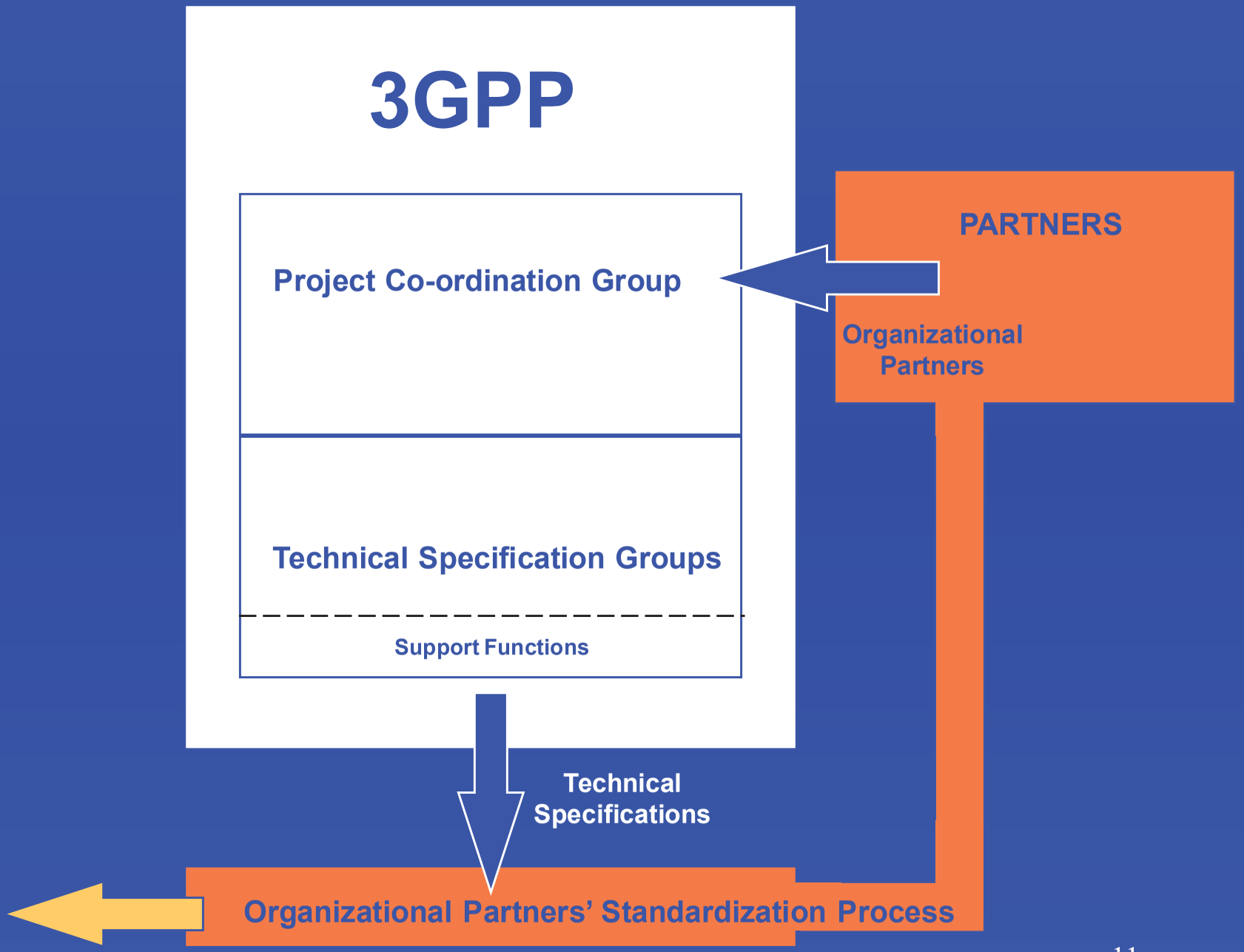
- **A Project Co-ordination function and a Technical Specification function**
- **Task oriented, ensuring that on completion of the tasks the future of the project is re-evaluated**
- **Cost effective use of financial/human resources provided by Partner Organizations (if required)**

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**

Organizational Partners (1)



Organizational Partners (2)

An Organizational Partner is:

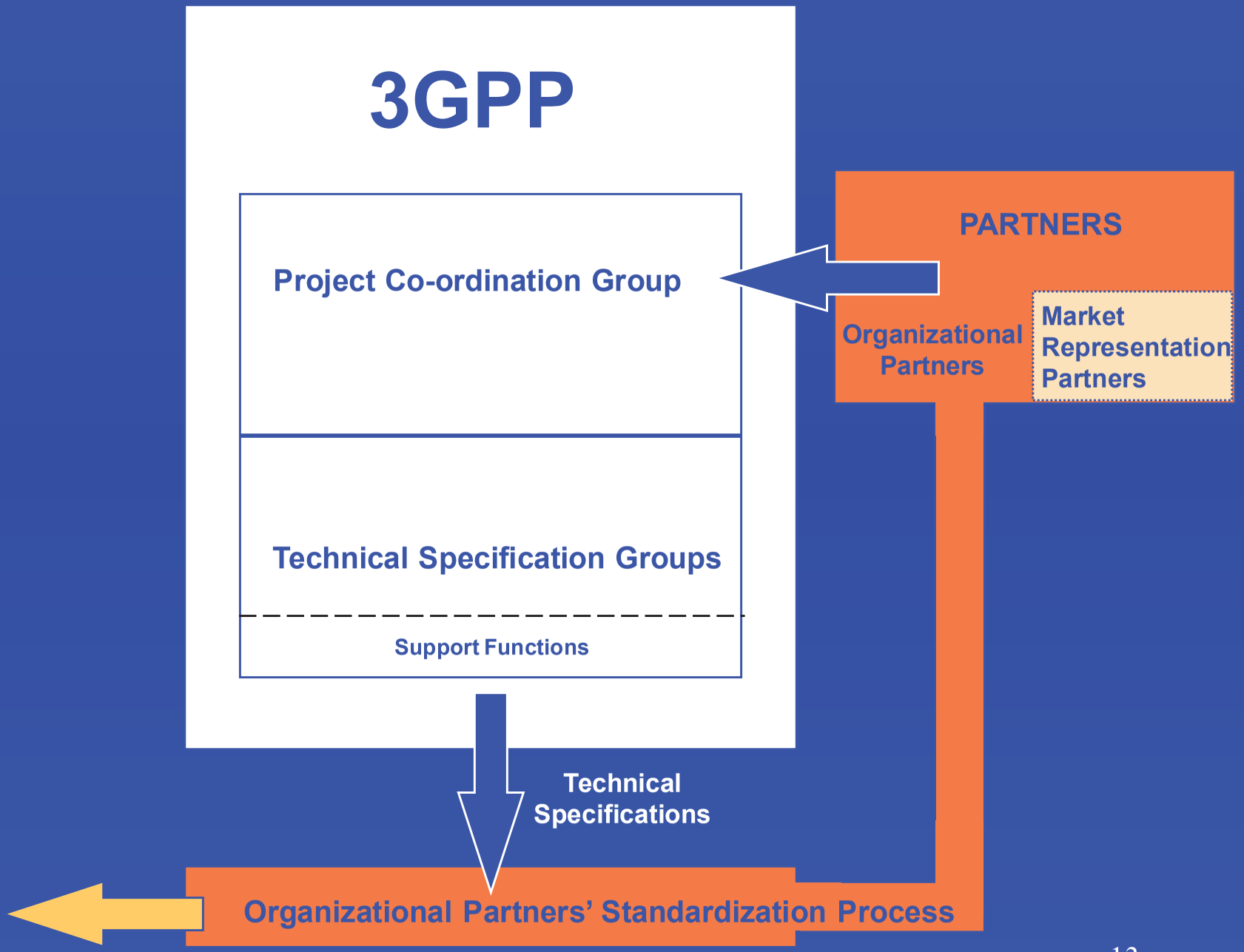
An open standards organization with a national, regional or other officially recognized status (in their country or region)

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.

Market Representation Partners (1)



Market Representation Partners (2)

Standardization should meet market needs.

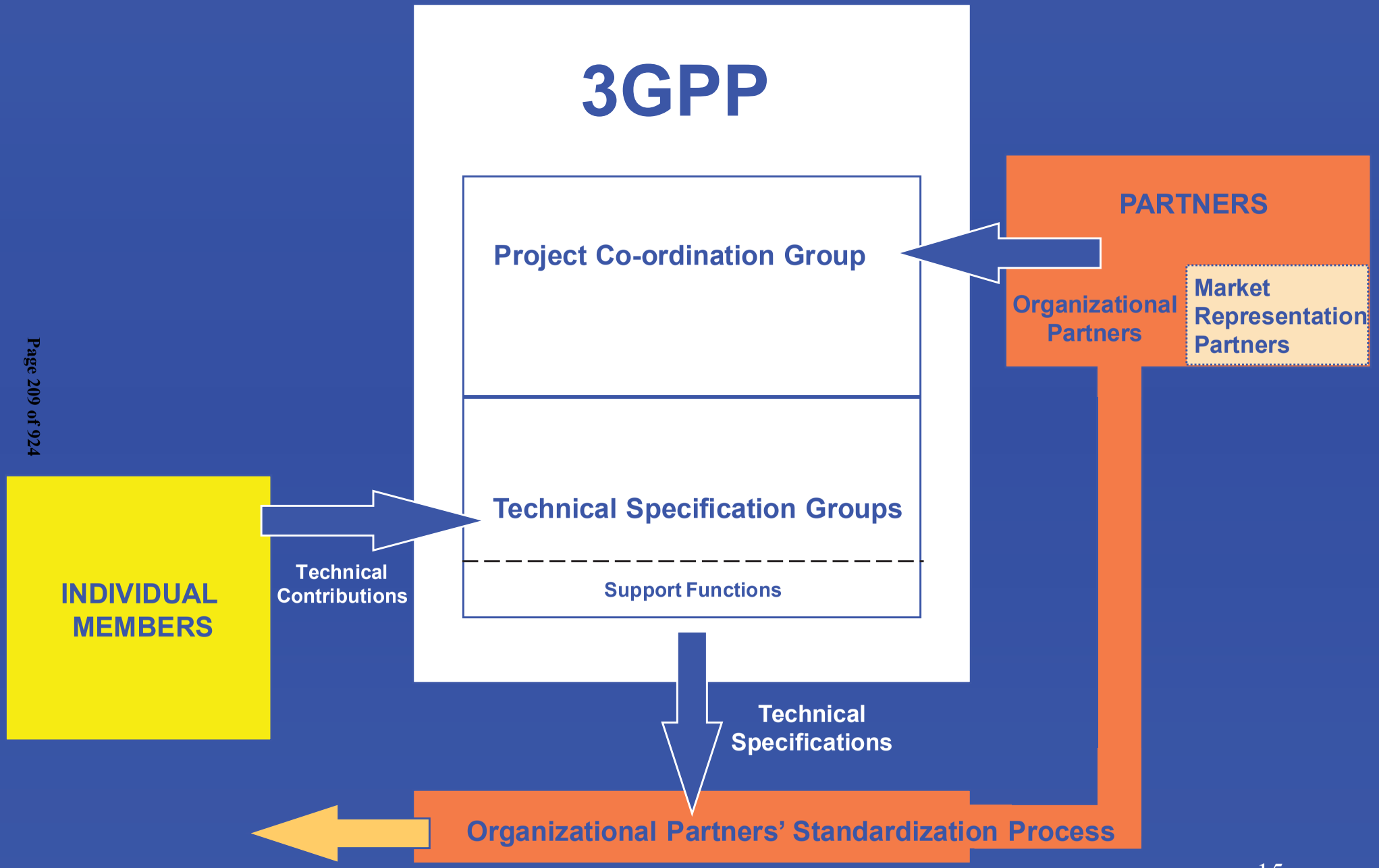
In order to identify market requirements, the high competence of Market Representation Partners should be used.

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**

Individual Members (1)



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.

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)

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.

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.

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**

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:

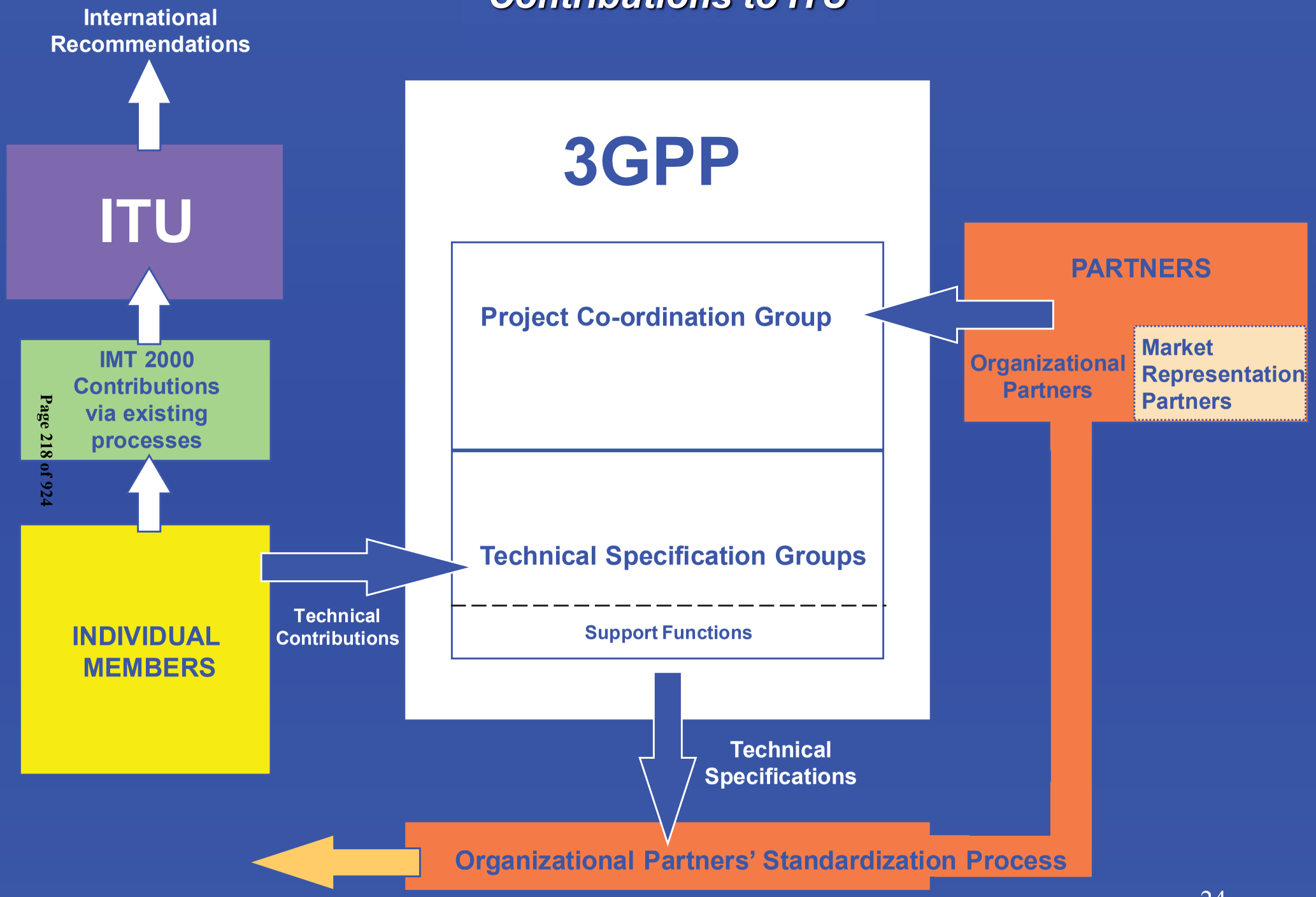
- **the promotion of 3GPP**
- **the definition of 3GPP System and Service scenarios**

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

Ownership of the Partnership Project results

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

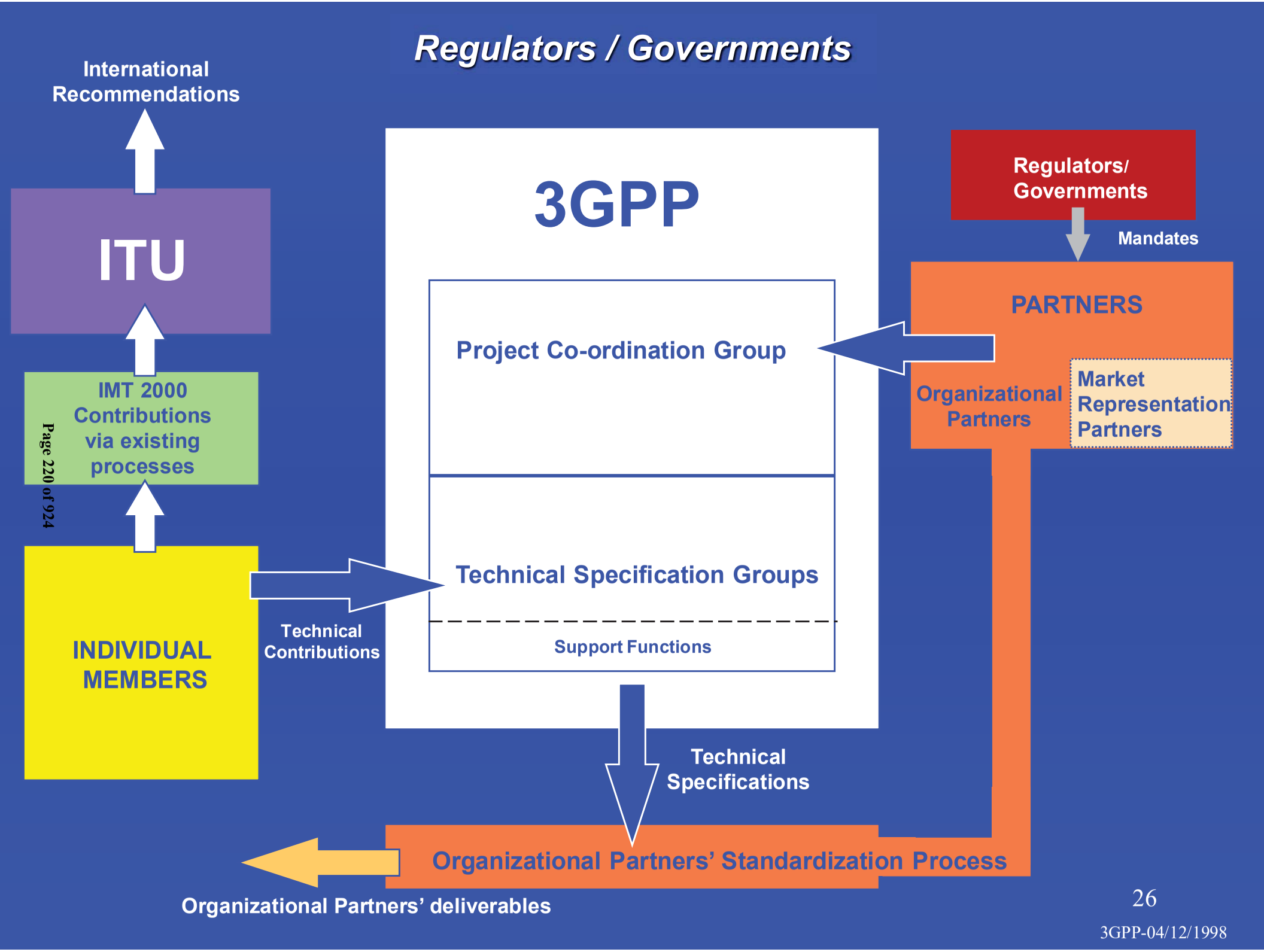
Contributions to ITU



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.


Regulators / Governments
International Recommendations
ITU
IMT 2000 Contributions via existing processes
INDIVIDUAL MEMBERS
3GPP
Project Co-ordination Group
Technical Specification Groups
Support Functions
Technical Contributions
Technical Specifications
Regulators/ Governments
Mandates
PARTNERS
Organizational Partners
Market Representation Partners
Organizational Partners' Standardization Process
Organizational Partners' deliverables

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.

Resource requirements for establishing 3GPP

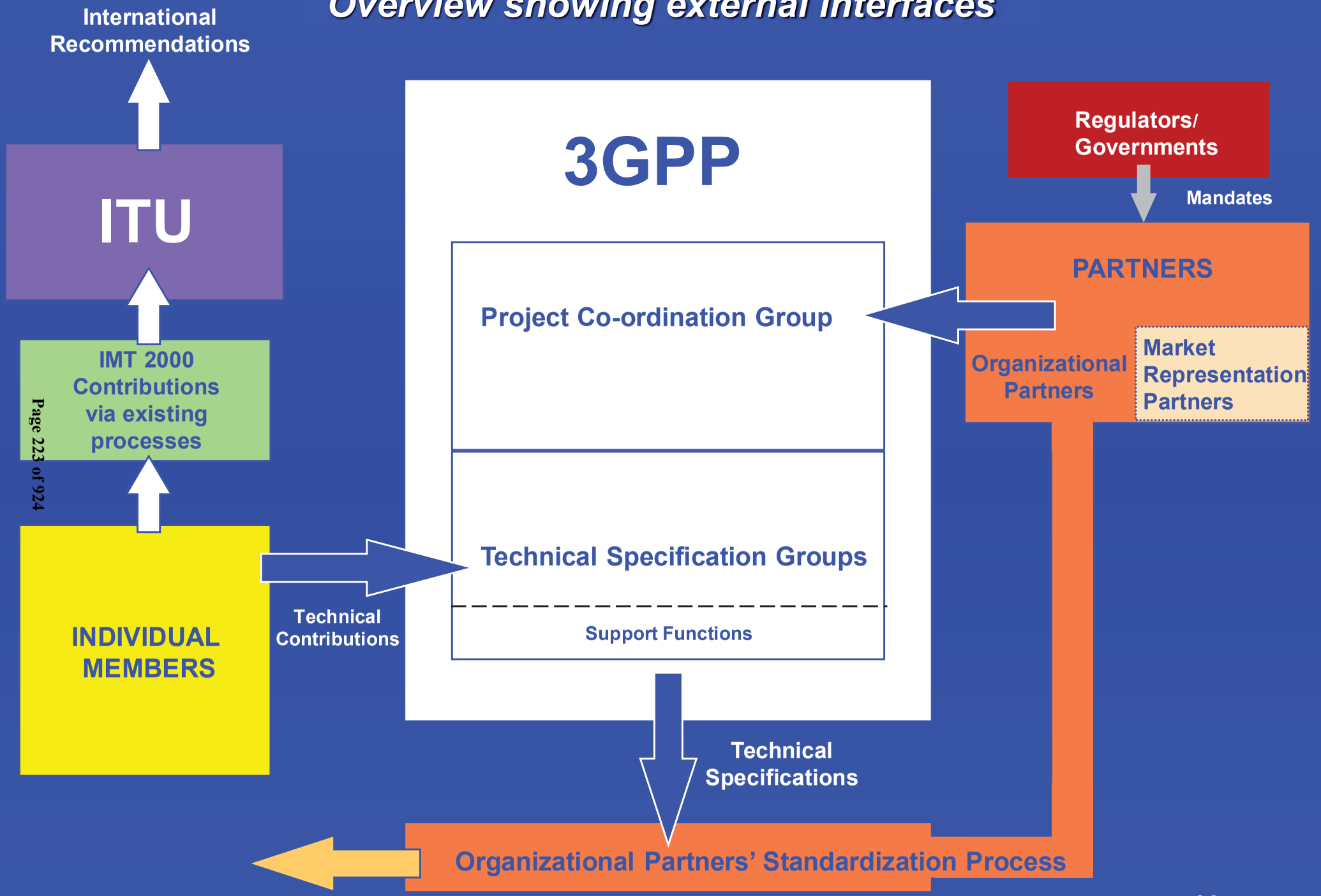
ETSI will absorb the initial cost of establishing the 3GPP, if required.

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.

Overview showing external interfaces

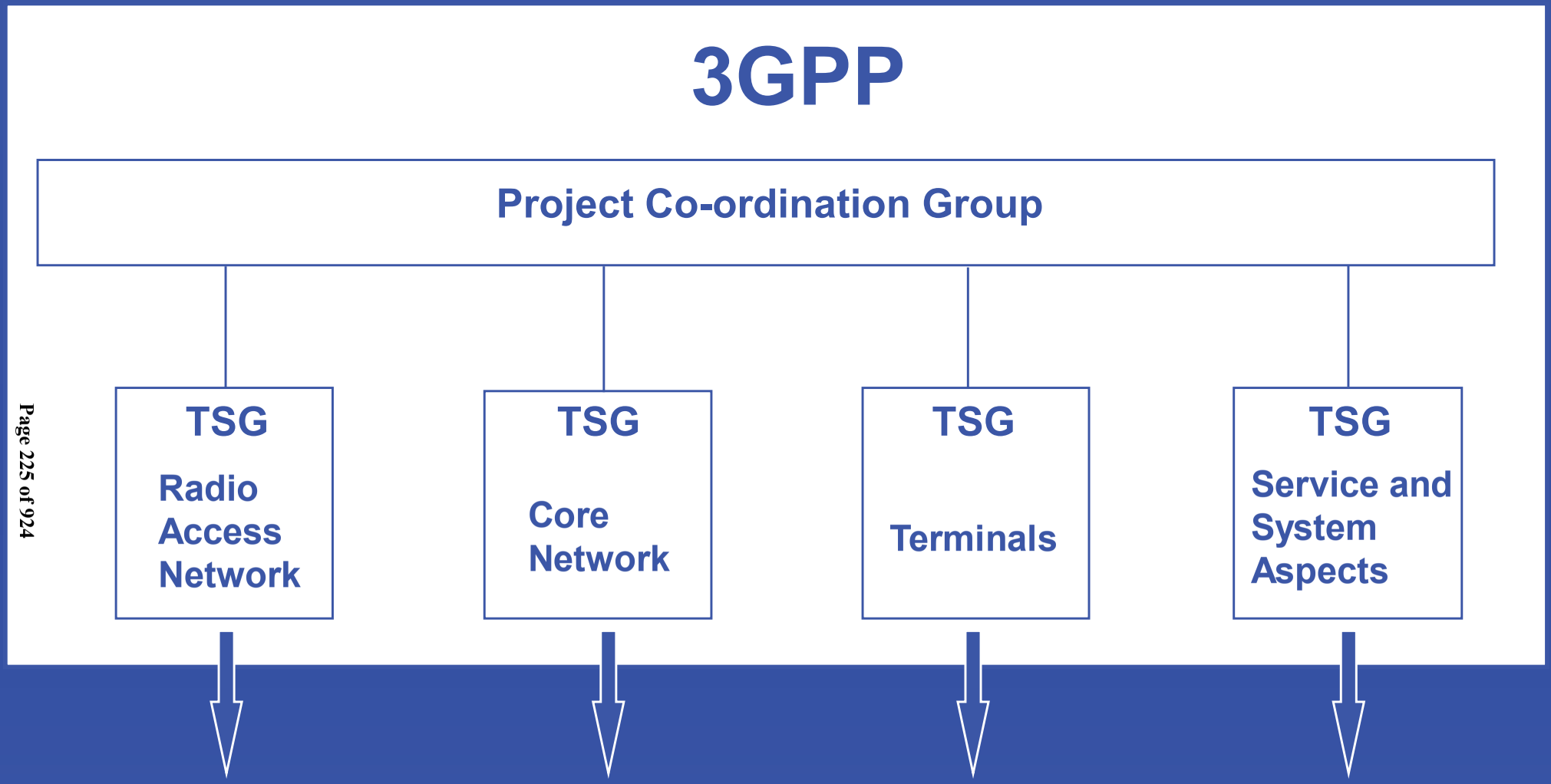


Internal structure of 3GPP (1)

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).

Internal structure of 3GPP (2)



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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

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

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

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**

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

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	

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

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		

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		

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**

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)

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**

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**

Relationship with other groups

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

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.

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.

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.

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.

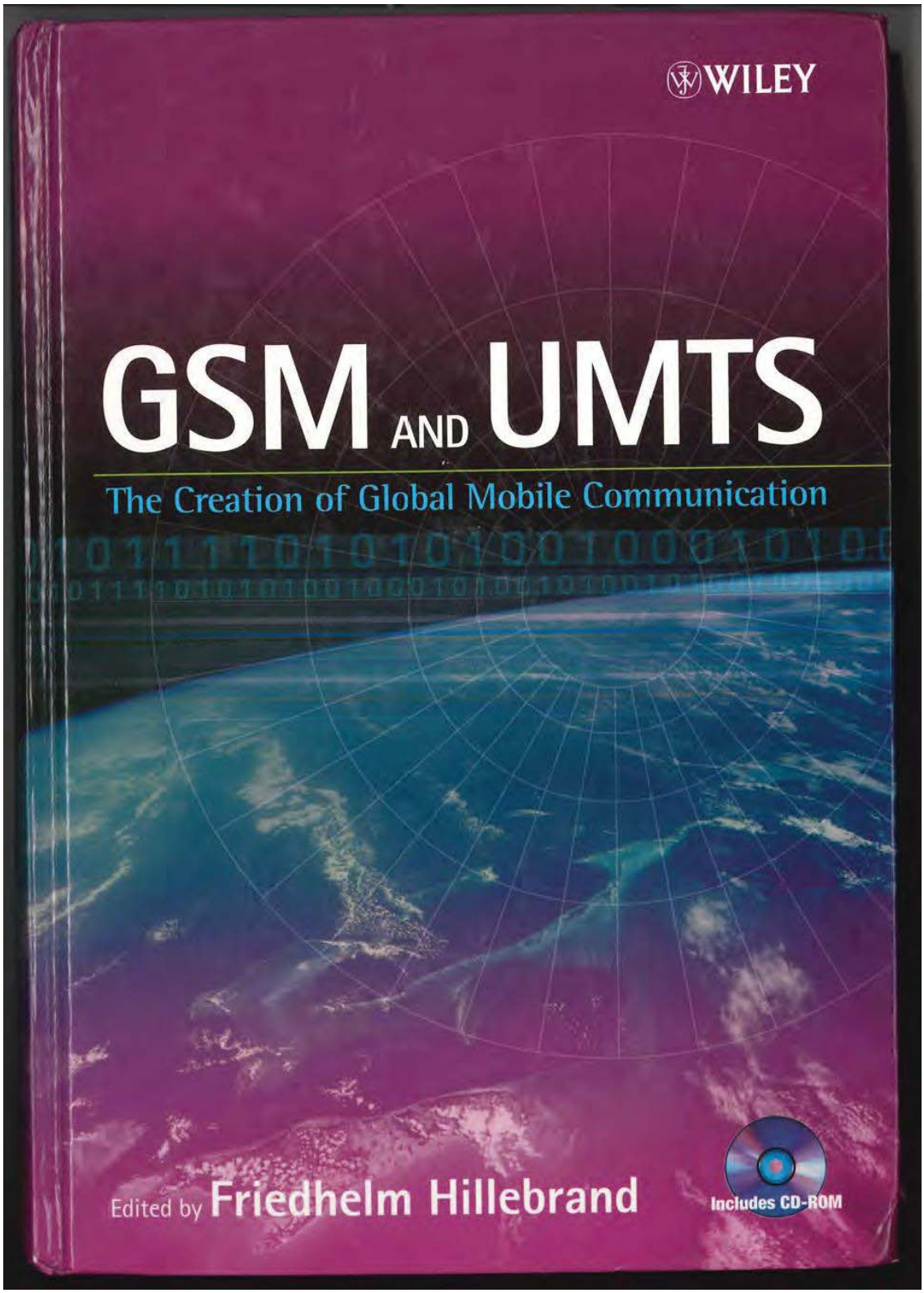
For 5G, many operators are starting with dual connectivity between LTE and 5G NR equipment – using the 'Non-Standalone' work completed early in Release 15. In the process of completing the early drop of 5G NR care has been taken to build 'forward compatibility' into Non-Standalone NR equipment, to ensure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

Previous Next

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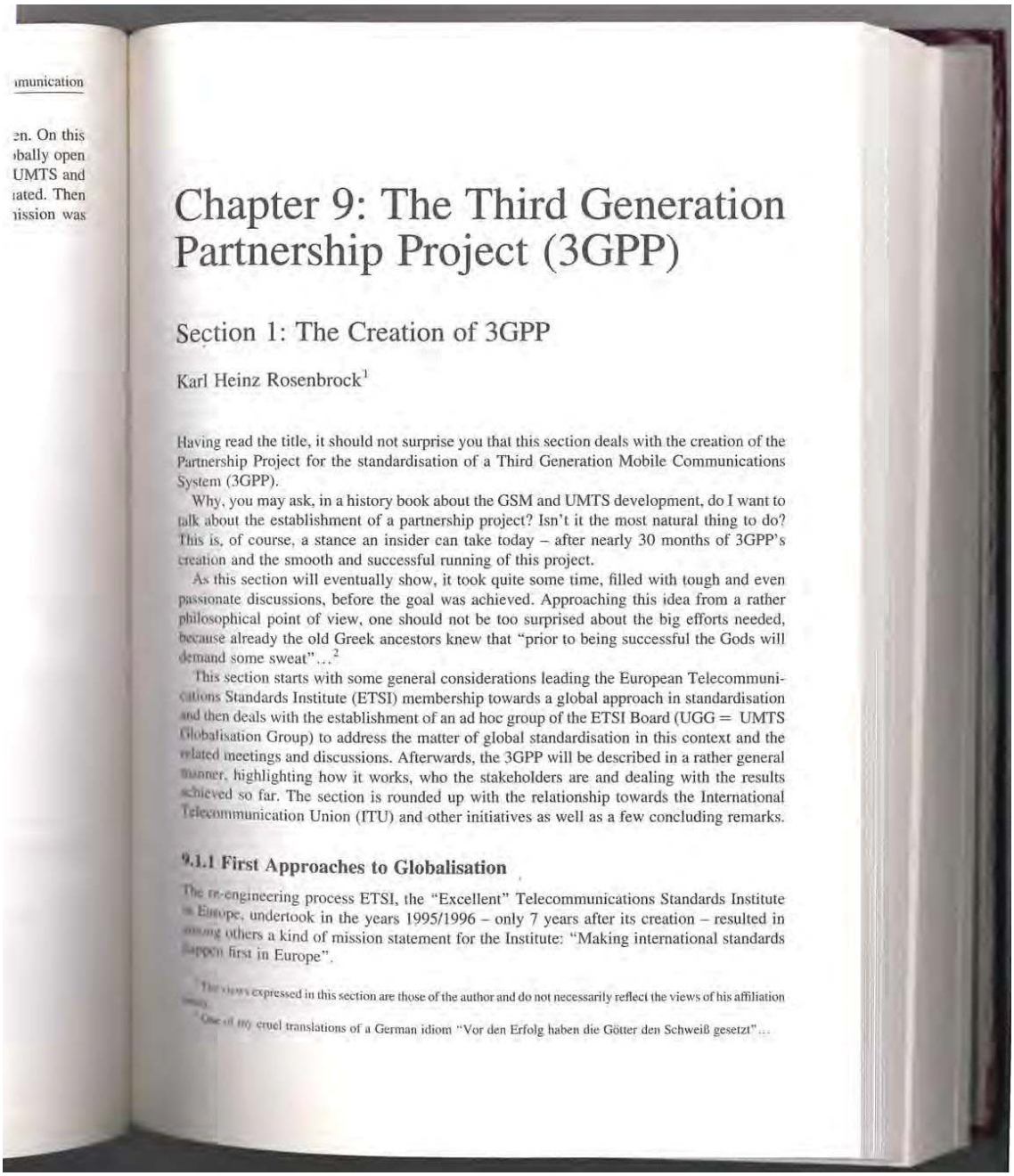
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Chapter 9: The Third Generation Partnership Project (3GPP)

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 company.

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

- 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 9.1.3.2) 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

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

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

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

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)).

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.

Appendix 5

Third Generation Partnership Project

3GPP

Working Procedures

23 April 2010

Deleted: 12 August 2009

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.

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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);

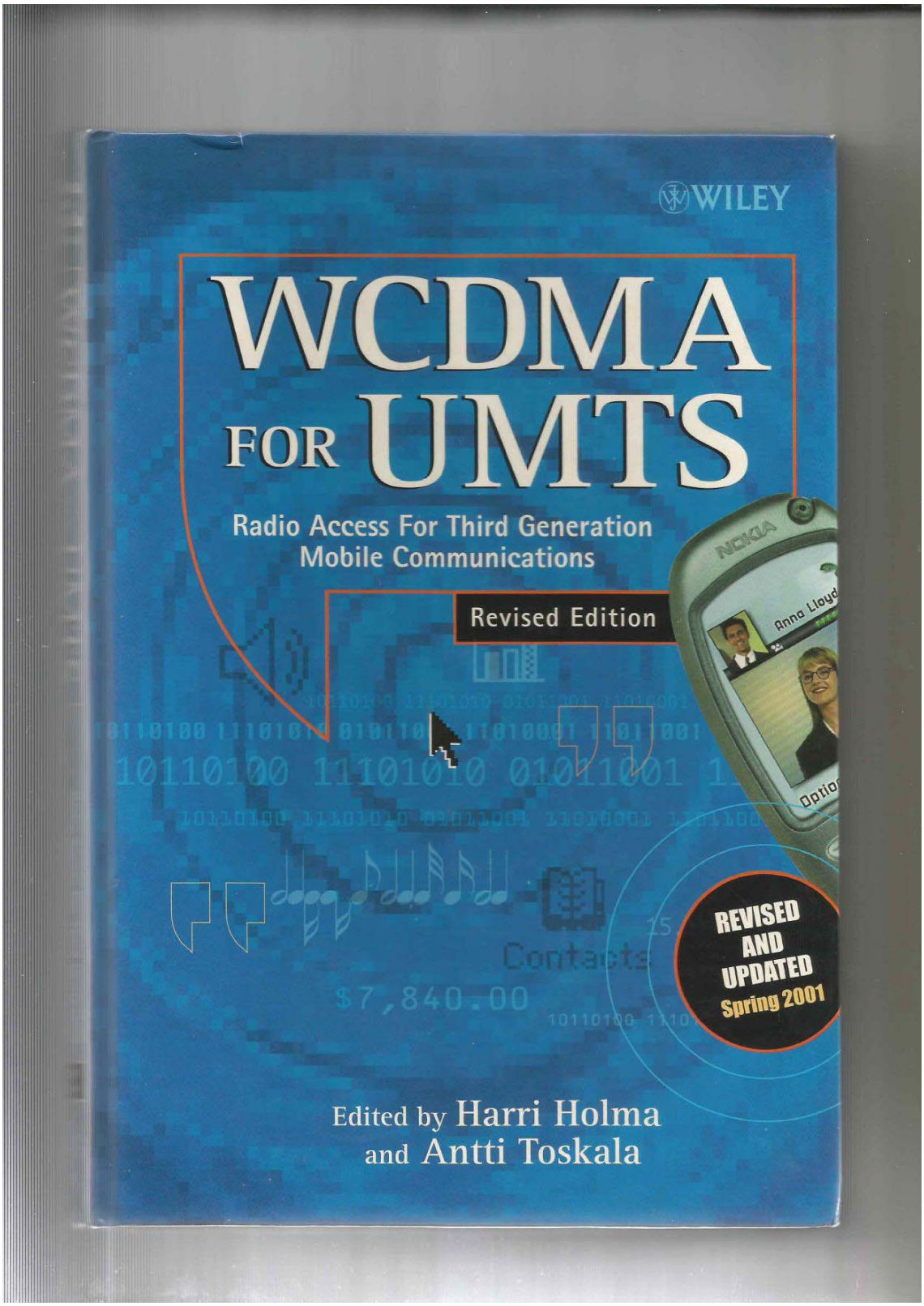
Q is the required quorum value given in article 26.

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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


WILEY
WCDMA
FOR UMTS
Radio Access For Third Generation
Mobile Communications
Revised Edition
NOKIA
Anna Lloyd
REVISED
AND
UPDATED
Spring 2001
Edited by Harri Holma
and Antti Toskala

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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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.

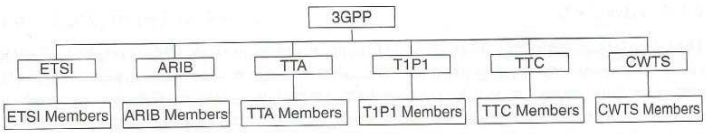


Figure 4.2. 3GPP organisational partners

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.

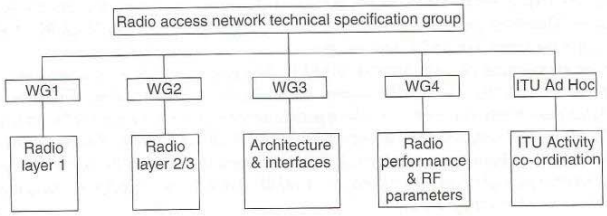


Figure 4.3. 3GPP RAN TSG working groups

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.

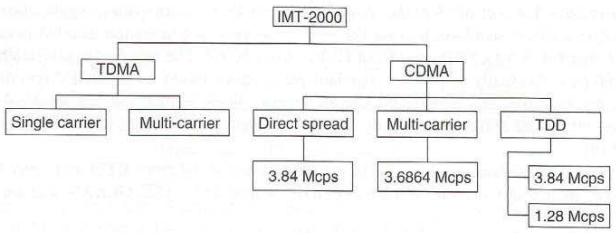


Figure 4.4. ITU-R IMT-2000 grouping

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.

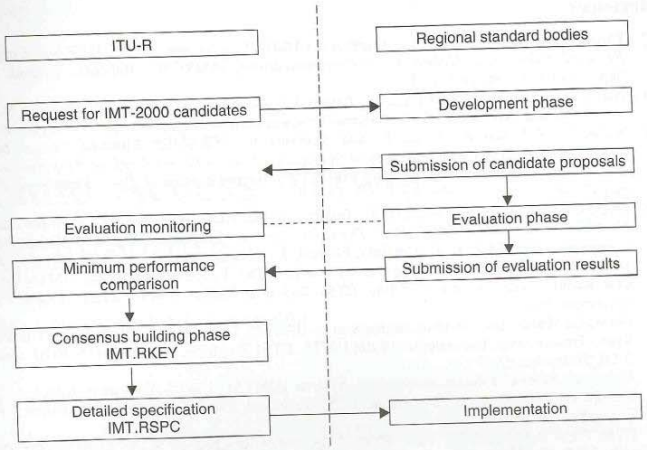


Figure 4.5. Relationship of ITU-R to the regional standards bodies

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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Appendix 7

3GPP PCG#34
Sophia Antipolis, France, 28 April 2015
PCG34_27

MCC Activity Report

Source

Adrian Scrase

Contents

- Departures and Arrivals
- Resource Allocation
- Workload
- 3GPP Membership
- 3G Ultimate Project
- Summary and Outlook

Departures and Arrivals

Adrian Zoicas retired from ETSI as of February 2015

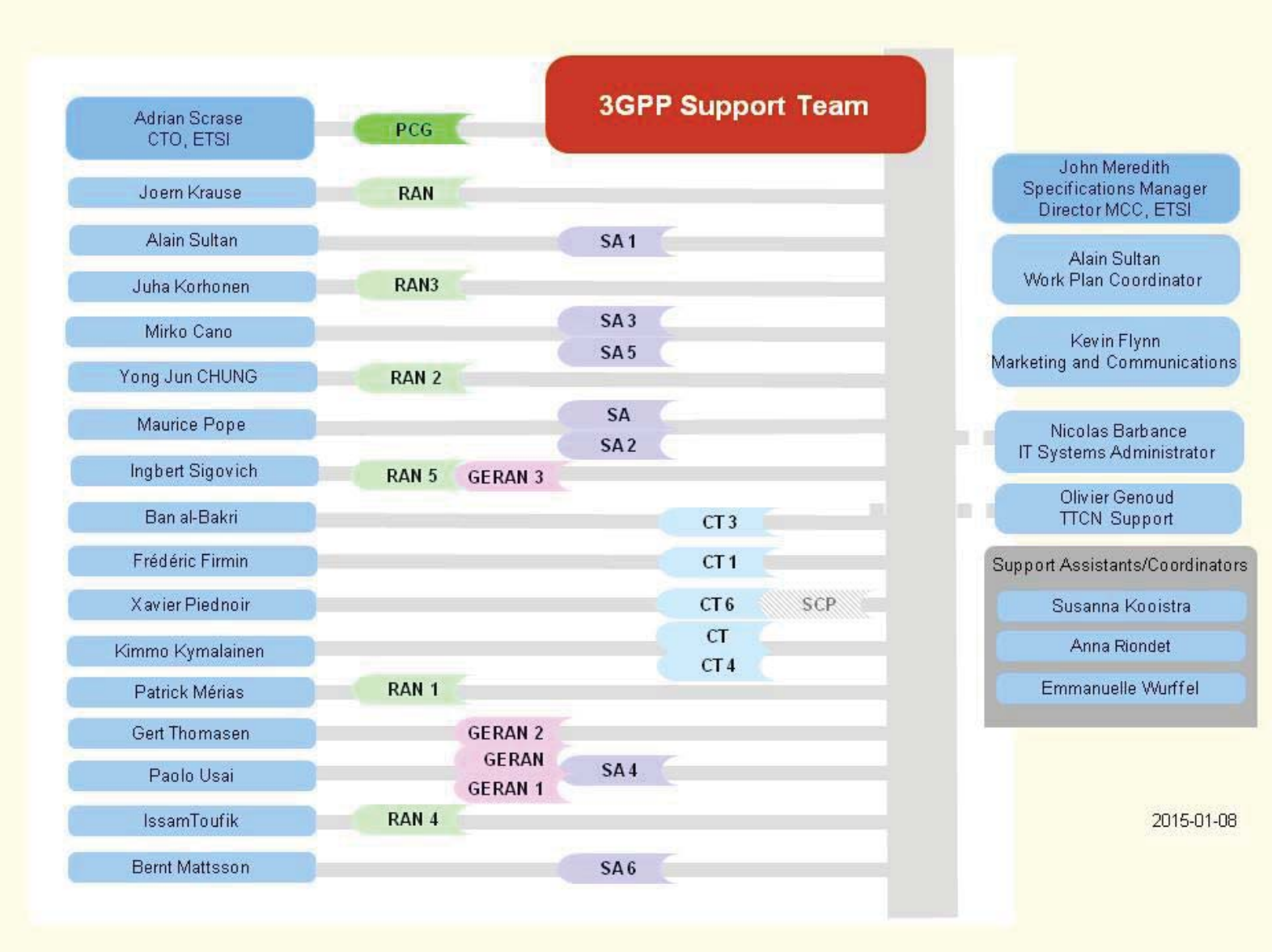


He has been temporarily replaced by Ban Al Bakri who will support CT3 until end April 2015



A more permanent solution for CT3 support is being pursued

Current Resource Allocation



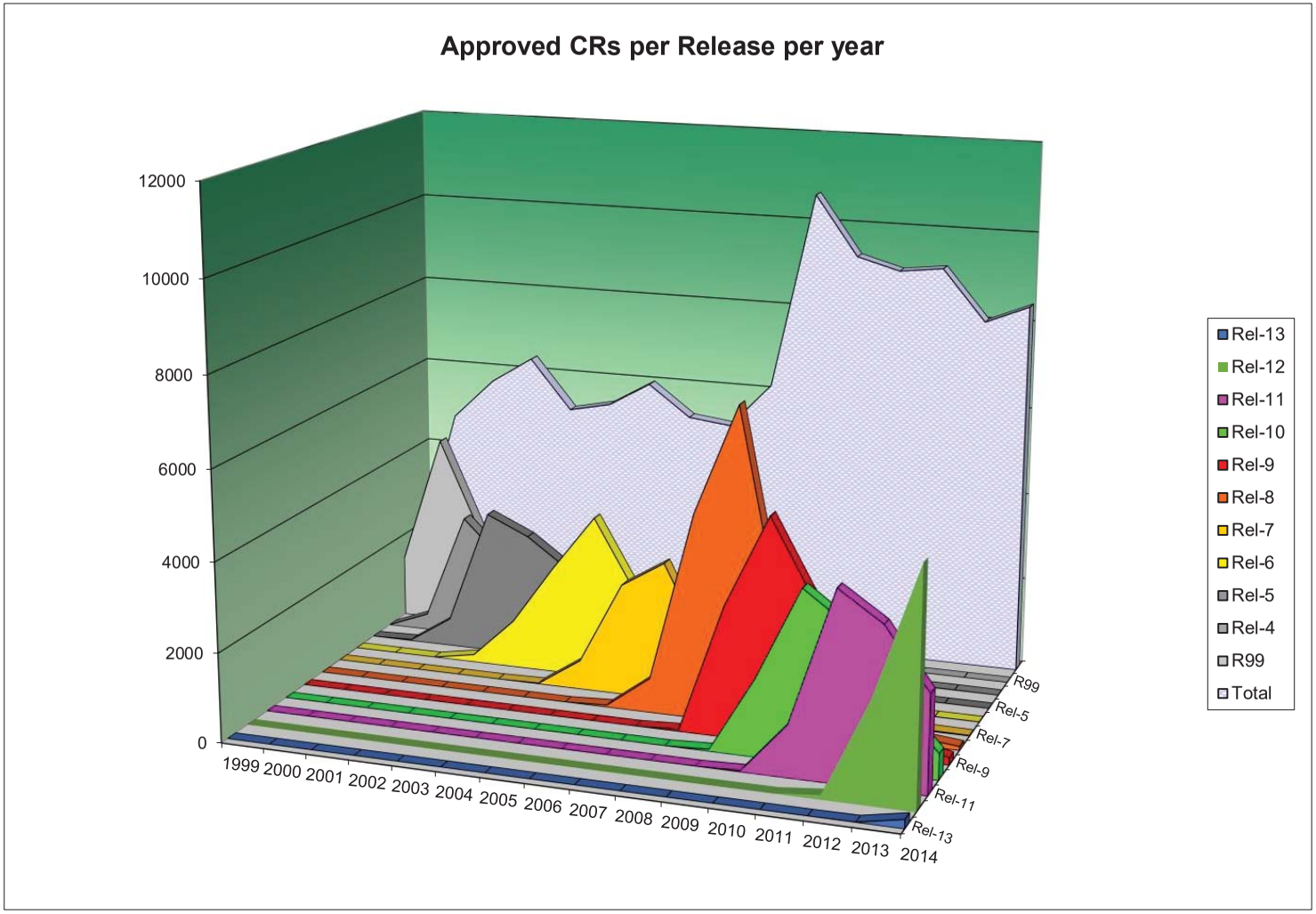
Workload

Approved CRs per Release per Year

Release	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	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	**16183**
Rel-9										49	2918	4991	3252	1366	376	165	**13117**
Rel-10											47	1722	3800	3103	1636	584	**10892**
Rel-11												32	1152	4178	3525	2186	**11073**
Rel-12													6	102	2254	5181	**7543**
Rel-13															8	200	**208**
Total	**1408**	**4801**	**5738**	**6350**	**5202**	**5409**	**5974**	**5266**	**5152**	**6184**	**10651**	**9308**	**9042**	**9162**	**8022**	**8430**	106099

Workload

Approved CRs per Release per Year

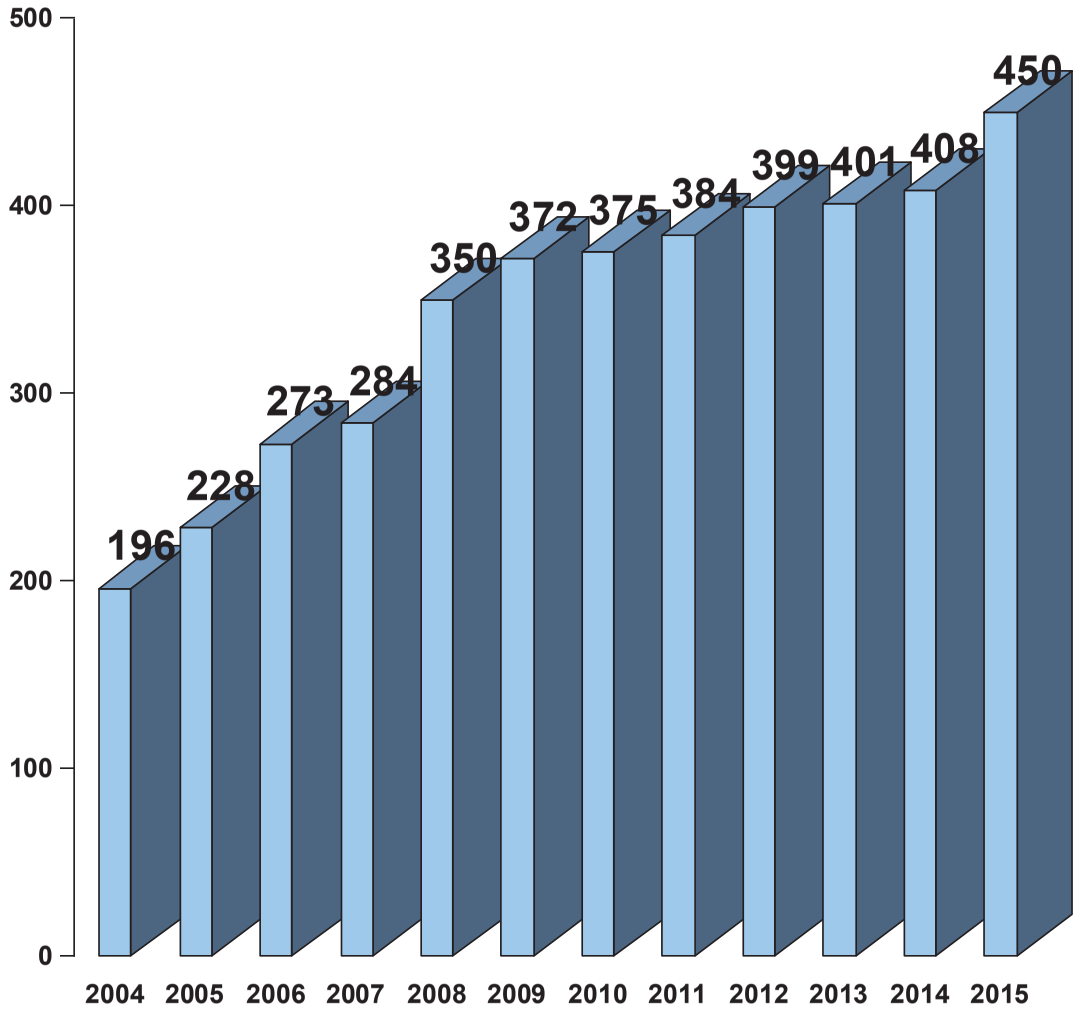


3GPP Membership

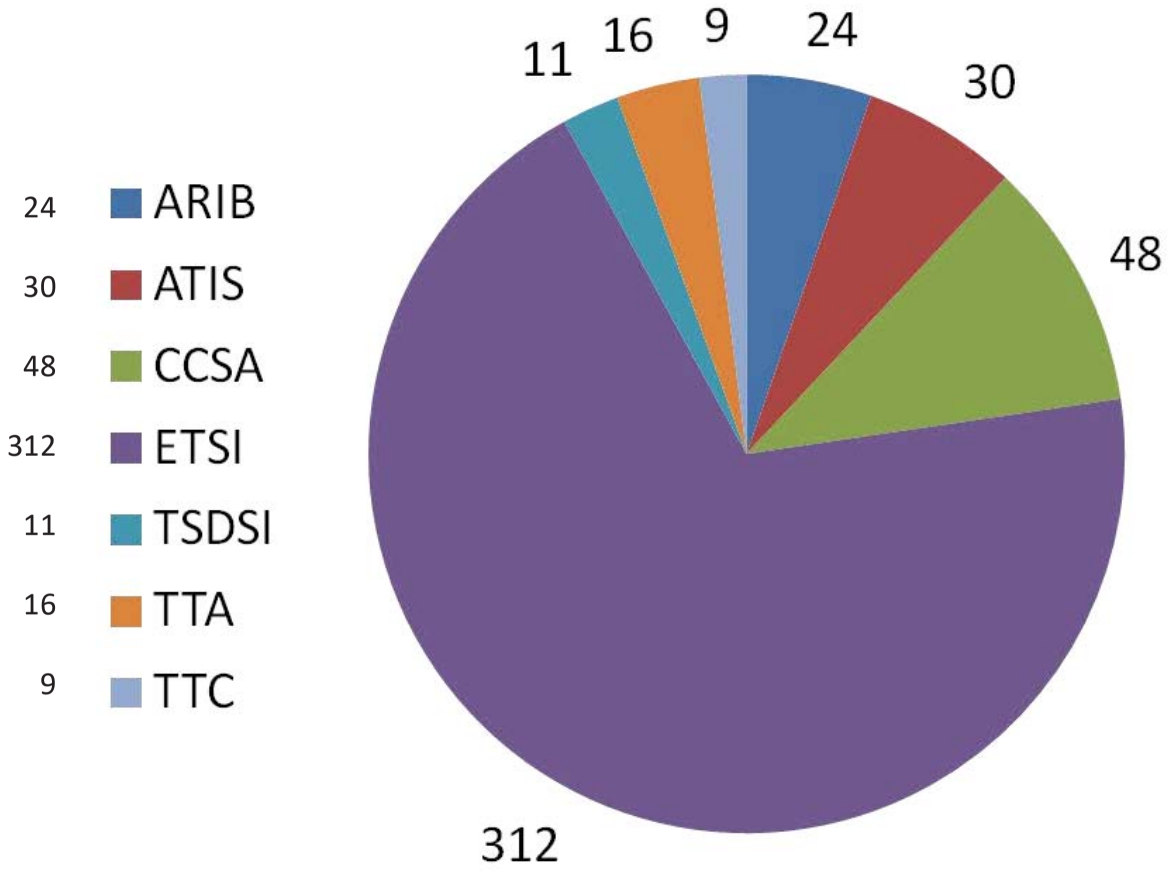
3GPP Membership has peaked in 2015 with *450* Individual Members. In addition, there are 23 companies having Guest Status, which are potential IMs

Number of Individual Members in 3GPP

3GPP Individual Members come from 41 Countries worldwide



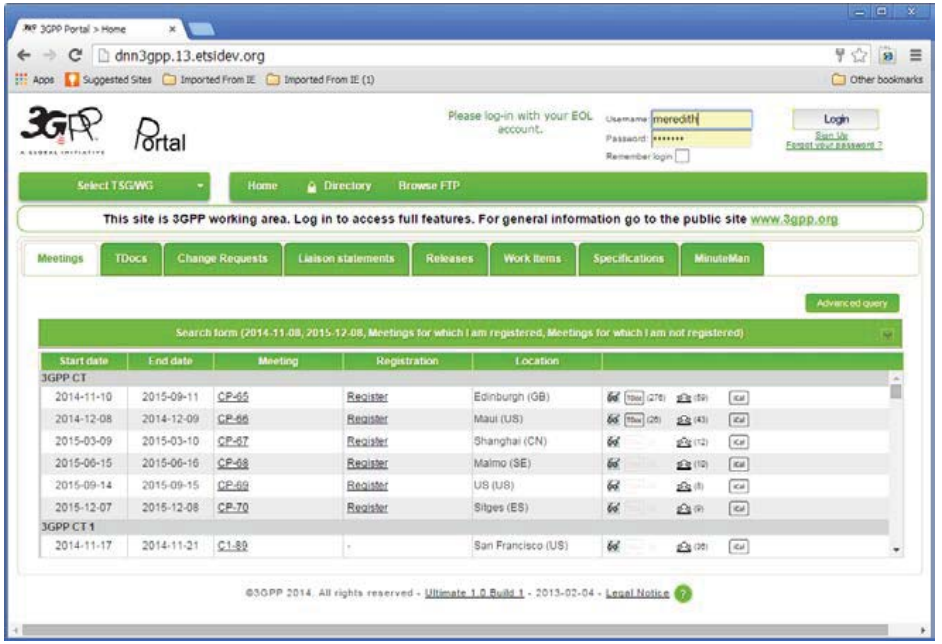
Individual Members in 3GPP



3GPP Ultimate Project (3GU)

Data import from the old databases to the 3GPP Ultimate portal occurred in early January 2015. The 3GU database is now the master source for specs and releases. Over the coming months, 3GU will be the prime source of progressively more data. At present, the 3GPP web site http://www.3gpp.org and the 3GU portal http://portal.3gpp.org both offer information on meetings, specifications, tdocs, CRs, etc, and both should be aligned.

Several WGs (e.g., RAN1, SA1, SA6, CT3, CT4, CT6) plus CT plenary have used 3GU for TDoc number allocation, and though some bugs have been reported, the feedback from MCC secretaries and delegates alike has been generally very positive. We expect all groups to be using 3GU by 2015 Q3,



" Our experience of using 3GU tool for allocating and uploading the tdocs has been very impressive. Even dozens of tdocs were uploaded all together in just few seconds. This has saved many hours of our effort that in the past was needed for uploading tdocs via the old ADN! So this is really a big improvement in efficiency. "

Summary and Outlook

The number of IMs within 3GPP continues to grow and the advent of 5G work is likely to add to that increase. This will change the dynamics within the project over time.

The workload within 3GPP is relatively constant although there is a slight increase in the number of physical meetings.

Discussions on the organizational structure within 3GPP continue (*cf* RAN/GERAN) and this will be monitored to ensure that support resources are always commensurate with the project structure.

Improvements in 3GPP tooling are well underway and the effectiveness of these tools will become more apparent towards the end of 2015.

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



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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).

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

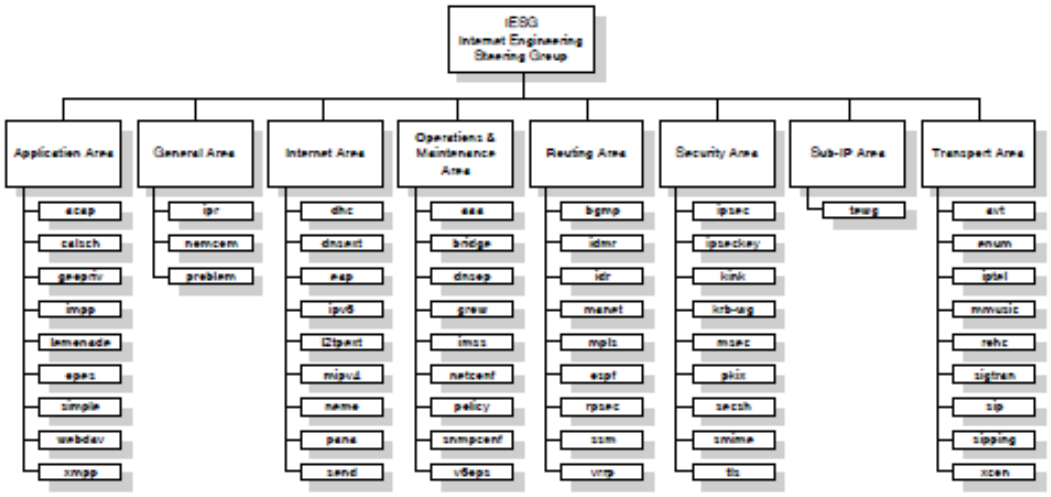


Figure 2.1: The structure of the IETF

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.

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.

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`

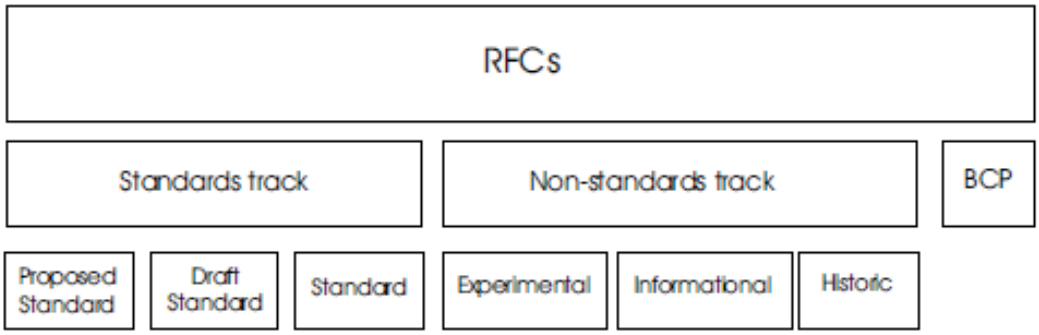


Figure 2.2: RFC types

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/`

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.

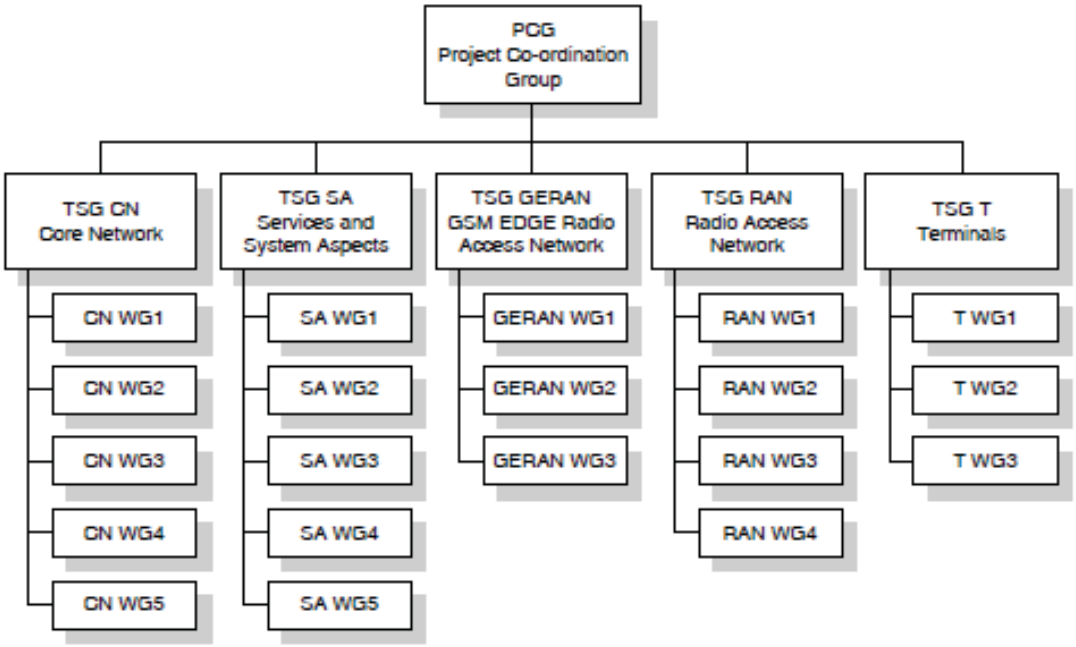


Figure 2.3: The structure of 3GPP

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.

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

Appendix 9

3GPP MEMBERSHIP

2024-02-19 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
albis-elcon system GermanyGmbH **(albis-elcon system Germany GmbH)**	GERMANY	ETSI
Alibaba (China) Group., Ltd. **(Alibaba (China) Group., Ltd.)**	CHINA	CCSA
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 **(Apple Purchase Operation management)**	CHINA	CCSA
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
BAE Systems AI Ltd **(BAE Systems Applied Intelligence Limited)**	UNITED KINGDOM	ETSI
Baicells Technologies Co. Ltd **(Baicells Technologies Co. Ltd)**	CHINA	CCSA
BBC	UNITED KINGDOM	ETSI

(BRITISH BROADCASTING CORPORATION)		
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
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 **(Bureau Veritas Consumer Products Services (Hong Kong) Limited, Taoyuan Branch)**	TAIWAN, PROVINCE OF CHINA	ETSI
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
Casa Systems Inc. **(Casa Systems Inc.)**	UNITED STATES	ETSI
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
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 Mobile (Suzhou) Software Technology Co., Ltd.)**	CHINA	CCSA
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	CCSA

(China Mobile Group Device Co., Ltd)		
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
Chosun University **(Chosun University)**	KOREA (REPUBLIC OF)	TTA
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
Comba **(Comba Network Systems Company Limited)**	CHINA	CCSA
Comcast **(Comcast)**	UNITED STATES	ATIS
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
COSMOTE S.A. **(COSMOTE MOBILE TELECOMMUNICATIONS S.A.)**	GREECE	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-UPC **(Departamento de Arquitectura de Computadores de la Universidad Politecnica de Cataluna (DAC-UPC))**	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
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 **(Agency for Digital Government)**	SWEDEN	ETSI
DISA **(Defense Information Systems Agency)**	UNITED STATES	ATIS
Dish Network	UNITED STATES	ATIS

(Dish Network)		
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
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
EBU **(EBU - European Broadcasting Union)**	SWITZERLAND	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 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 **(Ericsson India Private Limited)**	INDIA	TSDSI
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 **(FirstNet)**	UNITED STATES	ATIS
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	GERMANY	ETSI

(Fraunhofer Institut für Integrierte Schaltungen IIS)		
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 Communications GmbH **(Gigaset Communications GmbH)**	GERMANY	ETSI
Gilat **(Gilat Satellite Networks Ltd)**	ISRAEL	ETSI
GLOBALSTAR Inc. **(GLOBALSTAR Inc.)**	UNITED STATES	ETSI
GM - ATCI **(General Motors - ATCI)**	ISRAEL	ETSI
Google Inc. **(Google Inc.)**	UNITED STATES	ATIS
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 Douku **(Hangzhou Douku Software Technologies Co., Ltd.)**	CHINA	CCSA
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 **(HiSilicon Technologies Co.Ltd)**	CHINA	CCSA
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	ETSI

Honor **(Honor Device 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
HUGHES Network Systems Ltd **(HUGHES Network Systems Ltd)**	UNITED KINGDOM	ETSI
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 **(Indian Institute of Technology Gandhinagar)**	INDIA	TSDSI
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	INDIA	TSDSI

(Indian Institute of Technology Patna)		
IIT, Kharagpur **(IIT, Kharagpur)**	INDIA	TSDSI
IMDA **(Infocomm Media Development Authority)**	SINGAPORE	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 K.K. **(Intel K.K.)**	JAPAN	ARIB
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
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 **(InterDigital New York)**	UNITED STATES	ATIS
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
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 **(Korean Intellectual Property Office)**	KOREA (REPUBLIC OF)	TTA
Kontron Transportation France **(Kontron Transportation France S.A.S)**	FRANCE	ETSI
Korea Testing Laboratory **(Korea Testing Laboratory)**	KOREA (REPUBLIC OF)	TTA
KPN N.V. **(Koninklijke KPN N.V.)**	NETHERLANDS	ETSI
KRRI **(Korea Railroad Research Institute)**	KOREA (REPUBLIC OF)	TTA
KT Corp.	KOREA (REPUBLIC OF)	TTA

(KT Corporation)		
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
Locaila **(Locaila)**	UNITED STATES	ATIS
Lockheed Martin **(Lockheed Martin)**	UNITED STATES	ATIS
Lynk Global **(Lynk Global)**	UNITED STATES	ATIS
Magister Solutions Ltd **(Magister Solutions Ltd)**	FINLAND	ETSI
Maketh Secure Limited **(Maketh Secure Limited)**	UNITED KINGDOM	ETSI
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 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 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
MINECO **(MINISTRY OF ECONOMIC AFFAIRS AND DIGITAL TRANSFORMATION)**	SPAIN	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 of Transport SR **(Ministry of Transport of the Slovak Republic)**	SLOVAKIA	ETSI
MITRE Corporation **(MITRE Corporation)**	UNITED STATES	ETSI
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.	UNITED KINGDOM	ETSI

(Motorola Mobility UK Ltd.)		
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 Ericsson Panda Com Ltd **(NANJING ERICSSON PANDA COMMUNICATIONS 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 **(Shanghai National Engineering Research Center of Digital Television Co.,Ltd.)**	CHINA	CCSA
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 **(National Taiwan University)**	TAIWAN, PROVINCE OF CHINA	ETSI
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
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.	JAPAN	TTC

(OKi Electric Industry Co., Ltd)		
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
OTECH **(OTECH Germany GmbH)**	GERMANY	ETSI
P.I. WORKS **(P.I. WORKS TR BILISIM HIZMETLERI A.S.)**	TÜRKIYE	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 **(Peking University)**	CHINA	CCSA
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
Pivotal Commware **(Pivotal Commware)**	UNITED STATES	ATIS
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 **(Quectel Wireless Solutions Co., Ltd.)**	CHINA	CCSA
RadiSys **(RadiSys Inc.)**	CANADA	ETSI
Rakuten Mobile, Inc **(Rakuten Mobile, Inc)**	JAPAN	ARIB
RATEL **(Regulatory Authority For Electronic Communications and Postal Services)**	SERBIA	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	GERMANY	ETSI

(ROHDE & SCHWARZ GmbH & Co.KG)		
Ruijie Network Co. Ltd **(Ruijie Network 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
Sandvine Incorporated **(Sandvine Incorporated)**	CANADA	ETSI
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 **(Sectra Communications AB)**	SWEDEN	ETSI
Security Service **(Swedish Security Service)**	SWEDEN	ETSI
Semtech Neuchatel SA **(Semtech Neuchatel SA)**	SWITZERLAND	ETSI
Sennheiser Electronic GmbH **(Sennheiser Electronic GmbH & 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
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 **(Softil Ltd)**	ISRAEL	ETSI
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
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	CHINA	CCSA

(Spreadtrum Communications (Shanghai) Co., Ltd.)		
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
Stellar **(Stellar telecommunications)**	FRANCE	ETSI
STMicroelectronics **(STMicroelectronics International NV)**	SWITZERLAND	ETSI
Sumitomo Elec. Industries, Ltd **(Sumitomo Electric Industries, Ltd.)**	JAPAN	ARIB
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 Elxsi Limited. **(Tata Elxsi Limited.)**	INDIA	TSDSI
TCL **(Shenzhen TCL New Technology Company Ltd.)**	CHINA	CCSA
TCS **(TATA Consultancy Services)**	INDIA	TSDSI
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
Tongji University **(Tongji University)**	CHINA	CCSA
Toshiba **(Toshiba)**	UNITED KINGDOM	ETSI
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.	UNITED STATES	ATIS

(U.S. Department of Transportation)		
U.S. National Security Agency **(US National Security Agency)**	UNITED STATES	ATIS
Uangel **(Uangel Corporation)**	KOREA (REPUBLIC OF)	TTA
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. **(US Cellular Corporation/TDS.)**	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 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 TECH GmbH **(VIVO TECH GmbH)**	GERMANY	ETSI
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 **(VoiceAge Corporation)**	CANADA	ETSI
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 GE **(Wipro GE Healthcare Private Limited)**	INDIA	TSDSI
Wisig Networks Pvt Ltd **(Wisig Networks Pvt Ltd)**	INDIA	TSDSI
Wuhan CICT Mobile **(Wuhan CICT Mobile Communications Technology Co., Ltd.)**	CHINA	CCSA
Wuhan Hongxin Technical **(Wuhan Hongxin Technical Services Co., Ltd.)**	CHINA	CCSA
Wuhan Hongxin Technology **(Wuhan Hongxin Technology Development Co., Ltd.)**	CHINA	CCSA
Xiaomi Communications **(Xiaomi Communications)**	CHINA	CCSA
Xiaomi EV Technology **(Xiaomi EV Technology Co., Ltd.)**	CHINA	CCSA
Xiaomi Technology **(Xiaomi Technology)**	CHINA	CCSA
Xidian University **(Xidian University)**	CHINA	CCSA
Xilinx Ireland **(Xilinx Ireland)**	IRELAND	ETSI
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

(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 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 : 781 Individual Members

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

Appendix 10

The Wayback Machine - https://web.archive.org/web/20130527114611/http://www.3gpp.org/FAQ



About 3GPP

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, ATIS, 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 3GPPMembership

Different membership categories?

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

Who may become an observer?

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

3GPP Website:

Search and download specs, docs, CRs and more from the 3GPP FTP Server:
Advanced FTP Search

3GPP News
3GPP Partners News
3GPPlive tweets

7178 unique visitors average per day



Takehiro Nakamura, talks about the Release 12 prioritization process in December 2012, prior to the end of his highly succesful term as RAN Chairman

Four new videos have been uploaded...

Partners
Project Coordination Group (PCG)
Membership
3GPP Award - Roll of Honour
Mobile Competence Centre
Funding & Finance
Liaisons-page
Legal matters
3GPP Satisfaction survey

3GPP Scope
Tools and Templates

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

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 3GPP Working Procedures Article 10). If you like to apply for a Guest status, please complete the on-line 3GPP Application form.

IMPORTANT NOTICE: The online application form for 3GPP Individual membership and 3GPP guest status is under construction, therefore please send any request for membership to 3GPPmembership@etsi.org

No membership fees are requested for Guest applications.

Who can apply for market representative Partnership?

Organisation who have 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 (see also 3GPP Working Procedures, Article 7 and Annex E) .

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.

Can an ETSI Member apply for 3GPP Guest status?

Yes, any ETSI Member who pays 1 or 2 Units of Contribution are eligible for 3GPP Guest status.

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 also "What is the 3GPP IPR Policy", 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.)

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.

Are meeting contributions to ETSI TC SMG publically available?

The GSM standardization work was transferred from CEPT to ETSI in 1991. TC SMG was closed at meeting #32 and TC SMG created to continue the work. Like almost all ETSI Technical Committees, participation in TC SMG and its working groups was open to all ETSI member organizations. That is, any bona fide representative of an ETSI member was free to participate. Exceptionally, other individuals could participate **by express invitation of the chairman**. Each meeting report contains a list of participants with their corporate affiliations.

Until the late 1990s, all meeting documents were circulated in paper form. Electronic files started to take over from paper in around 1997. Meeting documents ("TDocs") were distributed by post (later, by fax) in batches prior to the meeting, to those persons registered as regular participants in SMG or the appropriate working group, and many more documents were produced during the course of the meeting itself. Although a provision existed (and still exists) in the context of the IPR Policy for contributors to place restrictions on the distribution of TDocs via a formal notification at the time the document was provided, this was seldom if ever invoked. In the absence of such a condition, all TDocs were free of any restriction on subsequent distribution. Thus no restriction has ever been placed on how meeting participants dispose of the documents subsequent to their distribution before, during, or after the meeting. There were no non-disclosure agreements.

ETSI maintains a paper archive of the SMG TDocs, and bona fide representatives of current ETSI members can, by appointment, make an accompanied search of the archives. This facility extends to members which may not have been members at the time the document was originally produced.

TC-approved versions of ETSI “deliverables” (see ETSI Directives for formal definition of this term) would have been transferred by the support officer of the committee to the secretariat team responsible for publishing ETSI deliverables. That team would have made cosmetic (non-technical) modifications to the draft deliverables before issuing them. Depending on the type of “deliverable”, those documents would have been issued via National Standards Organizations (NSOs) either for immediate publication, or first via either a one-step or two-step national public enquiry and vote process prior to final publication

by ETSI. In ETSI parlance, “publication” of a deliverable is the final step in the development cycle of a technical standard, and has a precise meaning. That meaning is not “making publically available”, since draft deliverables released for public enquiry or for vote are "publically available" but not yet "published".

If the confidentiality conditions described above had been imposed on a TDoc by its authors, if the text of that TDoc was in due course incorporated into an ETSI "deliverable", then those conditions are regarded as anulled from the date on which the deliverable is published.

Collections of TDocs / meeting reports have from time to time been made available **to ETSI members** in CD or DVD form.

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 contact the ETSI Legal Team.

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 also **What is the 3GPP policy on licensing ?**
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.

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://pda.etsi.org/pda/queryform.asp . 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://pda.etsi.org/pda/queryform.asp .

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/zArchive/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://webapp.etsi.org/key/queryform.asp .

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/Document/smg/specs/UMTS/3003_320.zip 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/queryform.asp .

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

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-info/0818-CRs.htm

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?

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?

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/support/kb/articles/Q245/0/25.ASP
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/support/kb/articles/q241/5/81.asp

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/electr_equipment/index_en.htm . The harmonized standards are listed at http://ec.europa.eu/enterprise/newapproach/standardization/harmstds/reflist/lvd.html and http://ec.europa.eu/enterprise/newapproach/standardization/harmstds/reflist/emc.html 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/index_en.htm , which also includes a link to the one-stop procedure for "placing on the market" (http://ec.europa.eu/enterprise/rtte/osn.htm). The standards are listed at http://ec.europa.eu/enterprise/newapproach/standardization/harmstds/reflist/radiotte.html .

Further information on EU harmonized standards relevant to telecommunications can be found on the ETSI site at http://www.etsi.eu/WebSite/Standards/Harmonization.aspx , 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 .

Is it possible to determine the date and time of publication of a particular version of a 3GPP document?

1) Meeting contributions (including Change Requests)

Meeting contributions ("TDocs") are uploaded to the public file server shortly before, or during, or shortly after the meeting at which they were discussed (or intended to be discussed). The timestamp of the file can be relied upon as a precise indication of the moment of upload. TDocs created very shortly before or during a meeting may not be uploaded until after the meeting, but will have been made available locally to the participants during the meeting. The timestamp of the Word (or whatever) file within the containing Zip file is a good indication of the earliest moment that the document could have been available. However, some authors will circulate draft or final copies of their TDocs on the relevant group's email exploder some days or even weeks prior to this time. This would be revealed by an examination of the exploder's archive.

2) Technical Specifications and Technical Reports

During the drafting phase (versions lower than 3.0.0), 3GPP TSs and TRs ("Specs") are under the control of their authors ("rapporteurs") and are handled like normal meeting contributions (see above). Revised versions incorporating text agreed by the responsible working group are often made available by the rapporteur via the group's email exploder shortly after the end of the meeting at which such text was discussed. Again, counsultation of the exploder archives can reveal this. Alternatively, a revised draft may be sent directly to the 3GPP Support Team, and it will be uploaded to the public file server (specs archive directory) shortly afterwards. Again, the time stamp of the Zip file can be relied upon to indicate when the upload occurred.

After formal approval by the TSG (versions 3.0.0 or greater), Specs are edited only by the Support Team. The first approved version is based upon the draft version formally approved by the TSG, and thereafter versions are generated whenever Change Requests are approved by the TSG. These versions are made available shortly after the TSG meeting at which such approval occurred. The date (year and month) shown at the top of the Spec's cover page indicates either the date of (the last day of) the meeting, or the month in which the new version was prepared. However a more precise indication of the date of availability can be obtained from the Spec's web page (via the table at http://www.3gpp.org/specification-numbering) where a precise date is shown in the "available" column.

More information on the procedures relating to Spec handing can be found in 3GPP TR 21.900 .

Note that, in accordance with the statement at the foot of the cover page of all 3GPP Specs, 3GPP does not "publish" its Specs per se. Formal publication is the responsibility of the individual Standards Development Organizations which comprise the Organizational Partners of 3GPP. For further information, see http://www.3gpp.org/Official-Publications .

3GPP Plenary Meetings

Full Meeting Calendar

CT, RAN and SA TSG #60 meetings - Oranjestad, Aruba - From 11 to 19 June
GERAN TSG #59 - Sofia, BG - From 26 to 30 August

CT, RAN and SA TSG #61 meetings - Porto, PT - From 3 to 11 September

Releases

About Releases

Release 12
Release 11
Release 10
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Release 8
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Release 6
Release 5
Release 4
Release 1999

Keywords & Acronyms

Browse Technologies

NAS
LTE-Advanced
LTE
HSPA
The Evolved Packet Core
Carrier Aggregation explained
GPRS & EDGE
UMTS
HSPA
W-CDMA

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Appendix 11

The Wayback Machine - https://web.archive.org/web/20130110164645/http://www.3gpp.org/specifications



3GPP specifications are published - free of charge - up to four times a year following the quarterly Technical Specification Group (TSG) plenary meetings. At each TSG round, specs can be

Newly brought under change control (i.e. at least 80% complete)
Unchanged from their previous versions
Revised as a result of incorporating approved Change Requests (either in existing Releases or in the latest Release)
At Release-freeze time, upgraded to that Release with no technical change

The 3GPP Mobile Competence Centre (MCC) aims to make all Specs available following a TSG round as follows:

For TSGs GERAN, CT and SA: by the end of the week following the week in which the SA meeting was held
For TSG RAN, one week later than this

Where very many CRs have to be implemented, or very many specifications are to be produced, a further week beyond the above deadlines may be required. These dates are agreed by the TSG Chairmen. Over the Christmas and New Year period, when the winter TSG round finishes shortly before the holiday period, an extra week or so is normally added to the final deadlines.

Quick link to the specifications file server area

The link above takes you straight to the specifications, but you need to know what you are looking for.

To find a particular specification by series, look at the Numbering page.

3GPP specifications

The term "3GPP specification" covers all GSM (including GPRS and EDGE), W-CDMA and LTE (including LTE-Advanced) 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.

The table below leads to information about:

Specifications arising from each plenary TSG meeting, including the latest versions of each specification that was not changed at that meeting. i.e. each directory holds a complete set of specifications.
The month of the meeting and the meeting number
The Status List (ZIPped RTF or Word format) summarizing the current version number for every release of every 3GPP specification following each TSG plenary meeting.
Details of each specification (working group, rapporteur, the Project Manager in MCC (Mobile Competence Centre) , the meeting at which it was, or is expected to be, "frozen" (i.e. the point after which only corrections are allowed) - all are in the Status lists.

Full details of the Specifications, their history and current status can be found in the 3GPP Specifications Status database .

See this link for specs awaited from the most recent Plenary meetings.

year-month	remark	latest status	specs directory	TSG CN #	TSG RAN* #	TSG T #	TSG SA #	TSG GERAN #	TSG CT #
2012-12	New/revised specs available by ... GERAN, CT, SA: 2012-12-21 (90%), 2013-01-08 (100%), RAN: 2013-01-08 (90%), 2013-01-15 (100%)	StatusList	2012-12		58		58	56	58
2012-09		StatusList	2012-09		57		57	55	57
2012-06		StatusList	2012-06		56		56	54	56
2012-03		StatusList	2012-03		55		55	53	55

3GPP Website:

Search and download specs, docs, CRs and more from the 3GPP FTP Server:
Advanced FTP Search

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Work Plan
Releases
Specification Numbering
Change Requests
Fixed IMS mapping

year-month	remark	latest status	specs directory	TSG CN #	TSG RAN* #	TSG T #	TSG SA #	TSG GERAN #	TSG CT #
2011-12		StatusList	2011-12		54		54	52	54
2011-09		StatusList	2011-09		53		53	51	53
2011-06		StatusList	2011-06		52		52	50	52
2011-03		StatusList	2011-03		51		51	49	51
2010-12		StatusList	2010-12		50		50	48	50
2010-09		StatusList	2010-09		49		49	47	49
2010-06		StatusList	2010-06		48		48	46	48
2010-03		StatusList	2010-03		47		47	45	47
2009-12		StatusList	2009-12		46		46	44	46
2009-09		StatusList	2009-09		45		45	43	45
2009-06		StatusList	2009-06		44		44	42	44
2009-03		StatusList	2009-03		43		43	41	43
2008-12		StatusList	2008-12		42		42	40	42
2008-09		StatusList	2008-09		41		41	39	41
2008-06		StatusList	2008-06		40		40	38	40
2008-03		StatusList	2008-03		39		39	37	39
2007-12		StatusList	2007-12		38		38	36	38
2007-09		StatusList	2007-09		37		37	35	37
2007-06		StatusList	2007-06		36		36	34	36
2007-03		StatusList	2007-03		35		35	33	35
2006-12		StatusList	2006-12		34		34	32	34
2006-09	GERAN henceforward meets synchronously with other TSGs, so no further "delta" directories necessary.	StatusList	2006-09		33		33	31	33
2006-06	New at GERAN only.		2006-06					30	
2006-06		StatusList	2006-06		32		32		32
2006-04	New at GERAN only.		2006-04					29	
2006-03		StatusList	2006-03		31		31		31
2006-01	New at GERAN only.		2006-01					28	
2005-12		StatusList	2005-12		30		30		30
2005-11	New at GERAN only.		2005-11					27	
2005-09		StatusList	2005-09		29		29		29
2005-08/09	New at GERAN only.		2005-09					26	
2005-06	New at GERAN only.		2005-06					25	
2005-06		StatusList	2005-06		28		28		28
2005-04	New at GERAN only.		2005-04					24	
2005-03	RAN closed and RANnew opened, CN and T closed, CT opened.	StatusList	2005-03	27	27bis, 27	27	27		27
2005-01	New at GERAN only.		2005-01					23	
2004-12		StatusList	2004-12	26	26	26	26		
2004-11	New at GERAN only.		2004-11					22	
2004-09		StatusList	2004-09	25	25	25	25		
2004-08	New at GERAN only.		2004-08					21	
2004-06	New at GERAN only.		2004-06					20	

year-month	remark	latest status	specs directory	TSG CN #	TSG RAN* #	TSG T #	TSG SA #	TSG GERAN #	TSG CT #
2004-06		StatusList	2004-06	24	24	24	24		
2004-04	New at GERAN only.		2004-04					19	
2004-03		StatusList	2004-03	23	23	23	23		
2004-02	New at GERAN only.		2004-02					18	
2003-12		StatusList	2003-12	22	22	22	22		
2003-11	New at GERAN only.		2003-11					17	
2003-09		StatusList	2003-09	21	21	21	21		
2003-09	New at GERAN only.		2003-09					16	
2003-06	New at GERAN only.		2003-06					15	
2003-06		StatusList	2003-06	20	20	20	20		
2003-04	New at GERAN only.		2003-04					14	
2003-02		StatusList	2003-03	19	19	19	19		
2003-02	New at GERAN only.		2003-02					13	
2002-12, 2002-11		StatusList	2002-12	18	18	18	18	12	
2002-09		StatusList	2002-09	17	17	17	17	11	
2002-06	Rel-5 GERAN features content functionally frozen		2002-06					10	
2002-06	Rel-5 features content functionally frozen (remainder, non-GERAN)	StatusList	2002-06	16	16	16	16		
2002-04			2002-04					9	
2002-03	Rel-5 features content functionally frozen (part)	StatusList	2002-03	15	15	15	15		
2002-02								8	
2001-12		StatusList	2001-12	14	14	14	14		
2001-11								7	
2001-09		StatusList	2001-09	13	13	13	13		
2001-08								6	
2001-06		StatusList	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	2001-03	11	11	11	11		
2001-01								3	
2000-12, 2000-11		StatusList	2000-12	10	10	10	10	2	
2000-11									
2000-09		StatusList	2000-09	9	9	9	9	1	
2000-06		StatusList	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		
1999-06					4	4	4		
1999-05				4					
1999-04				3	3	3	3		

year-month	remark	latest status	specs directory	TSG CN #	TSG RAN* #	TSG T #	TSG SA #	TSG GERAN #	TSG CT #
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.

Confidentiality Algorithms

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. They may be used only for the development and operation of 3G Mobile Communications and services. Every Beneficiary must sign a Restricted Usage Undertaking with a Custodian and (...)

more »

ASN.1

ASN.1 Object Identifiers Abstract syntax notation (ASN.1) object identifiers maintained by ETSI. ETSI is a recognized organization under the ITU-T (formerly CCITT) arc. The formal rules governing assignment of object identifier values are given in ETSI EG 200 351. Since the 3GPP technical specifications are based on GSM specifications, which use object identifiers under the ETSI node, it (...)

more »

Drafting Rules

The Specification drafting rulesTR 21.801 are the rules for the structure and drafting of documents intended to become a 3GPP Technical Specification or Technical Report. These rules are intended to ensure that such documents are drafted in as uniform a manner as is practicable, irrespective of the technical content. 21.801 is based on the ISO/IEC Directives, Part 3, but is a self-contained (...)

more »

Official Publications

The 3GPP Technical Specifications and Technical Reports have, in themselves, no legal standing. They only become "official" when transposed into corresponding publications of the Partner Organizations (or the national / regional standards body acting as publisher for the Partner). At this point, the specifications are referred to as UMTS within ETSI and FOMA within ARIB/TTC. Some TRs (...)

more »

3GPP Plenary Meetings

Full Meeting Calendar

3GPP GERAN #57 - - From 25 February to 1 March

RAN/CT/SA #59 - - From 26 February to 6 March

Releases

About Releases

Release 12
Release 11
Release 10
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Keywords & Acronyms

Browse Technologies

LTE-Advanced
LTE
HSPA
HSPA
The Evolved Packet Core
Carrier Aggregation explained
GPRS & EDGE
UMTS
W-CDMA
SON

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Appendix 12

The Wayback Machine - https://web.archive.org/web/20081201021150/http://www.3gpp.org:80/Specification-Numbering

All 3GPP specifications have a specification number consisting of 4 or 5 digits. (e.g. 09.02 or 29.002).

The first two digits define the series, followed by 2 further digits for the 01 to 13 series or 3 further digits for the 21 to 55 series.

The full title, specification number and latest version number for every specification can be found in the current status list (warning: large file!) .

An automated list of Specification numbers - with the Title and details of the Specification Group responsible.

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 (LTE) 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.

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3GPP Partners News

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2008 - 2009
2009, 26 Jan. ATIS 3GPP LTE Conference

Other conferences »

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.9xx

The second category have numbers of the form: xx.8xx (feasibility study reports, etc) or, more rarely, 30.xxx / 50.xxx (planning and scheduling)

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 The change request mechanism is used when a correction or new functionality is required for an existing specification.

Version numbering More information on the version numbering page.

Issuing new TS/TR numbers. More information on this page.

Issuing a new TS or TR Number

New Technical Specification (TS) and Technical Report (TR) numbers are issued by the Specifications Manager on request (by email) from the rapporteur or the Project Manager for the appropriate TSG WG. Any request for a

new number must contain the following information: Unique_ID value of the Work Item which justifies the new TS or TR (obtainable from the Gantt chart or, more rapidly, from (...)

» (...more)

Version Numbering Scheme

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: (...)

» (...more)

Historical Specification information

For ETSI TC SMG meeting documents (including Change Requests), click here. You will need an ETSI On-Line account for access. For 3GPP meeting documents (including Change Requests) choose the appropriate TSG; CN RAN T GERAN SA or workshops.. All available versions of specifications can be found in the specs archive. To see which version of a spec was current at a particular meeting, (...)

» (...more)

3GPP Specification Release version matrix

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

» (...more)

3GPP Plenary Meetings

Full Meeting Calendar

3GPP RAN/CT/SA #42 - Athens GR - From 2 to 11 December
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

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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 13

The Wayback Machine - https://web.archive.org/web/20130812113420/http://3gpp.org/Releases



Releases

3GPP uses a system of parallel "releases" - to provide developers with a stable platform for implementation and to allow for the addition of new features required by the market.

Features and contents of each Release

The list of specifications needed for each 3G and GSM release is listed in the TR mentioned in Release description below.

A simple list of Features per Release can be found here

The 3GPP Specification Release version matrix is a listing (with links) of the Specifications - showing the Release that each specification falls in to.

Freeze Dates:

Rel see Work Plan for Features in each Release	**Spec version number (*see note 4*)**	**Functional freeze date, indicative only (*see note 3*)**
Rel-12	12.x.y	Stage 1 freeze March 2013
		Stage 2 freeze December 2013
		Stage 3 freeze June 2014 (RAN protocols: September 2014)
Rel-11	11.x.y	Stage 1 freeze September 2011
		Stage 2 freeze March 2012
		Stage 3 freeze September 2012 (core network protocols stable December 2012, radio access protocols stable March 2013 - though performance parts of RAN work items may not be complete before June 2013)
Rel-10	10.x.y	Stage 1 freeze March 2010
		Stage 2 freeze September 2010
		Stage 3 freeze March 2011 (protocols stable three months later)
Rel-9	9.x.y	Stage 1 freeze December 2008
		Stage 2 freeze June 2009
		Stage 3 freeze December 2009
Rel-8	8.x.y	Stage 1 freeze March 2008
		Stage 2 freeze June 2008
		Stage 3 freeze December 2008
Rel-7	7.x.y	Stage 1 freeze September 2005
		Stage 2 freeze September 2006
		Stage 3 freeze December 2007
Rel-6	6.x.y	December 2004 - March 2005
Rel-5	5.x.y	March - June 2002
Rel-4	4.x.y	March 2001

3GPP Website:

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Release 7
Release 6
Release 5
Release 4
Release 1999
Functionality in early GSM releases

R00	4.x.y	see note 1 below
	9.x.y	
R99	3.x.y	March 2000 (closed June 2011)
	8.x.y	
R98	7.x.y	early 1999 (closed December 2007)
R97	6.x.y	early 1998 (closed December 2007)
R96	5.x.y	early 1997 (closed June 2006)
Ph2	4.x.y	1995 (closed June 2006)
Ph1	3.x.y	1992 (closed prior to creation of 3GPP)

Note 1: The term "Release 2000" was used only temporarily and was eventually replaced by "Release 4" and "Release 5" (most elements originally in Release 2000 were renamed Release 4, but some were deferred until Release 5).

Note 2: Specifications with a version number of 0.x.y, 1.x.y or 2.x.y indicates that it is a new, draft, specification which has not yet been approved. The anticipated release is normally shown on the cover of the document.

Note 3: After "freezing", a Release can have no further additional functions added. However, detailed protocol specifications (stage 3) may not yet be complete. In addition, OA&M specs and test specs may lag by some considerable time. A "frozen" Technical Specification is one which can have no further category B or C (new or modified functionality) Change Requests, other than to align earlier stages with later stages; thus all TSs pertaining to a Release may not necessarily be frozen at the time the Release itself is functionally frozen. Indeed since Release 7, the trend has been to freeze each of the three stages independently.

Note 4: In the version number, the field "x" is incremented at each change in the spec resulting from one or more Change Requests approved by the responsible TSG. Field "y" is incremented whenever an editorial change is made to a specification; editorial changes are those which cannot in any way change the technical interpretation of the spec, and are introduced at the discretion of the Support Team. Exceptionally, field "y" is incremented when a newly-provided version of a spec is found to be flawed due to, for example, misimplementation of a newly-approved CR; however, this circumstance is only permitted during the three-week period following the end of an SA (or GERAN) plenary, during which new versions of specs are produced. Every change of version is documented in the "change history" annex of the spec. When "x" is incremented, field "y" is reset to zero. When the Release field (the first digit) is incremented, fields "x" and "y" are reset to zero.

Note 5: "Exceptions" - Identified late-running Features at stage 2 freeze time will automatically imply an implicit delay in the stage 2 freeze date.

Other associated terms

Stages

The term "stage" derives from the ITU-T (originally CCITT) method for categorizing specifications (Recommendation I.130).

"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 across reference points between functional entities.
"Stage 3" is the concrete implementation of the protocols appearing at physical interfaces between physical elements onto which the functional elements have been mapped.

In addition, 3GPP often performs feasibility studies the results of which are made available in Technical Reports (normally 3GPP-internal TRs, numbered xx.8xx, not intended for transposition by the Organizational Partner SDOs). The feasibility study might be considered as a sort of "Stage 0". Furthermore, some Stage 3 specifications require test specifications to be prepared: effectively a "Stage 4".

Phases

This term has two distinct usages within the 3GPP:

in reference to GSM specifications, Phase 1, Phase 2 and Phase 2+ referred to releases of specifications (see table above);
some features within GSM/3G specifications have been enhanced over the years. For example, enhancements to the CAMEL functionality are referred to as CAMEL phase 2, CAMEL phase 3 CAMEL phase 4 etc. CAMEL is one of only a few examples within the 3GPP using the term in this sense.

Further information.

The mechanisms for creating and maintaining specifications are described in TR 21.900 . A presentation outlining the release and change request process can be found here .

Release 12

Details of the features and work items under each 3GPP Release are kept in the corresponding, on-line, list of features and study items. A 3GPP description document - Overview of 3GPP Release 12 is available on-line, giving a high-level view of the features that are included in the Release. Some additional background material about the lead-up to Release 12 is on line at; (...)

more »

Release 11

Details of the features and work items under each 3GPP Release are kept in the corresponding, on-line, list of features and study items. A 3GPP description document - Overview of 3GPP Release 11 is available on-line, giving a high-level view of the features that are included in the Release.

more »

Release 10

Details of the features and work items under each 3GPP Release are kept in the corresponding, on-line, list of features and study items. A 3GPP description document - Overview of 3GPP Release 10 is available on-line, giving a high-level view of the features that are included in the Release. Some aspects of the Radio advances in Rel-10 are covered in a short (...)

more »

Release 9

Details of the features and work items under each 3GPP Release are kept in the corresponding, on-line, list of features and study items. A 3GPP description document - Overview of 3GPP Release 9 is available on-line, giving a high-level view of the features that are included in the Release.

more »

Release 8

Details of the features and work items under each 3GPP Release are kept in the corresponding, on-line, list of features and study items. A 3GPP description document - Overview of 3GPP Release 8 is available on-line, giving a high-level view of the features that are included in the Release. 3G Release 8 - See version 8 of "Technical Specifications and Technical Reports for a UTRAN-based 3GPP (...)

more »

0 | 5 | 10

3GPP Plenary Meetings

Full Meeting Calendar

GERAN TSG #59 - Sofia, BG - From 26 to 30 August

CT, RAN and SA TSG #61 meetings - Porto, PT - From 3 to 11 September

Releases

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- Release 6
- Release 5
- Release 4
- Release 1999

Keywords & Acronyms

Browse Technologies

- NAS
- LTE-Advanced
- LTE
- HSPA
- The Evolved Packet Core
- Carrier Aggregation explained
- GPRS & EDGE
- UMTS
- HSPA
- W-CDMA

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Appendix 14

The Wayback Machine - https://web.archive.org/web/20130812132958/http://3gpp.org/RAN1-Radio-layer-1



RAN1 - Radio layer 1

RAN WG1 (Radio layer 1)
is responsible for the specification of the physical layer of the radio Interface for UE, UTRAN, Evolved UTRAN, and beyond; covering both FDD and TDD modes of the radio interface.

**Election for chairman and 1 vice chairman of RAN1 to be held in August 2013

Terms of reference

The latest terms of reference were approved at RAN#53
in document RP-110963.zip .

Within the scope of TSG RAN, RAN WG1 is responsible for the development of specifications dealing with UTRA, Evolved UTRA, and beyond.
RAN WG1 is responsible for:

Specification of the physical layer of the Uu radio Interface for UE, UTRAN, Evolved UTRAN, and beyond, covering both FDD and TDD modes, as well as the physical layer of the Un Interface for Relay Nodes. The work in RAN WG1 includes especially:

Specification of physical channel structures
Specification of the mapping of the transport channels onto physical channels
Specification of the physical layer multiplexing, and channel coding and error detection
Specification of the spreading and modulation
Specification of the physical layer procedures
Specification of definition of measurements and their provision by the physical layer to the upper layers RAN WG1 also carries out work related to handling of the physical layer related UE capabilities and to physical layer related parameters used in UE tests developed in TSG RAN.

Useful links and information

About RAN WG1	List of elected officials
Documents	Documents area
	Specifications
	Work items
Meetings	Next meeting information & previous meeting reports and documents
	Liaisons Statements
	Full RAN WG1 meeting calendar
General info	Email exploder lists

RAN Working groups and Ad Hoc groups	
TSG RAN Plenary	
TSG RAN WG1	Radio Layer 1 specification
TSG RAN WG2	Radio Layer 2 and Radio Layer 3 RR specification
TSG RAN WG3	Iub Iur and Iu specification - UTRAN O&M requirements
TSG RAN WG4	Radio performance and protocol aspects (system) - RF parameters and BS conformance
TSG RAN WG5	Mobile terminal conformance testing

3GPP Website:

Search and download specs, docs, CRs and more from the 3GPP FTP Server:
Advanced FTP Search

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3GPP Partners News
3GPPlive tweets

6706 unique visitors average per day

RAN Working groups and Ad Hoc groups	
TSG RAN AHG1	Ad-hoc group on ITU (internal) co-ordination



more »

3GPP Plenary Meetings

Full Meeting Calendar

GERAN TSG #59 - Sofia, BG - From 26 to 30 August

CT, RAN and SA TSG #61 meetings - Porto, PT - From 3 to 11 September

Releases

About Releases

Release 12

Release 11

Release 10

Release 9

Release 8

Release 7

Release 6

Release 5

Release 4

Release 1999

Keywords & Acronyms

Browse Technologies

NAS

LTE-Advanced

LTE

HSPA

The Evolved Packet Core

Carrier Aggregation explained

GPRS & EDGE

UMTS

HSPA

W-CDMA

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Appendix 15

The Wayback Machine - https://web.archive.org/web/20110509054716/http://3gpp.org/Specification-Groups

Click on any TSG or WG - in the chart below - to go to that Group's home page to find information on its elected officials, its meeting schedule, the Work Items and Specifications for which it is responsible, etc.

TSG Structure

Project Co-ordination Group (PCG)

TSG GERAN

GSM EDGE Radio Access Network

GERAN WG1
Radio Aspects

GERAN WG2
Protocol Aspects

GERAN WG3
Terminal Testing

TSG RAN

Radio Access Network

RAN WG1
Radio Layer 1 spec

RAN WG2
Radio Layer 2 spec
Radio Layer 3 RR spec

RAN WG3
Iub spec, Iur spec, Iu spec
UTRAN O&M requirements

RAN WG4
Radio Performance
Protocol aspects

RAN WG5
Mobile Terminal
Conformance Testing

TSG SA

Service & Systems Aspects

SA WG1
Services

SA WG2
Architecture

SA WG3
Security

SA WG4
Codec

SA WG5
Telecom Management

TSG CT

Core Network & Terminals

CT WG1
MM/CC/SM (Iu)

CT WG3
Interworking with external networks

CT WG4
MAP/GTP/BCH/SS

CT WG6
Smart Card Application Aspects

RAN

3G systems should be based on new wide band, multimode, flexible radio access. This approach will ensure that systems based on 3GPP specifications will be capable of rapid development and deployment of competitive service offerings while still enabling global roaming.

TSG Radio Access Network (TSG RAN) is responsible for the definition of the functions, requirements and interfaces of the UTRA/E-UTRA network in its two modes, FDD & TDD. More precisely: radio performance, physical layer, layer 2 and layer 3 RR specification in UTRAN/E-UTRAN; specification of the access network interfaces (Iu, Iub, Iur, S1 and X2); definition of the O&M requirements in UTRAN/E-UTRAN and conformance testing for User Equipment and Base Stations...more

SA

The TSG Service and System Aspects (TSG-SA) is responsible for the overall architecture and service capabilities of systems based on 3GPP specifications and, as such, has a responsibility for cross TSG co-ordination...more

GERAN

Operators of GSM/GPRS systems need a strategy for future growth and interoperability, the evolution of GSM/EDGE radio access technologies offers such a path. TSG GERAN is responsible for the specification of the Radio Access part of GSM/EDGE...more

CT

The TSG Core Network and Terminals (TSG CT) is responsible for specifying terminal interfaces (logical and physical), terminal capabilities (such as execution environments) and the Core network part of 3GPP systems...more

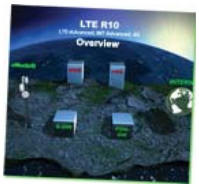
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331 connected visitors



CT Plenary
GERAN Plenary
RAN Plenary
SA Plenary
Working Procedures
Delegates Corner
E-mail exploder lists

Historical Information (Incl. Closed groups)

The original specification work started in 1987, with the first Phase of GSM specifications. If you have an ETSI On-Line account (ETSI Members), you can access the ETSI Technical Committee SMG documents (including Change Requests) via the On-line archive. For past & present 3GPP group's meeting documents (including Change Requests) choose the appropriate Technical Specification Group's (...)

» (...more)

TSG Working Agreements

"Working Agreements" are tentative decisions reached by 3GPP groups in order to make progress on matters where consensus [1] cannot be reached. See the 3GPP Working Procedures, article 25. See document PCG20_04 (slides 4 & 5) for further background information. To propose additions to this page: 3GPPcontact@3gpp.org. Only working agreements explicitly documented in meeting reports (...)

» (...more)

email lists

3GPP E-mail Exploder Lists

A full list of the 3GPP email exploder lists is available at http://list.3gpp.org/ This also contains all the ETSI exploder lists, however the majority of the 3GPP lists are located right at the top. In order to subscribe to any of these lists please scroll down until you find the list you are interested in, click on the link and follow the simple instructions. Those delegates who already (...)

» (...more)

Uniform Resource Name (URN) list

Uniform Resource Name values maintained by 3GPP: The tables below list URNs registered by 3GPP. Applications for new entries must be made via email to the TSG CT WG1 Secretary. Applications must contain: a proposal for the URN value; a brief description of its functionality; a reference to the specification or other publicly available document (if any) containing the definition; the (...)

» (...more)

OMA dependencies and overlaps

The table below shows the 3GPP work items which have some dependency on or overlap with work being carried on within the Open Mobile Alliance . It is intended to help manage the relationship between OMA and 3GPP.

Only areas where 3GPP has agreed to use OMA outputs are included. There may be other areas of dependency and overlap on which 3GPP agreement has not yet been reached. Only high-level relationships (mainly at the "feature" level) are listed.

» (...more)

3GPP Plenary Meetings

Full Meeting Calendar

GERAN Plenary #50 - USA (City TBD) - From 16 to 20 May
RAN / CT / SA Plenary #52 - Bratislava - From 31 May to 8 June

Releases

About Releases

- Release 11
- Release 10
- Release 9
- Release 8
- Release 7
- Release 6
- Release 5
- Release 4
- Release 1999
- Functionality in early GSM releases

Keywords (LTE, HSPA, EDGE, 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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Appendix 16

The Wayback Machine - https://web.archive.org/web/20081026082655/http://www.3gpp.org:80/FTP/

www.3gpp.org - /FTP/

[To Parent Directory]

20 October 2008	14:04	<dir>	.Trash-root
03 October 2008	21:18	<dir>	Inbox
08 October 2008	13:37	<dir>	Information
29 March 2007	16:26	<dir>	Invitation
05 April 2007	09:03	<dir>	Joint_Meetings
26 August 2008	09:30	<dir>	Op
26 August 2008	09:29	<dir>	PCG
24 September 2008	11:33	<dir>	Specs
04 November 2007	18:34	<dir>	tsg_cn
29 March 2007	20:22	<dir>	tsg_ct
29 March 2007	20:44	<dir>	tsg_geran
20 October 2008	14:04	<dir>	tsg_ran
29 March 2007	23:33	<dir>	tsg_sa
30 March 2007	00:25	<dir>	tsg_t
17 October 2008	08:47	<dir>	workshop

Appendix 17

The Wayback Machine - https://web.archive.org/web/20130110164713/http://www.3gpp.org/ftp/Specs/

Index of /ftp/Specs

Name	Last modified	Size	Description
Parent Directory		-	
1999-10/	17-Sep-2012 16:53	-	
1999-12/	04-Nov-2008 17:15	-	
2000-03/	17-Sep-2012 16:53	-	
2000-06/	26-Mar-2010 14:19	-	
2000-09/	26-Mar-2010 14:20	-	
2000-12/	26-Mar-2010 14:28	-	
2001-06/	04-Nov-2008 17:19	-	
2001-08-geran-mtg-06..>	04-Nov-2008 17:19	-	
2001-09/	04-Nov-2008 17:20	-	
2002-02-geran-mtg-08..>	17-Sep-2012 16:53	-	
2002-03/	17-Sep-2012 16:53	-	
2002-04-geran-mtg-09..>	17-Sep-2012 16:53	-	
2002-06-geran-mtg-10..>	17-Sep-2012 16:53	-	
2002-06/	04-Nov-2008 17:24	-	
2002-09/	04-Nov-2008 17:25	-	
2002-12/	04-Nov-2008 17:26	-	
2003-02-geran-mtg-13..>	17-Sep-2012 16:53	-	
2003-03/	17-Sep-2012 16:53	-	
2003-04-geran-mtg-14..>	17-Sep-2012 16:53	-	
2003-06-geran-mtg-15..>	04-Nov-2008 17:29	-	
2003-06/	04-Nov-2008 17:29	-	
2003-09-geran-mtg-16..>	17-Sep-2012 16:53	-	
2003-09/	04-Nov-2008 17:30	-	
2003-11-geran-mtg-17..>	17-Sep-2012 16:53	-	
2003-12/	04-Nov-2008 17:32	-	
2004-02-geran-mtg-18..>	17-Sep-2012 16:55	-	
2004-03/	04-Nov-2008 17:33	-	
2004-04-cn-mtg-23b-d..>	17-Sep-2012 16:55	-	
2004-04-geran-mtg-19..>	17-Sep-2012 16:55	-	
2004-06-geran-mtg-20..>	17-Sep-2012 16:55	-	
2004-06/	04-Nov-2008 17:35	-	
2004-08-geran-mtg-21..>	17-Sep-2012 16:55	-	
2004-09/	04-Nov-2008 17:37	-	
2004-11-geran-mtg-22..>	17-Sep-2012 16:55	-	
2004-12/	04-Nov-2008 17:39	-	
2005-01-geran-mtg-23..>	17-Sep-2012 16:55	-	
2005-03/	04-Nov-2008 17:40	-	
2005-04-geran-mtg-24..>	17-Sep-2012 16:55	-	
2005-06-geran-mtg-25..>	17-Sep-2012 16:55	-	
2005-06/	04-Nov-2008 17:42	-	
2005-09-geran-mtg-26..>	17-Sep-2012 16:55	-	
2005-09/	04-Nov-2008 17:44	-	
2005-11-geran-mtg-27..>	17-Sep-2012 16:55	-	
2005-12/	04-Nov-2008 17:46	-	
2006-01-geran-mtg-28..>	17-Sep-2012 16:55	-	
2006-03/	04-Nov-2008 17:48	-	
2006-04-geran-mtg-29..>	17-Sep-2012 16:55	-	
2006-06-geran-mtg-30..>	17-Sep-2012 16:55	-	
2006-06/	04-Nov-2008 17:51	-	
2006-09/	04-Nov-2008 17:53	-	
2006-12/	04-Nov-2008 17:55	-	
2007-03/	04-Nov-2008 17:57	-	
2007-06/	04-Nov-2008 18:00	-	
2007-09/	04-Nov-2008 18:02	-	
2007-12/	04-Nov-2008 18:05	-	
2008-03/	04-Nov-2008 18:08	-	
2008-06/	04-Nov-2008 18:11	-	
2008-09/	04-Nov-2008 18:14	-	
2008-12/	18-Dec-2008 09:08	-	

2009-03/	20-Mar-2009 23:17	-
2009-06/	12-Jun-2009 08:00	-
2009-09/	30-Sep-2009 08:47	-
2009-12/	04-Jan-2010 16:29	-
2010-03/	29-Mar-2010 16:28	-
2010-06/	17-Jun-2010 08:16	-
2010-09/	28-Sep-2010 13:47	-
2010-12/	22-Dec-2010 11:02	-
2011-03/	16-Apr-2011 17:24	-
2011-06/	17-Jun-2011 13:12	-
2011-09/	03-Oct-2011 14:41	-
2011-12/	21-Dec-2011 20:49	-
2012-03/	23-Mar-2012 18:26	-
2012-06/	26-Jun-2012 14:57	-
2012-09/	17-Sep-2012 14:50	-
2012-12/	13-Dec-2012 15:44	-
Latest-drafts/	09-Jan-2013 07:57	-
archive/	11-Sep-2009 13:51	-
html-info/	09-Jan-2013 16:53	-
latest/	13-Dec-2012 15:51	-

Appendix 18



3GPP_TSG_RAN Archives
December 2011, Week 2

3GPP_TSG_RAN@LIST.ETSI.ORG

Options: Use Monospaced Font
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Show All Mail Headers

Message: [<< First] [< Prev] [Next >] [Last >>]
Topic: [<< First] [< Prev] [Next >] [Last >>]
Author: [<< First] [< Prev] [Next >] [Last >>]

Subject: draft report of RAN #54, Berlin
From: Joern Krause <[log in to unmask]>
Reply To: Joern Krause <[log in to unmask]>
Date: Mon, 12 Dec 2011 01:35:56 +0100
Content-Type: multipart/mixed
Parts/Attachments: text/plain (572 bytes) , text/html (3155 bytes) , RP-12xxxx_draft_report_RAN_54_111212_v1.0.zip (916 kB)

Dear all,
Please find attached the draft report of RAN #54 held last week in Berlin, Germany
as it will be also submitted to SA #54 this week for information in SP-110846.

This draft report includes as well:
latest Tdoc list, participants list and overview of RAN WIs/SIs.

In case you have any comments/corrections or you find
any discrepancies please send me an email before 01.02.2012.
Your comments will then be covered in the next version of the report.

Thank you.
BR

Joern

Joern Krause, ETSI MCC
[log in to unmask]

ATOM RSS1 RSS2

Appendix 19

3GPP TSG RAN meeting #55 **RP-12xxxx**
Xiamen, China, Feb. 28 – March 2, 2012

Agenda Item: 3

Source: ETSI MCC

Title: Draft Report of 3GPP TSG RAN meeting #54,
Berlin, Germany, Dec. 6 – 9, 2011

Document for: Approval

Draft Report of 3GPP TSG RAN meeting #54

held in Berlin, Germany
Dec. 6 – 9, 2011

---

colour code:
yellow: please ignore, preparations that will be revised later
blue: text that will be revised in the final report
green: approved new TSs/TRs/WIs/SIs
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

3GPP

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Meeting Organisation

Meeting:	3GPP TSG RAN #54		
Meeting location:	Berlin, Germany		
Duration:	Tuesday 06.12.2011 - Friday 09.12.2011		
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_54/Docs		
next meetings:	TSG RAN #55,	28.02. - 02.03.2012	Xiamen, China host: ZTE, CMCC
	RAN Workshop	11.06. - 12.06.2012	Ljubljana, Slovenia host: EF3 (see AI 13)
	TSG RAN #56,	13.06. - 15.06.2012	Ljubljana, Slovenia host: EF3 (see AI 13)

Executive Summary

3GPP TSG RAN meeting #54 was held in Berlin, Germany, Dec. 6 - 9, 2011, hosted by the European Friends of 3GPP (EF3). The meeting had 147 participants (see Annex A) and 378 Technical Documents (see Annex B).

- Main topics/decisions:
  - After the RAN #53 prioritization of REL-11 WIs/SIs only new spectrum related or new RAN5 related UE conformance test WIs/SIs or WIs/SIs that were postponed till Dec.12 or WIs as consequence of completed SIs were considered as **new WIs/SIs at RAN #54**. See below for approved WIs/SIs. Some specific aspects:
    - In addition 1 RAN4 WI (RP-111756) and 1 RAN4 SI (RP-111741) on UTRA/LTE Base Stations were just endorsed with the intention to approve them in March 2012.
    - RAN1 SI Study on further Downlink MIMO enhancements for LTE-Advanced (FS_LTE_eDL_MIMO_enh): The SI was closed and the topic was split into 3 parts: A new approved RAN1 WI RP-111776 Enhanced downlink control channel(s) for LTE (LTE_enh_dl_ctrl), a new RAN1 WI proposal RP-111758 Further Downlink MIMO Enhancement for LTE-Advanced which was postponed till RAN #55 and a RAN4 performance aspect for which RAN #54 confirmed that RAN4 could treat this under TEI11 (as requested in a RAN1 to RAN4 LS that was not sent to RAN).
    - RAN4 SI Study on Measurement of Radiated Performance for MIMO and multi-antenna reception for HSPA & LTE terminals (FS_HSPA_LTE_measRP_MIMO_multi-antenna): SID was revised in RP-111754 and RAN guidance for RAN4 was provided (see AI 12.3.1) in order to allow the possibility of a follow-up WI at RAN #55.
  - **Future handling of new WIs/SIs at RAN #55**: no prioritization process planned for RAN #55; at RAN #55, apart from new spectrum related or new RAN5 related UE conformance test WIs/SIs or WIs as consequence of completed SIs, WIs/SIs that were postponed till March 2012 can be resubmitted. In principle no additional new WIs/SIs are expected (only in case of very limited impact on WG workload, a possibility to complete within Rel-11 time frame and enough support such a proposal can be submitted).

- **Workshop** on "Requirements/possible technical solutions towards time frame of Rel-12/13 and onwards" was announced for June 11-12, 2012 in Ljubljana directly before RAN #56 (limited to June 13-15, 2012). Detailed scope and agenda of the workshop will be decided at RAN#55.

- **RAN4 work load**: An analysis was provided by the new RAN4 chairman in RP-111643. Also the handling of **LTE Carrier Aggregation (CA) band combinations** RP-111568/RP-111748 was discussed however no consensus about a corresponding prioritization was achieved. It is planned to discuss the situation again at RAN #55 based on a more detailed analysis of the problems and potential solutions.

- **Update of 3GPP WI/SI description template**: After a short discussion during the meeting it was decided to have an email discussion on the RAN reflector about it until mid of Feb. 2012 in order to endorse an updated template at RAN #55.

- **FGI related discussions**:

  - REL-8: In connection with RP-111659 "Non-implementation of features where FGI is not applicable" an LS RP-111777 on "Enabling operation downlink 4TX in LTE networks" was sent to RAN4 and RAN5 to verify test coverage and a note in the specs to indicate the consequences of not implementing this feature will be discussed at RAN #55.

  - REL-9: Handling of LTE FDD/TDD UE capabilities / FGI bits for dual mode UEs supporting both LTE TDD and LTE FDD: Topic was discussed based on RAN2 LS RP-111413 and several other inputs (see AI 8.2.2): As a result LS RP-111770 was sent to RAN1, RAN2, SA2, CT1 (cc: SA) summarizing the necessary actions to address this problem.

  - REL-9 FGI handling for inter-RAT ANR (Automatic Neighbour Relation): Based on RP-111656 an LS RP-111772 was sent to RAN2 asking to investigate, and if possible specify, signalling of successful IoT for inter-RAT ANR separately for the different RATs.

  - REL-9: FGI bit 27 in LTE and Single Radio VCC UE capability indication at NAS: Instead of having 36.331 CRs (RP111738, REL-9, RP-111739 REL-10; see also RP-111730) an LS RP-111769 was sent to RAN2, SA2 (cc: SA, CT1, GERAN2) to look for an alignment.

- FDD/TDD and HRPD/CDMA2000 RRM **test cases**: In reply to RAN4 LS R4-116194 = RP-111414, RAN decided to include these test cases starting from REL-9 onwards as indicated in the LS reply RP-111763.

- Incoming Liaison Statements: 21, see Annex C

- Outgoing Liaision Statements: 5 (and one endorsed draft LS that will be handled by SA #54), see Annex D

- 6 closed work items (WI) in Dec. 2011:

  - RAN4:

    - Perf. part: Carrier Aggregation for LTE — REL-10 (460207, LTE_CA-Perf)
    - UE Over the Air (Antenna) conformance testing methodology- Laptop Mounted Equipment Free Space test — REL-11 (450016, UEAnt_FSTest)
    - Core part: Introduction of New Configurations for 4C-HSDPA — REL-11 (510118, 4C_HSDPA_Config-Core)

  - RAN5 UE Conformance Test Aspects for:

    - Home NB enhancements for FDD — REL-9 (490020, EHNB-UTRA_FDD_UEConTest)
    - MBMS support in LTE — REL-9 (500024, MBMS_LTE-UEConTest)
    - Adding 2 GHz band LTE FDD (Band 23) in North America — REL-10 (520012, S_Band_LTE_ATC_MSS-UEConTest)

- 2 closed REL-11 study items (SI) in Dec. 2011:

  - RAN1: Study on further DL MIMO enhancements for LTE-Advanced (510037, FS_LTE_eDL_MIMO_enh)
  - RAN5: Study on UE Application Layer Data Throughput (500002, FS_UE_App_Data_Perf)

- 18 new approved work items (WI):

  - RAN1:

  - MIMO with 64QAM for HSUPA (core & RAN4 perf. part) REL-11 RP-111642
  - Enhanced downlink control channel(s) for LTE (core & RAN4 perf. part) REL-11 RP-111776

- RAN4:

  - LTE Advanced Carrier Aggregation of Band 11 and Band 18 (core &perf. part) REL-11 RP-111634
  - LTE Advanced Carrier Aggregation of Band 1 and Band 18 (core &perf. part) REL-11 RP-111635
  - LTE Advanced Carrier Aggregation of Band 1 and Band 21 (core &perf. part) REL-11 RP-111764
  - LTE Advanced Carrier Aggregation of Band 1 and Band 19 (core &perf. part) REL-11 RP-111765
  - HSDPA Dual-Band Multi-Carrier Combinations (core &perf. part) REL-11 RP-111746

- RAN5 UE Conformance Test Aspects for:

  - Public Warning System (PWS) – RAN aspects for LTE REL-9 RP-111564
  - Four carrier HSDPA REL-10 RP-111565
  - UL multiple antenna transmission for LTE REL-10 RP-111614
  - Further enhancements to MBMS for LTE REL-10 RP-111615

- 1 new approved study item (SI):

  - RAN1: Study on HSPA feedback and signalling efficiency enhancements for LCR TDD REL-11 RP-111766

- 3 new approved Technical Specifications (TS), i.e. now under CR control:

  - RAN5 TS 37.571-1 v9.0.0 (LCS_LTE_UEConTest): RP-111563
  - RAN5 TS 37.571-2 v9.0.0 (LCS_LTE_UEConTest): RP-111566
  - RAN5 TS 37.571-3 v9.0.0 (LCS_LTE_UEConTest): RP-111567

- 1 new approved Technical Report (TR), i.e. now under CR control:

  - RAN1 TR 36.871 v11.0.0 (FS_LTE_eDL_MIMO_enh): RP-111677

- 1 new Technical Specification (TS) provided for information:

  - RAN5 TS 37.571-4 v1.0.0 (LCS_LTE_UEConTest), REL-9: RP-111627

- 0 new Technical Reports (TR) provided for information

- Change requests statistics (see also Annex E): 965 CRs handled with 902 approved CRs.

Phase	Cat	all CRs	Approved CRs	approved RAN1	approved RAN2	approved RAN3	approved RAN4	approved RAN5
Rel-4	F	1	1	0	1	0	0	0
Rel-5	A	1	1	0	1	0	0	0
Rel-6	A	1	1	0	1	0	0	0
Rel-6	B	1	1	0	0	0	0	1
Rel-7	A	1	1	0	1	0	0	0
Rel-7	B	1	1	0	0	0	0	1
Rel-7	F	6	5	1	4	0	0	0
Rel-8	A	5	4	1	3	0	0	0
Rel-8	B	1	1	0	0	0	0	1
Rel-8	F	17	17	0	8	0	9	0
Rel-9	A	20	19	1	10	0	8	0
Rel-9	B	49	49	0	0	0	0	49
Rel-9	F	448	444	1	9	8	22	404
Rel-10	A	55	48	2	16	7	23	0
Rel-10	B	35	28	0	1	0	27	0
Rel-10	C	1	1	0	1	0	0	0
Rel-10	D	1	1	0	0	0	1	0
Rel-10	F	262	224	24	41	25	83	51
Rel-11	A	2	2	0	2	0	0	0
Rel-11	B	34	30	9	10	5	6	0
Rel-11	C	4	4	0	2	2	0	0
Rel-11	F	19	19	1	4	0	1	13
sum		965	902	40	115	47	180	520

1 Opening of the Meeting

TSG RAN chairman Mr. Takehiro Nakamura (NTT DOCOMO) opened the meeting RAN #54 on Tuesday morning Dec. 6, .2011 at 09:00am.

On behalf of the host, the European Friends of 3GPP, Mr. Han van Bussel (Deutsche Telekom, RAN vice chairman) welcomed the delegates to Berlin, Germany and explained organisational issues of the meeting.

2 Approval of the Agenda

RP-111400 Agenda for RAN #54 held in Berlin, Germany, 06.12.-09.12.2011 RAN chairman (NTT DOCOMO) Agenda
conclusion: revised in RP-111408 before RAN #54

RP-111408 Agenda for RAN #54 held in Berlin, Germany, 06.12.-09.12.2011 RAN chairman (NTT DOCOMO) Agenda
conclusion: revised in RP-111419 before RAN #54

RP-111419 Agenda for RAN #54 held in Berlin, Germany, 06.12.-09.12.2011 RAN chairman (NTT DOCOMO) Agenda
discussion: no comments
conclusion: approved

3 Approval of the meeting report of TSG-RAN #53

RP-111401 Draft report of RAN #53 held in Fukuoka, Japan, 13.09.-16.09.2011 ETSI MCC Report
conclusion: revised in RP-111700 before RAN #54

RP-111700 Revised draft report of RAN #53 held in Fukuoka, Japan, 13.09.-16.09.2011ETSI MCC Report
discussion: no comments
conclusion: revised in RP-111723 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 #53 held in Fukuoka, Japan, 19-21 Sep., 2011:

1. RAN#53 report: RAN#53 chairman's report was provided in SP-110645.
2. SA WI/SI prioritization: Results of RAN WI/SI prioritization were provided in SP-110614 for information and it was informed to SA that RAN decision on one SI and two WIs should be considered in SA prioritization process. According to the SA WI/SI prioritization results, each RAN SI/WI should be treated in RAN as follows:
   a. "Study Item on Further RAN Improvements for Machine-type Communications" to be lead by RAN2 is postponed in RAN till RAN#55 (March 2012).
      => SA decision: some MTC topics were selected as a feature for completion in Rel-11
      => RAN action: review the SA decision and decide necessary action at RAN#54 considering RAN2 overload and consistency between SA and RAN.
   b. "WI on LIPA Mobility and SIPTO at the Local Network RAN Completion" to be lead by RAN3 is conditionally approved in RAN considering possible umbrella SA WI.
      => SA decision: LIMONET was not selected as a feature for completion in Rel-11
      => RAN action: this WI should be postponed from Rel-11.
   c. "WI on Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA" to be lead by RAN3 is conditionally approved in RAN considering possible umbrella SA WI.
      => SA decision: rSRVCC was selected as a feature for completion in Rel-11
      => RAN action: this WI is formally approved and can be treated from the next WG meeting

   Results of the SA WI/SI prioritization was summarized in a LS in SP-110657 and the LS was submitted to RAN #54 and all RAN WGs.
   RAN chairman updated SP-110614 to capture SA decision in SP-110646 for common understanding on RAN WIs/SIs handling in Rel-11 in SA and RAN.
3. ITU-R submission: The following 3 LSs to be submitted to WP5D were approved in SA #53:
   a. Response to ITU-R WP 5D/TEMP/519 on the completion of Rec. ITU-R M.[IMT.RSPEC] (RP-111337):
      => LS was approved in SA #53 as SP-110659. After PCG/OP approval, this LS was submitted to WP5D via ATIS on behald of 3GPP OPs.
   b. Update Submission for IMT-2000 CDMA DS and IMT-2000 CDMA TDD toward Revision 11 of Recommendation ITU-R M.1457 (RP-111389):
      => LS was approved in SA #53 as SP-110658. After PCG approval, this LS was submitted to WP5D via individual members.
   c. Updated information on the roadmap for IMT-2000 CDMA DS & IMT-2000 CDMA TDD (RP-111395):
      => LS was approved in SA #53 as SP-110660 with removal of "LIPA Mobility and SIPTO at the Local Network RAN Completion" due to the SA prioritization results. After PCG approval, this LS was submitted to WP5D via individual members.
4. Stage 1 for Rel-11 was completed without exceptions.
5. Korean Public Safety System: SA decided to allow this to be in Rel-10:
   Although the main impact is on CT1, it could be that (like for other public safety systems in the past) some work in RAN WGs is needed in future.

discussion: no comments

5.2 Report from PCG and OP

RAN chairman reported from PCG #27/OP #26 held in Paris, France end of Oct. 2011:

1. RAN management report: RAN management report was presented in PCG27_05 by RAN chairman.

2. TDD technologies in the Rel-11 prioritization process: CCSA requested to allocate time to treat TDD specific WIs/SIs in PCG27_15 considering the results of the Rel-11 prioritization process taken place at RAN#53. RAN chairman explained that the next round of the Rel-11 prioritization will be treated at RAN#54 and proposed to treat this issue there. PCG accepted this proposal.
3. Reply LS to ITU-R WP5A on PPDR: The LS was approved by PCG and submitted to WP5A by individual members.
4. IT improvement: Report on the IT improvement activities that have taken place since the previous PCG meeting was presented. This report contains recommendations to MCC, meeting host and end users. This report was approved with an editorial change in PCG27_13r. It was noted that the recommendations contained in the report should be made available on the 3GPP web site at http://www.3gpp.org/Hosting-a-meeting
5. Updated TSG-RAN Terms of Reference (ToR): Updated TRG-RAN ToR were approved by OP.
6. TTCN development budget: TTCN development budget, 58 man months, was approved by OP.

discussion: no comments

5.3 Report from other meetings

Nothing to report.

6 Liaison activity of TSG RAN

6.1 Groups outside 3GPP

ETSI:

RP-111409 LS on General Engineering of energy efficient base station (ATTM(11)0068; to: SA, RAN; cc: SA5, RAN3; contact: France Telecom) ETSI TC ATTM LSin
RAN action requested; note: LS was provided to 3GPP on 19.10.2011; ATTM = Access, Terminals, Transmission and Multiplexing
discussion: RAN chairman: we have received a similar LS in RP-111410
conclusion: noted, LS answer will be drafted by Alcatel-Lucent in RP-111724; intention is to review RAN's final draft LSout at SA #54 before sending it out

RP-111410 LS on ETSI TC-EE Work Item on Network level power efficiency (EE(11)0109; to: ITU-T SG5, GSMA, SA, RAN, ETSI TC ATTM; cc: -; contact: Alcatel-Lucent) ETSI TC EE LSin
RAN action requested
discussion: NSN: quite some overlap of the LSs RP-111409 and RP-111410; suggests to reply together with SA to both groups
France Telecom: got a letter from ETSI of 10.11.2011 clarifying the scope of both groups, lead should be in ATTM
Alcatel-Lucent: ATTM is addressing fixed networks; it is necessary to send a reply LS to both to clarify responsibilities first
Telecom Italia: supports Alcatel-Lucent; concerned if there are no mobile network experts in ATTM
Vodafone: would be interested to know which scenarios they look at, also what they need from 3GPP
Telefonica: not work efficient if different groups are working on the same thing
NEC: KPI alignment for energy efficiency would be needed to talk about the same thing, but not sure that ATTM would be the right fora for this
RAN3 chairman: joint meeting already in Feb. requested, do we decline this, i.e. explain this in the LS?
RAN chairman: we can clarify this in the LS
RAN chairman: MCC has already documented some energy efficiency activities that should also be included in the LS

conclusion: noted, LS answer will be drafted by Alcatel-Lucent in RP-111724; intention is to review RAN's final draft LSout at SA #54 before sending it out (RAN chairman will take care of the LS at SA #54)

ITU-R WP5A:

RP-111608 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS ON "WIDE-AREA SENSOR AND/OR ACTUATOR NETWORK (WASN) SYSTEMS"
(ITU-R WP5A/TEMP/337(Rev.1); to: 3GPP; 3GPP RAN; 3GPP2; ARIB; ATIS; ETSI; ETSI ERM; IEEE; ISO/IEC JTC 1/WG 7; ISO/IEC JTC 1 SC 31 WG 6; TIA; TTA; WGA; and XGP Forum; cc: -; contact: -) ITU-R WP5ALSin
related to MTC; no RAN action requested; LS will also be available at SA #54; LSin RP-111608 is a follow-up of LSin of RP-110927 of RAN #53;
conclusion: LS will be treated under AI 7.2.2

RP-111609 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS (PPDR) ON THE PRELIMINARY DRAFT NEW REPORT ITU-R M.[LMS.PPDR.UHF CHANNELS]: CHANNELIZATION SCENARIOS FOR PUBLIC PROTECTION AND DISASTER RELIEF OPERATIONS IN SOME PARTS OF THE UHF BAND IN ACCORDANCE WITH RESOLUTION 646 (WRC-03)
(ITU-R WP5A/TEMP/342; to: 3GPP, 3GPP2, APCO, ARIB, ATIS, AWG, CDG, ETSI, ETSI EMTEL, ETSI ERM, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin
related to PWS; no RAN action requested; LS will also be available at SA #54; LSin RP-111609 is a follow-up of LSin RP-110928 of RAN #53 which was answered by RAN #53 in RP-111398;
conclusion: LS will be treated under AI 7.2.2

RP-111610 "LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS – INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF REPORT ITU-R M.2014-1: DIGITAL LAND MOBILE SYSTEM FOR DISPATCH TRAFFIC
(ITU-R WP5A/TEMP/352; to: 3GPP, 3GPP2, APCO, ARIB, ATIS, AWG, CDG, ETSI, ETSI EMTEL, ETSI ERM, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin
no RAN action requested; LS will also be available at SA #54; LSin RP-111610 is a follow-up of LSin of RP-110926 of RAN #53;
conclusion: LS will be treated under AI 7.2.2

ITU-T SG13:

RP-111406 LS on Request for information for the new draft Recommendation Q.1741.8 (referencing of 3GPP Release 10) REL-10 -
(ITU-T SG13 COM13-LS173; to: 3GPP; cc: CCSA, ETSI, ATIS, TTA, TTC, ARIB; contact: ETRI) ITU-T SG13 LSin
no RAN action requested; note: LS is also submitted to SA #54 (more for SA/CT to comment);
conclusion: LS will be treated under AI 7.2.2

RP-111407 LS on New work item on the framework on the identifiers in Future Networks
(ITU-T SG13 COM13-LS196; to: IETF, 3GPP; cc: -; contact: NEC) ITU-T SG13 LSin
no RAN action requested;
conclusion: LS will be treated under AI 7.2.2

Global TD-LTE Initiative:

RP-111557 LS on Handover support between LTE FDD and LTE TDD REL-8
(to: RAN4, RAN5; cc: RAN; contact: Clearwire) Global TD-LTE Initiative (GTI) Task Force LSin
no RAN action requested; RAN4 answered this LS in R4-116245 = RP-111415 and RAN5 answered this LS in R5-115781 = RP-111418;
conclusion: LS will be treated under AI 8.4.2

6.2 TSG SA, TSG CT, TSG GERAN

SA:

RP-111402 LS on Release 11 Features REL-11
(SP-110657; to: SA1, SA2, SA3, SA5, CT, CT1, CT3, CT4, RAN, RAN2, RAN3, GERAN, GERAN2; cc: CT6, RAN4, RAN5, SA4, RAN1; contact: Samsung) SA LSin

RAN action requested; note: LIMONET was not selected as a feature for completion in REL-11 (see SP-110657) so RAN #53 WID RP-111367 was finally postponed; rSRVCC has been identified as a feature for completion in REL-11 (see SP-110657) so RAN #53 WID RP-111334 was finally approved; SA #53 selected some topics for REL-11 completion on SIMTC, RAN #53 started WI SIMTC-RAN_OC-Core and SI FS_LC_MTC_LTE but postponed SI proposal RP-111097 until March 2012
discussion: ZTE: regarding MTC aspect we have a Disc document on this
RAN chairman: we will discuss general WI/SI prioritisation issues on Wed morning including also ZTE document RP-111639
conclusion: noted, no LS answer from RAN

CT:

RP-111403 Reply LS to R2-114802 = RP-110941 on Applicability of ePLMN to MDT REL-10 MDT_UMTSLTE-Core
(C1-114463; to: RAN2; cc: SA2, SA5, RAN, SA, SA3, CT4; contact: Huawei) CT1 LSin
no RAN action requested
discussion: RAN chairman: already treated in RAN2?
RAN2 chairman: we took a look and will address it next meeting
conclusion: noted, no LS answer

GERAN:

RP-111411 Reply LS to R4-114779 = RP-110938 to "LS on CRs for MSR specifications" REL-10 MSR_NC-Core
(to: RAN, RAN4; cc: -; contact: Ericsson) GERAN1 LSin
no explicit RAN action requested
discussion: RAN chairman: already treated in RAN4? seems so; CRs provided to RAN #54?
Ericsson: yes
RAN chairman: ok, we will treat CRs later
conclusion: noted, no LS answer

RP-111558 Reply LS to RP-111397 to "Approval of New WI on E-UTRA medium range and MSR medium range/local area BS class requirements" REL-11 medBS_class_LTE_MSR-Core
(GERAN; to: RAN, RAN4; cc: -; contact: Ericsson) GERAN LSin
no explicit RAN action requested;
conclusion: LS will be treated under AI 11.3.5.1

6.3 TSG RAN WG1, WG2, WG3, WG4, WG5

LTE FDD/TDD handover:

RP-111414 LS on FDD/TDD and HRPD/CDMA2000 RRM tests REL-8 LTE-RF
(R4-116194; to: RAN; cc: -; contact: Renesas) RAN4 LSin LS01
RAN action requested;
conclusion: LS will be treated under AI 8.4.2

RP-111415 Reply LS to GTI LS R4-116244 = RP-111557 on handover support between LTE FDD and LTE TDD REL-8 LTE-RF
(R4-116245; to: Global TD-LTE Initiative (GTI); cc: RAN, RAN5; contact: Clearwire) RAN4 LSin
RAN action requested;
conclusion: LS will be treated under AI 8.4.2

RP-111418 Response LS to GTI LS R5-115075 = RP-111557 on Handover support between LTE FDD and LTE TDD REL-8 LTE-UEConTest
(R5-115781; to: Global TD-LTE Initiative (GTI); cc: RAN, RAN4; contact: NTT DOCOMO) RAN5 LSin
no RAN action requested;
conclusion: LS will be treated under AI 8.4.2

MBMS related measurements:

RP-111404 Reply LS to S4-110800 on Radio metrics with respect to QoE REL-11 EMM-EFEC
(R1-113605; to: SA4; cc: RAN, RAN2, RAN4; contact: Qualcomm) RAN1 LSin
QoE = Quality of Experience; note: S4-110800 was not sent to RAN; no RAN action requested

discussion: Qualcomm: we have a related Tdoc in RP-111570
conclusion: noted, no LS answer from RAN, RAN will discuss this topic again at RAN #55, RAN chairman will report the status also to SA #53

RP-111570 Physical Layer Measurements for eMBMS Qualcomm Disc REL-11 EMM-EFEC
related to LSin RP-111404
discussion: RAN chairman: question how should such a measurement be developed in RAN1?
Huawei: so far RAN1 has just identified that none of the existing measurements could be applied, so far no WI for it, this needs to be clarified
Ericsson: Tdoc uses wrong WORD version
NSN: worried about work load, potential increase in signalling load, system wide impacts need to be understood
Motorola Solutions: some interaction of RAN1 and RAN4 needed as doubts that measurement requirements would then be done in OMA
Qualcomm: R4 meant requirement 4 not RAN4
LG: work is more in MDT scope so we could consider this in REL-12
RAN chairman: seems an introduction of this measurement would require a SI/WI and it is not so easy to address it; due to overload situation as mentioned e.g. by NSN it might be shifted to REL-12 but then we would have some misalignment RAN - SA4, so how should we proceed?
Qualcomm: RAN1 part should be quite straight forward and then more work in RAN4; thinks this work does not require a WI
France Telecom: agrees that RAN1 work needed for this is limited
NSN: disagrees that this work has no RAN2 impact, e.g. counting had longer debates
Huawei: agrees with NSN that scenario needs to be clarified in RAN2; suggests reply LS to RAN1 (cc SA)
LG: even if solution is easy the objective is not clear
Alcatel-Lucent: SI would be needed, SI could start after March 2012, REL needs not yet to be fixed
Samsung: overall architecture understanding needed for this, so is premature to say start a SI in March 2012
Qualcomm: messaging is already defined, so would be just new fields in existing messages; it would be better to start the work in REL-11
Vodafone: not clear what level of measurement is needed, before agreeing a SI (work load on RAN2 and RAN4?) a proper overall architecture explanation of the concept is needed
RAN1 chairman: different views in RAN1 on work load impact of this, if we have a SI starting in March 2012, this does not necessarily mean pushing the topic to REL-12 (if the solution is simple as indicated); so we could come back to this at RAN #55 when situation is a bit clearer
RAN chairman: so difficult to start work now, some more clarification is needed (scope, overall architecture impact etc.) so input for RAN #55 needed
Vodafone: wants to see how the whole thing should work before agreeing a SI
conclusion: noted, Qualcomm is asked to clarify scope and objective in an input for RAN #55 in March 2012 (independent whether SI or WI or Disc Tdoc)
Qualcomm will provide RP-111570 in RP-111725 in the proper WORD format

Other:

RP-111405 LS on Status of the UE Over The Air (Antenna) conformance testing methodology work REL-11 UEAnt_FSTest, FS_HSPA_LTE_measRP_MIMO_multi-antenna, FS_OTA_phantoms_UTRA
(R4-115452; to: GCF Performance Criteria Agreement Group, CTIA OTA Antenna Working Group; cc: RAN; contact: Ericsson) RAN4 LSin
note: GCF sent LS to CTIA (see R4-115338) and RAN4 commented on this in R4-115452; no RAN action requested;
conclusion: LS will be treated under AI 11.2.1

RP-111412 LS on additional special subframe configuration for E-UTRA TDD in Rel-11 REL-11 TEI11
(R1-114469; to: RAN; cc: RAN2, RAN3, RAN4; contact: CMCC) RAN1 LSin
RAN action requested; motivation for new subframe configuration?;
conclusion: LS will be treated under AI 8.1.2

RP-111413 LS on Capability handling of LTE TDD and FDD modes REL-9 TEI9, LTE-L23
(R2-116557; to: RAN; cc: -; contact: Qualcomm) RAN2 LSin

RAN action requested;
conclusion: LS will be treated under AI 8.2.2

RP-111416 LS on Feedbacks on 8C-HSDPA feasibility REL-11 8C_HSDPA-Core (R4-116326; to: RAN; cc: -; contact: ST-Ericsson) RAN4 LSin
no RAN action requested;
conclusion: LS will be treated under AI 11.2.2.1

RP-111417 LS on CSG proximity indicator testing REL-9 EHNB-LTE_UEConTest, EHNB-UTRA_FDD_UEConTest (R5-115775; to: RAN4; cc: RAN; contact: NTT DOCOMO) RAN5 LSin
no RAN action requested;
conclusion: LS will be treated under AI 9.2.3

7 ITU-R Ad hoc

7.1 Status report

RP-111420 Status Report ITU-R Ad hoc ITU-R Ad Hoc Contact (Telecom Italia) Report
discussion: no comments
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 WP5A:

RP-111608 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS ON "WIDE-AREA SENSOR AND/OR ACTUATOR NETWORK (WASN) SYSTEMS" (ITU-R WP5A/TEMP/337(Rev.1); to: 3GPP; 3GPP RAN; 3GPP2; ARIB; ATIS; ETSI; ETSI ERM; IEEE; ISO/IEC JTC 1/WG 7; ISO/IEC JTC 1 SC 31 WG 6; TIA; TTA; WGA; and XGP Forum; cc: -; contact: -) ITU-R WP5ALSin
related to MTC; no RAN action requested; LS will also be available at SA #54; LSin RP-111608 is a follow-up of LSin of RP-110927 of RAN #53;
conclusion: noted, no LS answer from RAN

RP-111609 LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS (PPDR) ON THE PRELIMINARY DRAFT NEW REPORT ITU-R M.[LMS.PPDR.UHF CHANNELS]: CHANNELIZATION SCENARIOS FOR PUBLIC PROTECTION AND DISASTER RELIEF OPERATIONS IN SOME PARTS OF THE UHF BAND IN ACCORDANCE WITH RESOLUTION 646 (WRC-03) (ITU-R WP5A/TEMP/342; to: 3GPP, 3GPP2, APCO, ARIB, ATIS, AWG, CDG, ETSI, ETSI EMTEL, ETSI ERM, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin
related to PWS; no RAN action requested; LS will also be available at SA #54; LSin RP-111609 is a follow-up of LSin RP-110928 of RAN #53 which was answered by RAN #53 in RP-111398;
discussion: T-Mobile: text from our intial response is included
Motorola Solutions: do we need to answer it from this RAN meeting, or can RAN4 take care?
RAN chairman: preferences?
Motorola Solutions: we could ask WGs as no urgency and can then see in March 2012

conclusion: noted, LS answer from RAN postponed (ACTION_ITEM_1 for RAN1 and RAN4: treat this LS in next WG meetings and provide feedback to RAN #55 so that RAN can reply to this LS)

RP-111610 "LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS – INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF REPORT ITU-R M.2014-1: DIGITAL LAND MOBILE SYSTEM FOR DISPATCH TRAFFIC
(ITU-R WP5A/TEMP/352; to: 3GPP, 3GPP2, APCO, ARIB, ATIS, AWG, CDG, ETSI, ETSI EMTEL, ETSI ERM, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, WiMAX Forum; cc: -; contact: -) ITU-R WP5A LSin
no RAN action requested; LS will also be available at SA #54; LSin RP-111610 is a follow-up of LSin of RP-110926 of RAN #53;
conclusion: noted, no LS answer from RAN

ITU-T SG13:

RP-111406 LS on Request for information for the new draft Recommendation Q.1741.8 (referencing of 3GPP Release 10) REL-10 -
(ITU-T SG13 COM13-LS173; to: 3GPP; cc: CCSA, ETSI, ATIS, TTA, TTC, ARIB; contact: ETRI) ITU-T SG13 LSin
no RAN action requested; note: LS is also submitted to SA #54 (more for SA/CT to comment);
discussion: RAN chairman: OPs had some discussions about which version to be submitted, OPs prefer to submit Sep. 2011 versions to ITU-T and ITU-R
Specifications manager: main discussion will take care in CT about this
conclusion: noted, no LS answer; Sep.2011 version will probably be submitted to ITU-T and ITU-R, will also be discussed in CT this week

RP-111407 LS on New work item on the framework on the identifiers in Future Networks
(ITU-T SG13 COM13-LS196; to: IETF, 3GPP; cc: -; contact: NEC) ITU-T SG13 LSin
no RAN action requested;
discussion: NEC: by Feb. 2012 it would be good to reply but for RAN to reply
RAN chairman: SA #54 will take care of the LS next week
conclusion: noted, no LS answer (will be treated at SA #54)

8 RAN WGs: WG Status Reports & CR Approvals Rel-99 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-111421 Status Report RAN WG1 RAN1 chairman (Alcatel-Lucent) Report
discussion: RIM: slide 18 PRACH: PRACH is just one solution based on RRC signalling; non of the solution is selected so far
RAN1 chairman: ok
LG: slide 13 ping pong between RAN1 and RAN2, one group should take a step forward regarding RACH on SCell
RAN1 chairman: it was clarified that final decision should be taken in RAN2
RAN2 chairman: we received this LS from RAN1 and take a conclusion at next RAN2 meeting
Ericsson: slide 19: LS has a more general nature than it is on the slide
RAN1 chairman: ok, but message in LS is clear
conclusion: noted

RP-111422 List of CRs from RAN WG1 RAN1 Info
conclusion: noted

8.1.2 Discussions on decisions from RAN WG1

RP-111412 LS on additional special subframe configuration for E-UTRA TDD in Rel-11 REL-11 TEI11 (R1-114469; to: RAN; cc: RAN2, RAN3, RAN4; contact: CMCC) RAN1 LSin

RAN action requested; motivation for new subframe configuration?;

discussion: RAN chairman: what work can be treated under TEI: work that can be addressed by single WG and in one quarter of a year; more than 1 WG needed?
CMCC: when RAN1 has finished, they will inform RAN2 when signalling is needed
RAN chairman: if more than 1 WG involved then we better have a WI for it to track the work (it is not a question of the amount of the work); we also need to discuss the REL-11 or REL-12 question
CATT: needed work is small and we do not expect long debate, we will not touch existing reference signal design so RAN1 can directly start with CRs, RAN2/RAN3 signalling impact should be small, RAN4/RAN5: no need to involve them here
Ericsson: agrees that it is minor work
Renesas: even simple things in RAN1 can take longer time, only one WG meeting until next RAN meeting; no urgency to include it in REL-11 in case it becomes controversial
CMCC: we can keep the workload low in WGs by email discussions
Huawei: supports CMCC
RAN1 chairman: clear guidance from RAN that work should be reduced to a minimum and have no optimizations could be a way forward
TeliaSonera: prefers to have WI
RAN3 chairman: expectation to have all CRs together RAN1/RAN2/RAN3?
RAN chairman: this is one reason to have a separate WI
RAN1 chairman: no need to rush for having CRs ready in one cycle, we could have a WI in March and then we have still 6 months to finish the CRs and they could still remain in REL-11
CATT: would this then be separate from prioritisation discussion in March?
RAN1 chairman: would keep it in the prioritization discussion but since work is expected to be small there should be no problem to consider the WI
Telecom Italia: what to do if small work becomes bigger
RAN chairman: will be treated on Tue

conclusion: noted, WI proposal to be provided for RAN #55, WI will be part of prioritization discussion but as it is considered to be a small issue it is likely that the WI will be approved at RAN #55;
no LS answer from RAN

8.1.3 Approval of CRs to Rel-99, Rel-4, Rel-5, Rel-6 and Rel-7 with linked CRs

RP-111663 CRs to 25.214 to clarify UL DPCCH Slot Format when DPC_MODE is 1 and CPC is not Enabled RAN1 CR25.214set REL-7RANimp-CPC

conclusion: postponed, will be considered again in RAN1 (e.g. CR linking, considered REL and which TS) however the principle of the CR is not challenged

RP-111664 CRs to 25.221 to correct TPC on Non-scheduled E-PUCH for LCR TDD RAN1 CR25.221set REL-7LCRTDD-EDCH-Phys

conclusion: approved

8.1.4 Approval of CRs to Rel-8

8.1.4.1 CRs for LTE [LTE-Phys]

8.1.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8]

RP-111659 Non-implementation of features where FGI is not applicable Vodafone Disc REL-8 TEI8

discussion: Qualcomm: 4TX support for UE is mandatory and no FGI for this, nothing in the standard what to do if UE does not comply with this; does not see benefit to have this text in the standard
Ericsson: Vodafone proposal is one way forward, so we have some understanding for this proposal
Telecom Italia: we have a problem here and RAN1 should be tasked to address this problem
Huawei: thought it is not the intention to change specification text
Vodafone: no one will read highlighted issues in former RAN meeting minutes so we have some fear that without a note in the specification it will be forgotten
Motorola Solutions: assumption is that the feature is mandatory, does it mean if we do not add such a note for other mandatory features that they are not mandatory anymore?
Vodafone: no, this was not the intention, we want to highlight a scenario, note will be short; but if we find other important issues we need to also include them in the specification
Mediatek: it is more the testing that is critical here; full testing request to GCF might be an appropriate way forward
Qualcomm: statement that we would add would be very obvious
RAN1 chairman: we should have a RAN and not a RAN1 decision about this

conclusion: noted, offline discussion later this week, as consequence of the offline discussion Vodafone is providing RP-111759

RP-111759 Enabling operation downlink 4TX in LTE networks Alcatel-Lucent, Vodafone, Ericsson, ST-Ericsson Disc REL-8 TEI8

discussion: RIM: what does "sufficient test coverage" mean? to test P-BCH reception?
NEC: P-BCH reception can not be tested in RAN5, some other alternatives needed
RAN2 chairman: proposal to ask RAN4/RAN5 is ok, but text proposal is not ok
AT&T: UE will not be able to access the cell which seems very drastic, no alternative?
Vodafone: we want to access via P-BCH in any network so this is fundamental; that's why we have the concern
Panasonic: P-BCH is not required to be received before RACH access in case of handover. Some rewording would be required
RAN1 chairman: to ask RAN4/RAN5 to check test coverage could be agreed note and we might be able to agree "a note" in the spec and leave wording for later discussion
RIM: we might ask RAN5 to develop a mandatory test case for REL-8 with this so we need to understand this
RAN5 chairman: we need to have some clarification in RAN5 in case we receive the question
Qualcomm: concerned to ask RAN4/RAN5
Samsung: whatever test case we develop it will not be applicable to UEs already in the field, thinks we can agree the wording as it is
Fujitsu: the current wording says what is required if UE does not support 4TX, it might be better to phrase this in a positive way (if it supports it)
Vodafone: some UEs did not have implemented all mandatory features in the past that's why we need to formulate the consequences
RAN chairman: so further offline discussion needed, if no consensus it will be postponed to RAN #55
Vodafone: a lot of companies that commented now did not take part in previous offline discussion
RAN1 chairman: not sure that offline discussion this week will be successful as companies might have to check back home
Vodafone: prefers to have at least some offline discussion to find a way forward this week, we can not ignore this problem as done in the past

conclusion: further offline discussion needed, finally Tdoc was revised in RP-111773

RP-111773 Enabling operation downlink 4TX in LTE networks Vodafone, Alcatel-Lucent, Ericsson, ST-Ericsson Disc REL-8 TEI8

discussion: Alcatel-Lucent: is a reasonable way forward
Motorola Solutions: if RAN4/RAN5 come back indicating there is sufficient test coverage would we still need the note?
Vodafone: this is independent
Motorola Solutions: if the note is anyway there then we do not need to send them the note
RAN5 chairman: would like to have an LS instead of an action point from RAN
RAN4 chairman: supports RAN5 chairman to have an LS

Vodafone: [21] is 36.211
France Telecom: "might not be able to connect" or "will not be able to connect"? we think "might" is correct
Vodafone: no way that an operator can control this
conclusion: noted, Vodafone will draft an LS to RAN4, RAN5 in RP-111775; how to capture note can be discussed at RAN #55

RP-111775 Draft LS on Enabling operation downlink 4TX in LTE networks (to: RAN4, RAN5; cc: -; contact: Vodafone) Vodafone LSout REL-8 TEI8
conclusion: revised in RP-111777

RP-111777 LS on Enabling operation downlink 4TX in LTE networks (to: RAN4, RAN5; cc: -; contact: Vodafone) RAN LSout REL-8 TEI8
conclusion: approved

8.1.5 Approval of CRs to Rel-9

8.1.5.1 CRs related to LTE

8.1.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

RP-111665 CRs to 25.222 to clarify Physical channel mapping for HS-DSCH for secondary carrier TS0 for LCR TDD RAN1 CR 25.222 set REL-9 TEI9
conclusion: approved

8.1.6 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-111423 Status Report RAN WG2 RAN2 chairman (Ericsson) Report
discussion: ZTE: slide 45: intention regarding cross-carrier scheduling: scenarios should be supported
Telecom Italia: MDT was considered most important in prioritization but not enough time for this was spent so this topic should be prioritized more in the future
conclusion: noted

RP-111424 List of CRs from RAN WG2 RAN2 Info
conclusion: noted

8.2.2 Discussions on decisions from RAN WG2

LTE FDD/TDD capability:

RP-111413 LS on Capability handling of LTE TDD and FDD modes REL-9 TEI9, LTE-L23 (R2-116557; to: RAN; cc: -; contact: Qualcomm) RAN2 LSin
RAN action requested;
conclusion: noted, finally LS answer drafted by Qualcomm in RP-111737

RP-111569 On the UE capabilities of LTE FDD and LTE TDD Qualcomm Disc REL-9 TEI9, LTE-L23
discussion: CMCC: section 3: higher layer features:what is the difference for FDD and TDD?
Qualcomm: differences apply only to some of the features of the list, esp. for inter-RAT the feature itself creates the difference(s)
Vodafone: rationale for just starting this in REL-9 (instead of from REL-8 onwards)
Qualcomm: REL-8 is out in the field (so cannot be changed anymore) but it is urgent to be

solved (so REL-9)
LG: 4.2.2: solution A in connected mode can also apply to idle mode?
Qualcomm: connected mode mobility is radio function, idle mode mobility is core network function
RAN2 chairman: connected and idle mode aspects can be combined but we should decide here in RAN before asking SA2 to take care of idle mode
Motorola Solutions: solution for REL-8?
Qualcomm: some temporary solutions might be considered for REL-8
Huawei: to conclusion 4 & 5 of the Tdoc: in 5 you skip something of 4 so how should it work?
Qualcomm: we can limit flexibility to certain capabilities and FGIs
conclusion: noted

RP-111613 Handling of UE Capabilities Supporting both TDD&FDD in the Network Nokia Siemens Networks, Nokia Corporation Disc REL-9 TEI9, LTE-L23
conclusion: noted

RP-111618 E-UTRA capability handling for dual mode UEs (FDD/TDD) Clearwire Disc REL-9 TEI9, LTE-L23
discussion: Clearwire: suggests to task RAN2 to solve this in REL-9 in the next quarter
Telefonica: international roaming: long or short-term?
Clearwire: long term solution would be fine for us
Vodafone: why can load balancing not work with attach/detach option?
Clearwire: is a performance issue
ZTE: for phase 1: for REL-9 or REL-10; TAU based also for REL-10?
Clearwire: if we apply it for REL-9 then it will stay for REL-10
conclusion: noted

RP-111624 Support for different FDD/TDD Capability & FGI bits Samsung, NTT DOCOMO Disc REL-9 TEI9, LTE-L23
discussion:
conclusion: noted

general discussion:
RAN chairman: we should agree here on fundamental aspects, details to be solved in RAN2
RAN chairman: separate bits for FDD and TDD?
CMCC: should we not discuss on Tue evening
Huawei: would consider commonality as a starting point
RAN chairman: but most of the Tdocs consider separate approaches for FDD and TDD
NSN: not all of them should be different for FDD and TDD but we need to clarify which one should be different
Mediatek: trying to have commonalities and only where needed differentiate between FDD and TDD
Clearwire: in RAN2 there is not agreement so far that there is a problem so maybe this can be clarified, we are not just talk about FGI bits but it is going beyond into UE capabilities
Huawei: we should not just indicate to RAN2 that there is a problem and they can separate whatever they like, some guidance is needed
Qualcomm: from which REL needs to be also decided here at RAN
RAN chairman: problem exists, REL, timeplan until when we need to decide what
CMCC: better to have some clear guidance from RAN then to have endless discussions in RAN2
RAN chairman: offline discussion after Tue to discuss which FGI bits should be different between FDD and TDD
conclusion: after offline discussion
Qualcomm drafted an LS in RP-111737 with 5 conclusions, e.g.
- REL-9 will be considered
- RAN2 will look at signalling
- RAN1/RAN2 which bits should be different, final decision at RAN #55 (will inform also SA #55)

Fujitsu: only for FGI or also for UE capabilities
Qualcomm: wasn't discussed in detail in the offline discussion but in our view both

RP-111737 Draft LS reply to RP-111413 = R2-116557 on FGI/capability handling of LTE TDD and FDD modes (to: RAN1, RAN2, SA2, CT1; cc: SA; contact: Qualcomm) Qualcomm LSout LS03 REL-9 TEI9, LTE-L23

discussion: CMCC: to d. forward compatible, for future REL we are not sure whether we will have FGI so should probably be removed
Qualcomm: was proposed by Vodafone
Vodafone: we do not reinvent something or another solution if we find a problem in a later REL, so prefers a single solution
CMCC: would suggest to add "if applicable" at the end of d.
Vodafone: prefers "if a similar problem is identified"
CATT: would prefer to not add something
Clearwire: so for FGI bits we have really no FDD/TDD split, RAN2 is aware of the situation, so the sentence is not needed
RAN chairman: we keep the sentence as it is RP-111737
NSN: what should SA2 colleagues do with it?
Qualcomm: was also added by Vodafone
Vodafone: on idle mode because of NAS related solution, originally SA2 was asked to restrict UE capabilities after attach
TeliaSonera: unclear who should do what first
conclusion: offline discussion, will be revised in RP-111760

RP-111760 Draft LS reply to RP-111413 = R2-116557 on FGI/capability handling of LTE TDD and FDD modes (to: RAN1, RAN2, SA2, CT1; cc: SA; contact: Qualcomm) Qualcomm LSout REL-9 TEI9, LTE-L23
conclusion: revised in RP-111768

RP-111768 Draft LS reply to RP-111413 = R2-116557 on FGI/capability handling of LTE TDD and FDD modes (to: RAN1, RAN2, SA2, CT1; cc: SA; contact: Qualcomm) Qualcomm LSout REL-9 TEI9, LTE-L23
discussion: Huawei: first action to RAN1 and RAN2: "subset of UE capabilities *allowed* to be different" is unclear, WGs should make proposals on where there are gains and RAN decides
Qualcomm: agrees with Huawei
Ericsson: no change of text is needed
Fujitsu: "is allowed" should be changed to "could be allowed"
Huawei: technical benefit to be different needs to be shown
Fujitsu: with change above this could be covered
conclusion: revised in RP-111770 to provide final version (adding some "kindly" and replace "is allowed" by "could allowed"

RP-111770 LS reply to R2-116557 = RP-111413 on FGI/capability handling of LTE TDD and FDD modes (to: RAN1, RAN2, SA2, CT1; cc: SA; contact: Qualcomm) RAN LSout LS03 REL-9 TEI9, LTE-L23
conclusion: approved

RP-111641 Handling of UE Capabilities supporting both TDD&FDD in the Network Nokia Siemens Networks, Nokia Corporation Disc LS03 REL-9 TEI9, LTE-L23
related to LSin RP-111413
conclusion: withdrawn

Other:

RP-111637 Dual-SIM Dual-Standby UEs and their impact on the RAN Ericsson Disc REL-11 -
might affect earlier REL than REL-11
discussion: RAN chairman: for the moment we have no proposal for a new WI but it is just intended to initiate a discussion here
China Unicom: some more clarification/maybe offline discussion needed before having a WI
RAN chairman: So please discuss further offline and think about a WI
Telecom Italia: intended to go under prioritization?
RAN chairman: so far we have no WI proposal
NEC: so WGs should not discuss the topic?
RAN chairman: correct, no WI => no discussion in WGs
Ericsson: agrees with chairman, please contact us directly in case you have questions and comments to this topic
conclusion: noted, further discussion (not in WGs) can take place and a WI proposal could be prepared

RP-111656 A possible FGI bit split for Inter-RAT ANR TeliaSonera Disc REL-8 LTE-L23
related to FGI for ANR (see also RAN2 email discussion [75b#33])

discussion: TeliaSonera: separate FGI bits for UTRAN and GERAN proposed
Alcatel-Lucent: RAN2 has discussed it in the last 2 meetings and there are agreed CRs, but not enough bits for each ANR for every RAT
TeliaSonera: no intention to challenge existing CRs, extension of FGI bit table intended, also 4 bits left
NTT DOCOMO: motivation is handover procedure is restricted?
TeliaSonera: if UE supports ANR for UTRAN and GERAN no problem, we would like to support ANR and handover to UTRAN which is not possible
Qualcomm: supports TeliaSonera but we have not enough bits left, there is also 1X
TeliaSonera: 4 undefined bits 28, 29, 31, 32
RAN chairman: could we send LS to RAN2 indicating that RAN2 can go ahead?
NTT DOCOMO: in REL-8 the for bits are true, but above only 31 and 32 are left
Alcatel-Lucent: agrees with Qualcomm 4 bits in bit 19 so we are really limited, so we could ask RAN2 to consider potential solutions but asking RAN2 to go forward is probably not useful
conclusion: noted, offline discussion among RAN2 experts to find a way forward
TeliaSonera drafted an LS to RAN2 in RP-111747

RP-111747 Draft LS on FGI handling for inter-RAT ANR (to: RAN2; cc: -; contact: TeliaSonera) TeliaSonera LSout REL-9 TEI9, LTE-L23
discussion: TeliaSonera: one typo, should say "inter-RAT **ANR**"
Qualcomm: "analyze which RATs" not needed
TeliaSonera: was more an example, but it is ok to remove it
Telecom Italia: would like to remove both examples and leave this to RAN2
Alcatel-Lucent: REL-9 or REL-10
TeliaSonera: we would prefer from REL-9 but this is up to RAN2 to decide
NTT DOCOMO: 3 bullets after first paragraph: "inter-RAT **ANR** to GERAN": ANR missing
TeliaSonera: yes, was the typo
Fujitsu: RAN2 could end up with different solutions for REL-9 and REL-10
CMCC: FGI topic will be finally decided at RAN so RAN2 can just report to RAN
TeliaSonera: RAN2 will bring CRs and RAN can decide which one to approve
ZTE: RAN2 action: RAN2 will never investigate IOT but just FGIs
RAN2 chairman: current text is clear enough for RAN2
CMCC: after removal of examples some rewording is needed
NEC: successful misspelled twice
conclusion: revised in RP-111761 to remove examples, typos will be corrected, further offline discussion about wording

RP-111761 Draft LS on FGI handling for inter-RAT ANR (to: RAN2; cc: -; contact: TeliaSonera) TeliaSonera LSout REL-9 TEI9, LTE-L23
discussion: no comments
conclusion: revised in RP-111771 to provide final LS

RP-111771 LS on FGI handling for inter-RAT ANR (to: RAN2; cc: -; contact: TeliaSonera) RAN LSout REL-9 TEI9, LTE-L23
conclusion: revised in RP-111772 since RP-111771 still indicates "Draft" in the title

RP-111772 LS on FGI handling for inter-RAT ANR (to: RAN2; cc: -; contact: TeliaSonera) RAN LSout REL-9 TEI9, LTE-L23
conclusion: approved

8.2.3 Approval of CRs to Rel-99, Rel-4, Rel-5, Rel-6 and Rel-7 with linked CRs

RP-111701 RAN2 REL-4 CR set on Correction to Default Radio Configurations for TDD RAN2 CR 25.331 set REL-4 TEI4
conclusion: approved

RP-111702 RAN2 REL-10 CR for REL-6 WI FDD Enhanced Uplink - Layer 2 and 3 Protocol Aspects RAN2 CR 25.331 4813 - F REL-10 TEI10, EDCH-L23
conclusion: approved

RP-111703 RAN2 CR set for REL-7 WI Improved L2 support for high data rates RAN2 CR 25.331 set REL-7 RANimp-L2DataRates
conclusion: approved

RP-111704 RAN2 CR set for REL-7 WI Enhanced CELL_FACH State in FDD RAN2 CR 25.331 set REL-7 RANimp-EnhState
conclusion: approved

RP-111705 RAN2 REL-7 CRs to Clarify the total number of soft channel bits of HSDSCH physical layer category 19 and 20 RAN2 CR set REL-7 RANimp-64QamDownlink, MIMO-L23
note: no cat.A CRs needed
conclusion: approved

8.2.4 Approval of CRs to Rel-8

8.2.4.1 CRs for LTE [LTE-L23]

RP-111706 RAN2 CR sets on REL-8 WI LTE – Radio Interface Layer 2 and 3 Protocol Aspect RAN2 CR set REL-8 LTE-L23
no REL-10 cat.A needed for R2-116389/R2-116390 (see 36.321 CR R2-116388 in RP-111716 instead)
conclusion: approved

RP-111707 RAN2 CR set on CSI/SRS reporting at DRX state transitions for REL-8 WI LTE – Radio Interface Layer 2 and 3 Protocol Aspect RAN2 CR 36.321 set REL-8 LTE-L23
see company CRs RP-111605 and RP-111606 which intend to replace the REL-10 CR of RP-111707
conclusion: R2-115704 (REL-8) and R2-116378 (REL-9) CRs approved
R2-116383 (REL-10) CR revised in RP-111605

RP-111605 CSI/SRS reporting at DRX state transitions Panasonic CR 36.321 0526 1 A REL-10 LTE-L23
company contribution replacing RAN2 agreed R2-116383 in RP-111707 by 2 CRs: a real cat.A CR RP-111605 and a cat.F CR RP-111606
conclusion: approved

RP-111606 CSI/SRS reporting at unexpected Active Time stopping Panasonic CR 36.321 0527 - F REL-10 TEI10, LTE-L23
company contribution replacing RAN2 agreed R2-116383 in RP-111707 by 2 CRs: a real cat.A CR RP-111605 and a cat.F CR RP-111606
discussion: Mediatek: functionally equivalent to the original CR?
RAN2 chairman: yes, we actually approved REL-8/9 CRs at RAN #53
conclusion: approved

8.2.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8]

RP-111708 RAN2 REL-8 CR sets related to UTRA RAN2 CR set REL-8 TEI8, RANimp-UplinkL2dataRates
conclusion: approved

8.2.5 Approval of CRs to Rel-9

8.2.5.1 CRs related to LTE

RP-111709 RAN2 CRs to REL-9 WI Positioning Support for LTE RAN2 CR set REL-9 LCS_LTE
conclusion: approved

RP-111710 RAN2 CRs on REL-9 small technical enhancements and improvements for LTE RAN2 CR set REL-9 TEI9, LTE-L23
conclusion: approved

RP-111711 RAN2/RAN3 REL-10 CR sets for REL-9 WIs Home NB and Home eNB enhancements - RAN2/RAN3 aspects RAN2 CR set REL-10 EHNB-RAN2, EHNB-RAN3, TEI10
conclusion: approved

RP-111631 Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. Disc REL-9 TEI9, LTE-L23
conclusion: revised in RP-111730
RP-111730 Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. Disc REL-9 TEI9, LTE-L23
conclusion: noted

RP-111632 Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. CR 36.331 0846 - F REL-9 TEI9, LTE-L23
company contribution
conclusion: revised in RP-111731
RP-111731 Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. CR 36.331 0846 1 F REL-9 TEI9, LTE-L23
company contribution
conclusion: revised in RP-111738 CR0846r2
RP-111738 Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. CR 36.331 0846 2 F REL-9 TEI9, LTE-L23
company contribution
conclusion: withdrawn

RP-111633 Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. CR 36.331 0847 - A REL-10 TEI9, LTE-L23
company contribution
conclusion: revised in RP-111732
RP-111732 Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. CR 36.331 0847 1 A REL-10 TEI9, LTE-L23
company contribution
discussion: Nokia: we have a rewording proposal (referring to NAS capabilities TS 24.301), we should respect other group's specs
NTT DOCOMO: we would be ok with this if there are no concerns with the rewording
Samsung: would like to check before approval
conclusion: revised in RP-111739 CR0847r2
RP-111739 Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1" NTT DOCOMO, INC. CR 36.331 0847 2 A REL-10 TEI9, LTE-L23
company contribution
conclusion: withdrawn

RP-111753 Draft LS on FGI 27 in LTE and Single Radio VCC ((to: RAN2, SA2, CT1; cc: SA, GERAN2; contact: Qualcomm) Qualcomm LSout REL-9 TEI9, LTE-L23
replacing CRs RP-111738 and RP-111739
discussion: NEC: in joint meeting in San Francisco it was decided that SA2 should take the lead here, so CT1 should be just cc
NTT DOCOMO: maybe we should clarify what problem we see
conclusion: revised in RP-111762
RP-111762 Draft LS on FGI 27 in LTE and Single Radio VCC (to: RAN2, SA2; cc: SA, CT1, GERAN2; contact: Qualcomm) Qualcomm LSout REL-9 TEI9, LTE-L23
discussion: Nokia: mandatory from radio perspective but capability from NAS perspective
AT&T: LS should be rephrased to make sure that SA2 will come back to us
Qualcomm: SA2 is anyway working on this
Intel: tested for GERAN but not for UTRAN?
conclusion: revised in RP-111769 which is the final version
RP-111769 LS on FGI 27 in LTE and Single Radio VCC (to: RAN2, SA2; cc: SA, CT1, GERAN2; contact: Qualcomm) RAN2 LSout REL-9 TEI9, LTE-L23
conclusion: approved

8.2.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

RP-111712 RAN2 CRs on REL-9 small technical enhancements and improvements for UTRA RAN2 CR25.304set REL-9TEI9
conclusion: approved

8.2.6 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-111425 Status Report RAN WG3 RAN3 chairman (Qualcomm) Report
discussion: ZTE: mobile relay impact on other WGs?
RAN3 chairman: depends on architecture approach which is not yet decided
Samsung: RAN3 location for March 2012?
RAN3 chairman: Mexico
conclusion: noted

RP-111426 List of CRs from RAN WG3 RAN3 Info
conclusion: noted

8.3.2 Discussions on decisions from RAN WG3

8.3.3 Approval of CRs to Rel-99, Rel-4, Rel-5, Rel-6 and Rel-7 with linked CRs

8.3.4 Approval of CRs to Rel-8

8.3.4.1 CRs for LTE [LTE-interfaces]

8.3.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8]

8.3.5 Approval of CRs to Rel-9

8.3.5.1 CRs related to LTE

8.3.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

RP-111645 DTXDRX HS-SCCH order CRs RAN3 CRset REL-9RANimp-CPC, TEI9
conclusion: approved

RP-111646 TEI9 CRs RAN3 CR set REL-9 TEI9
conclusion: approved

8.3.6 Approval of linked CRs where the leading one originated from RAN WG3

RP-111647 Correction of emergency call RAN3 CR set REL-9 TEI9
includes linked RAN2 CR R2-116529 (no REL-10 cat.A CR needed for it)
conclusion: approved

8.4 TSG RAN WG4

8.4.1 Report from RAN WG4 including report on actions required from the previous meeting

RP-111427 Status Report RAN WG4 RAN4 chairman (Apple) Report
conclusion: revised in RP-111744 after presentation of RP-111427 for a few corrections
RP-111744 Status Report RAN WG4 RAN4 chairman (Apple) Report
conclusion: noted

RP-111428 List of CRs from RAN WG4 RAN4 Info
conclusion: noted

RP-111643 RAN4 work load analysis RAN4 chairman (NSN) Info
discussion: CMCC: page 6 typo: one WI on demulation performance was already finished last time,
TeliaSonera: workload in terms of meeting time the same as in terms of Tdocs? CA: framework continuation for low high already almost done ? so should we consider 2 UL?
RAN4 chairman (NSN): workload in terms of meeting time is ok but we need to care also for the workload between meetings; CA: still some work on 1 UL case needed, later next year we can then start for 2 UL
RAN chairman: on the CA framework we will see a Qualcomm later this week
Huawei: REL-10 workload on last slide, not approve new WIs is there a relation? REL-11: red prioritization line where would you put it on slide 5?
RAN4 chairman (NSN): postponing until next plenary intended instead of red line
Huawei: ranking on slide 5 should be taken into account
RAN chairman: clearly supports first bullet on slide 9, 2nd bullet will be addressed on Wed morning, last bullet will be addressed when we come to Qualcomm Tdoc
conclusion: noted

8.4.2 Discussions on decisions from RAN WG4

LTE FDD/TDD handover:

RP-111557 LS on Handover support between LTE FDD and LTE TDD REL-8
(to: RAN4, RAN5; cc: RAN; contact: Clearwire) Global TD-LTE Initiative (GTI) Task Force LSin
no RAN action requested; RAN4 answered this LS in R4-116245 = RP-111415 and RAN5 answered this LS in R5-115781 = RP-111418;
conclusion: noted, no LS answer from RAN

RP-111415 Reply LS to GTI LS R4-116244 = RP-111557 on handover support between LTE FDD and LTE TDD REL-8 LTE-RF
(R4-116245; to: Global TD-LTE Initiative (GTI); cc: RAN, RAN5; contact: Clearwire) RAN4 LSin
note: included RAN action is actually only for GTI infomation , see RP-111414 instead for the action;
discussion: Telecom Italia: LS indicates action for GCF which should say GTI
conclusion: noted, no LS answer from RAN

RP-111418 Response LS to GTI LS R5-115075 = RP-111557 on Handover support between LTE FDD and LTE TDD REL-8 LTE-UEConTest
(R5-115781; to: Global TD-LTE Initiative (GTI); cc: RAN, RAN4; contact: NTT DOCOMO) RAN5 LSin
no RAN action requested;

conclusion: noted, no LS answer from RAN

RP-111414 LS on FDD/TDD and HRPD/CDMA2000 RRM tests REL-8 LTE-RF
(R4-116194; to: RAN; cc: -; contact: Renesas) RAN4 LSin LS01
RAN action requested;
discussion: RAN chairman: agreement about REL-8 or REL-9 possible?
NEC: should RAN wait for GCF decision?
RAN5 chairman: GCF reacts to market requirements and to specifications and GCF will react when necessary
Clearwire: for idle mode and mobility test case we go back just to REL-9 so this would be ok for this; but CMCC was addressing international roaming case which goes back to REL-8
CMCC: would like to double check with RAN5 colleagues
RAN chairman: yes, we could come back later this week
RAN5 chairman: would not like to go back to REL-8
Qualcomm: also supports to start from REL-9
Samsung: starting from REL-9 is ok
conclusion: noted, start from REL-9 unless CMCC raises concerns on Wed of RAN #54, will then decide about LS answer from RAN
On Wed of RAN #54:
CMCC: fine to go for REL-9
Concluded that Clearwire will draft LS RP-111742 to GTI, RAN4, RAN5 to indicate that we start from REL-9.
Panasonic: we have still related discussions under other agenda items?
Clearwire: RRM test cases provided by RAN4 for REL-10, core requirements are in REL-8/9, no redirection considered so far
Panasonic: Sorry I meant reselection case
Qualcomm: FGI/UE capabilities discussions will still be considered separately from this LS here
RAN chairman: discuss this offline please and we will see the draft LS answer from Clearwire in RP-111742

RP-111742 Draft reply LS to R4-116194 = RP-111414 on FDD/TDD and HRPD/CDMA2000 RRM tests (to: RAN4; cc: RAN5; contact: Clearwire) Clearwire LSout REL-9 TEI9, LTE-RF
discussion: no comments
conclusion: revised in RP-111763 to provide final version

RP-111763 Reply LS to R4-116194 = RP-111414 on FDD/TDD and HRPD/CDMA2000 RRM tests (to: GTI, RAN4, RAN5; cc: -; contact: Clearwire) RAN LSout REL-9 TEI9, LTE-RF
conclusion: LSout is approved

Other:

RP-111568 On LTE CA Band Combinations Qualcomm Disc REL-11 -
discussion: RAN chairman: this Tdoc was already presented in RAN4?
Qualcomm: yes, it is essentially the same
SK Telekom: cannot agree with the proposal due to deployment plans
NTT DOCOMO: can also not agree, approach of new RAN4 chairman is sufficient, suggests that supporting companies provide detailed work plans for their WIs
AT&T: thanks for the analysis and categorization, no concern from former or new RAN4 chairman were raised, operators talk with their vendors to clarify where priorities are
Qualcomm: alternative to our proposal is that vendors will at the end make their choice because of the resources they have, so we would rather prefer that operators agree on priorities
Sharp: it will be difficult for RAN to prioritize since RAN would debate deployment plans and market interests
Renesas: sees problems of both sides but there are limited resources
US Cellular: prefers to drive the progress via individual operator-vendor cooperation rather than decision from RAN
Nokia: ideally a prioritization would be better but we accept that it is difficult
NTT DOCOMO: one company does not need to be involved in all combinations, also operators should contribute
Telecom Italia: supports the Qualcomm approach

Ericsson: we also support Qualcomm proposal but as Nokia we see the difficulties, also the question of 2 UL should be decided that was excluded in the past
conclusion: noted, further offline discussion, as a consequence Qualcomm provided RP-111748

RP-111748 Way forward on LTE CA Band Combinations Qualcomm Disc REL-11 -
proposed rules:
1. The spectrum is allocated
2. The band is owned by the operator
3. The operator has already deployed LTE in at least one of the bands to be aggregated
4. One combination per operator
discussion: Clearwire: we can some of the intra-band cases not be considered which should be simple?
Qualcomm: they still require band per band consideration
Sprint: to 2./3. there are a number of WIDs present by equipment manufacturers
Qualcomm: then we need to identify the operator who is interested
NTT DOCOMO: we need to identify what it the fundamental issue, large number of combinations but there are other issues which take longer
US Cellular: difficult to predict spectum ownership, deployment plans etc., points 1./2. and 4. seems to be reasonable to some point; if there are no contributions then the corresponding band combination will not go forward so no need to administrate this
NEC: prioritization exists already in working procedures so no further prioritization is needed
DBSD: supports Qualcomm initiative
Sharp: similar view as US Cellular, let market decide and operators discuss with their vendors
AT&T: 1./2. are quite obvious, to 4. we have 4 combinations due spectrum portfolio and geographic requirements, so 4. will not work
RAN chairman: it seems to be difficult to agree on this document, analyze where the real problems are and suggests to continue discussion
conclusion: noted, analysis of the problems and potential solutions should be provided to RAN #55

8.4.3 Approval of CRs to Rel99, Rel-4, Rel-5, Rel-6 and Rel-7 with linked CRs

8.4.4 Approval of CRs to Rel-8

8.4.4.1 CRs for LTE [LTE-RF]

RP-111680 CRs for Rel-8 LTE 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-111681 Rel-8 CRs for Closed WIs and Small TEIs RAN4 CR set REL-8 TEI8
conclusion: approved

8.4.5 Approval of CRs to Rel-9

8.4.5.1 CRs related to LTE

RP-111682 Rel-9 maintenance CRs for LTE RAN4 CR set REL-9 LTE-RF
conclusion: approved

8.4.5.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI9]

RP-111683 Rel-9 CRs for Closed WIs and Small TEIs RAN4 CR set REL-9 TEI9
conclusion: approved

8.4.6 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-111429 Status Report RAN WG5 RAN5 Chairman (NTT DOCOMO) Report
discussion: Sharp: slide 10: 420 test cases and GTI test cases, intention to keep them together or merge?
RAN5 chairman: GCF and GTI are separate issues, GCF will anticipate what's going on in RAN5, so RAN5 will take care of both
Sharp: why are the GTI test cases not covered by the GCF test cases?
RAN5 chairman: This is about TDD-FDD mobility, we have not done this before
AT&T: slide 12: Verizon has an objection but no reason?
RAN5 chairman: no objection so far, just indicating here what could happen, we will see what will happen, wants to leave the reasoning to Verizon in case they want to object
conclusion: noted

RP-111430 List of CRs from RAN WG5 RAN5 Info
conclusion: noted

RP-111431 Status Report MCC TF160 (for Approval) MCC TF 160 Leader Report
discussion: AT&T: any indication from UE vendors that they will have an IMS capable UE?
RAN5 chairman: 6 months is based on discussion with MCC TF160 Leader and suppliers
conclusion: approved

RP-111626 TF160 ToR update for 2012, for approval MCC TF160 ToR
will be presented by RAN5 Chair
conclusion: approved

8.5.2 Discussions on decisions from RAN WG5

8.5.3 Approval of CRs to Rel99, Rel-4, Rel-5, Rel-6 and Rel-7 with linked CRs

RP-111571 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-111572 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-111573 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-111574 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-7 Conformance Testing(TEI7_Test) RAN5 CRset - - 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-111575 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 1) RAN5 CRset - - F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-111576 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 2) RAN5 CRset - - F REL-8 LTE-UEConTest_RF
discussion: Verizon: R5-115209: is related to band 15 and requirement for public safety, so far Verizon is the only operator using band 15, Qualcomm proposed relaxation of requirement, originally -60dB requirements, we relaxed already by 3dB to -57dB now we relax another time by another 1.5dB so we will get in trouble; therefore we object to this CR
Qualcomm: it is band 13 not band 15, it is not a Qualcomm CR but a CR agreed by RAN5 co-signed by a number of other companies, it is a pseudo-regulatory requirement based on shared risk principle (as explained by Agilent)
Motorola Solutions: can understand Verizon's concern since the pseudo-regulatory requirement will at the end be under responsibility of the operator, suggests to shift the topic to RAN4 for further study
Nokia: does not agree with Motorola Solutions, we need to take operator's concern into account but after considering all aspects RAN5 has taken a decision
Motorola Solutions: we support the concept of shared tolerances, but the FCC requirement needs to be taken into account so further discussion is needed
Qualcomm: this topic is ongoing since Feb. 2011 so there was enough time for discussion, but we could have another 3 months discussion
Verizon: supports Motorola Solutions and we want to sent an LS to RAN4 to check
RAN5 chairman: sending LS will delay the whole topic, in case the topic is going back to RAN5 he would request an in-time Tdoc from Verizon/supporting companies why the current CR will not work
Ericsson: confused that intention is to go back to RAN4 to discuss core requirement as the topic is the test tolerance used in RAN5
RAN5 chairman: suggests to not move back to RAN4 (we could still consider this after next RAN5 meeting if really needed)
AT&T: does this really only apply to Verizon?
RAN5 chairman: is a global test case so in theory applies to everyone who wants to use it
conclusion: all CRs apart from R5-115209 approved
offline discussion on how to continue with R5-115209;
R5-115209 rejected but will be rediscussed at next RAN5 meeting;
written in time contribution expected from Verizon to next RAN5 meeting in order to discuss R5-115209 again
decision about this CR will be taken at RAN #55

RP-111577 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 3) RAN5 CRset - - F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-111578 RAN5 agreed non TTCN CR(s) under WI LTE Terminal Radio Transmission and Reception Conformance Test Specifications (LTE-UEConTest_RF) (Batch 4) RAN5 CRset - - F REL-8 LTE-UEConTest_RF
conclusion: approved

RP-111579 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-111580 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-111581 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-111582 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

RP-111698 Band 13 NS-07 test requirement Verizon Wireless Disc 36.521-1 REL-8 LTE-UEConTest_RF
conclusion: withdrawn

8.5.4.2 Other Closed Work Items and Small Technical Enhancements and Improvements [TEI8_Test, TEI9_Test]

RP-111583 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-111584 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-111585 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 - - F REL-9 TEI9_Test
conclusion: approved

RP-111587 CR to 34.229-3 (prose) update to v9.2.0 RAN5 CR 34.229-3 - - F REL-9 TEI9_Test
conclusion: withdrawn

8.5.5 Approval of linked CRs where the leading one originated from RAN WG5

RP-111586 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-9 TEI_Test, TEI7_Test, TEI8_Test, TEI9_Test
TTCN batch, 16 Test Cases
conclusion: approved

RP-111588 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 - - F REL-9 LTE-UEConTest_SIG
conclusion: approved

RP-111589 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-9 LTE-UEConTest_SIG, TEI9_Test
TTCN batch, 99 Test Cases
conclusion: approved

9 Conformance Testing Work Items

9.1 Closed Rel-10 work items

Note: For earlier releases see 8.5.

No contributions.

9.2 Open Rel-9 work items

9.2.1 Conformance Test Aspects – LTE Positioning [470018, LCS_LTE_UEConTest, 12/2011]

RP-111434 Status report for WI Conformance Test Aspects – LTE Positioning, rapporteur: Qualcomm RAN5 Report REL-9 LCS_LTE_UEConTest
470018, WID: RP-111209; RAN #53: 80%, Dec.11;
conclusion: noted, approved: 90%, March 12

RP-111563 TS 37.571-1 v2.0.0 UTRA and E-UTRA and EPC; UE conformance specification for UE positioning; Part 1: Conformance test specification; for approval Spirent TS 37.571-1 REL-9 LCS_LTE_UEConTest
RAN5 TS 37.571-1 is provided for approval
conclusion: TS 37.571-1 is approved as v9.0.0

RP-111566 TS 37.571-2, Version 2.0.0 Qualcomm TS 37.571-2 REL-9 LCS_LTE_UEConTest
RAN5 TS 37.571-2 is provided for approval
conclusion: TS 37.571-2 is approved as v9.0.0

RP-111567 TS 37.571-3, Version 2.0.0 Qualcomm TS 37.571-3 REL-9 LCS_LTE_UEConTest
RAN5 TS 37.571-3 is provided for approval
discussion: Specification Manager: first time we see a TR/TS at TSG level, it should be v1.0.0 even if for approval
NEC: we have seen the 3 TSs for information in the past at TSG level
conclusion: TS 37.571-3 is approved as v9.0.0

RP-111627 Presentation of new test spec: TS 37.571-4 v1.0.0 UTRA and E-UTRA and EPC; UE conformance specification for UE positioning; Part 4: Test Suites, for information MCC TF160 TS 37.571-4 REL-9 LCS_LTE_UEConTest
RAN5 TS 37.571-3 is provided for information
conclusion: TS 37.571-4 is noted

RP-111590 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects Positioning (LCS_LTE_UEConTest) RAN5 CRset - - F REL-9 LCS_LTE_UEConTest
conclusion: approved

9.2.2 Conformance Test Aspects - CT1 aspects of IMS Emergency Calls over GPRS and EPS [480029, IMS_EMER_GPRS_EPS_UEConTest, 12/2011]

RP-111435 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 #53: 75%, Dec.11;
conclusion: noted, approved: 80%, March 12

RP-111591 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 CRset - - F REL-9 IMS_EMER_GPRS_EPS_UEConTest
conclusion: approved

9.2.3 Conformance Test Aspects – Home NB enhancements for FDD [490020, EHNB-UTRA_FDD_UEConTest, 12/2011]

RP-111436 Status report for WI Conformance Test Aspects – Home NB enhancements for FDD, rapporteur: Huawei RAN5 Report REL-9 EHNB-UTRA_FDD_UEConTest
conclusion: revised in RP-111679

RP-111679 Status report for WI Conformance Test Aspects – Home NB enhancements for FDD, rapporteur: Huawei RAN5 Report REL-9 EHNB-UTRA_FDD_UEConTest
490020, WID: RP-111315; RAN #53: 90%, Dec.11;
conclusion: noted, approved: 100%, Dec.11; WI is completed/closed

RP-111417 LS on CSG proximity indicator testing REL-9 EHNB-LTE_UEConTest, EHNB-UTRA_FDD_UEConTest
(R5-115775; to: RAN4; cc: RAN; contact: NTT DOCOMO) RAN5 LSin
no RAN action requested;
discussion: LG: we should also forward this LS to RAN2 for information
MCC: LS will be provided to RAN2 (ACTION_ITEM_2)
conclusion: noted, no LS answer

RP-111592 RAN5 agreed non TTCN CR(s) under WI Conformance test aspects – Home NB enhancements for FDD (EHNB-UTRA_FDD_UEConTest)RAN5 CR set - - F REL-9 EHNB-UTRA_FDD_UEConTest
conclusion: approved

9.2.4 Conformance Test Aspects – MBMS support in LTE [500024, MBMS_LTE-UEConTest, 12/2011]

RP-111437 Status report for WI Conformance Test Aspects – MBMS support in LTE, rapporteur: Huawei RAN5 Report REL-9 MBMS_LTE-UEConTest
500024, WID: RP-101245; RAN #53: 95%, Dec.11;
discussion: Sharp: if work needs to be done why is it shown with 100% complete?
RAN5 chairman: minor issue that will be done as part of maintenance
conclusion: noted, approved: 100%, Dec.11, WI is completed/closed

RP-111593 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects – MBMS support in LTE (MBMS_LTE-UEConTest) RAN5 CR set - - F REL-9 MBMS_LTE-UEConTest
conclusion: approved

9.2.5 Conformance Test Aspects – Support for different bands for Dual-Cell HSDPA
[510013, RANimp-MultiBand_DC_HSDPA_UEConTest, 12/2011]

RP-111438 Status report for WI Conformance Test Aspects – Support for different bands for Dual-Cell HSDPA, rapporteur: Ericsson RAN5 Report REL-9 RANimp-MultiBand_DC_HSDPA_UEConTest
510013, WID: RP-110115; RAN #53: 60%, Dec.11;
conclusion: noted, approved: 85%, March 12

RP-111594 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects – Support for different bands for Dual-Cell HSDPA (RANimp-MultiBand_DC_HSDPA_UEConTest) RAN5 CR set - - F REL-9 RANimp-MultiBand_DC_HSDPA_UEConTest
conclusion: approved

9.2.6 Conformance Test Aspects – Dual-Cell HSUPA [510014, RANimp-DC_HSUPA_UEConTest, 12/2011]

RP-111439 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 #53: 25%, Dec.11;
conclusion: noted, approved: 55%, March 12

RP-111595 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

9.2.7 Conformance test aspects - Service Specific Access Control (SSAC)
[520014, SSAC_UEConTest, 12/2011]

RP-111440 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 #53: 60%, Dec.11;

conclusion: noted, approved: 60%, March 12

9.2.8 Conformance Test Aspects: Small Technical Enhancements and Improvements for Rel-9
[TEI9_Test]

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, 12/2011]

RP-111441 Status report for WI Conformance test aspects – LTE 3500, rapporteur: Ericsson RAN5 Report REL-10 LTE-UEConTest_LTE3500
420013, WID: RP-080859; RAN #53: 45%, Dec.11;
conclusion: noted, approved: 90%, June 12

RP-111596 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects – LTE3500 (LTE-UEConTest_LTE3500) RAN5 CRset - - F REL-10 LTE-UEConTest_LTE3500
conclusion: approved

9.3.1.2 Conformance test aspects – UMTS 3500 [420014, RInImp-UEConTest_UMTS3500, 12/2011]

RP-111442 Status report for WI Conformance test aspects – UMTS 3500, rapporteur: Ericsson RAN5 Report REL-10 RInImp-UEConTest_UMTS3500
420014, WID: RP-110386; RAN #53: 5%, Dec.11;
conclusion: noted, approved: 70%, June 12

RP-111597 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects – UMTS3500 (RInImp-UEConTest_UMTS3500) RAN5 CRset - - F REL-10 RInImp-UEConTest_UMTS3500
conclusion: approved

9.3.2 Conformance Test part: MIMO operation with non-MIMO coexistence in HSDPA
[510017, MIMO_HSDPA-UEConTest, 03/2012]

RP-111443 Status report for WI Conformance Test part: MIMO operation with non-MIMO coexistence in HSDPA, rapporteur: Qualcomm RAN5 Report REL-10 MIMO_HSDPA-UEConTest
510017, WID: RP-110244; RAN #53: 30%, March 12;
conclusion: noted, approved: 70%, March 12

RP-111598 RAN5 agreed non TTCN CR(s) under WI Conformance test aspects – MIMO operation with non-MIMO coexistence in HSDPA (MIMO_HSDPA-UEConTest)RAN5 CRset - - F REL-10 MIMO_HSDPA-UEConTest
conclusion: approved

9.3.3 UE Conformance Test Aspects – Adding 2 GHz band LTE FDD (Band 23) in North America
[520012, S_Band_LTE_ATC_MSS-UEConTest, 12/2011]

RP-111444 Status report for WI UE Conformance Test Aspects – Adding 2 GHz band LTE FDD (Band 23) in North America, rapporteur: DBSD RAN5 Report REL-10 S_Band_LTE_ATC_MSS-UEConTest
520012, WID: RP-110623; RAN #53: 85%, Dec.11;
conclusion: noted, approved: 100%, Dec. 11, WI is completed/closed

RP-111599 RAN5 agreed non TTCN CR(s) under WI Conformance test aspects – Adding 2 GHz band LTE FDD (Band 23) in North America (S_Band_LTE_ATC_MSS-UEConTest) RAN5 CRset - - F REL-10 S_Band_LTE_ATC_MSS-UEConTest
conclusion: approved

9.3.4 UE Conformance test aspects - Expanded 1900MHz Band for UTRA and LTE
[520013, E1900-UEConTest, 03/2012]

RP-111445 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 #53: 50%, March 12;
conclusion: noted, approved: 55%, March 12

9.3.5 UE Conformance Test Aspects for Minimization of Drive Tests for E-UTRAN and UTRAN

[New WI: 530041, MDT_UMTSLTE-UEConTest, 06/2012]

RP-111446 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-111128; RAN #53: 0%, June 12;
conclusion: noted, approved: 5%, Sep. 12

9.3.6 UE Conformance Test Aspects – Carrier Aggregation for LTE
[New WI: 530040, LTE_CA-UEConTest, 12/2012]

RP-111447 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 #53: 0%, Dec.12;
discussion: RAN5 chairman: Dec.12 is just a rough estimation at the moment
conclusion: noted, approved: 3%, Dec.12

RP-111600 RAN5 agreed non TTCN CR(s) under WI UE Conformance Test Aspects – Carrier Aggregation for LTE (LTE_CA-UEConTest) RAN5 CRset - - F REL-10 LTE_CA-UEConTest
conclusion: approved

9.3.7 UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN
[New WI: 530039, ANR_UTRAN-UEConTest, 06/2012]

RP-111448 Status report for WI UE Conformance Test Aspects for Automatic Neighbour Relation (ANR) for UTRAN, rapporteur: EricssonRAN5 Report REL-10 ANR_UTRAN-UEConTest
530039, WID: RP-111129; RAN #53: 0%, June 12;
conclusion: noted, approved: 5%, June 12

9.3.8 Conformance Test Aspects: Small Technical Enhancements and Improvements for Rel-10
[TEI10_Test]

RP-111636 RAN5 agreed non TTCN CR(s) under WI Small Technical Enhancements and Improvements for Rel-10 Conformance Testing (TEI10_Test) RAN5 CRset - - 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, 12/2011]

RP-111449 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 #53: 5%, Dec.11;
conclusion: noted, approved: 5%, June 12

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-111450 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 #53: 5%, June 12;
conclusion: noted, approved: 5%, June 12

9.4.3 Conformance Test Aspects – UE demodulation performance requirements under multiple-cell scenario for 1.28Mcps TDD
[New WI: 530038, LCR_TDD_UE_demod_mc-UEConTest, 06/2012]

RP-111451 Status report for WI Conformance Test Aspects – UE demodulation performance requirements under multiple-cell scenario for 1.28Mcps TDD, rapporteur: CMCC RAN5 Report REL-11 LCR_TDD_UE_demod_mc-UEConTest
530038, WID: RP-111181; RAN #53: 0%, June 12;
conclusion: noted, approved: 70%, June 12

RP-111601 RAN5 agreed non TTCN CR(s) under WI Conformance Test Aspects – UE demodulation performance requirements under multiple-cell scenario for 1.28Mcps TDD (LCR_TDD_UE_demod_mc-UEConTest) RAN5 CRset - - F REL-11 LCR_TDD_UE_demod_mc-UEConTest
conclusion: approved

10 Work Items with target Rel-10 (not related to conformance testing)

10.1 Closed REL-10 work items

RAN1:

RP-111666 CRs to 36.212 & 36.213 for corrections/clarifications related to Carrier Aggregation RAN1 CR set REL-10 LTE_CA-Core
conclusion: approved

RP-111667 Corrections to 36.212 & 36.213 related to UL MIMO RAN1 CR set REL-10 LTE_UL_MIMO-Core
conclusion: approved

RP-111668 Corrections to 36.211 & 36.213 related to enhanced DL MIMO RAN1 CR set REL-10 LTE_eDL_MIMO-Core
conclusion: approved

RP-111669 CR to 36.213 to LTE physical layer RAN1 CR36.213 REL-10 LTE-Phys, TEI10
conclusion: approved

RP-111670 Correction to 25.214 on CQI reporting RAN1 CR25.214 REL-10 TEI10
conclusion: approved

RAN2:

RP-111713 RAN2 CRs for REL-10 WIs 1.28 Mcps TDD Multi-carrier HSUPA and Four carrier HSDPA RAN2 CR set REL-10 TDD_MC_HSUPA, 4C_HSDPA
conclusion: approved

RP-111714 RAN2 CRs and RAN3 CRs to RAN2 TS 36.300 for various LTE related REL-10 WIs RAN2 CR set REL-10 MDT_UMTSLTE-Core, LTE_CA-Core, eICIC_LTE-Core, LTE_Relay-Core, MBMS_LTE_enh-Core, SONenh_LTE-Core
conclusion: approved

RP-111604 Correction of Support for RACH optimization Qualcomm CR36.3000414 1 F REL-10 SONenh_LTE-Core
Company contribution since original RAN3 CR R3-112731 = R2-116531 to RAN2 TS 36.300 was based on wrong spec version
conclusion: approved

RAN3:

RP-111648 Closed Rel-10 CRs RAN3 CR set REL-10 eICIC_LTE-Core, HNB_HENB_mob_enh, MBMS_LTE_enh-Core, SONenh_LTE-Core
conclusion: approved

RP-111649 MDT CRs RAN3 CR set REL-10 MDT_UMTSLTE-Core
The package is linked to SA5 32.422 CRs but they were already approved at SA #53.
conclusion: approved

RAN4:

RP-111684 Rel-10 maintenance CRs for LTE RAN4 CR set REL-10 LTE-RF, TEI10
conclusion: approved

RP-111685 CRs for Band 3500MHz RAN4 CR set REL-10 RInImp8-UMTSLTE3500
conclusion: revised in RP-111733

RP-111733 CRs for Band 3500MHz RAN4 CR set REL-10 RInImp8-UMTSLTE3500
conclusion: approved

RP-111686 Rel-10 CRs for other Closed WIs RAN4 CRset REL-10 4C-HSDPA-core, 4C_HSDPA-Perf, eICIC_LTE-core, LTE_CA-Core, LTE_UL_MIMO-Perf, MIMO_HSDPA-Core
conclusion: approved

10.2 Open LTE only related WIs

10.2.1 Carrier Aggregation for LTE

10.2.1.1 Performance part [460207, LTE_CA-Perf, 12/2011]

RP-111452 Status report for WI Perf. part: Carrier Aggregation for LTE, rapporteur: Nokia RAN4 Report REL-10 LTE_CA-Perf
460207, WID: RP-100661; RAN #53: 70%, Dec.11;
conclusion: noted, approved: 100%, Dec.11, WI is completed/closed

RP-111691 CRs for Carrier Aggregation for LTE – Performance part RAN4 CRset REL-10 LTE_CA-Perf
conclusion: approved

10.2.2 Enhanced Downlink Multiple Antenna Transmission for LTE

10.2.2.1 Performance part [460208, LTE_eDL_MIMO-Perf, 12/2011]

RP-111453 Status report for WI Perf. part: Enhanced Downlink Multiple Antenna Transmission for LTE, rapporteur: NTT DOCOMO RAN4 Report REL-10 LTE_eDL_MIMO-Perf
460208, WID: RP-091429; RAN #53: 70%, Dec.11;
conclusion: noted, approved: 85%, March 12

RP-111692 CRs for Enhanced Downlink Multiple Antenna Transmission for LTE – Performance Part RAN4 CRset REL-10 LTE_eDL_MIMO-Perf
conclusion: approved

10.2.3 Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE

10.2.3.1 Performance part [470207, eICIC_LTE-Perf, 12/2011]

RP-111454 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 #53: 70%, Dec.11;
conclusion: noted, approved: 80%, March 12

RP-111693 CRs for Enhanced ICIC for non-CA based deployments of heterogeneous networks for LTE – Performance Part RAN4 CRset REL-10 eICIC_LTE-Perf
conclusion: approved

10.3 Small Technical Enhancements & Improvements for Rel-10 [TEI10]

RAN2:

RP-111715 RAN2 CRs on REL-10 small technical enhancements and improvements for UTRA RAN2 CRset REL-10 TEI10
conclusion: approved

RP-111716 RAN2 CRs and RAN3 CR to RAN2 TS 36.300 on REL-10 small technical enhancements and improvements for LTE RAN2 CRset REL-10 TEI10, LTE-L23
conclusion: approved

RAN3:

RP-111650 TEI10 CRs, set 1 RAN3 CRset REL-10 EHNB-RAN3, MBMS_LTE, TEI10
conclusion: approved

RP-111651 TEI10 CRs, set 2 RAN3 CRset REL-10 TEI10
conclusion: approved

RAN4:

RP-111687 Rel-10 CRs for Closed WIs and Small TEIs – set 1 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-111688 Rel-10 CRs for Closed WIs and Small TEIs – set 2 RAN4 CR set REL-10 TEI10
conclusion: revised in RP-111734 to revise 1 CR of the package: R4-115722
RP-111734 Rel-10 CRs for Closed WIs and Small TEIs – set 2 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-111689 Rel-10 CRs for Closed WIs and Small TEIs – set 3 RAN4 CR set REL-10 TEI10
conclusion: revised in RP-111735 to revise 1 CR of the package: R4-115811
RP-111735 Rel-10 CRs for Closed WIs and Small TEIs – set 3 RAN4 CR set REL-10 TEI10
conclusion: approved

RP-111690 Rel-10 CRs for Closed WIs and Small TEIs – set 4 RAN4 CR set REL-10 TEI10
conclusion: approved

11 Work Items with target Rel-11 and beyond (not related to conformance testing)

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]

RP-111694 CRs for UE demodulation perf. requirements under multiple-cell scenario for 1.28Mcps TDD – Performance part RAN4 CRset REL-11 LCR_TDD_UE_demod_mc-Perf
conclusion: approved

11.2 Open UTRA only related WIs

11.2.1 UE Over the Air (Antenna) conformance testing methodology- Laptop Mounted Equipment Free Space test [450016, UEAnt_FSTest, 12/2011]

RP-111456 Status report for WI UE Over the Air (Antenna) conformance testing methodology- Laptop Mounted Equipment Free Space test, rapporteur: CATR RAN4 Report REL-11 UEAnt_FSTest
450016, WID: RP-111381; RAN #53: 90%, Dec.11;
conclusion: noted, approved: 100%, Dec.11, WI is completed/closed

RP-111405 LS on Status of the UE Over The Air (Antenna) conformance testing methodology work REL-11 UEAnt_FSTest, FS_HSPA_LTE_measRP_MIMO_multi-antenna, FS_OTA_phantoms_UTRA (R4-115452; to: GCF Performance Criteria Agreement Group, CTIA OTA Antenna Working Group; cc: RAN; contact: Ericsson) RAN4 LSin
note: GCF sent LS to CTIA (see R4-115338) and RAN4 commented on this in R4-115452; no RAN action requested;
conclusion: noted, no LS answer from RAN

RP-111695 CRs for UE Over the Air (Antenna) conformance testing methodology- Laptop Mounted Equipment Free Space test RAN4 CRset REL-11 UEAnt_FSTest
conclusion: approved

11.2.2 Eight carrier HSDPA

11.2.2.1 Core part: [500119, 8C_HSDPA-Core, 06/2012]

RP-111457 Status report for WI Core Part: eight carrier HSDPA, rapporteur: Ericsson RAN1 Report REL-11 8C_HSDPA-Core
500119, WID: RP-101419; RAN #53: 60%, June 12;
conclusion: noted, approved: 80%, June 12

RP-111416 LS on Feedbacks on 8C-HSDPA feasibility REL-11 8C_HSDPA-Core (R4-116326; to: RAN; cc: -; contact: ST-Ericsson) RAN4 LSin
no RAN action requested;
conclusion: noted, no LS answer from RAN

RP-111671 CRs to UTRA specs for introduction of 8C-HSDPA RAN1 CRset REL-11 8C_HSDPA-Core 25.211, 25.212, 25.213, 25.214 CRs
conclusion: approved

RP-111717 RAN2 CRs for REL-11 WI Core part: Eight carrier HSDPA RAN2 CRset REL-11 8C_HSDPA-Core
R2-116473 of RP-111717 might be replaced by company contribution RP-111622
conclusion: approved apart from R2-116473
R2-116473 is withdrawn as replaced by RP-111736

RP-111652 8C_HSDPA CRs RAN3 CRset REL-11 8C_HSDPA-Core
conclusion: approved

11.2.2.2 Performance part: [500219, 8C_HSDPA-Perf, 12/2012]

RP-111458 Status report for WI Perf Part: eight carrier HSDPA, rapporteur: Ericsson RAN4 Report REL-11 8C_HSDPA-Perf
500219, WID: RP-101419; RAN #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec. 12

11.2.3 Uplink Transmit Diversity for HSPA

11.2.3.1 Core Part: Closed Loop [500122, HSPA_UL_TxDiv-CL-Core, 03/2012]

RP-111459 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-110374; RAN #53: 70%, March 12;
conclusion: revised in RP-111727

RP-111727 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-110374; RAN #53: 70%, March 12;
conclusion: noted, approved: 82%, March 12

RP-111672 CRs to UTRA specs for introduction of UL Closed Loop TxD for HSPA RAN1 CR set REL-11 HSPA_UL_TxDiv-CL-Core 25.211, 25.212, 25.213, 25.214, 25.215 CRs
conclusion: approved

RP-111718 RAN2 CRs for REL-11 WI Core part: Uplink Transmit Diversity for HSPA - Closed Loop RAN2 CR set REL-11 HSPA_UL_TxDiv-CL-Core
CR R2-116544 includes text in [ ] which indicates final decision is pending.
Company contribution RP-111622 might replace 8C HSDPA CR R2-116473 and UL CLTD CR R2-116474 in case both RAN2 CRs get approved.
conclusion: approved apart from R2-116474;
R2-116474 revised in company contribution RP-111622

RP-111622 Introduction of uplink CLTD and 8C-HSDPA into 25.302 Alcatel-Lucent, Ericsson CR25.3020207 2 B REL-11 8C_HSDPA-Core, HSPA_UL_TxDiv-CL-Core
company contribution to replace 8C HSDPA CR R2-116473 and UL CLTD CR R2-116474 in case both get approved
conclusion: revised in RP-111736

RP-111736 Introduction of uplink CLTD and 8C-HSDPA into 25.302 Alcatel-Lucent, Ericsson, ST-Ericsson, Huawei, HiSilicon CR25.3020207 3 B REL-11 8C_HSDPA-Core, HSPA_UL_TxDiv-CL-Core
company contribution to replace 8C HSDPA CR R2-116473 and UL CLTD CR R2-116474 in case both get approved; RP-111736 is a revision of RP-111622
conclusion: approved

RP-111653 HSPA_UL_TxDiv-CL CRs RAN3 CR set REL-11 HSPA_UL_TxDiv-CL-Core
conclusion: approved

RP-111661 25.863 CR (Rel-11, B) Evaluation results for UL CLTD Huawei, HiSilicon CR25.8631 - B REL-11 HSPA_UL_TxDiv-CL-Core
company contribution; CR was technically endorsed in RAN1 email discussion [67-25] in R1-114377; TR 25.863 is a RAN4 spec created under SI FS_UL-TxDiv-HSPA
discussion: Huawei: it was decided to capture evaluation results of the WI in the SI TR
conclusion: approved

11.2.3.2 Performance Part: Closed Loop [500222, HSPA_UL_TxDiv-CL-Perf, 09/2012]

RP-111460 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-110374; RAN #53: 40%, Sep.12; approved: 60%, Sep.12 ?
conclusion: revised in RP-111728

RP-111728 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-110374; RAN #53: 40%, Sep.12;
conclusion: noted, approved: 60%, Sep.12

11.2.3.3 Core part: Open Loop [500322, HSPA_UL_TxDiv-OL-Core, 03/2012]

RP-111461 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-110374; RAN #53: 30%, March 12;
conclusion: noted, approved: 80%, March 12

RP-111719 RAN2 CRs for REL-11 WI Core part: Uplink Transmit Diversity for HSPA - Open Loop RAN2 CRset REL-11 HSPA_UL_TxDiv-OL-Core
CR R2-116543 includes text in [ ] which indicates final decision is pending
conclusion: approved

11.2.3.4 Performance part: Open Loop [500422, HSPA_UL_TxDiv-OL-Perf, 09/2012]

RP-111462 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-110374; RAN #53: 5%, Sep.12;
conclusion: noted, approved:, 60%, Sep.12

11.2.4 Introduction of New Configurations for 4C-HSDPA

11.2.4.1 Core part [510118, 4C_HSDPA_Config-Core, 12/2011]

RP-111463 Status report for WI Core part: Introduction of New Configurations for 4C-HSDPA, rapporteur: Telus Communications RAN4 Report REL-11 4C_HSDPA_Config-Core
510118, WID: RP-110308; RAN #53: 30%, Dec.11;
conclusion: noted, approved: 100%, Dec.11, WI is completed/closed

RP-111696 CRs for Introduction of New Configurations for 4C-HSDPA – Core part RAN4 CRset REL-11 4C_HSDPA_Config-Core
conclusion: approved

11.2.4.2 Performance part [510218, 4C_HSDPA_Config-Perf, 06/2012]

RP-111464 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 #53: 0%, June 12;
conclusion: noted, approved: 0%, June 12

11.2.5 Non-contiguous 4C-HSDPA operation

11.2.5.1 Core part [510119, NC_4C_HSDPA-Core, 06/2012]

RP-111465 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 #53: 10%, June 12;
conclusion: noted, approved: 20%, June 12

11.2.5.2 Performance part [510219, NC_4C_HSDPA-Perf, 12/2012]

RP-111466 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 #53: 0%, Dec.12;
conclusion: noted, approved: 5%, Dec.12

11.2.6 Further Enhancements to CELL_FACH

11.2.6.1 Core part [510120, Cell_FACH_enh-Core, 06/2012]

RP-111467 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 #53: 13%, June 12;
conclusion: noted, approved: 34%, June 12

11.2.6.2 Performance part [510220, Cell_FACH_enh-Perf, 12/2012]

RP-111468 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.2.7 Four Branch MIMO transmission for HSDPA

11.2.7.1 Core part [New WI: 530135, 4Tx_HSDPA-Core, 09/2012]

RP-111469 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 #53: 0%, Sep.12;
conclusion: noted, approved: 5%, Sep.12

11.2.7.2 Performance part [New WI: 530235, 4Tx_HSDPA-Perf, 03/2013]

RP-111470 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 #53: 0%, March 13;
conclusion: noted, approved: 0%, March 13

11.2.8 HSDPA Multiflow Data Transmission

11.2.8.1 Core part [New WI: 530134, HSDPA_MFTX-Core, 09/2012]

RP-111471 Status report for WI Core part: HSDPA Multiflow Data Transmission, rapporteur: NSN RAN2 Report REL-11 HSDPA_MFTX-Core
530134, WID: RP-111375; RAN #53: 0%, Sep.12;
conclusion: noted, approved: 10%, Sep.12

11.2.8.2 Performance part [New WI: 530234, HSDPA_MFTX-Perf, 03/2013]

RP-111472 Status report for WI Perf. part: HSDPA Multiflow Data Transmission, rapporteur: NSN RAN4 Report REL-11 HSDPA_MFTX-Perf
530234, WID: RP-111375; RAN #53: 0%, March 13;
conclusion: noted, approved: 0%, March 13

11.2.9 UTRAN aspects of Single Radio Voice Call Continuity from UTRAN/GERAN to E-UTRAN/HSPA

11.2.9.1 Core part [New WI: 530801, rSRVCC-RAN_UTRA-Core, 09/2012]

RP-111473 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 #53: 0%, Sep.12;
conclusion: noted, approved: 8%, Sep.12

11.3 Open UTRA & LTE related WIs

11.3.1 Extending 850 MHz Upper Band (814 – 849 MHz)

Note: WI e850_UB-Core was moved from REL-10 to REL-11 at RAN #53 as it wasn't completed after second 3 month exception and so also e850_UB-Perf was shifted to REL-11.

11.3.1.1 Core part [500120, e850_UB-Core, 12/2011]

RP-111474 Status report for WI Core part: Extending 850 MHz Upper Band (814 – 849 MHz), rapporteur: Sprint RAN4 Report REL-11 e850_UB-Core
500120, WID: RP-111396; RAN #53: 90%, Dec.11;
conclusion: noted, approved: 90%, March 12

RP-111654 Band 26 for E850 CRs RAN3 CRset REL-11 e850_UB-Core
discussion: RAN chairman: should we wait with the approval until March
Sprint: that's ok
conclusion: postponed

11.3.1.2 Performance part [500220, e850_UB-Perf, 03/2012]

RP-111475 Status report for WI Perf part: Extending 850 MHz Upper Band (814 – 849 MHz), rapporteur: Sprint RAN4 Report REL-11 e850_UB-Perf
500220, WID: RP-111396; RAN #53: 95%, March 12;
conclusion: noted, approved: 95%, March 12

11.3.2 Enhancement of Minimization of Drive Tests for E-UTRAN and UTRAN
11.3.2.1 Core Part [New WI: 530133, eMDT_UMTSLTE-Core, 09/2012]

RP-111476 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-111361; RAN #53: 0%, Sep.12;
conclusion: noted, approved: 10%, Sep.12

11.3.3 RAN overload control for Machine-Type Communications
11.3.3.1 Core Part [New WI: 530109, SIMTC-RAN_OC-Core, 03/2012]

RP-111477 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 #53: 0%, March 12;
conclusion: noted, approved: 50%, March 12

11.3.4 Further Self Optimizing Networks (SON) enhancements
11.3.4.1 Core Part [New WI: 530130, SONenh2_LTE_UTRA-Core, 09/2012]

RP-111478 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-111328; RAN #53: 0%, Sep.12;
discussion: noted, approved: 10%, Sep.12

RP-111629 Revised WID on Further Self Optimizing Networks (SON) enhancements Nokia Siemens Networks WID rev RAN3 REL-11 SONenh2_LTE_UTRA-Core
revision of WID RP-111328
conclusion: approved

11.3.5 E-UTRA medium range and MSR medium range/local area BS class requirements
11.3.5.1 Core Part [New WI: 530137, medBS_class_LTE_MSR-Core, 06/2012]

RP-111479 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 #53: 0%, June 12;
conclusion: noted, approved: 15%, June 12

RP-111558 Reply LS to RP-111397 to "Approval of New WI on E-UTRA medium range and MSR medium range/local area BS class requirements" REL-11 medBS_class_LTE_MSR-Core
(GERAN; to: RAN, RAN4; cc: -; contact: Ericsson) GERAN LSin
no explicit RAN action requested;
discussion: Ericsson: GERAN has approved a corresponding WI
conclusion: noted, no LS answer from RAN

11.3.5.2 Performance Part [New WI: 530237, medBS_class_LTE_MSR-Perf, 09/2012]

RP-111480 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 #53: 0%, Sep.12;
conclusion: noted, approved: 0%, Sep.12

11.4 Open LTE only related WIs (non spectrum related)

11.4.1 Network-Based Positioning Support for LTE
11.4.1.1 Core Part [430111, LCS_LTE-NBPS-Core, 03/2012]

RP-111481 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 #53: 70%, March 12;

discussion: Ericsson: would like to point out that even though the rapporteur has kindly addressed some of the comments raised on various WG reflectors, there are still some errors in the status report. Ericsson would like to express a view that the status report currently does not accurately reflect the discussions and progress in the working groups.
First, Ericsson has not objected to any CR during RAN2 discussions. Rather, Ericsson have extensively compromized to reach a CR which should be agreeable to everyone.
However, regarding "Wideband SRS", Ericsson would like to understand what exactly is meant with "Wideband SRS". So far RAN1 has only evaluated performance with 10 MHz SRS. Does the "Wideband SRS" mean SRS with 10 MHz bandwidth? Or something else.
Note that if Wideband SRS means 10 MHz operators deploying LTE on 5 MHz or smaller carrier cannot use the UTDOA positioning mechanism.
Ericsson also note that excluding "Wideband SRS" does not limit further work in RAN4 when defining the appropriate requirements for SRS bandwidth. In order to reach progress on this topic, Ericsson would prefer not to continue discussion in RAN2, but rather endorse in this plenary the RAN2 CR without restriction to "Wideband SRS" , and send it to RAN3 for review.
TruePosition: Ericsson said on the reflector they could not accept wideband SRS, only full bandwidth was simulated and was shown as proven case, not using wideband would have decreased accuracy
conclusion: noted, approved: 75%, March 12

RP-111660 Support for SRS Method for Network-Based Positioning TruePosition Disc REL-11 LCS_LTE-NBPS-Core

discussion: Andrew Corp.: wideband SRS requirement came out of RAN1 studies and should therefore be reflect in the CR
Ericsson: is a resubmission of RAN2 input for which Ericsson had an answer in R2-11xx66; only TruePosition is against removal of "wideband"
NSN: does the CR explain what "wideband SRS" means? It would need some more detailed explanation of what this means; whether 5MHz or 20MHz SRS the result should be similar if same power level
TruePosition: we were clear in the discussions and RAN1 what we mean by wideband SRS, we could of course further clarify this in the CR if needed
RAN chairman: would like to wait for further outcome from WGs
TruePosition: if we cannot solve this in the one WG meeting then we need to solve this at RAN #55 in March 2012
RAN chairman: we are waiting for what? in which WG?
RAN2 chairman: if we can take decision here this would be good otherwise we will discuss it again in RAN2
RAN chairman: at the moment prefers to wait for further RAN2 discussion, outcome on stage 2 should be provided to other WGs
conclusion: noted, topic has to be addressed at next RAN2 meeting, outcome of stage 2 discussion has to be provided to other involved RAN WGs, RAN #55 will take a decision if no decision in RAN2

11.4.1.2 Performance Part [430211, LCS_LTE-NBPS-Perf, 09/2012]

RP-111482 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 #53: 0%, Sep.12;
conclusion: noted, approved: 0%, Sep.12

11.4.2 Service continuity in connected mode and location information for MBMS for LTE

11.4.2.1 Core part [480126, MBMS_LTE_SC-Core, 03/2012]

RP-111483 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-111374; RAN #53: 20%, March 12;
conclusion: noted, approved: 50%, March 12

11.4.3 Further Enhanced Non CA-based ICIC for LTE

11.4.3.1 Core part [510121, eICIC_enh_LTE-Core, 06/2012]

RP-111484 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 #53: 10%, June 12;
conclusion: noted, approved: 50%, June 12

11.4.3.2 Performance part [510221, eICIC_enh_LTE-Perf, 06/2012]

RP-111485 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 #53: 0%, June 12;
conclusion: noted, approved: 1%, June 12

11.4.4 LTE Carrier Aggregation Enhancements

RP-111640 Update to LTE Carrier Aggregation Enhancements WID Nokia Corporation, Nokia Siemens Networks WID rev RAN1 REL-11 LTE_CA_enh
revision of WID RP-111115
discussion: Nokia: TR included for core part, so that TR can be allocated
conclusion: revised in RP-111749 to include allocated TR number 36.823
RP-111749 Update to LTE Carrier Aggregation Enhancements WID Nokia Corporation, Nokia Siemens Networks WID rev RAN1 REL-11 LTE_CA_enh
conclusion: approved

11.4.4.1 Core part [510130, LTE_CA_enh-Core, 09/2012]

RP-111486 Status report for WI Core part: LTE Carrier Aggregation Enhancements, rapporteur: Nokia RAN1 Report REL-11 LTE_CA_enh-Core
510130, WID: RP-111115; RAN #53: 15%, Sep.12;
conclusion: revised in RP-111729
RP-111729 Status report for WI Core part: LTE Carrier Aggregation Enhancements, rapporteur: Nokia RAN1 Report REL-11 LTE_CA_enh-Core
510130, WID: RP-111115; RAN #53: 15%, Sep.12;
conclusion: noted, approved: 25%, Sep.12

11.4.4.2 Performance part [510230, LTE_CA_enh-Perf, 03/2013]

RP-111487 Status report for WI Perf. part: LTE Carrier Aggregation Enhancements, rapporteur: Nokia RAN4 Report REL-11 LTE_CA_enh-Perf
510230, WID: RP-111115; RAN #53: 0%, March 13;
conclusion: noted, approved: 0%, March 13

11.4.5 LTE RAN Enhancements for Diverse Data Applications

11.4.5.1 Core part [510131, LTE_eDDA-Core, 09/2012]

RP-111488 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-111372; RAN #53: 10%, Sep.12;
conclusion: noted, approved: 20%, Sep.12

11.4.6 Carrier based HetNet ICIC for LTE

11.4.6.1 Core part [510133, LTE_CA_HetNet_ICIC-Core, 06/2012]

RP-111489 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 #53: 15%, June 12;
conclusion: noted, approved: 20%, June 12

11.4.7 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.

11.4.7.1 Core part [520119, LTE_Relay2-Core, 03/2012]

RP-111490 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 #53: 40%, March 12;
conclusion: noted, approved: 50%, March 12

11.4.7.2 Performance part [520219, LTE_Relay2-Perf, 06/2012]

RP-111491 Status report for WI Perf. part: Relays for LTE (part 2), rapporteur: EricssonRAN4 Report REL-11 LTE_Relay2-Perf
520219, WID: RP-110914; RAN #53: 30%, June 12;
conclusion: revised in RP-111743

RP-111743 Status report for WI Perf. part: Relays for LTE (part 2), rapporteur: EricssonRAN4 Report REL-11 LTE_Relay2-Perf 520219, WID: RP-110914; RAN #53: 30%, June 12;
conclusion: noted, approved: 60%, June 12

11.4.8 Signalling and procedure for interference avoidance for in-device coexistence

11.4.8.1 Core part [New WI: 530131, SPIA_IDC_LTE-Core, 06/2012]

RP-111492 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 #53: 0%, June 12;
conclusion: noted, approved: 10%, June 12

11.4.8.2 Performance part [New WI: 530231, SPIA_IDC_LTE-Perf, 09/2012]

RP-111493 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 #53: 0%, Sep.12;
conclusion: noted, approved: 0%, Sep.12

11.4.9 Coordinated Multi-Point Operation for LTE – Uplink

11.4.9.1 Core part [New WI: 530132, COMP_LTE_UL-Core, 09/2012]

RP-111494 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 #53: 0%, Sep.12;
conclusion: noted, approved: 10%, Sep.12

11.4.9.2 Performance part [New WI: 530232, COMP_LTE_UL-Perf, 12/2012]

RP-111495 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.4.10 Coordinated Multi-Point Operation for LTE – Downlink

11.4.10.1 Core part [New WI: 530332, COMP_LTE_DL-Core, 09/2012]

RP-111455 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 #53: 0%, Sep.12;
conclusion: noted, approved: 20%, Sep.12

11.4.10.2 Performance part [New WI: 530432, COMP_LTE_DL-Perf, 12/2012]

RP-111496 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.4.11 Network Energy Saving for E-UTRAN

11.4.11.1 Core part [New WI: 530136, Netw_Energy_LTE-Core, 03/2012]

RP-111497 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 #53: 0%, March 12;
conclusion: noted, approved: 15%, March 12

11.5 Open LTE only related WIs (spectrum related)

RP-111676 On channel bandwidth & Inter/Band LTE Carrier Aggregation Qualcomm Disc REL-11 -
conclusion: withdrawn

11.5.1 LTE-Advanced Carrier Aggregation of Band 3 and Band 7

11.5.1.1 Core part [480123, LTE_CA_B3_B7-Core, 09/2012]

RP-111498 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 #53: 30%, Sep.12;
conclusion: noted, approved: 40%, Sep.12

11.5.1.2 Performance part [480223, LTE_CA_B3_B7-Perf, 12/2012]

RP-111499 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.2 LTE Advanced Carrier Aggregation of Band 4 and Band 17

RP-111699 Update to WID 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-101391
conclusion: revised in RP-111750 to correct dates
RP-111750 Update to WID LTE Advanced Carrier Aggregation of Band 4 and Band 17 AT&T WID rev RAN4 REL-11 LTE_CA_B4_B17
conclusion: approved

11.5.2.1 Core part [500117, LTE_CA_B4_B17-Core, 09/2012]

RP-111500 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-101391; RAN #53: 10%, Sep.12;
discussion: AT&T: date should be Sep.12
conclusion: noted, approved: 10%, Sep.12

11.5.2.2 Performance part [500217, LTE_CA_B4_B17-Perf, 12/2012]

RP-111501 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-101391; RAN #53: 0%, Dec.12;
discussion: AT&T: date should be Dec.12
conclusion: noted, approved: 0%, Dec.12

11.5.3 LTE Advanced Carrier Aggregation of Band 4 and Band 13

RP-111678 Revised WID: LTE Advanced Carrier Aggregation of Band 4 and Band 13 Verizon Wireless, Ericsson, ST Ericsson WID rev RAN4 REL-11 LTE_CA_B4_B13
revision of WID RP-101435 (rapporteur: Ericsson)
conclusion: approved

11.5.3.1 Core part [500118, LTE_CA_B4_B13-Core, 09/2012]

RP-111502 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-101435; RAN #53: 20%, Sep.12;
conclusion: revised in RP-111740
RP-111740 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-101435; RAN #53: 20%, Sep.12;
conclusion: noted, approved: 40%, Sep.12

11.5.3.2 Performance part [500218, LTE_CA_B4_B13-Perf, 12/2012]

RP-111503 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-101435; RAN #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.4 LTE Advanced Carrier Aggregation of Band 4 and Band 12

11.5.4.1 Core part [510122, LTE_CA_B4_B12-Core, 09/2012]

RP-111504 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
510122, WID: RP-111316; RAN #53: 10%, Sep.12;
conclusion: noted, approved: 30%, Sep.12

11.5.4.2 Performance part [510222, LTE_CA_B4_B12-Perf, 12/2012]

RP-111505 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.5 LTE Advanced Carrier Aggregation of Band 5 and Band 12

11.5.5.1 Core part [510123, LTE_CA_B5_B12-Core, 09/2012]

RP-111506 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-110372; RAN #53: 10%, Sep.12;
conclusion: noted, approved: 30%, Sep.12

11.5.5.2 Performance part [510223, LTE_CA_B5_B12-Perf, 12/2012]

RP-111507 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-110372; RAN #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.6 LTE Advanced Carrier Aggregation of Band 7 and Band 20

11.5.6.1 Core part [510124, LTE_CA_B7_B20-Core, 09/2012]

RP-111508 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 #53: 5%, Sep.12;
conclusion: noted, approved: 40%, Sep.12

11.5.6.2 Performance part [510224, LTE_CA_B7_B20-Perf, 12/2012]

RP-111509 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.7 LTE Advanced Carrier Aggregation Band 2 and Band 17

11.5.7.1 Core part [510125, LTE_CA_B2_B17-Core, 09/2012]

RP-111510 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 #53: 0%, Sep.12;
conclusion: noted, approved: 0%, Sep.12

11.5.7.2 Performance part [510225, LTE_CA_B2_B17-Perf, 12/2012]

RP-111511 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.8 LTE Advanced Carrier Aggregation Band 4 and Band 5

11.5.8.1 Core part [510126, LTE_CA_B4_B5-Core, 09/2012]

RP-111512 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 #53: 0%, Sep.12;
conclusion: noted, approved: 0%, Sep.12

11.5.8.2 Performance part [510226, LTE_CA_B4_B5-Perf, 12/2012]

RP-111513 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.9 LTE Advanced Carrier Aggregation Band 5 and Band 17

11.5.9.1 Core part [510127, LTE_CA_B5_B17-Core, 09/2012]

RP-111514 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 #53: 0%, Sep.12;
conclusion: noted, approved: 0%, Sep.12

11.5.9.2 Performance part [510227, LTE_CA_B5_B17-Perf, 12/2012]

RP-111515 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.10 New Band LTE Downlink FDD 716-728MHz

11.5.10.1 Core part [510128, LTE_DL_FDD700-Core, 06/2012]

RP-111516 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 #53: 10%, June 12;
conclusion: noted, approved: 10%, June 12

11.5.10.2 Performance part [510228, LTE_DL_FDD700-Perf, 09/2012]

RP-111517 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 #53: 0%, Sep.12;
discussion: Telecom Italia: several WIs with 0% completion level, are we confident that we can keep the completion dates looking at RAN4 work load?
RAN chairman: at the beginning we selected Sep.12 for core and Dec.12 for perf. parts but from RAN #55 onwards we should be WI specific
AT&T: we could have easily claimed 30% as generic work was done
conclusion: noted, approved: 0%, Sep.12

11.5.11 LTE E850 - Lower Band for Region 2 (non-US)

11.5.11.1 Core part [510132, LTE_e850_LB-Core, 12/2011]

RP-111518 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 #53: 5%, Dec.11;
discussion: Telecom Italia: band 5 is already used in several countries so wants to ask RAN4 to take into account existing deployments, furthermore doubts that we can complete the work in one WG meeting
NII: we looked into coexistence issues carefully and there should be no problem, 2MHz band gap, emissions from band 27 into band 5 should be no problem
Telecom Italia: what is important is to avoid impact on existing/legacy equipment
conclusion: noted, approved: 20%, March 12

11.5.11.2 Performance part [510232, LTE_e850_LB-Perf, 03/2012]

RP-111519 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 #53: 0%, March 12;
conclusion: noted, approved: 5%, June 12

11.5.12 LTE Advanced Carrier Aggregation in Band 38

11.5.12.1 Core part [520115, LTE_CA_B38-Core, 09/2012]

RP-111520 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 #53: 10%, Sep.12;
conclusion: noted, approved: 25%, Sep.12

11.5.12.2 Performance part [520215, LTE_CA_B38-Perf, 12/2012]

RP-111521 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.13 LTE Advanced Carrier Aggregation in Band 41

11.5.13.1 Core part [520116, LTE_CA_B41-Core, 09/2012]

RP-111522 Status report for WI Core part: LTE Advanced Carrier Aggregation in Band 41, rapporteur: Clearwire RAN4 Report REL-11 LTE_CA_B41-Core
520116, WID: RP-110673; RAN #53: 20%, Sep.12;
conclusion: noted, approved: 75%, Sep.12

11.5.13.2 Performance part [520216, LTE_CA_B41-Perf, 12/2012]

RP-111523 Status report for WI Perf. part: LTE Advanced Carrier Aggregation in Band 41, rapporteur: Clearwire RAN4 Report REL-11 LTE_CA_B41-Perf
520216, WID: RP-110673; RAN #53: 10%, Dec.12;
conclusion: noted, approved: 10%, Dec.12

11.5.14 LTE for 700 MHz digital dividend

11.5.14.1 Core part [520117, LTE_APAC700-Core, 03/2012]

RP-111524 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 #53: 10%, March 12;
conclusion: noted, approved: 30%, March 12

11.5.14.2 Performance part [520217, LTE_APAC700-Perf, 03/2012]

RP-111525 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 #53: 0%, March 12;
discussion: RAN chairman: 1 meeting to finish the whole WI?
Sharp: same target for core and perf. part?
Ericsson: main challenge is on core part
conclusion: noted, approved: 0%, March 12

11.5.15 LTE-Advanced Carrier Aggregation of Band 1 and Band 7

11.5.15.1 Core part [New WI: 530125, LTE_CA_B1_B7-Core, 09/2012]

RP-111526 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 #53: 0%, Sep.12;
conclusion: noted, approved: 30%, Sep.12

11.5.15.2 Performance part [New WI: 530225, LTE_CA_B1_B7-Perf, 12/2012]

RP-111527 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 #53: 0%, Dec.12;

conclusion: noted, approved: 0%, Dec.12

11.5.16 LTE Advanced Carrier Aggregation of Band 3 and Band 5

RP-111603 Revised WI description for LTE Advanced Carrier Aggregation of Band 3 and Band 5 SK Telecom
WID rev RAN4 REL-11 LTE_CA_B3_B5
conclusion: approved

11.5.16.1 Core part [New WI: 530126, LTE_CA_B3_B5-Core, 09/2012]

RP-111528 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-111339; RAN #53: 0%, Sep.12;
conclusion: noted, approved: 30%, Sep.12

11.5.16.2 Performance part [New WI: 530226, LTE_CA_B3_B5-Perf, 12/2012]

RP-111529 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-111339; RAN #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.17 LTE Advanced Carrier Aggregation in Band 7

11.5.17.1 Core part [New WI: 530128, LTE_CA_B7-Core, 09/2012]

RP-111530 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 #53: 0%, Sep.12;
conclusion: noted, approved: 20%, Sep.12

11.5.17.2 Performance part [New WI: 530228, LTE_CA_B7-Perf, 12/2012]

RP-111531 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.18 LTE Carrier Aggregation Band 4 and Band 7

11.5.18.1 Core part [New WI: 530127, LTE_CA_B4_B7-Core, 09/2012]

RP-111532 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 #53: 0%, Sep.12;
conclusion: noted, approved: 0%, Sep.12

11.5.18.2 Performance part [New WI: 530227, LTE_CA_B4_B7-Perf, 12/2012]

RP-111533 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.19 LTE Advanced Carrier Aggregation Bands 3 and Band 20

11.5.19.1 Core part [New WI: 530123, LTE_CA_B3_B20-Core, 09/2012]

RP-111534 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-111212; RAN #53: 0%, Sep.12;
conclusion: noted, approved: 40%, Sep.12

11.5.19.2 Performance part [New WI: 530223, LTE_CA_B3_B20-Perf, 12/2012]

RP-111535 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-111212; RAN #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.20 LTE Advanced Carrier Aggregation Bands 8 and Band 20

11.5.20.1 Core part [New WI: 530124, LTE_CA_B8_B20-Core, 09/2012]

RP-111536 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 #53: 0%, Sep.12;
conclusion: noted, approved: 5%, Sep.12

11.5.20.2 Performance part [New WI: 530224, LTE_CA_B8_B20-Perf, 12/2012]

RP-111537 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 #53: 0%, Dec.12;
conclusion: noted, approved: 0%, Dec.12

11.5.21 Intra-band, Non-contiguous CA for Band 25 for LTE

11.5.21.1 Core part [New WI: 530129, LTE_CA_NC_B25-Core, 06/2013]

RP-111538 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-111371; RAN #53: 0%, June 13;
conclusion: noted, approved: 5%, June 13

11.5.21.2 Performance part [New WI: 530229, LTE_CA_NC_B25-Perf, 06/2013]

RP-111539 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-111371; RAN #53: 0%, June 13;
conclusion: noted, approved: 5%, June 13

11.6 Open Small Technical Enhancements and Improvements for Rel-11 [TEI11]

RP-111644 MME behavior in case of broken SCTP connection Vodafone CR36.3000417 1 F REL-11 TEI11
company contribution; note: This CR was developed in RAN3 as R3-112760 and it did not pass email agreement in RAN2 (R2-116534) as wrong spec version was indicated on CR cover
discussion: RAN3 chairman: RAN3 endorsed the CR already
conclusion: approved

RP-111655 TEI11 CRs RAN3 CRset REL-11 TEI11
conclusion: approved
Alcatel-Lucent: 36.444 REL-11 will be introduced?
RAN3 chairman: yes
MCC: in general for all specs for which we approved REL-11 CRs we will create REL-11 specifications, however if no REL-11 CR is approved then no REL-11 spec will be introduced so far (avoiding unnecessary cat.A CRs).

RP-111720 RAN2 REL-11 CR on Preparation of REL-11 ASN.1 critical extensions RAN2 CR25.3314835 - B REL-11 TEI11
CR was only technically endorsed by RAN2. CR is a backup solution to introduce "REL-11 ASN.1 critical extensions" in case non of the three 25.331 REL-11 CRs R2-116543 (RP-111719), R2-116544 (RP-111718), R2-116546 (RP-111717) get approved at RAN #54.
conclusion: withdrawn

RP-111721 RAN3s CR to RAN2 TS 36.300 on MBMS for LTE RAN2 CR36.300set - - REL-11 TEI11, MBMS_LTE
conclusion: approved

12 Study Items

12.1 Closed study items

RP-111673 Update of UL CoMP simulation assumption RAN1 CR36.819 REL-11 FS_CoMP_LTE
conclusion: approved

RP-111722 RAN2 CR to REL-11 SI Study on Signalling and procedure for interference avoidance for in-device coexistence RAN2 CR36.8160009 - F REL-11 FS_SPIA_IDC
conclusion: approved

12.2 Open UTRA only related SIs

12.2.1 REL-11 Study on UE OTA test method with Head and Hand Phantoms

[New SI: 530057, FS_OTA_phantoms_UTRA, 03/2012]

RP-111540 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-111380; RAN #53: 0%, March 12;
conclusion: noted, approved: 20%, March 12

12.3 Open UTRA & LTE related SIs

12.3.1 REL-11 Study on Measurement of Radiated Performance for MIMO and multi-antenna reception for HSPA & LTE terminals [430020, FS_HSPA_LTE_measRP_MIMO_multi-antenna, 12/2011]

RP-111541 Status report for SI Study on Measurement of Radiated Performance for MIMO and multi-antenna reception for HSPA and LTE terminals, rapporteur: Vodafone RAN4 Report REL-11 FS_HSPA_LTE_measRP_MIMO_multi-antenna
430020, SID: RP-090352; RAN #53: 70%, Dec.11;
conclusion: noted, approved: 80%, March 12

RP-111658 MIMO OTA way forward on procedural issues Vodafone Disc REL-11 FS_HSPA_LTE_measRP_MIMO_multi-antenna
proposals:
1) TR36.976 will be used to capture the discussions and agreements for both the Study Item and any future Work Item to agree on and finalize the Test Procedure.
2) TR36.976 will capture the detailed Test Procedure (including agreements on measurement uncertainty) in a new section, to a sufficient level of detail that RAN5 can effectively implement this section (after review) into a new RAN5 specification that defined the Test Procedure.

discussion: Telecom Italia: can agree on the proposal but several proposals in RAN4 without conclusion, indicative voting to speed this up?
Ericsson: was prevents SI from converging on a smaller number of methodologies
Vodafone: spatial channel models in radiating environment, UE receiver RX diversity etc. are causing longer discussions
France Telecom: 3 methodologies are under discussion in RAN4, 9 months were used to compare them but still not complete, so supports Telecom Italia; either we take a vote to have just one methodology or to standardize multiple with additional effort
Nokia: multiple methods in the SI means also multiple in the standard?
France Telecom: if we close the SI with 3 methodologies then we have the problem in the WI
Vodafone: there is commercial pressure to standardize something that's why it is preferred to go to a WI phase
Vodafone: surprised to see this proposal of an indicative voting now, why not earlier?

conclusion: noted, offline discussion on RAN guidance for RAN4 (rapporteur: Deutsche Telekom)
Deutsche Telekom (RAN vice chairman) reporting of offline discussion on Thu morning:

RAN Guidance to RAN4 on Measurement of radiated performance for MIMO and multi-antenna reception for HSPA and LTE terminals:

- ***RAN has approved a revised Study Item at RAN#54 in [RP-111754]***
- *RAN tasks RAN4 to focus on and prepare a conclusion for the Study Item for RAN#55*
- *This should add text to clauses 9 (conclusions) and 10 (recommendation)*
- *This should include a recommendation on how to scope a work item*
- *This should include a justification in case multiple test methods are to be included in a WI phase*
- *The standardisation of multiple test methodologies may be one eventual outcome but, during the WI, RAN4 shall avoid fragmentation of the absolute measurement result that is output as part of the 3GPP test framework for any given tested device. 3GPP shall also ensure that all devices can be comparably tested.*
- *It is expected such a conclusion allows 3GPP RAN to decide on a follow up WI at RAN#55*

RAN chairman: will be captured in minutes so that RAN4 has a corresponding guidance

RP-111657 Proposed SID revision for SI on "Measurement of radiated performance for MIMO and multi-antenna reception for HSPA and LTE terminals" Vodafone SID rev RAN4 REL-11 FS_HSPA_LTE_measRP_MIMO_multi-antenna

revision of SID RP-090352

discussion: France Telecom: does not see how this revision could help RAN4 to come to a conclusion
RAN chairman: any suggestion how to help RAN4 to come to a way forward?
MCC: there is no TR 25.976 or TR 36.976 but there exists already a TR 37.976; also using a SI TR for a WI is usually not a good choice esp. if it would include normative text; also if the WI is continueing in REL-12 we will maintain the TR for the different releases
Deutsche Telekom (RAN vice chairman): normative text should just be in RAN5 specs, RAN4 should prepare a conclusion text and how to handle the documentation for the WI for RAN #55 to decide then
Deutsche Telekom (RAN vice chairman): recommendation from chairmen is change dates, spec number, comment will be deleted and approve revised SID and approve revised SID and we will decide at RAN #55 about having a WI
Vodafone: prefers to keep note
Motorola Solutions: handover from RAN4 to RAN5 unclear
AT&T (RAN vice chairman): "TR might be used in a future WI" would be sufficient
Vodafone: prefers that we give some guidance to RAN4 how to document WI otherwise they might have long debates about this
Sharp: supports to update the dates in the SID
AT&T: if we continue on the TR then people might take CTIA test methods so this would not help the industry
RAN5 chairman: is Vodafone carrying on this work in RAN5?
Vodafone: if there is no one else taking care of this, Vodafone will do

conclusion: revised in RP-111754 to update dates, TR number, comment

RP-111754 Proposed SID revision for SI on "Measurement of radiated performance for MIMO and multi-antenna reception for HSPA and LTE terminals" Vodafone SID rev RAN4 REL-11 FS_HSPA_LTE_measRP_MIMO_multi-antenna

last approved WID was RP-090352

conclusion: approved

12.3.2 REL-11 Study on Extending 850MHz [440016, FS_e850, 12/2011]

RP-111542 Status report for SI Study on Extending 850MHz, rapporteur: Ericsson RAN4 Report REL-11 FS_e850

440016, SID: RP-090666; RAN #53: 80%, Dec.11;

discussion: Motorola Solutions: any need to keep SI open?
Ericsson: we currently document things in TR 37.806, therefore we would like to keep SI open

conclusion: noted, approved: 80%, March 12

12.3.3 REL-11 Study on UE Application Layer Data Throughput [500002, FS_UE_App_Data_Perf, 12/2011]

RP-111543 Status report for SI Study on UE Application Layer Data Throughput, rapporteur: Spirent Communications RAN5 Report REL-11 FS_UE_App_Data_Perf
500002, SID: RP-101422; RAN #53: 90%, Dec.11;
discussion: Qualcomm: we are fine to complete the SI but just to indicate that there is a RAN4 LS exchange and to clarify that this will then be part of maintenance
RAN5 chairman: yes, will be reported in RAN5 chairman's report if there is some further activity coming out of the LS exchange
conclusion: noted, approved: 100%, Dec.11, SI is completed/closed

RP-111602 RAN5 agreed non TTCN CR(s) under WI Study on UE Application Layer Data Throughput (FS_UE_App_Data_Perf) RAN5 CRset - - F REL-11 FS_UE_App_Data_Perf
conclusion: approved

12.3.4 REL-11 Study on further enhancements for HNB and HeNB [510036, FS_EHNB_enh, 12/2011]

RP-111544 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-110456; RAN #53: 30%, Dec.11;
conclusion: noted, approved: 60%, March 12

RP-111623 Update to SI for Further enhancements to HNB and HeNB. Alcatel-Lucent SID rev RAN3 REL-11 FS_EHNB_enh
revision of SID RP-110456
discussion: Alcatel-Lucent: just changes completion dates
conclusion: approved

12.3.5 REL-11 Study on UMTS/LTE in 900 MHz band (Japan, Korea) [520018, FS_UTRA_LTE_900MHz, 12/2011]

RP-111545 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-111180; RAN #53: 50%, Dec.11;
conclusion: noted, approved: 55%, March 12

RP-111611 Updated SID for UMTS/LTE in 900 MHz band (Japan, Korea) NTT DOCOMO SID rev RAN4 REL-11 FS_UTRA_LTE_900MHz
revision of SID RP-111180
conclusion: revised in RP-111751

RP-111751 Updated SID for UMTS/LTE in 900 MHz band (Japan, Korea) NTT DOCOMO SID rev RAN4 REL-11 FS_UTRA_LTE_900MHz
conclusion: approved

12.3.6 REL-11 Study of RF and EMC Requirements for Active Antenna Array System (AAS) Base Station [New SI: 530056, FS_AAS_BS_LTE_UTRA, 09/2012]

RP-111546 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 #53: 0%, Sep.12;
conclusion: noted, approved: 8%, 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, 12/2011]

RP-111547 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-110385; RAN #53: 30%, Dec.11;
conclusion: noted, approved: 40%, June 12

12.4.2 REL-11 Study on HetNet mobility improvements for LTE [510034, FS_HetNet_eMOB_LTE, 12/2011]

RP-111548 Status report for SI Study on HetNet mobility enhancements for LTE, rapporteur: Alcatel-Lucent RAN2 Report REL-11 FS_HetNet_eMOB_LTE
510034, SID: RP-110709; RAN #53: 20%, Dec.11;
conclusion: noted, approved: 40%, Sep.12

12.4.3 REL-11 Study on Enhanced Uplink Transmission for LTE
[510035, FS_eUL_TX_LTE, 12/2011]

RP-111549 Status report for SI Study on Enhanced Uplink Transmission for LTE, rapporteur: Huawei RAN1 Report REL-11 FS_eUL_TX_LTE
510035, SID: RP-110448; RAN #53: 5%, Dec.11;
conclusion: noted, approved: 5%, March 12

12.4.4 REL-11 Study on further Downlink MIMO enhancements for LTE-Advanced
[510037, FS_LTE_eDL_MIMO_enh, 12/2011]

RP-111550 Status report for SI Study on further Downlink MIMO enhancements for LTE-Advanced, rapporteur: Alcatel-Lucent RAN1 Report REL-11 FS_LTE_eDL_MIMO_enh
510037, SID: RP-111366; RAN #53: 20%, Dec.11;
conclusion: noted, approved: 100%, Dec.11, SI is completed/closed

RP-111662 On Study on further Downlink MIMO enhancements for LTE-AdvancedRenesas Mobile Europe Ltd., Ericsson, InterDigital Communications, Nokia, Nokia Siemens Networks, ST-Ericsson, Texas Instruments Disc REL-11 FS_LTE_eDL_MIMO_enh
proposals:
- No specification or further study of CSI enhancements in Rel-11
- The rank reporting issues can be handled by RAN4 specifying the appropriate performance requirements
- Control channel enhancements can be continued within the scope of the existing Rel-11work items

discussion:
conclusion: noted,
Alcatel-Lucent reporting of Thu morning offline discussion:
no consensus on CSI feedback enhancements, 2 draft WIDs will be provided

RP-111677 TR36.871 v1.1.0 Downlink MIMO Enhancement for LTE-AdvancedAlcatel-Lucent, Alcatel-Lucent Shanghai Bell TR 36.871 REL-11 FS_LTE_eDL_MIMO_enh
RAN1 TR provided for approval
conclusion: TR 36.871 is approved as v11.0.0

12.4.5 REL-11 Study on Interference analysis between 800~900 MHz bands
[510038, FS_B800_B900_Interf_LTE, 12/2011]

RP-111551 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-110447; RAN #53: 10%, Dec.11;
conclusion: noted, approved: 40%, March 12

RP-111674 Revised SI description for SI Study on Interference analysis between 800~900 MHz bandsLGplus SID rev RAN4 REL-11 FS_B800_B900_Interf_LTE
revision of SID RP-110447
conclusion: revised in RP-111752

RP-111752 Revised SI description for SI Study on Interference analysis between 800~900 MHz bandsLGplus SID rev RAN4 REL-11 FS_B800_B900_Interf_LTE
conclusion: approved

12.4.6 REL-11 Study on Further Enhancements to LTE TDD for DL-UL Interference Management and Traffic Adaptation [510039, FS_LTE_TDD_eIMTA, 03/2012]

RP-111552 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 #53: 2%, March 12;
discussion: RAN chairman: after RP-111755 we cannot keep March 12?
CATT: we propose June 12
RAN chairman: realistic?

RAN1 chairman: from RAN1 point yes
RAN4 chairman: let's hope so for RAN4
conclusion: noted, approved: 5%, June 12

RP-111697 Way forward on Rel-11 SI FS_LTE_TDD_eIMTA CATT Disc REL-11 FS_LTE_TDD_eIMTA
presented on Wed after lunch in connection with RP-111628
conclusion: noted

RP-111755 Work plan for REL-11 SI FS_LTE_TDD_eIMTA Alcatel-Lucent (RAN1 chairman), NSN (RAN4 chairman) REL-11 FS_LTE_TDD_eIMTA
treated on Thu morning
discussion: ALU: to RAN4: LS will needs to be drafted
RAN4 chairman: yes, we can discuss this LS at next RAN4 meeting
conclusion: way forward is approved

12.4.7 REL-11 Study on Provision of low-cost MTC UEs based on LTE
[New SI: 530052, FS_LC_MTC_LTE, 06/2012]

RP-111553 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 #53: 0%, June 12;
conclusion: noted, approved: 15%, June 12

12.4.8 REL-11 Study on LTE Coverage Enhancements [New SI: 530053, FS_Cov_Enh_LTE, 03/2012]

RP-111554 Status report for SI Study on LTE Coverage Enhancements, rapporteur: China Telecom RAN1 Report REL-11 FS_Cov_Enh_LTE
530053, SID: RP-111359; RAN #53: 0%, March 12;
discussion: RAN chairman: March 12 realistic?
RAN1 chairman: is ok for RAN1
conclusion: noted, approved: 20%, March 12

RP-111630 Work planning for the LTE coverage enhancements study item China Telecom Disc REL-11 FS_Cov_Enh_LTE
conclusion: withdrawn

12.4.9 REL-11 Study on Mobile Relay for E-UTRA [New SI: 530054, FS_LTE_mobRelay, 03/2012]

RP-111555 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 #53: 0%, March 12;
discussion: RAN chairman: since RAN1 will not start before March 12, the target March 12 is not realistic
RAN1 chairman: so far unclear whether RAN1 work is needed
CATT: we could review the status at RAN #55
RAN chairman: let's review the situation again at RAN #55
Motorola Solutions: when will this topic come to RAN4? will the RAN3 scenarios be reused?
RAN chairman: impact on RAN1/2/4 needs to be clarified by RAN #55, so far they should not work on this?
CATT: we need to identify potential impacts
Ericsson: any problem to list not treated RAN3 Tdocs in the status report?
MCC: this is no problem for the status you would anyway need to consult the RAN3 minutes (a good status report would indicate which Tdocs are not treated)
conclusion: noted, approved: 25%, March 12, rapporteur is asked to clarify scope for RAN1/2/4 by RAN #55 so far these WGs will not work on this SI

12.4.10 REL-11 Study on Enhanced performance requirement for LTE UE
[New SI: 530055, FS_enh_perf_UE_LTE, 03/2012]

RP-111556 Status report for SI Study on Enhanced performance requirement for LTE UE, rapporteur: NTT DOCOMO RAN4 Report REL-11 FS_enh_perf_UE_LTE
530055, SID: RP-111378; RAN #53: 0%, March 12;
conclusion: noted, approved: 60%, March 12

13 New REL-11 Work Items/Study Items

Note: After the prioritization process of RAN #53 submissions to this agenda item should be limited to spectrum related topics, UE conformance testing aspects and topics that were postponed till RAN #54 (incl. closed SIs that have a follow-up WI).

Future WI/SI prioritization process:

Proposal from RAN chairman:

1) At RAN#55 (Mar 2012), no prioritization process will take place as we had it at RAN#53.
2) At RAN#55, WIs/SIs deprioritized at RAN#53 will be treated. Start of the deprioritized WIs/SIs will be decided acc. to usual process. Expected WG workload after RAN#55 and possibility to complete within Rel-11 time frame should be considered.
3) At RAN#55, in principle new WI/SI proposals, which have not been proposed yet, will not be treated. WI/SI proposals related to spectrum and conformance test aspects can be treated at RAN#55. Other new WI/SI proposals can be treated if impact to WG workload is very limited and the proposals have enough support.
4) A TSG-RAN Workshop will be take place on June 11-12 at Ljubljana, same place as RAN#56 meeting. Scope of the workshop is requirements and possible technical solutions towards time frame of Rel-12/13 and onward. RAN#56 will take place on June 13 (Wed)-15 (Fri). Note: Closing time of RAN #56 on Fri will be 17:00.
5) Detailed scope and agenda of the workshop will be decided at RAN#55 (March 2012).

discussion:

T-Mobile: What will happen with WIs/SIs proposed at this meeting is not clear?
RAN chairman: They will be discussed this week.
France Telecom: for eMBMS measurements: we said a WID could be presented next time, so what will happen with that?
RAN chairman: that would then be considered at RAN #55
TeliaSonera: what does " if impact to WG workload is very limited and the proposals have enough support " mean?
RAN chairman: if workload is limited (e.g. RAN3)
Apple: how to prepare for this workshop
RAN chairman: intended for RAN delegates, technical proposal for REL-12/REL-13 intended, in REL-11 we had a lot WIs and it would be useful to define a main course for REL-12/13 and maybe reduce the number of WIs
Telecom Italia: operator's input requested?
RAN chairman: will be similar to LTE workshop we had in 2004, will provide an agenda for RAN #55
Qualcomm: we should restrict the impact on WGs, also UMTS should be included in this
RAN chairman: confirms that UMTS will be included as well
Motorola Solutions: worried about alignment with RAN4
RAN chairman: the workshop will be a sort of brain storming meeting without formal decisions, in Sep. 2012 we can discuss REL-12 WIs but of course we need to take care of RAN4 status at that time
Ericsson: does not see so much need for including UMTS in the workshop
RIM: WIs at RAN #56: only spectrum and RAN5 related WIs allowed?
RAN chairman: we will see at first the status in WGs at RAN #55
Vodafone: in RAN #55 no new WIs, what about ongoing SIs?
RAN chairman: for completed SIs a WI can be started
RAN chairman: meeting room for the workshop will cover up to 200 people, meeting calendar will be updated

conclusion: chairman's proposal was agreed

13.1 New Work Items

UTRA only:

RP-111565 New Work Item Proposal: UE Conformance Test Aspects – Four carrier HSDPA Qualcomm WID new RAN5 REL-10 -
new WI for UTRA only; leading WG: RAN5; WI code to be used: 4C_HSDPA-UEConTest
conclusion: approved

RP-111619 New WI: HSDPA Dual-Band Multi-Carrier Combinations Telefonica WID new RAN4 REL-11 -
new WI for UTRA only; leading WG: RAN4; WI code to be used: HSDPA_DB_MC
WID was shortly presented on Wed morning
conclusion: revised in RP-111746

RP-111746 New WI: HSDPA Dual-Band Multi-Carrier Combinations Telefonica WID new RAN4 REL-11 -
new WI for UTRA only; leading WG: RAN4; WI code to be used: HSDPA_DB_MC
conclusion: approved

RP-111642 New WI: MIMO with 64QAM for HSUPA Nokia Siemens Networks WID new RAN1 REL-11 -
WI was postponed to Dec.11 at RAN #53 in RP-111121; new WI for UTRA, leading WG: RAN1; WI code to be used: MIMO_64QAM_HSUPA
discussed on Wed morning
discussion: RAN chairman: RAN1 leaders invited to clarify whether new WI could be started due to RAN1 workload
NSN: since RAN1 close 2 WIs, RAN1 might have some spare time
RAN1 chairman: the 2 WIs mentioned (8 carrier HSPA and TX div) did not take much meeting time and looking at the remaining 3 RAN1 meetings there might not be enough time to complete this bigger WI in time; we could treat the WI in RAN1 in Feb. on a best-effort basis and review the situation in March 2012 at RAN #55
NEC: completion dates did not change compared to RAN #53 so do the dates have no meaning or do you think the work can be done now in 3 months less?
NSN: ASN.1 freeze for REL-11 in Dec.12 so we could bring changes until Sep.12
Qualcomm: dates were defined as for REL-11 but we could start as RAN1 chairman said
RAN1 chairman: draft CRs should be available 1 quarter before closing a WI
T-Mobile: it is difficult to predict how much work is needed/when will it be done
France Telecom: since the WI has RAN4 impact, how would this fit together with the RAN1 work going until the end of the REL?
NSN: we plan to keep work away from RAN4 for this in the next 6 months, i.e. not before June 12
RAN chairman: proposal: approval of WI, best effort basis start in RAN1 and then review of RAN1 work and impact on RAN4 regarding whether WI can finish in REL-11, otherwise postponing the WI at RAN #55?
Vodafone: also RAN2 work load needs to be taken into account
RAN chairman: ok
conclusion: approved, WI will start in RAN1 on best effort basis, it will be reviewed at RAN #55 whether WI can finish in REL-11 taking workload into account of RAN1/RAN2/RAN4; no work on this WI in RAN4 until June 2012

LTE only:

RP-111564 New Work Item Proposal: UE Conformance Test Aspects – Public Warning System (PWS) – RAN aspects for LTE Qualcomm WID new RAN5 REL-9 -
new WI for LTE only; leading WG: RAN5; WI code to be used: PWS-RAN_UEConTest "
conclusion: approved

RP-111614 New work item proposal: UE Conformance Test Aspects - UL multiple antenna transmission for LTE Huawei WID new RAN5 REL-10 -
new WI for LTE only; leading WG: RAN5; WI code to be used: LTE_UL_MIMO-UEConTest
conclusion: approved

RP-111615 New work item proposal: UE Conformance Test Aspects -Further enhancements to MBMS for LTE Huawei WID new RAN5 REL-10 -
new WI for LTE only; leading WG: RAN5; WI code to be used: MBMS_LTE_enh-UEConTest
conclusion: approved

RP-111612 Proposed WID: LTE FDD 1670-1675MHz Band paired with band 24 UL (shared) LightSquared WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_FDD_1670; REL-independent WI starting from REL-9
conclusion: withdrawn,
LightSquared: indicated that they plan to come back on this in the future
RAN chairman: as this is spectrum related there is no problem with this approach

RP-111617 Discussion of requirements for LTE in the 2.3 GHz band for the United States and Canada (Region 2) IPWireless Inc. Disc REL-11 -
related to LTE only
discussion: RAN chairman: no WI will be proposed this week?
IPWireless: correct
RAN chairman: ok, please contact IPWireless if you have questions; what is your plan with this proposal?
IPWireless: would propose this for REL-12 in workshop in June 2012
conclusion: noted

RP-111620 New WI: LTE Advanced Carrier Aggregation of Band 1 and Band 21 NTT DOCOMO WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B1_B21
shortly presented on Wed morning
discussion: Telecom Italia: workload in RAN4 allows to start new WI on CA of bands?
NTT DOCOMO: does not belong to any band class, can be handled on case by case basis
NEC: it was clarified in the past that we do not close the door for new band combinations as otherwise we would get and avalanche of new WIs before we close the door
KDDI: supports NTT DOCOMO and NEC
RAN4 chairman: spectrum issues were not part of prioritization
Telecom Italia: my question was on workload
RAN4 chairman: of course more WIs mean more work for RAN4, but we need to treat combinations in a fair way and here for this case NTT DOCOMO has already indicated that they will contribute work here
Motorola Solutions: we should not penalize operators that waited with their band combination proposals
France Telecom: what is the completion date?
NTT DOCOMO: Sep.2012 for core part, Sep.2012 for perf. part
RAN chairman: perf. part should be Dec.12
conclusion: revised in RP-111764 to correct target dates (core part Sep.12, perf. part Dec.12)

RP-111764 New WI: LTE Advanced Carrier Aggregation of Band 1 and Band 21 NTT DOCOMO WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B1_B21
conclusion: approved

RP-111621 New WI: LTE Advanced Carrier Aggregation of Band 1 and Band 19 NTT DOCOMO WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B1_B19
shortly presented on Wed morning
discussion: NTT DOCOMO: June 12 is the only change
conclusion: revised in RP-111765 to correct target dates (core part Sep.12, perf. part Dec.12)

RP-111765 New WI: LTE Advanced Carrier Aggregation of Band 1 and Band 19 NTT DOCOMO WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B1_B19
conclusion: approved

RP-111634 New WI: LTE Advanced Carrier Aggregation of Band 11 and Band 18 KDDI WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B11_B18
shortly presented on Wed morning
discussion: Qualcomm: CA 1UL and CA 2UL portion with different time schedule, but not reflected in target dates?
KDDI: sentence with different time schedule is in line with other CA combination WIDs

RAN chairman: 2UL target should be later to Sep.12?
KDDI: we aligned with other WIs
RAN chairman: so far we set common target dates for all CA band combination WIs but from RAN #55 we should provide indiviual target dates
conclusion: approved, at RAN #55 all CA band combinations should provide realistic target dates

RP-111635 New WI: LTE Advanced Carrier Aggregation of Band 1 and Band 18 KDDI WID new RAN4 REL-11 -
new WI for LTE only; leading WG: RAN4; WI code to be used: LTE_CA_B1_B18
shortly presented on Wed morning
conclusion: approved

RP-111675 New WI: Further Downlink MIMO Enhancement for LTE-Advanced Alcatel-Lucent WID new RAN1 REL-11 -
new WI for LTE only (follow-up of previous SI FS_LTE_eDL_MIMO_enh under AI 12.4.4); leading WG: RAN1; WI code to be used: LTE_eDL_MIMO_enh
conclusion: revised in RP-111726

RP-111726 New WI: Further Downlink MIMO Enhancement for LTE-Advanced Alcatel-Lucent WID new RAN1 REL-11 -
new WI for LTE only (follow-up of previous SI FS_LTE_eDL_MIMO_enh under AI 12.4.4); leading WG: RAN1; WI code to be used: LTE_eDL_MIMO_enh
shortly presented on Wed morning
discussion: RAN chairman: seems to be a contentious issue this week, at first we need to treat the SI status
LightSquared: just to indicate that we also support this WI
conclusion: WID is splitinto 2 new non-overlapping WI proposals RP-111757 and RP-111758 (revision of RP-111726)

RP-111757 New WI: Enhanced Downlink control channel for LTE-Advanced Alcatel-Lucent WID new RAN1 REL-11 -
new WI for LTE only (follow-up of previous SI FS_LTE_eDL_MIMO_enh under AI 12.4.4); leading WG: RAN1; WI code to be used: LTE_enh_dl_ctrl
discussion: AT&T: other companies wanted to co-source?
Alcatel-Lucent: NSN, Nokia
ZTE: would also like to co-sign
Ericsson: should aspect of motivation section of feature part not be indicated in the core part? this would be our preference
Alcatel-Lucent: not needed
Samsung: no duplication of text in feature and core part needed
Qualcomm: will already covered parts of other WIs be removed?
RAN1 chairman: DCI format is still open, CA and Comp WI wording was anyway quite vague, so no need to remove
Sprint: CSI feedback is important and should be included here
RAN chairman: covered in RP-111758
Ericsson: RAN3 impact unclear
conclusion: revised in RP-111767 to e.g. add co-source companies, remove sentence from scope; draft should be provided via RAN reflector as soon as possible to collect comments before Fri of RAN #54

RP-111767 New WI: Enhanced downlink control channel(s) for LTE-Advanced Alcatel-Lucent WID new RAN1 REL-11 -
new WI for LTE only (follow-up of previous SI FS_LTE_eDL_MIMO_enh under AI 12.4.4); leading WG: RAN1; WI code to be used: LTE_enh_dl_ctrl
conclusion: revised in RP-111774 as 2 versions of RP-111767 were provided

RP-111774 New WI: Enhanced downlink control channel(s) for LTE-Advanced Alcatel-Lucent WID new RAN1 REL-11 -
new WI for LTE only (follow-up of previous SI FS_LTE_eDL_MIMO_enh under AI 12.4.4); leading WG: RAN1; WI code to be used: LTE_enh_dl_ctrl
discussion: Huawei: supports this WI, in title: do we still keep LTE-Advanced or just LTE? sentence at the end to take COMP into account?
RAN chairman: please provide comments to Alcatel-Lucent
conclusion: revised in RP-111776

RP-111774 New WI: Enhanced downlink control channel(s) for LTE Alcatel-Lucent WID new RAN1 REL-11 -
conclusion: approved

RP-111758 New WI: Further Downlink MIMO Enhancement for LTE-Advanced Alcatel-Lucent WID new RAN1 REL-11 -
revision of RP-111726; new WI for LTE only (follow-up of previous SI FS_LTE_eDL_MIMO_enh under AI 12.4.4); leading WG: RAN1; WI code to be used: LTE_eDL_MIMO_enh
discussion: NSN: no need to push this WI for approval at this meeting, we can wait a few RAN1 meetings and then check interest in this WI again
RAN chairman: can be discussed further offline until Fri
Alcatel-Lucent: a compromise was to split the SI into 2 WIs, 2 operators are interested in this WI so this shows the urgency
Sprint: we think this WI should be approved at this meeting otherwise we
AT&T: supports Sprint, WI is addressing 4TX which was not sufficiently covered in REL-10 so we support the WI
Renesas: the fundamental concern was the lack of gains, coming now with new scenarios is not really relevant
US Cellular: supports to endorse the WI
NEC: difference in the understanding of the gain, unusual to block this work with a number of operators on the WI
AT&T: there were simulations showing higher gains and simulations showing lower gains
conclusion: further offline discussion needed
Alcatel-Lucent reporting from offline discussion: plans to refine scope for RAN #55, email reflector discussion planned for this (no discussion in RAN1 meeting)
NSN: requests to use RAN1 reflector for this discussion
Alcatel-Lucent: prefers to use RAN reflector for this, Alcatel-Lucent will moderate the email discussion; still some RAN4 performance aspects need to be done, an LS was just sent from RAN1 to RAN4, work should be done under TEI11
RAN chairman: since RAN was not involved in the LS, why do we need to discuss it here?
Alcatel-Lucent: original SI had 3 topics: CSI, ePDCCH, RAN4 issue and we want to make sure the RAN4 issue can be handled under TEI11
Alcatel-Lucent: we have sent some text about this on the RAN reflector
Huawei: agrees to Alcatel-Lucent
Vodafone: wonders what the urgency is
AT&T: RAN3 not affected should be corrected on the WID
NSN: since RAN didn't get an LS on this why should we worry about, let RAN4 discuss the LS and if there is a problem they will come back to RAN
Samsung: the approved WID RP-111776 does not mention the RAN issue
Ericsson: clarify to RAN4 that they can go on with the work in RAN4
NEC: no problem to carry out performance work in RAN4 under TEI11, question is when RAN4 would start
conclusion: RAN1 LS will be treated in RAN4, RAN4 work can be considered in RAN4 under TEI11, WID is postponed until RAN #55 March 2012, WID update can be discussed via RAN reflector until RAN #55

UTRA & LTE:

RP-111616 New WI: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station Huawei WID new RAN4 REL-11 -
WI was postponed to Dec.11 at RAN #53 in RP-111387; new WI for LTE & UTRA, leading WG: RAN4; WI code to be used: MB_MSR_RF
WI was discussed on Wed morning
discussion: RAN chairman: at RAN #53 we postponed 3 BS related WIs and RAN4 chairman (NSN) proposed to postpone them again, any comments?
Huawei: only 2 WIs are proposed here
Ericsson: we have RP-111741, EMC related WI from ZTE not submitted this time, more terminal related
Huawei: needs to understand the reasoning for postponing BS aspects another time after the prioritization of RAN #53; worried that the WI could end up as a deprioritized WI
France Telecom: other WIs with lower priority started and if we postpone until June then we might endanger to have the WIs RP-1111616/RP-111741 in REL-11

NSN: BS vendors discussed at RAN #53 how the different BS aspects could be addressed which led to a phasing approach; prefers to still postpone RP-1111616/RP-111741 to March 2012
Huawei: agrees that phasing makes sense and we need to work on the scope but could we agree that the WIs will be introduced in March 2012?
Alcatel-Lucent: we have proposed some modifications to RP-1111616 and support to start WI in March 2012
France Telecom: postponing to March 2012 but increasing the scope increases the risk that we can not complete it in REL-11
Alcatel-Lucent: we do not want to increase but correct the scope, we are fine to bring WIDs to RAN4 to discuss the scope there
Vodafone: we should discuss the scope here at RAN and not in RAN4; WI was on the table since before Sep.2011 so it should be easy to solve the scope this week

conclusion: WI is postponed till March 2012, scope can be further discussed
revised WID is provided in RP-111756

RP-111756 New WI: RF Requirements for Multi-band and Multi-standard Radio (MB-MSR) Base Station Huawei WID new RAN4 REL-11 -

WI was postponed to Dec.11 at RAN #53 in RP-111387; new WI for LTE & UTRA, leading WG: RAN4; WI code to be used: MB_MSR_RF;

discussion: RAN4 chairman: what is definition of multi-band MSR?
NTT DOCOMO: we had a similar question, 2 RF chains/1 connector would not fit under this definition, could be discussed in RAN4
Huawei: prefers to keep MSR definition
Motorola Solutions: would not like to leave it up to WG to modify scope of the WI
Huawei: this bullet was now in the WID for 6 months, connector issues is an implementation issue, objective is very clear
France Telecom: we can approve objective as it is, if there is a question RAN4 can discuss this in RAN4
Alcatel-Lucent: maybe RAN4 could discuss this issue in there next meeting, and we can update this if necessary next time
NTT DOCOMO: if RAN4 needs more clarification we should not approve it here
RAN chairman: can corresponding work already start?
Huawei: we wanted to align the scope and work will start after March 2012
RAN4 chairman: MSR definition is ok, only Multiband MSR needs clarification
Ericsson: whatever we do with this WI we should do the same handling with PIM WI
Huawei: implementation issues can be solved in WI phase

conclusion: WI is endorsed with the intention to approve the WI as it is in March 2012

13.2 New Study Items

RP-111628 Way forward on handling of TDD specific work for Rel-11 and beyond CMCC, CATT, CATR, Huawei, HiSilicon, ZTE, Ericsson, ST-Ericsson Disc REL-11 -

related to UTRA and LTE; note: This Tdoc is related to LTE only SI FS_LTE_TDD_eIMTA in 12.4.6 and new UTRA only SI RP-111561

conclusion: not treated

RP-111561 New Study Item on HSPA Enhancement for LCR TDD TD Tech SID new RAN1 REL-11 -

SI was postponed to Dec.11 at RAN #53 in RP-111102; new SI for UTRA only, leading WG: RAN1; SI code to be used: FS_LCRTDD_HSPAenh

discussion: RAN chairman: any change of SID compared to former SID?
TD Tech: no, but comments from RAN1 chairman
NSN: WI title should be more descriptive now
RAN1 chairman: 2 aspects unclear in SI (indicated this at RAN #53 already): how urgent is this work? how significant are these problems? (some justifications of the enhancements needed); how much is this TDD specific? (in FDD no one seems to see a problem for this); so an update of this SI (justification/scope) would be useful
TD Tech: we could update the SI this week
NSN: maybe RAN1 could also treat this on best effort basis
RAN1 chairman: maybe it is better to start with email discussion

conclusion: revised in RP-111745 to change title and update scope/justification

RP-111745 New Study Item on HSPA feedback and signalling efficiency enhancements for LCR TDD TD Tech
SID new RAN1 REL-11 -
SI code to be used: FS_LCRTDD_HSPAenh
discussion: RAN1 chairman: we can start with email discussion and whether online time in the meeting will be available depends on handling of other HSPA WIs
RAN3 chairman: RAN3 is mentioned as secondary responsible WI, in how far is RAN3 involved in the SI?
RAN1 chairman: we should delete RAN2/RAN3 for the SI as scope is RAN1 only
France Telecom: but RAN2 is mentioned as impacted
RAN chairman: work in RAN2 intended?
TD Tech: yes
RAN1 chairman: this is maybe true for WI phase but not for SI phase
RAN chairman: completion date Sep.12 is ok?
Samsung: presentation for information not realistic
RAN chairman: should say RAN#56
conclusion: revised in RP-111766 to remove RAN2/RAN3 from SID and correct for information target, midamble spelling mistake should be corrected

RP-111766 New Study Item on HSPA feedback and signalling efficiency enhancements for LCR TDD TD Tech
SID new RAN1 REL-11 -
SI was postponed to Dec.11 at RAN #53 in RP-111102; new SI for UTRA only, leading WG: RAN1; original title: "HSPA Enhancement for LCR TDD"; SI code to be used: FS_LCRTDD_HSPAenh
conclusion: approved

RP-111638 New Study Item for Passive InterModulation (PIM) handling for UTRA & LTE Base Stations Ericsson
SID new RAN4 REL-11 -
SI was postponed to Dec.11 at RAN #53 in RP-111072; new SI for UTRA & LTE, leading WG: RAN4; SI code to be used: FS_BS_PIM
conclusion: revised in RP-111741

RP-111741 New Study Item for Passive InterModulation (PIM) handling for UTRA & LTE Base Stations Ericsson
SID new RAN4 REL-11 -
SI was postponed to Dec.11 at RAN #53 in RP-111072; new SI for UTRA & LTE, leading WG: RAN4; SI code to be used: FS_BS_PIM"
SI was discussed on Wed morning in connection with WI RP-111616
conclusion: SI is postponed till March 2012, scope can be further discussed (if necessary)
Finally SI is endorsed with the intention to approve the SI as it is in March 2012.

RP-111639 SIMTC work in RAN for Rel-11 ZTE Disc REL-11 -
related to UTRA and LTE
proposed alternatives:
- A Work Item, addressing the needed RAN normative aspects of the SA2 work on SIMTC (if any RAN significant impacts will be identified)
- A Study Item, focussing at least on the RAN-only SIMTC features.

discussion: RAN chairman: seems an acceptable way forward
conclusion: noted, we will consider SI/WI proposals at RAN #55

14 Technical co-ordination among WGs

No contributions.

15 Outputs to other groups

RP-111724 Draft LS reply to ATTM(11)0068 = RP-111409 and EE(11)0109 = RP-111410 on energy efficiency (to: ETSI TC ATTM, EE(11)0109; cc: RAN3, SA, SA5; contact: Alcatel-Lucent) Alcatel-Lucent LSout
final draft of this LS will be provided to SA#54 for further discussion before sending it out
discussion: RAN chairman: we should endorse this version from RAN side before providing it to SA
Huawei: we should add SA under cc ?
NEC: what if SA thinks no LS answer is needed
RAN chairman: then we would follow SA decision but this will probably not be the case

conclusion: endorsed, RAN chairman will provide this Tdoc to SA #54 and final LS will be sent out from SA #54 (i.e. it is not an outgoing LS of RAN #54 but SA #54).

For all outgoing LSs see Annex D.

16 Project management

RP-111432 3GPP Work Plan review at Plenary #54 ETSI MCC Workplan
conclusion: noted

RP-111433 3GPP Support Team Report ETSI MCC Report
conclusion: revised in RP-111607 (since RP-111433 was misused by someone else for something else)
RP-111607 3GPP Support Team Report ETSI MCC Report
discussion: T-Mobile: in San Francisco we had about 1000 delegates but used about 4000 IP addresses, so factor of 1,5 might be too low
RAN chairman: please provide this information also to your WG colleagues
conclusion: noted

RP-111625 21.900 CRs to Eliminate contents of Rel-10 and substitute with pointer to Rel-11 and about the use of Category A CRs ETSI MCC CR21.900set REL-10 TEI10
CR set is only provided for information to RAN #54; CRs will be decided at SA #54
discussion: MCC: CRs will be provided to SA for approval
Alcatel-Lucent: how do you define "functionally equivalent"?
MCC: if exact words are not the same but the intended functionality is exact the same then it should still be cat.A
NEC: text keeps what was the intention so far, so agrees with the change
RIM: with cat.B, then cat.A in a later REL?
MCC: yes
Alcatel-Lucent: conflict with section 4.10.2?
MCC: needs to check this, if SA approves the CR we will also update the CR cover sheet guidance text
conclusion: postponed, as will be treated in SA for approval

RP-111562 Update of the 3GPP WID_template ETSI MCC Disc
revision of work item description template
discussion: work plan manager: the initiave was triggered by a request from SA #53
RAN3 chairman: nice attempt to simplify the WID, Radio Access field is a bit confusing, e.g. not on same level (FDD/TDD does not apply for GERAN), some redundancy (not all fields are needed), in RAN we had the feature/core/perf. part split which is not necessary so maybe this can also be changed
NEC: we had a long discussion about introduction of feature/core/perf. part: we could live without feature part but we should keep core and perf. part, list of supporting companies is important information, if the name is put there then it was always the understanding that you contribute to the work
AT&T: often not sure whether it is a WI or a SI, so we should make it immediately clear whether it is a SI, any coding in UID whether it is a SI?
work plan manager: no, only first two digits indicate TSG meeting
Qualcomm: core and perf part have different time line, the other text is not really different
AT&T: 2 UID fields?
work plan manager: first is the UID of this WI/SI the other table is about linked WIs
Fujitsu: top of cover sheet: new/revised WID: revision number useful?
work plan manager: new/revised is from a perspective of a TSG
Motorola Solutions: some refinement might be needed, discussion on the RAN reflector or in the meeting, maybe coffee break discussion and then some reflector discussion
work plan: approval in March 2012 intended but we could have discussion on RAN reflector (so far was just on SA reflector)
RAN3 chairman: we could have email discussion about template but also discussion about core and perf. part split
Deutsche Telekom: we could omit feature, but to merge core and perf. part would not be useful as perf. part will remain when core part is already closed

conclusion: noted, email discussion on RAN reflector (RAN secretary will be moderator of this)

17 Future meeting schedule

Meeting schedule 2010/2011/2012/2013:

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	12 June – 15 June 2012	Ljubljana, Slovenia	EF3
RAN #57	4 Sep. – 7 Sep. 2012	?, USA	NAF3
RAN #58	4 Dec. – 7 Dec. 2012	Barcelona (tbc), Spain	EF3
RAN #59	26 Feb. – 1 March 2013	Vienna (tbc), Austria	EF3
RAN #60	11 June – 14 June 2013		
RAN #61	3 Sep. – 6 Sep. 2013		
RAN #62	3 Dec. – 6 Dec. 2013	?, Europe	EF3

***: RAN Workshop on REL-12 and onwards: see AI 13

18 Any other business

Motorola Solutions: more realistic time schedules for status reports should be considered in the future

19 Closing of the meeting

The TSG RAN chairman Takehiro Nakamura (NTT DOCOMO) thanked the delegates for participating and contributing to RAN meeting #54 and RAN vice chairmen and MCC for their support of the meeting. He thanked the European Friends of 3GPP for hosting this meeting, wished everyone a pleasant Xmas time and a good start of 2012 and closed the meeting on Friday Dec. 9th, 2011 at about 13:00.

Annex A:
List of participants

The list of participants of this RAN meeting #54 is attached to this report.

Total number of participants: 147 (registered before the meeting: 181)

Annex B:
List of Tdocs

The list of Tdocs of this RAN meeting #54 is attached to this report.

Total number of Tdocs: 378 (RP-111400 - RP-111777) of which 370 Tdocs are available, i.e. 8 are not available and they are withdrawn.

Annex C:
Incoming liaison statements (LSin)

In total 21 LSs were received for RAN #54 (none of them received during the meeting). all 21 LSs were treated.

RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-111402	LS on Release 11 Features (SP-110657; to: SA1, SA2, SA3, SA5, CT, CT1, CT3, CT4, RAN, RAN2, RAN3, GERAN, GERAN2; cc: CT6, RAN4, RAN5, SA4, RAN1; contact: Samsung)	SA	REL-11	-	yes	noted	none	LIMONET was not selected as a feature for completion in REL-11 (see SP-110657) so RAN #53 WID RP-111367 was finally postponed; rSRVCC has been identified as a feature for completion in REL-11 (see SP-110657) so RAN #53 WID RP-111334 was finally approved; SA #53 selected some topics for REL-11 completion on SIMTC, RAN #53 started WI SIMTC-RAN_OC-Core and SI FS_LC_MTC_LTE but postponed SI proposal RP-111097 until March 2012;
RP-111403	Reply LS to R2-114802 = RP-110941 on Applicability of ePLMN to MDT (C1-114463; to: RAN2; cc: SA2, SA5, RAN, SA, SA3, CT4; contact: Huawei)	CT1	REL-10	MDT_UMTSLTE-Core	no	noted	none	
RP-111404	Reply LS to S4-110800 on Radio metrics with respect to QoE (R1-113605; to: SA4; cc: RAN, RAN2, RAN4; contact: Qualcomm)	RAN1	REL-11	EMM-EFEC	no	noted	none	QoE = Quality of Experience; note: S4-110800 was not sent to RAN;
RP-111405	LS on Status of the UE Over The Air (Antenna) conformance testing methodology work (R4-115452; to: GCF Performance Criteria Agreement Group, CTIA OTA Antenna Working Group; cc: RAN; contact: Ericsson)	RAN4	REL-11	UEAnt_FSTest, FS_HSPA_LTE_measRP_MIMO_multi-antenna, FS_OTA_phantoms_UTRA	no	noted	none	note: GCF sent LS to CTIA (see R4-115338) and RAN4 commented on this in R4-115452;
RP-111406	LS on Request for information for the new draft Recommendation Q.1741.8 (referencing of 3GPP Release 10) (ITU-T SG13 COM13-LS173; to: 3GPP; cc: CCSA, ETSI, ATIS, TTA, TTC, ARIB; contact: ETRI)	ITU-T SG13	REL-10	-	no	noted	none	LS is also submitted to SA #54 (more for SA/CT to comment);

RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-111407	LS on New work item on the framework on the identifiers in Future Networks (ITU-T SG13 COM13-LS196; to: IETF, 3GPP; cc: -; contact: NEC)	ITU-T SG13	-	-	no	noted	none	
RP-111409	LS on General Engineering of energy efficient base station (ATTM(11)0068; to: SA, RAN; cc: SA5, RAN3; contact: France Telecom)	ETSI TC ATTM	-	-	yes	noted	RP-111724	LS was provided to 3GPP on 19.10.2011; ATTM = Access, Terminals, Transmission and Multiplexing;
RP-111410	LS on ETSI TC-EE Work Item on Network level power efficiency (EE(11)0109; to: ITU-T SG5, GSMA, SA, RAN, ETSI TC ATTM; cc: -; contact: Alcatel-Lucent)	ETSI TC EE	-	-	yes	noted	RP-111724	
RP-111411	Reply LS to R4-114779 = RP-110938 to "LS on CRs for MSR specifications" (to: RAN, RAN4; cc: -; contact: Ericsson)	GERAN1	REL-10	MSR_NC-Core	not explicitly	noted	none	
RP-111412	LS on additional special subframe configuration for E-UTRA TDD in Rel-11 (R1-114469; to: RAN; cc: RAN2, RAN3, RAN4; contact: CMCC)	RAN1	REL-11	TEI11	yes	noted	none	WI proposal will be considered at RAN #55
RP-111413	LS on Capability handling of LTE TDD and FDD modes (R2-116557; to: RAN; cc: -; contact: Qualcomm)	RAN2	REL-9	TEI9, LTE-L23	yes	noted	RP-111770	
RP-111414	LS on FDD/TDD and HRPD/CDMA2000 RRM tests (R4-116194; to: RAN; cc: -; contact: Renesas)	RAN4	REL-8	LTE-RF	yes	noted	RP-111763	
RP-111415	Reply LS to GTI LS R4-116244 = RP-111557 on handover support between LTE FDD and LTE TDD (R4-116245; to: Global TD-LTE Initiative (GTI); cc: RAN, RAN5; contact: Clearwire)	RAN4	REL-8	LTE-RF	no	noted	none	included RAN action is actually only for GTI infomation , see RP-111414 instead for the action;
RP-111416	LS on Feedbacks on 8C-HSDPA feasibility (R4-116326; to: RAN; cc: -; contact: ST-Ericsson)	RAN4	REL-11	8C_HSDPA-Core	no	noted	none	
RP-111417	LS on CSG proximity indicator testing (R5-115775; to: RAN4; cc: RAN; contact: NTT DOCOMO)	RAN5	REL-9	EHNB-LTE_UEConTest, EHNB-UTRA_FDD_UEConTest	no	noted	none	MCC will provide the LS also for information to RAN2 #77
RP-111418	Response LS to GTI LS R5-115075 = RP-111557 on Handover support between LTE FDD and LTE TDD (R5-115781; to: Global TD-LTE Initiative (GTI); cc: RAN, RAN4; contact: NTT DOCOMO)	RAN5	REL-8	LTE-UEConTest	no	noted	none	
RP-111557	LS on Handover support between LTE FDD and LTE TDD (to: RAN4, RAN5; cc: RAN; contact: Clearwire)	Global TD-LTE Initiative (GTI) Task Force	REL-8	-	no	noted	none	RAN4 answered this LS in R4-116245 = RP-111415 and RAN5 answered this LS in R5-115781 = RP-111418;

RAN Tdoc	title (incoming LS, to, cc, contact)	source	REL	WI	RAN action requested	status	final LS answer	additional comments
RP-111558	Reply LS to RP-111397 to "Approval of New WI on E-UTRA medium range and MSR medium range/local area BS class requirements" (GERAN; to: RAN, RAN4; cc: -; contact: Ericsson)	GERAN	REL-11	medBS_class_LTE_MSR-Core	not explicitly	noted	none	
RP-111608	LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS ON "WIDE-AREA SENSOR AND/OR ACTUATOR NETWORK (WASN) SYSTEMS" (ITU-R WP5A/TEMP/337(Rev.1); to: 3GPP; 3GPP RAN; 3GPP2; ARIB; ATIS; ETSI; ETSI ERM; IEEE; ISO/IEC JTC 1/WG 7; ISO/IEC JTC 1 SC 31 WG 6; TIA; TTA; WGA; and XGP Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	none	related to MTC; LS will also be available at SA #54; LSin RP-111608 is a follow-up of LSin of RP-110927 of RAN #53;
RP-111609	LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS (PPDR) ON THE PRELIMINARY DRAFT NEW REPORT ITU-R M.[LMS.PPDR.UHF CHANNELS]: CHANNELIZATION SCENARIOS FOR PUBLIC PROTECTION AND DISASTER RELIEF OPERATIONS IN SOME PARTS OF THE UHF BAND IN ACCORDANCE WITH RESOLUTION 646 (WRC-03) (ITU-R WP5A/TEMP/342; to: 3GPP, 3GPP2, APCO, ARIB, ATIS, AWG, CDG, ETSI, ETSI EMTEL, ETSI ERM, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, WiMAX Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	postponed	related to PWS; LS will also be available at SA #54; LSin RP-111609 is a follow-up of LSin RP-110928 of RAN #53 which was answered by RAN #53 in RP-111398; LS answer from RAN postponed to RAN #55 (RAN1 & RAN4 will review the LS in the meantime)
RP-111610	LIAISON STATEMENT TO EXTERNAL ORGANIZATIONS – INVITATION TO REVIEW THE WORKING DOCUMENT TOWARDS THE REVISION OF REPORT ITU-R M.2014-1: DIGITAL LAND MOBILE SYSTEM FOR DISPATCH TRAFFIC (ITU-R WP5A/TEMP/352; to: 3GPP, 3GPP2, APCO, ARIB, ATIS, AWG, CDG, ETSI, ETSI EMTEL, ETSI ERM, IEEE, OASIS, Project MESA, TIA, TIA TR-45, TIA TR-45.5, TIA TR-8, TTA, UMTS Forum, WGET, WiMAX Forum; cc: -; contact: -)	ITU-R WP5A	-	-	no	noted	none	LS will also be available at SA #54; LSin RP-111610 is a follow-up of LSin RP-110926 of RAN #53;

Annex D:
Outgoing liaison statements (LSout)

Only final outgoing LSs are listed here.
5 outgoing LSs (0 LSs of them approved by email after RAN #54):

final LS Tdoc	title	to	cc	contact	reply to	release	WI	comments
RP-111763	FDD/TDD and HRPD/CDMA2000 RRM tests	RAN4	RAN5	Clearwire	R4-116194 = RP-111414	REL-9	TEI9, LTE-RF	
RP-111769	FGI 27 in LTE and Single Radio VCC	RAN2, SA2	SA, CT1, GERAN2	Qualcomm	-	REL-9	TEI9, LTE-L23	replacing CRs RP-111738 and RP-111739
RP-111770	Handling of LTE TDD and FDD modes	RAN1, RAN2, SA2, CT1	SA	Qualcomm	R2-116557 = RP-111413	REL-9	TEI9, LTE-L23	
RP-111772	FGI handling for inter-RAT ANR	RAN2	-	TeliaSonera	-	REL-9	TEI9, LTE-L23	
RP-111777	Enabling operation downlink 4TX in LTE networks	RAN4, RAN5	-	Vodafone	-	REL-8	TEI8	

The following draft LS was endorsed by RAN #54 and will be presented at SA #54 as SP-110847 by the RAN chairman in order to send a final LS from SA #54:

final LS Tdoc	title	to	cc	contact	reply to	release	WI	comments
RP-111724	Draft LS reply to on energy efficiency	ETSI ATTM, ETSI EE(11)0109	-	Alcatel-Lucent	ATTM(11)0068 = RP-111409 EE(11)0109 = RP-111410	-	-	

Annex E:
List of Change Requests (CRs)

This list of 965 CRs includes all CRs submitted to RAN #54.

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.101	0848	-	Rel-10	F	RP-111690	R4-115428	approved	Non applicable UARFCN numbers	10.3.0	10.4.0	R4	TEI10
25.101	0849	-	Rel-11	B	RP-111696	R4-115753	approved	Introduction of single band 4C-HSDPA II-4	10.3.0	11.0.0	R4	4C_HSDPA_Config-Core
25.101	0850	-	Rel-10	F	RP-111735	R4-115762	approved	Alignment with TS 36.101 on 3500MHz	10.3.0	10.4.0	R4	TEI10
25.101	0850	-	Rel-10	F	RP-111689	R4-115762	reissued	Alignment with TS 36.101 on 3500MHz	10.3.0		R4	TEI10
25.101	0851	-	Rel-10	F	RP-111686	R4-115862	approved	Introduction of missing ACS case 2 requirement for single band 4C-HSDPA	10.3.0	10.4.0	R4	4C_HSDPA-core
25.102	0361	-	Rel-11	F	RP-111694	R4-115899	approved	UE demodulation performance requirements under multiple-cell scenario for 1.28Mcps TDD	10.3.0	11.0.0	R4	LCR_TDD_UE_demod_mc-Perf
25.104	0595	-	Rel-10	F	RP-111734	R4-115078	approved	Band 42 and 43 for LTE 3500 (TDD) correction to TS 25.104	10.3.0	10.4.0	R4	TEI10
25.104	0595	-	Rel-10	F	RP-111688	R4-115078	reissued	Band 42 and 43 for LTE 3500 (TDD) correction to TS 25.104	10.3.0		R4	TEI10
25.104	0596	-	Rel-10	F	RP-111734	R4-115420	approved	Clarification of general blocking requirements for co-existence in TS 25.104	10.3.0	10.4.0	R4	TEI10
25.104	0596	-	Rel-10	F	RP-111688	R4-115420	reissued	Clarification of general blocking requirements for co-existence in TS 25.104	10.3.0		R4	TEI10
25.104	0597	1	Rel-11	B	RP-111696	R4-116212	approved	Introduction of new configuration for 4C-HSDPA	10.3.0	11.0.0	R4	4C_HSDPA_Config-Core
25.104	0598	2	Rel-10	F	RP-111687	R4-116169	approved	TX ON or OFF CR 25.104	10.3.0	10.4.0	R4	TEI10
25.123	0511	-	Rel-8	F	RP-111680	R4-115544	approved	Removing [] and adding Sprioritysearch in test cases of reselection to E-UTRA cell for Rel-8	8.11.0	8.12.0	R4	LTE-RF
25.123	0512	-	Rel-9	A	RP-111680	R4-115546	approved	Removing [] and adding Sprioritysearch in test cases of reselection to E-UTRA cell for Rel-9	9.6.0	9.7.0	R4	LTE-RF
25.123	0513	-	Rel-10	A	RP-111680	R4-115547	approved	Removing [] and adding Sprioritysearch in test cases of reselection to E-UTRA cell for Rel-10	10.3.0	10.4.0	R4	LTE-RF
25.123	0514	-	Rel-10	F	RP-111735	R4-115588	approved	Corrections on the table number in TS 25.123	10.3.0	10.4.0	R4	TEI10
25.123	0514	-	Rel-10	F	RP-111689	R4-115588	reissued	Corrections on the table number in TS 25.123	10.3.0		R4	TEI10
25.133	1145	-	Rel-10	F	RP-111735	R4-115381	approved	Correction to event triggered reporting	10.3.0	10.4.0	R4	TEI10
25.133	1145	-	Rel-10	F	RP-111689	R4-115381	reissued	Correction to event triggered reporting	10.3.0		R4	TEI10
25.133	1148	1	Rel-10	F	RP-111690	R4-116196	approved	Test case for Inter-frequency detected set without compressed mode	10.3.0	10.4.0	R4	TEI10
25.133	1149	1	Rel-10	F	RP-111690	R4-116144	approved	Test case for Inter-frequency detected set with compressed mode	10.3.0	10.4.0	R4	TEI10

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.133	1150	1	Rel-10	F	RP-111690	R4-116145	approved	Test case for enhanced Inter-frequency measurements	10.3.0	10.4.0	R4	TEI10
25.133	1153	-	Rel-10	F	RP-111690	R4-115747	approved	UE CPICH measurement requirements for inter frequency detected set without compressed mode	10.3.0	10.4.0	R4	TEI10
25.133	1155	-	Rel-10	F	RP-111734	R4-115767	approved	Simplification of operating bands	10.3.0	10.4.0	R4	TEI10
25.133	1155	-	Rel-10	F	RP-111688	R4-115767	reissued	Simplification of operating bands	10.3.0		R4	TEI10
25.133	1156	-	Rel-9	F	RP-111683	R4-115772	approved	Missing bands for test cases	9.9.0	9.10.0	R4	TEI9
25.133	1157	-	Rel-10	F	RP-111734	R4-115773	approved	Missing bands for test cases	10.3.0	10.4.0	R4	TEI10
25.133	1157	-	Rel-10	F	RP-111688	R4-115773	reissued	Missing bands for test cases	10.3.0		R4	TEI10
25.133	1158	1	Rel-10	F	RP-111690	R4-116253	approved	Optional faster higher priority reselection	10.3.0	10.4.0	R4	TEI10
25.141	0595	-	Rel-10	F	RP-111686	R4-115001	approved	Removal of TBD in the S-CPICH power offset test	10.3.0	10.4.0	R4	MIMO_HSDPA-Core, TEI10
25.141	0596	-	Rel-10	F	RP-111734	R4-115079	approved	Band 42 and 43 for LTE 3500 (TDD) correction to TS 25.141	10.3.0	10.4.0	R4	TEI10
25.141	0596	-	Rel-10	F	RP-111688	R4-115079	reissued	Band 42 and 43 for LTE 3500 (TDD) correction to TS 25.141	10.3.0		R4	TEI10
25.141	0597	-	Rel-10	F	RP-111686	R4-115382	approved	Introduction of HS-DPCCH demodulation performance testing for 4C-HSDPA	10.3.0	10.4.0	R4	4C_HSDPA-Perf, TEI10
25.141	0598	-	Rel-10	F	RP-111734	R4-115421	approved	Clarification of general blocking requirements for co-existence in TS 25.141	10.3.0	10.4.0	R4	TEI10
25.141	0598	-	Rel-10	F	RP-111688	R4-115421	reissued	Clarification of general blocking requirements for co-existence in TS 25.141	10.3.0		R4	TEI10
25.141	0599	1	Rel-11	B	RP-111696	R4-116213	approved	Introduction of new configuration for 4C-HSDPA	10.3.0	11.0.0	R4	4C_HSDPA_Config-Core
25.141	0600	3	Rel-10	F	RP-111687	R4-116334	approved	TX ON or OFF CR 25.141	10.3.0	10.4.0	R4	TEI10
25.144	0023	-	Rel-11	B	RP-111695	R4-115648	approved	Agreed CR R4-114706 â€œAdding sections for TRP and TRS requirements for LME/LEE devicesâ€• for approval	10.0.0	11.0.0	R4	UEAnt_FSTest
25.211	0288	5	Rel-11	B	RP-111671	R1-114368	approved	Introduction of 8C-HSDPA	10.0.0	11.0.0	R1	8C_HSDPA-Core
25.211	0289	-	Rel-11	B	RP-111672	R1-114372	approved	Introduction of Uplink Closed Loop Transmit Diversity for HSPA	10.0.0	11.0.0	R1	HSPA_UL_TxDiv-CL-Core
25.212	0296	8	Rel-11	B	RP-111671	R1-114369	approved	Introduction of 8C-HSDPA	10.1.0	11.0.0	R1	8C_HSDPA-Core
25.212	0297	1	Rel-11	B	RP-111672	R1-114381	approved	Introduction of Uplink Closed Loop Transmit Diversity for HSPA	10.1.0	11.0.0	R1	HSPA_UL_TxDiv-CL-Core
25.213	0109	7	Rel-11	B	RP-111671	R1-114272	approved	Introduction of 8C-HSDPA	10.0.0	11.0.0	R1	8C_HSDPA-Core
25.213	0110	1	Rel-11	B	RP-111672	R1-114382	approved	Introduction of Uplink Closed Loop Transmit Diversity for HSPA	10.0.0	11.0.0	R1	HSPA_UL_TxDiv-CL-Core
25.214	0652	8	Rel-11	B	RP-111671	R1-114370	approved	Introduction of 8C-HSDPA	10.4.0	11.0.0	R1	8C_HSDPA-Core
25.214	0658	2	Rel-10	F	RP-111670	R1-114363	approved	CQI reporting for frequency specific compressed mode	10.4.0	10.5.0	R1	TEI10
25.214	0659	-	Rel-7	F	RP-111663	R1-113996	postponed	Clarification of UL DPCCH Slot Format when DPC_MODE is 1 and CPC is not Enabled	7.17.0		R1	RANimp-CPC

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.214	0660	-	Rel-8	A	RP-111663	R1-113997	postponed	Clarification of UL DPCCH Slot Format when DPC_MODE is 1 and CPC is not Enabled	8.12.0		R1	RANimp-CPC
25.214	0661	-	Rel-9	A	RP-111663	R1-113998	postponed	Clarification of UL DPCCH Slot Format when DPC_MODE is 1 and CPC is not Enabled	9.7.0		R1	RANimp-CPC
25.214	0662	-	Rel-10	A	RP-111663	R1-113999	postponed	Clarification of UL DPCCH Slot Format when DPC_MODE is 1 and CPC is not Enabled	10.4.0		R1	RANimp-CPC
25.214	0663	-	Rel-11	B	RP-111672	R1-114374	approved	Introduction of Uplink Closed Loop Transmit Diversity for HSPA	10.4.0	11.0.0	R1	HSPA_UL_TxDiv-CL-Core
25.215	0199	-	Rel-11	B	RP-111672	R1-114373	approved	Introduction of Uplink Closed Loop Transmit Diversity for HSPA	10.0.0	11.0.0	R1	HSPA_UL_TxDiv-CL-Core
25.221	0221	-	Rel-7	F	RP-111664	R1-113711	approved	TPC on Non-scheduled E-PUCH for LCR TDD	7.11.0	7.12.0	R1	LCRTDD-EDCH-Phys
25.221	0222	-	Rel-8	A	RP-111664	R1-113712	approved	TPC on Non-scheduled E-PUCH for LCR TDD	8.10.0	8.11.0	R1	LCRTDD-EDCH-Phys
25.221	0223	-	Rel-9	A	RP-111664	R1-113713	approved	TPC on Non-scheduled E-PUCH for LCR TDD	9.3.0	9.4.0	R1	LCRTDD-EDCH-Phys
25.221	0224	-	Rel-10	A	RP-111664	R1-113714	approved	TPC on Non-scheduled E-PUCH for LCR TDD	10.1.0	10.2.0	R1	LCRTDD-EDCH-Phys
25.222	0210	-	Rel-9	F	RP-111665	R1-113709	approved	Physical channel mapping for HS-DSCH for secondary carrier TS0 for LCR TDD	9.2.0	9.3.0	R1	TEI9
25.222	0211	1	Rel-10	A	RP-111665	R1-114364	approved	Physical channel mapping for HS-DSCH for secondary carrier TS0 for LCR TDD	10.1.0	10.2.0	R1	TEI9
25.302	0206	-	Rel-11	B	RP-111717	R2-116473	withdrawn	Introduction of 8C-HSDPA in 25.302	10.2.0		R2	8C_HSDPA-Core
25.302	0207	1	Rel-11	B	RP-111718	R2-116474	revised	Introduction of uplink CLTD in 25.302	10.2.0		R2	HSPA_UL_TxDiv-CL-Core
25.302	0207	2	Rel-11	B	RP-111622	-	revised	Introduction of uplink CLTD and 8C-HSDPA into 25.302	10.2.0		R2	8C_HSDPA-Core, HSPA_UL_TxDiv-CL-Core
25.302	0207	3	Rel-11	B	RP-111736	-	approved	Introduction of uplink CLTD and 8C-HSDPA into 25.302	10.2.0	11.0.0	R2	8C_HSDPA-Core, HSPA_UL_TxDiv-CL-Core
25.304	0298	1	Rel-9	F	RP-111710	R2-116369	approved	CR to 25.304 on Clarification of inter-RAT cell reselection enhancements	9.6.0	9.7.0	R2	TEI9, LTE-L23
25.304	0299	1	Rel-10	A	RP-111710	R2-116370	approved	CR to 25.304 on Clarification of inter-RAT cell reselection enhancements	10.2.0	10.3.0	R2	TEI9, LTE-L23
25.304	0301	-	Rel-9	F	RP-111712	R2-116410	approved	Clarification to absolute priority based criteria	9.6.0	9.7.0	R2	TEI9
25.304	0302	-	Rel-10	A	RP-111712	R2-116411	approved	Clarification to absolute priority based criteria	10.2.0	10.3.0	R2	TEI9
25.306	0332	-	Rel-10	F	RP-111715	R2-116427	approved	Correction of capability table	10.4.0	10.5.0	R2	TEI10
25.306	0333	2	Rel-10	F	RP-111715	R2-116482	approved	Addition of the missing value ranges for 1.28Mbps TDD capabilities	10.4.0	10.5.0	R2	TEI10
25.306	0334	-	Rel-11	B	RP-111717	R2-116455	approved	Introduction of 8C-HSDPA in 25.306	10.4.0	11.0.0	R2	8C_HSDPA-Core
25.306	0336	-	Rel-10	F	RP-111715	R2-116443	approved	Introduction of the frequency specific compressed mode	10.4.0	10.5.0	R2	TEI10
25.306	0337	-	Rel-11	B	RP-111718	R2-116453	approved	Introduction of uplink CLTD in 25.306	10.4.0	11.0.0	R2	HSPA_UL_TxDiv-CL-Core
25.306	0338	-	Rel-11	B	RP-111719	R2-116449	approved	Introduction of uplink OLTD in 25.306	10.4.0	11.0.0	R2	HSPA_UL_TxDiv-OL-Core

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.306	0340	1	Rel-7	F	RP-111705	R2-116441	approved	Clarify the total number of soft channel bits of HSDSCH physical layer category 19 and 20	7.11.0	7.12.0	R2	RANimp-64QamDownlink, MIMO-L23
25.308	0118	1	Rel-10	F	RP-111715	R2-116434	approved	Downlink related corrections in TS 25.308 for LCR TDD	10.5.0	10.6.0	R2	TEI10
25.308	0119	-	Rel-11	B	RP-111717	R2-116456	approved	Introduction of 8C-HSDPA in 25.308	10.5.0	11.0.0	R2	8C_HSDPA-Core
25.319	0091	1	Rel-8	F	RP-111708	R2-116345	approved	Cleanup corrections for enhanced uplink operation with MAC-i	8.11.0	8.12.0	R2	RANimp-UplinkL2dataRates
25.319	0092	1	Rel-9	A	RP-111708	R2-116346	approved	Cleanup corrections for enhanced uplink operation with MAC-i	9.6.0	9.7.0	R2	RANimp-UplinkL2dataRates
25.319	0093	1	Rel-10	A	RP-111708	R2-116347	approved	Cleanup corrections for enhanced uplink operation with MAC-i	10.6.0	10.7.0	R2	RANimp-UplinkL2dataRates
25.319	0094	1	Rel-11	A	RP-111708	R2-116348	approved	Cleanup corrections for enhanced uplink operation with MAC-i	11.1.0	11.2.0	R2	RANimp-UplinkL2dataRates
25.319	0095	1	Rel-10	F	RP-111715	R2-116446	approved	Uplink related corrections in TS 25.319 for LCR TDD	10.6.0	10.7.0	R2	TEI10
25.319	0096	-	Rel-11	B	RP-111717	R2-116457	approved	Introduction of 8C-HSDPA in 25.319	11.1.0	11.2.0	R2	8C_HSDPA-Core
25.319	0098	-	Rel-11	F	RP-111718	R2-116452	approved	Update of uplink CLTD stage-2	11.1.0	11.2.0	R2	HSPA_UL_TxDiv-CL-Core
25.319	0099	1	Rel-11	F	RP-111719	R2-116541	approved	Update of uplink OLTD stage-2	11.1.0	11.2.0	R2	HSPA_UL_TxDiv-OL-Core
25.319	0100	1	Rel-11	A	RP-111715	R2-116447	approved	Uplink related corrections in TS 25.319 for LCR TDD	11.1.0	11.2.0	R2	TEI10
25.321	0743	-	Rel-10	F	RP-111715	R2-115685	approved	Correction on Multi-frequency HS-DSCH Transport Block Sizes for 1.28 Mcps TDD	10.4.0	10.5.0	R2	TEI10
25.321	0744	-	Rel-10	F	RP-111713	R2-115686	approved	MC-HSUPA related HARQ operation in UE for LCR TDD	10.4.0	10.5.0	R2	TDD_MC_HSUPA
25.321	0745	-	Rel-10	F	RP-111713	R2-116423	approved	E-AGCH ECSN for Multi-carrier HSUPA for LCR TDD	10.4.0	10.5.0	R2	TDD_MC_HSUPA
25.321	0746	1	Rel-11	B	RP-111717	R2-116475	approved	Introduction of 8C-HSDPA in 25.321	10.4.0	11.0.0	R2	8C_HSDPA-Core
25.331	4806	-	Rel-8	F	RP-111708	R2-115687	approved	Correction on the measurement configuration validation for SFN reading	8.16.0	8.17.0	R2	TEI8
25.331	4807	-	Rel-9	A	RP-111708	R2-115688	approved	Correction on the measurement configuration validation for SFN reading	9.8.0	9.9.0	R2	TEI8
25.331	4808	-	Rel-10	A	RP-111708	R2-115689	approved	Correction on the measurement configuration validation for SFN reading	10.5.0	10.6.0	R2	TEI8
25.331	4810	-	Rel-8	F	RP-111706	R2-115691	approved	Corrections of PS keys handling upon PS ISHO	8.16.0	8.17.0	R2	LTE-L23
25.331	4811	-	Rel-9	A	RP-111706	R2-115692	approved	Corrections of PS keys handling upon PS ISHO	9.8.0	9.9.0	R2	LTE-L23
25.331	4812	-	Rel-10	A	RP-111706	R2-115693	approved	Corrections of PS keys handling upon PS ISHO	10.5.0	10.6.0	R2	LTE-L23
25.331	4813	-	Rel-10	F	RP-111702	R2-115694	approved	Delete E-HICH, E-RGCH, E-AGCH information when E_DCH is stopped	10.5.0	10.6.0	R2	TEI10, EDCH-L23
25.331	4816	-	Rel-4	F	RP-111701	R2-116415	approved	Correction to Default Radio Configurations for TDD: invalidation of identities 0, 1, 5, 6, 7	4.20.0	4.21.0	R2	TEI4
25.331	4817	-	Rel-5	A	RP-111701	R2-116416	approved	Correction to Default Radio Configurations for TDD: invalidation of identities 0, 1, 5, 6, 7	5.24.0	5.25.0	R2	TEI4

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.331	4818	-	Rel-6	A	RP-111701	R2-116417	approved	Correction to Default Radio Configurations for TDD: invalidation of identities 0, 1, 5, 6, 7, 22	6.25.0	6.26.0	R2	TEI4
25.331	4819	-	Rel-7	A	RP-111701	R2-116418	approved	Correction to Default Radio Configurations for TDD: invalidation of identities 0, 1, 5, 6, 7, 22	7.20.0	7.21.0	R2	TEI4
25.331	4820	-	Rel-8	A	RP-111701	R2-116419	approved	Correction to Default Radio Configurations for TDD: invalidation of identities 0, 1, 5, 6, 7, 22	8.16.0	8.17.0	R2	TEI4
25.331	4821	-	Rel-9	A	RP-111701	R2-116420	approved	Correction to Default Radio Configurations for TDD: invalidation of identities 0, 1, 5, 6, 7, 22	9.8.0	9.9.0	R2	TEI4
25.331	4822	-	Rel-10	F	RP-111701	R2-116421	approved	Correction to Default Radio Configurations for TDD: number of TFCI coding bits	10.5.0	10.6.0	R2	TEI10
25.331	4829	-	Rel-10	F	RP-111711	R2-116364	approved	Clarification of PSC range for CSG cells	10.5.0	10.6.0	R2	EHNB-RAN2, TEI10
25.331	4830	-	Rel-10	F	RP-111715	R2-116426	approved	Alignment of the text description for SIB 18 for UEs in idle mode and connected mode	10.5.0	10.6.0	R2	TEI10
25.331	4831	1	Rel-11	B	RP-111717	R2-116546	approved	Introduction of 8C-HSDPA in 25.331	10.5.0	11.0.0	R2	8C_HSDPA-Core
25.331	4833	1	Rel-10	C	RP-111715	R2-116481	approved	Improved Deferred Measurement Control Reading	10.5.0	10.6.0	R2	TEI10
25.331	4835	-	Rel-11	B	RP-111720	R2-116478	withdrawn	Preparation of REL-11 ASN.1 critical extensions	10.5.0		R2	TEI11
25.331	4836	-	Rel-10	F	RP-111715	R2-116428	approved	25.331 trivial corrections	10.5.0	10.6.0	R2	TEI10
25.331	4846	-	Rel-10	F	RP-111715	R2-116444	approved	Introduction of the frequency specific compressed mode	10.5.0	10.6.0	R2	TEI10
25.331	4847	1	Rel-11	B	RP-111718	R2-116544	approved	Introduction of uplink CLTD in 25.331	10.5.0	11.0.0	R2	HSPA_UL_TxDiv-CL-Core
25.331	4848	1	Rel-11	B	RP-111719	R2-116543	approved	Introduction of uplink OLTD in 25.331	10.5.0	11.0.0	R2	HSPA_UL_TxDiv-OL-Core
25.331	4861	1	Rel-7	F	RP-111703	R2-116471	approved	Clarification to the handling of HS-DSCH TB size table	7.20.0	7.21.0	R2	RANimp-L2DataRates
25.331	4862	2	Rel-8	A	RP-111703	R2-116477	approved	Clarification to the handling of HS-DSCH TB size table	8.16.0	8.17.0	R2	RANimp-L2DataRates
25.331	4863	1	Rel-9	F	RP-111703	R2-116469	approved	Clarification to the handling of HS-DSCH TB size table	9.8.0	9.9.0	R2	RANimp-L2DataRates, TEI9
25.331	4864	1	Rel-10	A	RP-111703	R2-116470	approved	Clarification to the handling of HS-DSCH TB size table	10.5.0	10.6.0	R2	RANimp-L2DataRates, TEI9
25.331	4865	1	Rel-7	F	RP-111705	R2-116442	approved	Clarify the total number of soft channel bits of HSDSCH physical layer category 19 and 20	7.20.0	7.21.0	R2	RANimp-64QamDownlink, MIMO-L23
25.331	4870	1	Rel-7	F	RP-111704	R2-116437	approved	Correction of BCCH mapping on HS-DSCH	7.20.0	7.21.0	R2	RANimp-EnhState
25.331	4871	1	Rel-8	A	RP-111704	R2-116438	approved	Correction of BCCH mapping on HS-DSCH	8.16.0	8.17.0	R2	RANimp-EnhState
25.331	4872	1	Rel-9	A	RP-111704	R2-116439	approved	Correction of BCCH mapping on HS-DSCH	9.8.0	9.9.0	R2	RANimp-EnhState
25.331	4873	1	Rel-10	A	RP-111704	R2-116440	approved	Correction of BCCH mapping on HS-DSCH	10.5.0	10.6.0	R2	RANimp-EnhState
25.331	4874	2	Rel-10	F	RP-111713	R2-116480	approved	Addressing the issue of inconsistent HARQ memory partitioning for high-peak-rate UEs	10.5.0	10.6.0	R2	4C_HSDPA

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
25.331	4884	1	Rel-10	F	RP-111715	R2-116468	approved	Correction about the presence of Security Revert Status Indicator in CELL UPDATE Message	10.5.0	10.6.0	R2	TEI10
25.331	4886	1	Rel-10	B	RP-111719	R2-116542	approved	Support early implementation of uplink OLTD in Rel-10	10.5.0	10.6.0	R2	HSPA_UL_TxDiv-OL-Core
25.413	1140	-	Rel-10	F	RP-111651	R3-112743	approved	Introduction of the annex on the processing of transparent containers at SGSN	10.3.0	10.4.0	R3	TEI10
25.413	1141	2	Rel-10	F	RP-111649	R3-113157	approved	Addition of TCE IP in CN INVOKE TRACE	10.3.0	10.4.0	R3	MDT_UMTSLTE-Core
25.413	1142	-	Rel-9	F	RP-111646	R3-112746	approved	Correction of emergency call	9.7.0	9.8.0	R3	TEI9
25.413	1143	-	Rel-10	A	RP-111646	R3-112747	approved	Correction of emergency call	10.3.0	10.4.0	R3	TEI9
25.413	1148	1	Rel-10	F	RP-111651	R3-113118	approved	Fast Return after CSFB	10.3.0	10.4.0	R3	TEI10
25.413	1149	1	Rel-10	F	RP-111651	R3-113081	approved	Correction of Routing	10.3.0	10.4.0	R3	TEI10
25.423	1714	-	Rel-10	B	RP-111654	R3-112725	postponed	Addition of new Band 26 for E850	10.4.0		R3	e850_UB-Core
25.423	1715	2	Rel-10	F	RP-111649	R3-113156	approved	Addition of TCE IP in IUR INVOKE TRACE	10.4.0	10.5.0	R3	MDT_UMTSLTE-Core
25.423	1716	1	Rel-11	B	RP-111653	R3-113065	approved	Introduction of UL CLTD	10.4.0	11.0.0	R3	HSPA_UL_TxDiv-CL-Core
25.423	1718	1	Rel-10	F	RP-111651	R3-113076	approved	Support for frequency specific compressed mode	10.4.0	10.5.0	R3	TEI10
25.423	1722	1	Rel-11	B	RP-111652	R3-113062	approved	Introduction of 8-carrier HSDPA	10.4.0	11.0.0	R3	8C_HSDPA-Core
25.423	1723	2	Rel-9	F	RP-111645	R3-113161	approved	Support of dynamic HS-SCCH order for DTXDRX	9.7.0	9.8.0	R3	RANimp-CPC, TEI9
25.423	1724	2	Rel-10	A	RP-111645	R3-113162	approved	Support of dynamic HS-SCCH order for DTXDRX	10.4.0	10.5.0	R3	RANimp-CPC, TEI9
25.425	0161	-	Rel-9	F	RP-111645	R3-113127	approved	Indicator for DTXDRX HS-SCCH order	9.2.0	9.3.0	R3	RANimp-CPC, TEI9
25.425	0162	-	Rel-10	A	RP-111645	R3-113128	approved	Indicator for DTXDRX HS-SCCH order	10.1.0	10.2.0	R3	RANimp-CPC, TEI9
25.427	0154	2	Rel-11	B	RP-111653	R3-113160	approved	Indicator to the old UL CLTD Control Node B	10.1.0	11.0.0	R3	HSPA_UL_TxDiv-CL-Core
25.433	1913	-	Rel-9	F	RP-111646	R3-112733	approved	Correct missing SPI reference in tabular	9.7.0	9.8.0	R3	TEI9
25.433	1914	-	Rel-10	A	RP-111646	R3-112734	approved	Correct missing SPI reference in tabular	10.4.0	10.5.0	R3	TEI9
25.433	1915	1	Rel-11	B	RP-111653	R3-113064	approved	Introduction of UL CLTD	10.4.0	11.0.0	R3	HSPA_UL_TxDiv-CL-Core
25.433	1916	1	Rel-10	F	RP-111651	R3-113073	approved	Introduction of frequency specific compressed mode	10.4.0	10.5.0	R3	TEI10
25.433	1923	1	Rel-11	B	RP-111652	R3-113063	approved	Introduction of 8-carrier HSDPA	10.4.0	11.0.0	R3	8C_HSDPA-Core
25.433	1924	2	Rel-9	F	RP-111645	R3-113163	approved	Support of dynamic HS-SCCH order for DTXDRX	9.7.0	9.8.0	R3	RANimp-CPC, TEI9
25.433	1925	2	Rel-10	A	RP-111645	R3-113164	approved	Support of dynamic HS-SCCH order for DTXDRX	10.4.0	10.5.0	R3	RANimp-CPC, TEI9
25.435	0272	1	Rel-10	F	RP-111651	R3-113098	approved	Clarification on the timing of PICH/HS-SCCH	10.3.0	10.4.0	R3	TEI10
25.435	0274	1	Rel-9	F	RP-111645	R3-113094	approved	Indicator for DTXDRX HS-SCCH order	9.4.0	9.5.0	R3	RANimp-CPC, TEI9
25.435	0275	1	Rel-10	A	RP-111645	R3-113095	approved	Indicator for DTXDRX HS-SCCH order	10.3.0	10.4.0	R3	RANimp-CPC, TEI9
25.446	0013	1	Rel-10	F	RP-111650	R3-113154	approved	Correction on the Length of Spare Extension	10.1.0	10.2.0	R3	MBMS_LTE, TEI10
25.446	0014	1	Rel-10	F	RP-111650	R3-113058	approved	Correction on the Spare Extension	10.1.0	10.2.0	R3	MBMS_LTE, TEI10
25.461	0075	1	Rel-10	B	RP-111654	R3-113103	postponed	Addition of new Band 26 for E850	10.2.0		R3	e850_UB-Core
25.461	0076	-	Rel-10	F	RP-111733	R3-113070	approved	Removal of references to operating bands i) and h)	10.2.0	10.3.0	R3	RInImp8-UMTSLTE3500

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25.466	0041	-	Rel-10	B	RP-111654	R3-112724	postponed	Addition of new Band 26 for E850	10.2.0		R3	e850_UB-Core
25.466	0042	-	Rel-10	F	RP-111733	R3-113071	approved	Removal of references to operating bands i) and h)	10.2.0	10.3.0	R3	RInImp8-UMTSLTE3500
25.467	0159	1	Rel-10	F	RP-111651	R3-113153	approved	Rapporteur update on specification references	10.3.0	10.4.0	R3	TEI10
25.467	0160	1	Rel-10	F	RP-111648	R3-113167	approved	Access Control in RNSAP Relocation between HNBs	10.3.0	10.4.0	R3	HNB_HENB_mob_enh-Core
25.467	0161	-	Rel-10	F	RP-111650	R3-112736	approved	Measurement configuration for Inbound Mobility	10.3.0	10.4.0	R3	EHNB-RAN3
25.467	0162	2	Rel-10	F	RP-111651	R3-113159	approved	Corrections on UE Registration Procedure	10.3.0	10.4.0	R3	TEI10
25.467	0163	-	Rel-9	F	RP-111646	R3-112790	approved	Correction of emergency call	9.5.0	9.6.0	R3	TEI9
25.467	0164	-	Rel-10	A	RP-111646	R3-112791	approved	Correction of emergency call	10.3.0	10.4.0	R3	TEI9
25.863	0001	-	Rel-11	B	RP-111661	-	approved	Evaluation results for UL CLTD	10.0.0	11.0.0	R4	HSPA_UL_TxDiv-CL-Core
25.914	0011	1	Rel-11	B	RP-111695	R4-116224	approved	Revised agreed CRs R4-114766 and R4-114811 for TR 25.914 for approval with correction	10.1.0	11.0.0	R4	UEAnt_FSTest
34.108	0871	-	Rel-9	F	RP-111583	R5-115102	approved	Add new SIB scheduling for long SIB5/SIB5bis	9.6.0	9.7.0	R5	TEI8_Test
34.108	0872	-	Rel-11	F	RP-111601	R5-115130	approved	Addition of test procedure for performance requirement under multiple-cell scenario for 1,28 Mcps TDD	9.6.0	11.0.0	R5	LCR_TDD_demod_mc-UEConTest
34.108	0873	-	Rel-9	F	RP-111597	R5-115192	approved	Adding band XXII (3500MHz) to 34.108	9.6.0	9.7.0	R5	RInImp-UEConTest_UMTS3500
34.108	0874	-	Rel-9	F	RP-111572	R5-115278	approved	Correction the TFCI code word / radio frame for downlink in 6.11.5.4.14 for LCR TDD	9.6.0	9.7.0	R5	TEI4_Test
34.108	0875	-	Rel-9	F	RP-111571	R5-115369	approved	Use of IPv4 in session setup procedure	9.6.0	9.7.0	R5	TEI_Test
34.108	0876	-	Rel-9	F	RP-111574	R5-115398	approved	Introduction of reference radio bearer combination for NISPC testing	9.6.0	9.7.0	R5	TEI7_Test
34.109	0050	-	Rel-10	F	RP-111715	R2-116432	approved	Corrections to UE test loop mode 4	10.0.0	10.1.0	R2	TEI10
34.114	0011	-	Rel-9	B	RP-111584	R5-115085	approved	Removal of technical content in 34.114 v9.2.0 and substitution with pointer to the next Release	9.2.0	9.3.0	R5	TEI9_Test
34.114	0012	-	Rel-10	F	RP-111636	R5-115890	approved	Introduction of alternative measurement procedure in TS 34.114	10.0.0	10.1.0	R5	TEI10_Test
34.121-1	1360	-	Rel-9	B	RP-111584	R5-115086	approved	Removal of technical content in 34.121-1 v9.6.0 and substitution with pointer to the next Release	9.6.0	9.7.0	R5	TEI9_Test
34.121-1	1361	-	Rel-10	F	RP-111595	R5-115152	approved	Annex changes for new ACLR test case for DC-HSUPA	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1362	-	Rel-10	F	RP-111594	R5-115154	approved	Introduction of new DB-DC-HSDPA test cases 9.2.1GB, 9.2.1IB and 9.2.1KB	10.0.0	10.1.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.121-1	1363	-	Rel-10	F	RP-111594	R5-115155	approved	Annex changes for new DB-DC-HSDPA test cases 9.2.1GB, 9.2.1IB and 9.2.1KB	10.0.0	10.1.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest

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34.121-1	1364	-	Rel-10	F	RP-111595	R5-115160	approved	Transmit Intermodulation for DC-HSUPA - uncertainties and tolerances	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1365	-	Rel-10	F	RP-111575	R5-115377	approved	Update of RRM 8.2.5 UTRAN to E-UTRA Cell Re-Selection	10.0.0	10.1.0	R5	LTE-UEConTest_RF
34.121-1	1366	-	Rel-10	F	RP-111594	R5-115411	approved	Annex changes for DB-DC-HSDPA test cases 9.2.1FB, 9.2.1HB and 9.2.1JB	10.0.0	10.1.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.121-1	1368	-	Rel-10	F	RP-111595	R5-115805	approved	Transmit Intermodulation for DC-HSUPA (new tc)	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1369	-	Rel-10	F	RP-111573	R5-115806	approved	Correction to test applicability in 8.6.2.2	10.0.0	10.1.0	R5	TEI5_Test
34.121-1	1370	-	Rel-10	F	RP-111595	R5-115807	approved	Connection diagram for transmit intermodulation for DC-HSUPA	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1371	-	Rel-10	F	RP-111575	R5-115808	approved	Correction to 8.6.6.1 and 8.6.6.2	10.0.0	10.1.0	R5	LTE-UEConTest_RF
34.121-1	1372	-	Rel-10	F	RP-111597	R5-115810	approved	Adding band XXII (3500MHz) to 34.121-1 chapter 4	10.0.0	10.1.0	R5	RInImp-UEConTest_UMTS3500
34.121-1	1373	-	Rel-10	F	RP-111575	R5-115829	approved	Uncertainties and Test Tolerances for RRM test case 8.6.7.1 and 8.6.7.2 in 34.121-1	10.0.0	10.1.0	R5	LTE-UEConTest_RF
34.121-1	1374	-	Rel-10	F	RP-111575	R5-115849	approved	Correction to Table F.4.4 for TC 8.6.6.1	10.0.0	10.1.0	R5	LTE-UEConTest_RF
34.121-1	1375	-	Rel-10	F	RP-111598	R5-115851	approved	CR New TCs for MIMO Operation with Non-MIMO Coexistence in HSDPA Type3 perf	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1376	-	Rel-10	F	RP-111598	R5-115852	approved	New Test Case 9.3.7F - MIMO Single Stream Fading Conditions - Asymmetric CPICHs	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1377	-	Rel-10	F	RP-111598	R5-115853	approved	New Test Case 9.3.7G - MIMO Dual Stream Fading Conditions - Asymmetric CPICHs	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1378	-	Rel-10	F	RP-111598	R5-115854	approved	New Test Case 9.3.7H - MIMO Dual Stream Fading Conditions - UE categories 19-20 - Asymmetric CPICHs	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1379	-	Rel-10	F	RP-111598	R5-115855	approved	New Test Case 9.3.7I and 9.3.7J	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1380	-	Rel-10	F	RP-111598	R5-115856	approved	Update to 34.121-1 Annex	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1381	-	Rel-10	F	RP-111598	R5-115857	approved	Introduction of new test case verifying HS-SCCH Type 3 performance single stream restriction-STTD disabled-asymmetric CPICHs	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1382	-	Rel-10	F	RP-111598	R5-115858	approved	Addition measurement uncertainties and test tolerances for HS-SCCH Type 3 performance SS restriction-STTD disabled-asymmetric CPICHs test in Annex	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1383	-	Rel-10	F	RP-111598	R5-115859	approved	Introduction of new test case verifying HS-SCCH Type 3 performance single stream restriction-STTD enabled-asymmetric CPICHs	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest

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34.121-1	1384	-	Rel-10	F	RP-111598	R5-115860	approved	Addition measurement uncertainties and test tolerances for HS-SCCH Type 3 performance SS restriction-STTD enabled-asymmetric CPICHs test in Annex	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-1	1385	-	Rel-10	F	RP-111594	R5-115863	approved	CR Test cases update for DB-DC-HSDPA CQI reporting	10.0.0	10.1.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.121-1	1386	-	Rel-10	F	RP-111595	R5-115866	approved	Introduction of new ACLR test case for DC-HSUPA	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1387	-	Rel-10	F	RP-111595	R5-115867	approved	CR New FDD transmitter TCs for Dual-Cell HSUPA	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1388	-	Rel-10	F	RP-111595	R5-115868	approved	CR update FDD Receiver TCs for Dual-Cell HSUPA	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1389	-	Rel-10	F	RP-111595	R5-115869	approved	New test case 5.9C, for DC-HSUPA spectrum emission	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1390	-	Rel-10	F	RP-111595	R5-115870	approved	New test case 5.3A, for DC-HSUPA frequency error	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1391	-	Rel-10	F	RP-111595	R5-115871	approved	Updates to annex of 34.121-1 to include DC-HSUPA	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-1	1392	-	Rel-10	F	RP-111575	R5-115876	approved	Update for Inter HO in 8.3.4x	10.0.0	10.1.0	R5	LTE-UEConTest_RF
34.121-2	0105	-	Rel-9	B	RP-111584	R5-115087	approved	Removal of technical content in 34.121-2 v9.6.0 and substitution with pointer to the next Release	9.6.0	9.7.0	R5	TEI9_Test
34.121-2	0106	-	Rel-10	F	RP-111595	R5-115153	approved	Introduction of new ACLR test case for DC-HSUPA	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-2	0107	-	Rel-10	F	RP-111594	R5-115156	approved	Introduction of new DB-DC-HSDPA test cases 9.2.1GB, 9.2.1IB and 9.2.1KB	10.0.0	10.1.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.121-2	0108	-	Rel-10	F	RP-111598	R5-115410	approved	Update to 34.121-2	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-2	0109	-	Rel-10	F	RP-111594	R5-115412	approved	Update to 34.121-2	10.0.0	10.1.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.121-2	0110	-	Rel-10	F	RP-111597	R5-115811	approved	Adding band XXII (3500MHz) to 34.121-2	10.0.0	10.1.0	R5	RInImp-UEConTest_UMTS3500
34.121-2	0111	-	Rel-10	F	RP-111598	R5-115861	approved	Introduction of applicability of HS-SCCH Type 3 performance single stream restriction-STTD disabled-asymmetric CPICHs test	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest
34.121-2	0112	-	Rel-10	F	RP-111598	R5-115862	approved	Introduction of applicability of HS-SCCH Type 3 performance single stream restriction-STTD enabled-asymmetric CPICHs test	10.0.0	10.1.0	R5	MIMO_HSDPA-UEConTest

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34.121-2	0113	-	Rel-10	F	RP-111594	R5-115864	approved	Modification for the deficiency explanation of the duplicated tests for DC-HSDPA capable UE's in 34.121-2	10.0.0	10.1.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.121-2	0114	-	Rel-10	F	RP-111595	R5-115872	approved	Transmit Intermodulation for DC-HSUPA (applicability)	10.0.0	10.1.0	R5	RANimp-DC_HSUPA_UEConTest
34.121-2	0115	-	Rel-10	F	RP-111571	R5-115873	approved	Modification of Applicability tests conditions according to comments column of applicablity table in TS 34.121-2	10.0.0	10.1.0	R5	TEI_Test
34.122	0382	-	Rel-9	F	RP-111575	R5-115295	approved	Completing for test case in section 8.2.2.6.1 of 34.122	9.6.0	9.7.0	R5	LTE-UEConTest_RF
34.122	0383	-	Rel-9	F	RP-111575	R5-115297	approved	Completing for test case in section 8.2.2.6.2 of 34.122	9.6.0	9.7.0	R5	LTE-UEConTest_RF
34.122	0384	-	Rel-9	F	RP-111575	R5-115378	approved	Update of Annex in 34.122	9.6.0	9.7.0	R5	LTE-UEConTest_RF
34.122	0385	-	Rel-11	F	RP-111601	R5-115880	approved	Addition of test cases for performance requirement under multiple-cell scenario for 1,28 Mcps TDD	9.6.0	11.0.0	R5	LCR_TDD_demod_mc-UEConTest
34.122	0386	-	Rel-11	F	RP-111601	R5-115881	approved	Addition of connection diagram for performance requirement under multiple-cell scenario for 1,28 Mcps TDD	9.6.0	11.0.0	R5	LCR_TDD_demod_mc-UEConTest
34.123-1	3029	-	Rel-9	F	RP-111583	R5-115175	approved	Removal of test case 8.1.1.15, 8.1.1.16, 8.1.1.17 and 8.1.1.18	9.6.0	9.7.0	R5	TEI8_Test
34.123-1	3030	-	Rel-9	F	RP-111571	R5-115217	approved	Correction to GCF WI-010 MAC test case 7.1.1.8	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3031	-	Rel-9	F	RP-111571	R5-115218	approved	Correction to GCF WI-010 GMM test case 12.4.1.4c2	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3032	-	Rel-9	F	RP-111572	R5-115280	approved	Correction Specific Message Content in SIB1 in test case 8.4.1.18 and 8.4.1.19	9.6.0	9.7.0	R5	TEI4_Test
34.123-1	3033	-	Rel-9	F	RP-111572	R5-115281	approved	Correction value of 'Time to trigger' and 'Pending time after trigger' in SIB11 for LCR TDD in test case 8.4.1.17	9.6.0	9.7.0	R5	TEI4_Test
34.123-1	3034	-	Rel-9	F	RP-111572	R5-115282	approved	Deletion the multi carriers for LCR TDD in test case 8.4.1.1a and 8.4.1.2a	9.6.0	9.7.0	R5	TEI4_Test
34.123-1	3035	-	Rel-9	F	RP-111572	R5-115283	approved	Correction Cell parameters ID for LCR TDD in test case 8.2.6.19	9.6.0	9.7.0	R5	TEI4_Test
34.123-1	3036	-	Rel-9	F	RP-111573	R5-115284	approved	Correction UL TFCS for LCR TDD in test case 8.2.1.29	9.6.0	9.7.0	R5	TEI5_Test
34.123-1	3037	-	Rel-9	F	RP-111572	R5-115287	approved	Correction the Qrxlevmin value for LCR TDD in test case 8.1.2.11	9.6.0	9.7.0	R5	TEI4_Test
34.123-1	3038	-	Rel-9	F	RP-111583	R5-115288	approved	Addition of new mac test cases for LCR TDD enhanced CELL_FACH	9.6.0	9.7.0	R5	TEI8_Test
34.123-1	3039	-	Rel-9	F	RP-111573	R5-115293	approved	Correction the UL Transport channel identity in test case 8.2.3.35	9.6.0	9.7.0	R5	TEI5_Test
34.123-1	3040	-	Rel-9	F	RP-111574	R5-115304	approved	Correction to GCF WI-068 RRC test case 8.2.2.57	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3041	-	Rel-9	F	RP-111583	R5-115318	approved	Correction to enhanced FACH uplink test case 7.1.8.7	9.6.0	9.7.0	R5	TEI8_Test

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34.123-1	3042	-	Rel-9	F	RP-111591	R5-115368	approved	Addition of clause title 13.4	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.123-1	3043	-	Rel-9	F	RP-111583	R5-115415	approved	Corrections to DC-HSDPA RRC test cases.	9.6.0	9.7.0	R5	TEI8_Test
34.123-1	3044	-	Rel-9	F	RP-111574	R5-115498	approved	Corrections to NISPC test cases 11.2.1a and 11.2.1b	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3045	-	Rel-9	F	RP-111574	R5-115499	approved	Corrections to NISPC test case 11.3.2a	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3046	-	Rel-9	F	RP-111594	R5-115541	approved	Correction to DB-DC-HSDPA test case 8.2.2.74	9.6.0	9.7.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.123-1	3047	-	Rel-9	F	RP-111594	R5-115542	approved	Correction to DB-DC-HSDPA test case 8.2.2.75	9.6.0	9.7.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.123-1	3048	-	Rel-9	F	RP-111583	R5-115594	approved	Correction to EUL CELL_FACH test case 7.1.8.6a	9.6.0	9.7.0	R5	TEI8_Test
34.123-1	3049	-	Rel-9	F	RP-111571	R5-115595	approved	Correction to test cases 6.2.1.1, 6.2.1.6 and 6.2.1.10	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3050	-	Rel-9	F	RP-111597	R5-115596	approved	Adding band XXII (3500MHz) to 34.123-1	9.6.0	9.7.0	R5	RInImp-UEConTest_UMTS3500
34.123-1	3051	-	Rel-9	F	RP-111571	R5-115598	approved	Correction to GCF WI-010 NAS test case 12.4.1.4d1	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3052	-	Rel-9	F	RP-111583	R5-115599	approved	Correction to GCF WI-127 RRC test case 8.1.1.13	9.6.0	9.7.0	R5	TEI8_Test
34.123-1	3053	-	Rel-9	F	RP-111583	R5-115600	approved	New eCall Test Case 13.3.1.10 - eCall Inactivity State after T3243 expires	9.6.0	9.7.0	R5	TEI8_Test
34.123-1	3054	-	Rel-9	F	RP-111571	R5-115602	approved	Correction to GCF WI-010 test case 8.3.2.11	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3055	-	Rel-9	F	RP-111571	R5-115606	approved	Correction to GCF WI-010 MAC test cases 7.1.1.2, 7.1.1.3, 7.1.1.4, 7.1.1.5	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3056	-	Rel-9	F	RP-111571	R5-115607	approved	Correction to GCF WI-010 NAS test case 12.4.1.4d procedure 2	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3057	-	Rel-9	F	RP-111595	R5-115608	approved	New Radio Bearer Reconfiguration test case for DC-HSUPA and UL:QPSK DL:16QAM	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3058	-	Rel-9	F	RP-111595	R5-115609	approved	New Radio Bearer Reconfiguration test case for DC-HSUPA and UL:QPSK DL:64QAM	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3059	-	Rel-9	F	RP-111595	R5-115610	approved	Addition of new DC-HSUPA testcase: MAC-i/is multiplexing for Dual-Cell HSUPA	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3060	-	Rel-9	F	RP-111595	R5-115611	approved	Deactivation and activation of secondary uplink frequency using HS-SCCH orders	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3061	-	Rel-9	F	RP-111595	R5-115612	approved	Active Set Update in Soft Handover: Radio Link addition/removal on the secondary E-DCH active set	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-1	3062	-	Rel-9	F	RP-111571	R5-115616	approved	Correction the MEASUREMENT REPORT sending time in test case 8.4.1.29	9.6.0	9.7.0	R5	TEI_Test
34.123-1	3063	-	Rel-9	F	RP-111584	R5-115897	approved	Correction to DC+MIMO radio bearer test cases	9.6.0	9.7.0	R5	TEI9_Test
34.123-1	3064	-	Rel-9	F	RP-111592	R5-115728	approved	Removal of CSG cells from the related SIB11 for manual CSG ID selection	9.6.0	9.7.0	R5	EHNB-UTRA_FDD_UEConTest

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34.123-1	3065	-	Rel-9	F	RP-111592	R5-115730	approved	Addition of new TC: Membership checking for handover to the CSG cell	9.6.0	9.7.0	R5	EHNB-UTRA_FDD_UEConTest
34.123-1	3066	-	Rel-9	F	RP-111592	R5-115731	approved	Addition of new TC: Suitable Cell checking for reselection to the CSG cell	9.6.0	9.7.0	R5	EHNB-UTRA_FDD_UEConTest
34.123-1	3067	-	Rel-9	F	RP-111592	R5-115732	approved	Addition of new TC: Intra-frequency inbound handover to UMTS CSG cell without specifying PSCs for SI Acquisition	9.6.0	9.7.0	R5	EHNB-UTRA_FDD_UEConTest
34.123-1	3068	-	Rel-9	F	RP-111592	R5-115733	approved	Addition of new TC:Intra-frequency inbound handover to UMTS CSG cell	9.6.0	9.7.0	R5	EHNB-UTRA_FDD_UEConTest
34.123-1	3069	-	Rel-9	F	RP-111584	R5-115737	approved	Addition a new RRC test case in 34.123-1 to test enhanced TS0 for LCR TDD.	9.6.0	9.7.0	R5	TEI9_Test
34.123-1	3070	-	Rel-9	F	RP-111584	R5-115738	approved	Addition new MAC test cases to test data transmission in TS0 in 34.123-1 for LCR TDD	9.6.0	9.7.0	R5	TEI9_Test
34.123-1	3071	-	Rel-9	F	RP-111574	R5-115739	approved	Corrections to NISPC test cases 11.1.5.1 and 11.1.5.2	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3072	-	Rel-9	F	RP-111574	R5-115740	approved	Corrections to NISPC test case 11.9.1	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3073	-	Rel-9	F	RP-111574	R5-115741	approved	Clarification of IPv6 related signalling in 11.1.5.2	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3074	-	Rel-9	F	RP-111574	R5-115742	approved	Clarification of IPv6 related signalling in 11.1.5.1	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3075	-	Rel-9	F	RP-111574	R5-115743	approved	Clarification of IPv6 related signalling in 11.2.1a	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3076	-	Rel-9	F	RP-111574	R5-115744	approved	Clarification of IPv6 related signalling in 11.2.1b	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3077	-	Rel-9	F	RP-111574	R5-115745	approved	Clarification of IPv6 related signalling in 11.3.2a	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3078	-	Rel-9	F	RP-111574	R5-115746	approved	Clarification of IPv6 related signalling in 11.9.1	9.6.0	9.7.0	R5	TEI7_Test
34.123-1	3079	-	Rel-9	F	RP-111583	R5-115749	approved	Correction to the RRC test case 8.2.2.61	9.6.0	9.7.0	R5	TEI8_Test
34.123-2	0560	-	Rel-9	F	RP-111574	R5-115103	approved	Clarification of Release-dependency in NISPC test applicability	9.6.0	9.7.0	R5	TEI7_Test
34.123-2	0561	-	Rel-9	F	RP-111591	R5-115172	approved	Correction to the applicability of tests conditions for test case 13.4.10 in TS 34.123-2	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.123-2	0562	-	Rel-9	F	RP-111583	R5-115177	approved	Removal of applicability for test case 8.1.1.15, 8.1.1.16, 8.1.1.17 and 8.1.1.18	9.6.0	9.7.0	R5	TEI8_Test
34.123-2	0563	-	Rel-9	F	RP-111573	R5-115279	approved	Correction some Applicability for LCR TDD in 34.123-2	9.6.0	9.7.0	R5	TEI5_Test
34.123-2	0564	-	Rel-9	F	RP-111584	R5-115291	approved	Addition applicability of enhanced TS0 for LCR TDD in 34.123-2	9.6.0	9.7.0	R5	TEI9_Test
34.123-2	0565	-	Rel-9	F	RP-111571	R5-115526	approved	Correcton to applcabilty of test case 9.5.2 to handle data cards	9.6.0	9.7.0	R5	TEI_Test
34.123-2	0566	-	Rel-9	F	RP-111594	R5-115536	approved	Correction to applicability of RRC test cases for DB-DC-HSDPA	9.6.0	9.7.0	R5	RANimp-MultiBand_DC_HSDPA_UEConTest
34.123-2	0567	-	Rel-9	F	RP-111583	R5-115601	approved	Applicability of New eCall Test Case 13.3.1.10 - eCall Inactivity State after T3243 expires	9.6.0	9.7.0	R5	TEI8_Test

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34.123-2	0568	-	Rel-9	F	RP-111571	R5-115603	approved	Correction to applicability table A.20 Item 81	9.6.0	9.7.0	R5	TEI_Test
34.123-2	0569	-	Rel-9	F	RP-111597	R5-115604	approved	Adding band XXII (3500MHz) to 34.123-2	9.6.0	9.7.0	R5	RInImp-UEConTest_UMTS3500
34.123-2	0570	-	Rel-9	F	RP-111571	R5-115605	approved	Correction to the Applicability to Idle mode HCS reselection test case 6.1.2.3	9.6.0	9.7.0	R5	TEI_Test
34.123-2	0571	-	Rel-9	F	RP-111595	R5-115613	approved	Applicability of new Radio Bearer Reconfiguration test cases for DC-HSUPA	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-2	0572	-	Rel-9	F	RP-111595	R5-115614	approved	Addition of applicability for new DC-HSUPA related test cases	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-2	0573	-	Rel-9	F	RP-111595	R5-115615	approved	Addition of Applicability statement for new DC-HSUPA testcase 7.1.9.1	9.6.0	9.7.0	R5	RANimp-DC_HSUPA_UEConTest
34.123-2	0574	-	Rel-9	F	RP-111592	R5-115734	approved	Addition of applicability for some new Rel-9 HNB Test Cases	9.6.0	9.7.0	R5	EHNB-UTRA_FDD_UEConTest
34.123-3	2922	-	Rel-9	F	RP-111583	R5-115748	approved	Routine maintenance and updates for UTRA FDD	9.1.0	9.2.0	R5	TEI8_Test
34.123-3	2923	-	Rel-9	F	RP-111585	-	approved	Add new verified and e-mail agreed TTCN test cases in the TC lists in 34.123-3 (prose), Annex A	9.1.0	9.2.0	R5	TEI9_Test
34.123-3	2924	-	Rel-9	B	RP-111586	R5s110540	approved	Addition of GCF WI-130 Improved L2 UL RAB test case 14.7.3a to HSPA8_ENH ATS	9.1.0	9.2.0	R5	TEI8_Test
34.123-3	2925	-	Rel-9	F	RP-111586	R5s110606	approved	Correction to GCF WI-012 RRC test case 8.3.4.8	9.1.0	9.2.0	R5	TEI_Test
34.123-3	2926	-	Rel-9	F	RP-111586	R5s110635	approved	Corrections to 11wk36 ATS for Rel-7/Rel-8 testcases	9.1.0	9.2.0	R5	TEI7_Test
34.123-3	2927	-	Rel-9	B	RP-111586	R5s110629	approved	Addition of GCF WI-118 MIMO test case 8.2.6.63 to HSPA7_ENH ATS	9.1.0	9.2.0	R5	TEI8_Test
34.123-3	2928	-	Rel-9	B	RP-111586	R5s110627	approved	Addition of GCF WI-118 MIMO test case 8.2.6.54a to HSPA7_ENH ATS	9.1.0	9.2.0	R5	TEI7_Test
34.123-3	2929	-	Rel-9	B	RP-111586	R5s110625	approved	Addition of GCF WI-129 DC-HSDPA test case 14.6.6f to HSPA8_ENH ATS	9.1.0	9.2.0	R5	TEI8_Test
34.123-3	2930	-	Rel-9	F	RP-111586	R5s110597	approved	Regression CR for UTRA wk36 ATS	9.1.0	9.2.0	R5	TEI8_Test
34.123-3	2931	-	Rel-9	B	RP-111586	R5s110662	approved	Addition of GCF WI-130 Improved L2 UL RAB test case 14.7.6c to HSPA8_ENH ATS	9.1.0	9.2.0	R5	TEI8_Test
34.123-3	2932	-	Rel-9	B	RP-111586	R5s110660	approved	Addition of PPAC RRC test case 8.1.2.26 to HSPA8_ENH ATS	9.1.0	9.2.0	R5	TEI8_Test
34.123-3	2933	-	Rel-9	F	RP-111586	R5s110686	approved	Correction to GMM test cases 12.4.1.4c2 and 12.4.1.4d1	9.1.0	9.2.0	R5	TEI_Test
34.123-3	2934	-	Rel-9	F	RP-111586	R5s110689	approved	Changes related to originating subscribed traffic call	9.1.0	9.2.0	R5	TEI_Test
34.123-3	2935	-	Rel-9	B	RP-111586	R5s110671	approved	Addition of TC 8.1.5.7 to HSPA9 ATS	9.1.0	9.2.0	R5	TEI9_Test
34.123-3	2936	-	Rel-9	F	RP-111586	R5s110716	approved	Correction to GCF WI-068 RAB test case 14.7.6b	9.1.0	9.2.0	R5	TEI7_Test
34.123-3	2937	-	Rel-9	F	RP-111586	R5s110715	approved	Correction to ts_SetMCC_VPLMN_Band6	9.1.0	9.2.0	R5	TEI7_Test
34.123-3	2938	-	Rel-9	F	RP-111586	R5s110714	approved	Correction to GCF WI-010 NAS test case 12.4.1.4a	9.1.0	9.2.0	R5	TEI_Test
34.123-3	2939	-	Rel-9	F	RP-111586	R5s110711	approved	Corrections to GCF WI-070 CPC test case 8.3.4.11	9.1.0	9.2.0	R5	TEI7_Test

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34.229-1	0332	-	Rel-9	F	RP-111583	R5-115326	approved	IMS Route header correction	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0333	-	Rel-9	F	RP-111583	R5-115341	approved	Update annex C.21	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0334	-	Rel-9	F	RP-111583	R5-115342	approved	Update test case 8.14	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0335	-	Rel-9	F	RP-111583	R5-115343	approved	Update test case 12.2	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0336	-	Rel-9	F	RP-111583	R5-115344	approved	Update test case and numbering to 12.2a	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0337	-	Rel-9	F	RP-111583	R5-115346	approved	Update test case 12.12	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0338	-	Rel-9	F	RP-111583	R5-115349	approved	Update test case 12.13	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0339	-	Rel-9	F	RP-111583	R5-115493	approved	Update test case 15.8	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0340	-	Rel-9	F	RP-111583	R5-115500	approved	Update test case 15.12	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0341	-	Rel-9	F	RP-111583	R5-115513	approved	Add editor's note to annex C.7	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0342	-	Rel-9	F	RP-111583	R5-115524	approved	Update test case 15.23	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0343	-	Rel-9	F	RP-111583	R5-115665	approved	Removal of an editor's note for ISIM REFRESH	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0344	-	Rel-9	F	RP-111583	R5-115666	approved	Update test case 15.11	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0345	-	Rel-9	F	RP-111583	R5-115667	approved	Update test case 15.21a	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0346	-	Rel-9	F	RP-111583	R5-115668	approved	Update test case 15.25	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0347	-	Rel-9	F	RP-111583	R5-115669	approved	Update test case 15.26	9.6.0	9.7.0	R5	TEI8_Test
34.229-1	0348	-	Rel-9	F	RP-111591	R5-115671	approved	Updating E-UTRA procedures for IMS emergency test cases	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-2	0101	-	Rel-9	F	RP-111591	R5-115183	approved	Correction to applicability for test case 19.5.9 and 19.5.10	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
34.229-2	0102	-	Rel-9	F	RP-111583	R5-115345	approved	Update test case numbering	9.6.0	9.7.0	R5	TEI8_Test
34.229-3	0063	-	Rel-9	F	RP-111584	R5-115670	approved	Routine maintenance and updates for IMS ASP	9.1.0	9.2.0	R5	TEI9_Test
34.902	0006	-	Rel-6	B	RP-111575	R5-115088	approved	Removal of technical content in 34.902 v6.0.0 and substitution with pointer to the next Release	6.0.0	6.1.0	R5	LTE-UEConTest_RF
34.902	0007	-	Rel-7	B	RP-111575	R5-115089	approved	Removal of technical content in 34.902 v7.0.0 and substitution with pointer to the next Release	7.0.0	7.1.0	R5	LTE-UEConTest_RF
34.902	0008	-	Rel-8	B	RP-111575	R5-115090	approved	Removal of technical content in 34.902 v8.0.0 and substitution with pointer to the next Release	8.0.0	8.1.0	R5	LTE-UEConTest_RF
34.902	0009	-	Rel-9	F	RP-111575	R5-115333	approved	34.121-1 Inter-RAT RRM Test Tolerance analyses agreed at RAN5#51 and RAN5#52 in 34.902	9.0.0	9.1.0	R5	LTE-UEConTest_RF
34.902	0010	-	Rel-9	F	RP-111575	R5-115828	approved	Add Test Tolerance analysis for TC 8.6.7.1 + 8.6.7.2 in 34.902	9.0.0	9.1.0	R5	LTE-UEConTest_RF
36.101	0945	-	Rel-10	F	RP-111691	R4-114892	approved	Corrections of Rel-10 demodulation performance requirements	10.4.0	10.5.0	R4	LTE_CA-Perf, LTE-RF
36.101	0946	-	Rel-10	F	RP-111684	R4-114893	approved	Corrections of UE categories for Rel-10 CSI requirements	10.4.0	10.5.0	R4	LTE-RF

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36.101	0947	-	Rel-10	F	RP-111684	R4-114896	approved	Corrections of UE categories of Rel-10 reference channels for RF requirements	10.4.0	10.5.0	R4	LTE-RF
36.101	0948	-	Rel-10	D	RP-111684	R4-114908	approved	Alternative way to define channel bandwidths per operating band for	10.4.0	10.5.0	R4	LTE-RF
36.101	0949	-	Rel-10	F	RP-111686	R4-114990	approved	CR for TS36.101: Adding note to the function of MPR	10.4.0	10.5.0	R4	LTE_CA-Core
36.101	0950	-	Rel-10	A	RP-111680	R4-115129	approved	Clarification on applying CSI reports during rank switching in RI FDD test - Rel-10	10.4.0	10.5.0	R4	LTE-RF
36.101	0951	-	Rel-8	F	RP-111680	R4-115127	approved	Clarification on applying CSI reports during rank switching in RI FDD test - Rel-8	8.15.0	8.16.0	R4	LTE-RF
36.101	0952	-	Rel-9	A	RP-111680	R4-115128	approved	Clarification on applying CSI reports during rank switching in RI FDD test - Rel-9	9.9.0	9.10.0	R4	LTE-RF
36.101	0953	1	Rel-10	F	RP-111734	R4-115736	approved	Corrections for Band 42 and 43 introduction	10.4.0	10.5.0	R4	TEI10
36.101	0953	1	Rel-10	F	RP-111688	R4-115736	reissued	Corrections for Band 42 and 43 introduction	10.4.0		R4	TEI10
36.101	0954	-	Rel-8	F	RP-111680	R4-115319	approved	UE spurious emissions	8.15.0	8.16.0	R4	LTE-RF
36.101	0955	-	Rel-9	A	RP-111680	R4-115320	approved	UE spurious emissions	9.9.0	9.10.0	R4	LTE-RF
36.101	0956	-	Rel-10	A	RP-111680	R4-115322	approved	UE spurious emissions	10.4.0	10.5.0	R4	LTE-RF
36.101	0957	1	Rel-8	F	RP-111681	R4-116284	approved	FDD-TDD co-existence REL-8	8.15.0	8.16.0	R4	TEI8
36.101	0958	-	Rel-9	F	RP-111682	R4-115442	approved	Add scrambling identity n_SCID for MU-MIMO test	9.9.0	9.10.0	R4	LTE-RF
36.101	0959	-	Rel-10	A	RP-111682	R4-115443	approved	Add scrambling identity n_SCID for MU-MIMO test	10.4.0	10.5.0	R4	LTE-RF
36.101	0960	1	Rel-10	F	RP-111690	R4-116320	approved	P-MPR definition	10.4.0	10.5.0	R4	TEI10
36.101	0962	-	Rel-10	F	RP-111693	R4-115659	approved	Pcmax,c Computation Assumptions	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.101	0963	1	Rel-10	F	RP-111733	R4-116261	approved	Correction of frequency range for spurious emission requirements	10.4.0	10.5.0	R4	RInImp8-UMTSLTE3500
36.101	0963	1	Rel-10	F	RP-111685	R4-116261	reissued	Correction of frequency range for spurious emission requirements	10.4.0		R4	RInImp8-UMTSLTE3500
36.101	0964	-	Rel-8	F	RP-111680	R4-115673	approved	General review of the reference measurement channels	8.15.0	8.16.0	R4	LTE-RF
36.101	0965	-	Rel-9	A	RP-111680	R4-115674	approved	General review of the reference measurement channels	9.9.0	9.10.0	R4	LTE-RF
36.101	0966	-	Rel-10	A	RP-111680	R4-115675	approved	General review of the reference measurement channels	10.4.0	10.5.0	R4	LTE-RF
36.101	0971	1	Rel-10	B	RP-111693	R4-116273	approved	CR on Colliding CRS for non-MBSFN ABS	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.101	0972	1	Rel-10	B	RP-111693	R4-116183	approved	Introduction of eICIC demodulation performance requirements for FDD and TDD	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.101	0980	2	Rel-9	F	RP-111683	R4-116189	approved	Uplink downlink configuration for SDR TDD test scenario	9.9.0	9.10.0	R4	TEI9
36.101	0982	2	Rel-10	B	RP-111691	R4-116188	approved	Introduction of SDR TDD test scenario for CA UE demodulation	10.4.0	10.5.0	R4	LTE_CA-Perf

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36.101	0985	-	Rel-10	F	RP-111686	R4-115838	approved	Adding missing UL configuration specification in some UE receiver requirements for case of 1 CC UL capable UE	10.4.0	10.5.0	R4	LTE_CA-Core
36.101	0988	1	Rel-9	F	RP-111682	R4-116267	approved	Correction of the TM8 power allocation settings	9.9.0	9.10.0	R4	LTE-RF
36.101	0997	-	Rel-9	F	RP-111682	R4-115958	approved	Maintenance on CQI and PMI requirements (Rel-9)	9.9.0	9.10.0	R4	LTE-RF
36.101	0998	-	Rel-10	F	RP-111684	R4-115959	approved	Correction and maintenance on CQI and PMI requirements (Rel-10)	10.4.0	10.5.0	R4	LTE-RF
36.101	1004	-	Rel-10	F	RP-111735	R4-116204	approved	MPR for CA Multi-cluster	10.4.0	10.5.0	R4	TEI10
36.101	1004	-	Rel-10	F	RP-111689	R4-116204	reissued	MPR for CA Multi-cluster	10.4.0		R4	TEI10
36.101	1005	-	Rel-10	B	RP-111691	R4-116228	approved	CA demodulation performance requirements for LTE FDD	10.4.0	10.5.0	R4	LTE_CA-Perf
36.101	1006	-	Rel-10	B	RP-111692	R4-116269	approved	CQI reporting accuracy test on frequency non-selective scheduling on eDL MIMO	10.4.0	10.5.0	R4	LTE_eDL_MIMO-Perf
36.101	1007	-	Rel-10	B	RP-111692	R4-116270	approved	CQI reporting accuracy test on frequency-selective scheduling on eDL MIMO	10.4.0	10.5.0	R4	LTE_eDL_MIMO-Perf
36.101	1008	-	Rel-10	B	RP-111692	R4-116271	approved	PMI reporting accuracy test for TDD on eDL MIMO	10.4.0	10.5.0	R4	LTE_eDL_MIMO-Perf
36.101	1009	1	Rel-10	B	RP-111692	R4-116186	approved	CR for TS 36.101: RI performance requirements	10.4.0	10.5.0	R4	LTE_eDL_MIMO-Perf
36.101	1010	1	Rel-10	B	RP-111692	R4-116317	approved	Draft CR for TS 36.101: Introduction of static CQI tests (Rel-10)	10.4.0	10.5.0	R4	LTE_eDL_MIMO-Perf
36.104	0253	-	Rel-9	F	RP-111682	R4-114894	approved	Corrections for uplink performance requirements	9.9.0	9.10.0	R4	LTE-RF
36.104	0254	-	Rel-10	F	RP-111684	R4-115258	approved	Correction for uplink demodulation performance	10.4.0	10.5.0	R4	LTE-RF
36.104	0255	-	Rel-10	F	RP-111734	R4-115416	approved	Clarification of general blocking requirements for co-existence in TS 36.104	10.4.0	10.5.0	R4	TEI10
36.104	0255	-	Rel-10	F	RP-111688	R4-115416	reissued	Clarification of general blocking requirements for co-existence in TS 36.104	10.4.0		R4	TEI10
36.104	0256	-	Rel-10	B	RP-111686	R4-115509	approved	Requirements for HeNB Power Setting for HeNB-eNB Scenario	10.4.0	10.5.0	R4	eICIC_LTE-Core
36.104	0260	-	Rel-10	B	RP-111691	R4-116020	approved	CA PUCCH performance requirements for 36.104	10.4.0	10.5.0	R4	LTE_CA-Perf
36.104	0261	2	Rel-10	F	RP-111687	R4-116170	approved	TX ON or OFF CR 36.104	10.4.0	10.5.0	R4	TEI10
36.104	0262	-	Rel-10	F	RP-111733	R4-116262	approved	Correction of frequency range for spurious emission requirements	10.4.0	10.5.0	R4	RInImp8-UMTSLTE3500
36.104	0262	-	Rel-10	F	RP-111685	R4-116262	reissued	Correction of frequency range for spurious emission requirements	10.4.0		R4	RInImp8-UMTSLTE3500
36.106	0025	1	Rel-10	B	RP-111734	R4-116236	approved	Introduction of operating frequency band 22	10.1.0	10.2.0	R4	TEI10
36.106	0025	1	Rel-10	B	RP-111688	R4-116236	reissued	Introduction of operating frequency band 22	10.1.0		R4	TEI10
36.106	0027	-	Rel-10	F	RP-111734	R4-116237	approved	Introduction of protection limits towards frequency band 41, 42 and 43	10.1.0	10.2.0	R4	TEI10
36.106	0027	-	Rel-10	F	RP-111688	R4-116237	reissued	Introduction of protection limits towards frequency band 41, 42 and 43	10.1.0		R4	TEI10
36.133	0980	-	Rel-8	F	RP-111681	R4-114944	approved	Corrections of inter-frequency measurement accuracy RSRP test cases	8.15.0	8.16.0	R4	TEI8

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.133	0981	-	Rel-9	A	RP-111681	R4-114945	approved	Corrections of inter-frequency measurement accuracy RSRP test cases	9.9.0	9.10.0	R4	TEI8
36.133	0982	-	Rel-10	A	RP-111681	R4-114946	approved	Corrections of inter-frequency measurement accuracy RSRP and RSRQ test cases	10.4.0	10.5.0	R4	TEI8
36.133	0983	-	Rel-9	F	RP-111682	R4-115085	approved	Removing [] in CSFB requirement for Rel-9	9.9.0	9.10.0	R4	LTE-RF
36.133	0984	-	Rel-10	A	RP-111682	R4-115087	approved	Removing [] in CSFB requirement for Rel-10	10.4.0	10.5.0	R4	LTE-RF
36.133	0985	-	Rel-10	B	RP-111693	R4-115361	approved	Reference channel for RLM testing with eICIC	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	0986	-	Rel-9	F	RP-111683	R4-115385	approved	Clarification on RSTD test cases	9.9.0	9.10.0	R4	TEI9
36.133	0987	-	Rel-10	A	RP-111683	R4-115386	approved	Clarification on RSTD test cases	10.4.0	10.5.0	R4	TEI9
36.133	0988	-	Rel-10	F	RP-111690	R4-115392	approved	RSRP Measurement performance Io corrections	10.4.0	10.5.0	R4	TEI10
36.133	0989	-	Rel-10	F	RP-111686	R4-115396	approved	RLM measurement requirements for eICIC	10.4.0	10.5.0	R4	eICIC_LTE-Core
36.133	0990	-	Rel-10	B	RP-111693	R4-115397	approved	PDCCH/PCFICH transmission parameters for RLM	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	0991	-	Rel-9	F	RP-111683	R4-115491	approved	Clarification on PRS bandwidth	9.9.0	9.10.0	R4	TEI9
36.133	0992	-	Rel-10	A	RP-111683	R4-115492	approved	Clarification on PRS bandwidth	10.4.0	10.5.0	R4	TEI9
36.133	0993	-	Rel-10	F	RP-111735	R4-115393	approved	Missing RSRQ in intra-frequency measurement requirements for eICIC	10.4.0	10.5.0	R4	TEI10
36.133	0993	-	Rel-10	F	RP-111689	R4-115393	reissued	Missing RSRQ in intra-frequency measurement requirements for eICIC	10.4.0		R4	TEI10
36.133	0994	1	Rel-10	F	RP-111686	R4-116185	approved	Test case for TDD RSRQ Accuracy for Carrier Aggregation	10.4.0	10.5.0	R4	LTE_CA-Core
36.133	0995	-	Rel-10	F	RP-111686	R4-115531	approved	Cell identification requirements without DRX	10.4.0	10.5.0	R4	eICIC_LTE-Core
36.133	0997	1	Rel-10	B	RP-111693	R4-116296	approved	Test case for cell identification with eICIC in E-UTRAN FDD	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	0998	1	Rel-10	B	RP-111693	R4-116297	approved	Test case for cell identification with eICIC in E-UTRAN TDD	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	0999	1	Rel-10	F	RP-111691	R4-116200	approved	Carrier aggregation RSRP measurement test case for TDD	10.4.0	10.5.0	R4	LTE_CA-Perf
36.133	1000	-	Rel-9	F	RP-111683	R4-115539	approved	Test case for enhanced UTRA TDD cell identification for R9	9.9.0	9.10.0	R4	TEI9
36.133	1001	-	Rel-10	A	RP-111690	R4-115540	approved	Test case for enhanced UTRA TDD cell identification for R10	10.4.0	10.5.0	R4	TEI10
36.133	1002	-	Rel-9	F	RP-111683	R4-115541	approved	Test case for RRC connection release redirection to UTRA TDD for R9	9.9.0	9.10.0	R4	TEI9
36.133	1003	-	Rel-10	A	RP-111690	R4-115543	approved	Test case for RRC connection release redirection to UTRA TDD for R10	10.4.0	10.5.0	R4	TEI10
36.133	1005	-	Rel-10	F	RP-111735	R4-115551	approved	Clarification of the Successful Percentage for Measurement Performance Requirements	10.4.0	10.5.0	R4	TEI10
36.133	1005	-	Rel-10	F	RP-111689	R4-115551	reissued	Clarification of the Successful Percentage for Measurement Performance Requirements	10.4.0		R4	TEI10
36.133	1007	2	Rel-10	F	RP-111691	R4-116299	approved	FDD Absolute and Relative RSRQ Accuracy test in CA	10.4.0	10.5.0	R4	LTE_CA-Perf

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.133	1011	1	Rel-10	F	RP-111691	R4-116294	approved	FDD absolute and relative RSRP accuracies test in CA	10.4.0	10.5.0	R4	LTE_CA-Perf
36.133	1014	1	Rel-10	F	RP-111693	R4-116199	approved	E-UTRAN TDD Radio Link Monitoring Test for Out-of-sync under time domain measurement resource restriction	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	1015	-	Rel-9	F	RP-111683	R4-115607	approved	E-UTRAN FDD - UTRAN TDD enhanced cell identification test under AWGN propagation conditions in R9	9.9.0	9.10.0	R4	TEI9
36.133	1016	-	Rel-10	A	RP-111735	R4-115608	approved	E-UTRAN FDD - UTRAN TDD enhanced cell identification test under AWGN propagation conditions in R10	10.4.0	10.5.0	R4	TEI10
36.133	1016	-	Rel-10	A	RP-111689	R4-115608	reissued	E-UTRAN FDD - UTRAN TDD enhanced cell identification test under AWGN propagation conditions in R10	10.4.0		R4	TEI10
36.133	1017	1	Rel-9	F	RP-111683	R4-116148	approved	E-UTRAN FDD RRC connection release with redirection to UTRAN TDD in R9	9.9.0	9.10.0	R4	TEI9
36.133	1018	1	Rel-10	A	RP-111735	R4-116149	approved	E-UTRAN FDD RRC connection release with redirection to UTRAN TDD in R10	10.4.0	10.5.0	R4	TEI10
36.133	1018	1	Rel-10	A	RP-111689	R4-116149	reissued	E-UTRAN FDD RRC connection release with redirection to UTRAN TDD in R10	10.4.0		R4	TEI10
36.133	1021	1	Rel-10	B	RP-111735	R4-116195	approved	CR for Inter-RAT SI reading	10.4.0	10.5.0	R4	TEI10
36.133	1021	1	Rel-10	B	RP-111689	R4-116195	reissued	CR for Inter-RAT SI reading	10.4.0		R4	TEI10
36.133	1022	-	Rel-10	F	RP-111687	R4-115617	approved	Addition of E-UTRAN FDD - TDD Inter frequency cell reselection test case	10.4.0	10.5.0	R4	TEI10
36.133	1023	-	Rel-10	F	RP-111687	R4-115618	approved	Addtion of E-UTRAN TDD - FDD Inter frequency cell reselection test case	10.4.0	10.5.0	R4	TEI10
36.133	1024	-	Rel-10	F	RP-111687	R4-115619	approved	Addtion of E-UTRAN FDD - TDD Inter frequency handover test case	10.4.0	10.5.0	R4	TEI10
36.133	1025	-	Rel-10	F	RP-111687	R4-115620	approved	Addtion of E-UTRAN TDD - FDD Inter frequency handover test case	10.4.0	10.5.0	R4	TEI10
36.133	1026	-	Rel-10	F	RP-111687	R4-115621	approved	Addtion of E-UTRAN TDD-FDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells test case	10.4.0	10.5.0	R4	TEI10
36.133	1027	1	Rel-10	F	RP-111687	R4-116150	approved	Addtion of E-UTRAN FDD-TDD Inter-frequency event triggered reporting under fading propagation conditions in asynchronous cells test case	10.4.0	10.5.0	R4	TEI10
36.133	1028	-	Rel-10	F	RP-111687	R4-115623	approved	Addtion of E-UTRAN FDD - TDD inter frequency measurement accuracy test case	10.4.0	10.5.0	R4	TEI10
36.133	1029	-	Rel-8	F	RP-111681	R4-115624	approved	Correction for the identification time in DRX for UTRA TDD in R8	8.15.0	8.16.0	R4	TEI8
36.133	1030	-	Rel-9	A	RP-111681	R4-115625	approved	Correction for the identification time in DRX for UTRA TDD in R9	9.9.0	9.10.0	R4	TEI8
36.133	1031	-	Rel-10	A	RP-111681	R4-115626	approved	Correction for the identification time in DRX for UTRA TDD in R10	10.4.0	10.5.0	R4	TEI8
36.133	1032	-	Rel-10	F	RP-111735	R4-115627	approved	Correction the side condition for SCH in R10	10.4.0	10.5.0	R4	TEI10

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.133	1032	-	Rel-10	F	RP-111689	R4-115627	reissued	Correction the side condition for SCH in R10	10.4.0		R4	TEI10
36.133	1033	1	Rel-10	F	RP-111735	R4-116156	approved	Correction to event triggered reporting for TS 36.133 in R10	10.4.0	10.5.0	R4	TEI10
36.133	1033	1	Rel-10	F	RP-111689	R4-116156	reissued	Correction to event triggered reporting for TS 36.133 in R10	10.4.0		R4	TEI10
36.133	1036	-	Rel-8	F	RP-111680	R4-115632	approved	Thresholds and margins for RRM tests A.8.11.3 and A.8.11.4	8.15.0	8.16.0	R4	LTE-RF
36.133	1037	1	Rel-8	F	RP-111681	R4-116152	approved	Correction of E-UTRAN TDD-TDD inter frequency handover test case in R8	8.15.0	8.16.0	R4	TEI8
36.133	1038	1	Rel-9	A	RP-111681	R4-116153	approved	Correction of E-UTRAN TDD-TDD inter frequency handover test case in R9	9.9.0	9.10.0	R4	TEI8
36.133	1039	1	Rel-10	A	RP-111681	R4-116154	approved	Correction of E-UTRAN TDD-TDD inter frequency handover test case in R10	10.4.0	10.5.0	R4	TEI8
36.133	1040	-	Rel-9	F	RP-111683	R4-115637	approved	Clarification of Expected RSTD and Expected RSTD uncertainty in RSTD test cases in R9	9.9.0	9.10.0	R4	TEI9
36.133	1041	-	Rel-10	F	RP-111735	R4-115638	approved	Clarification of Expected RSTD and Expected RSTD uncertainty in RSTD test cases in R10	10.4.0	10.5.0	R4	TEI10
36.133	1041	-	Rel-10	F	RP-111689	R4-115638	reissued	Clarification of Expected RSTD and Expected RSTD uncertainty in RSTD test cases in R10	10.4.0		R4	TEI10
36.133	1042	-	Rel-9	A	RP-111680	R4-115639	approved	Thresholds and margins for RRM tests A.8.11.3 and A.8.11.4	9.9.0	9.10.0	R4	LTE-RF
36.133	1043	-	Rel-10	A	RP-111680	R4-115640	approved	Thresholds and margins for RRM tests A.8.11.3 and A.8.11.4	10.4.0	10.5.0	R4	LTE-RF
36.133	1045	-	Rel-9	F	RP-111683	R4-115645	approved	Thresholds and margins for RRM tests A.8.11.5 and A.8.11.6	9.9.0	9.10.0	R4	TEI9
36.133	1046	-	Rel-10	A	RP-111683	R4-115647	approved	Thresholds and margins for RRM tests A.8.11.5 and A.8.11.6	10.4.0	10.5.0	R4	TEI9
36.133	1047	2	Rel-10	B	RP-111693	R4-116301	approved	RLM Out of Sync Detection Test for eICIC	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	1048	-	Rel-9	F	RP-111683	R4-115688	approved	RRC Connection Release with Redirection from E-UTRAN FDD to GERAN	9.9.0	9.10.0	R4	TEI9
36.133	1049	-	Rel-10	A	RP-111683	R4-115690	approved	RRC Connection Release with Redirection from E-UTRAN FDD to GERAN	10.4.0	10.5.0	R4	TEI9
36.133	1050	-	Rel-9	F	RP-111683	R4-115693	approved	RRC Connection Release with Redirection from E-UTRAN TDD to GERAN	9.9.0	9.10.0	R4	TEI9
36.133	1051	-	Rel-10	B	RP-111693	R4-115694	approved	Colliding CRS in non-MBSFN ABS	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	1052	-	Rel-10	A	RP-111683	R4-115695	approved	RRC Connection Release with Redirection from E-UTRAN TDD to GERAN	10.4.0	10.5.0	R4	TEI9
36.133	1053	1	Rel-10	B	RP-111693	R4-116197	approved	RLM In Sync Detection Test for FDD eICIC	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	1054	1	Rel-10	B	RP-111693	R4-116198	approved	RLM In Sync Detection Test for FDD eICIC	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.133	1055	1	Rel-10	B	RP-111691	R4-116158	approved	FDD Event triggered reporting on deactivated Scell in non-DRX	10.4.0	10.5.0	R4	LTE_CA-Perf
36.133	1056	1	Rel-10	B	RP-111691	R4-116159	approved	TDD Event triggered reporting on deactivated Scell in non-DRX	10.4.0	10.5.0	R4	LTE_CA-Perf
36.133	1057	-	Rel-9	F	RP-111683	R4-115768	approved	Adding Band XX	9.9.0	9.10.0	R4	TEI9

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36.133	1058	-	Rel-10	A	RP-111683	R4-115769	approved	Adding Band XX	10.4.0	10.5.0	R4	TEI9
36.133	1061	1	Rel-10	F	RP-111690	R4-116254	approved	Optional faster higher priority reselection	10.4.0	10.5.0	R4	TEI10
36.133	1064	1	Rel-10	B	RP-111735	R4-116147	approved	Addition of a test case at lower RSRP level for the serving cell measurement accuracy	10.4.0	10.5.0	R4	TEI10
36.133	1064	1	Rel-10	B	RP-111689	R4-116147	reissued	Addition of a test case at lower RSRP level for the serving cell measurement accuracy	10.4.0		R4	TEI10
36.133	1065	-	Rel-9	F	RP-111683	R4-116001	approved	Test cases for RRC connection release with redirection to UTRAN FDD	9.9.0	9.10.0	R4	TEI9
36.133	1066	-	Rel-10	A	RP-111683	R4-116002	approved	Test cases for RRC connection release with redirection to UTRAN FDD	10.4.0	10.5.0	R4	TEI9
36.133	1072	-	Rel-10	F	RP-111735	R4-116072	approved	CA definition alignment in test cases	10.4.0	10.5.0	R4	TEI10
36.133	1072	-	Rel-10	F	RP-111689	R4-116072	reissued	CA definition alignment in test cases	10.4.0		R4	TEI10
36.133	1073	-	Rel-9	F	RP-111683	R4-116074	approved	Applicable PRS BW for RSTD accuracy requirements	9.9.0	9.10.0	R4	TEI9
36.133	1074	-	Rel-10	A	RP-111683	R4-116077	approved	Applicable PRS BW for RSTD accuracy requirements	10.4.0	10.5.0	R4	TEI9
36.141	0295	-	Rel-10	F	RP-111684	R4-114897	approved	Corrections of CA uplink performance test cases in TS36.141	10.4.0	10.5.0	R4	LTE-RF
36.141	0296	-	Rel-10	F	RP-111691	R4-114939	approved	CA PUCCH performance requirements with test tolerance updates for 36.141	10.4.0	10.5.0	R4	LTE_CA-Perf
36.141	0297	-	Rel-10	F	RP-111734	R4-115417	approved	Clarification of general blocking requirements for co-existence in TS 36.141	10.4.0	10.5.0	R4	TEI10
36.141	0297	-	Rel-10	F	RP-111688	R4-115417	reissued	Clarification of general blocking requirements for co-existence in TS 36.141	10.4.0		R4	TEI10
36.141	0298	-	Rel-10	B	RP-111693	R4-115494	approved	Home BS Output Power for co-channel E-UTRA protection for 36.141	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.141	0300	-	Rel-10	F	RP-111693	R4-115642	approved	Update on Home BS Output Power for co-channel E-UTRA protection for 36.141	10.4.0	10.5.0	R4	eICIC_LTE-Perf
36.141	0301	-	Rel-10	F	RP-111735	R4-115766	approved	Corrections to 3500 MHz	10.4.0	10.5.0	R4	TEI10
36.141	0301	-	Rel-10	F	RP-111689	R4-115766	reissued	Corrections to 3500 MHz	10.4.0		R4	TEI10
36.141	0302	1	Rel-10	B	RP-111686	R4-116157	approved	TS36.141 CR: on Multi-Antenna channel models	10.4.0	10.5.0	R4	LTE_UL_MIMO-Perf
36.141	0303	-	Rel-10	F	RP-111690	R4-116021	approved	Test procedure clarification for ACK false detection of multi-user PUCCH format 1a	10.4.0	10.5.0	R4	TEI10
36.141	0304	3	Rel-10	F	RP-111687	R4-116335	approved	TX ON or OFF CR 36.141	10.4.0	10.5.0	R4	TEI10
36.141	0305	-	Rel-10	F	RP-111733	R4-116263	approved	Correction of frequency range for spurious emission requirements	10.4.0	10.5.0	R4	RInImp8-UMTSLTE3500
36.141	0305	-	Rel-10	F	RP-111685	R4-116263	reissued	Correction of frequency range for spurious emission requirements	10.4.0		R4	RInImp8-UMTSLTE3500
36.143	0026	1	Rel-10	B	RP-111734	R4-116238	approved	Introduction of operating frequency band 22	10.1.0	10.2.0	R4	TEI10
36.143	0026	1	Rel-10	B	RP-111688	R4-116238	reissued	Introduction of operating frequency band 22	10.1.0		R4	TEI10
36.143	0028	-	Rel-10	F	RP-111734	R4-116239	approved	Introduction of protection limits towards frequency band 41, 42 and 43	10.1.0	10.2.0	R4	TEI10

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36.143	0028	-	Rel-10	F	RP-111688	R4-116239	reissued	Introduction of protection limits towards frequency band 41, 42 and 43	10.1.0		R4	TEI10
36.211	0167	-	Rel-10	F	RP-111668	R1-113459	approved	A correction to PDSCH precoding for CQI calculation	10.3.0	10.4.0	R1	LTE_eDL_MIMO-Core
36.211	0168	-	Rel-10	F	RP-111668	R1-113537	approved	Correction to figure of CSI-RS pattern in extended-CP subframe	10.3.0	10.4.0	R1	LTE_eDL_MIMO-Core
36.212	0130	1	Rel-10	F	RP-111667	R1-113538	approved	Corrections on codebook index indication in DCI format 4	10.3.0	10.4.0	R1	LTE_UL_MIMO-Core
36.212	0131	-	Rel-10	F	RP-111666	R1-114359	approved	HARQ-ACK on UCI-only PUSCH without UL-SCH data	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0324	3	Rel-10	F	RP-111669	R1-113593	approved	Accumulation of power control commands from DCI format 3/3A	10.3.0	10.4.0	R1	LTE-Phys
36.213	0357	1	Rel-10	F	RP-111666	R1-113542	approved	Miscellaneous corrections on uplink power control	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0358	-	Rel-10	F	RP-111666	R1-112934	approved	Corrections on N_c^{received}	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0359	-	Rel-10	F	RP-111666	R1-112935	approved	Corrections on TDD PUCCH format 1b with channel selection and two configured serving cells	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0360	-	Rel-10	F	RP-111666	R1-112936	approved	Corrections on the notation of k and k_m	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0361	1	Rel-10	F	RP-111668	R1-113543	approved	Corrections on PUCCH mode 2-1	10.3.0	10.4.0	R1	LTE_eDL_MIMO-Core
36.213	0362	3	Rel-10	F	RP-111668	R1-114471	approved	A correction to PDSCH transmission assumption for CQI calculation	10.3.0	10.4.0	R1	LTE_eDL_MIMO-Core
36.213	0363	1	Rel-10	F	RP-111666	R1-113617	approved	Corrections on PUCCH Resource Notation	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0364	-	Rel-10	F	RP-111667	R1-113545	approved	Correction on the notation of SRS transmission comb	10.3.0	10.4.0	R1	LTE_UL_MIMO-Core
36.213	0365	-	Rel-10	F	RP-111666	R1-113546	approved	Clarification on the HARQ-ACK procedure of TDD UL-DL configuration 5	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0366	2	Rel-10	F	RP-111666	R1-113611	approved	Clarification on the determination of resource for PUCCH Format 1b with channel selection in TDD mode	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0367	1	Rel-10	F	RP-111666	R1-113608	approved	Correction on HARQ-ACK procedure	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0368	-	Rel-10	F	RP-111666	R1-113580	approved	Correction for A/N on PUSCH with W=1,2 in case of TDD channel selection	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0369	-	Rel-10	F	RP-111668	R1-113606	approved	Clarification of PUCCH 2-1 Operation	10.3.0	10.4.0	R1	LTE_eDL_MIMO-Core
36.213	0370	1	Rel-10	F	RP-111668	R1-114360	approved	Correction on PMI index	10.3.0	10.4.0	R1	LTE_eDL_MIMO-Core
36.213	0371	2	Rel-10	F	RP-111666	R1-114466	approved	Correction to periodic CSI reports for carrier aggregation	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0373	1	Rel-10	F	RP-111666	R1-114362	approved	Removal of square bracket in HARQ-ACK procedure	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0374	1	Rel-10	F	RP-111666	R1-114470	approved	Clarification on UE's capability of supporting PUCCH format 3	10.3.0	10.4.0	R1	LTE_CA-Core
36.213	0375	1	Rel-10	F	RP-111666	R1-114465	approved	Clarifications of UE behavior on PUSCH power control	10.3.0	10.4.0	R1	LTE_CA-core
36.300	0411	-	Rel-10	F	RP-111714	R2-116528	approved	Correction on RN security	10.5.0	10.6.0	R2	LTE_Relay-Core, TEI10
36.300	0412	-	Rel-9	F	RP-111647	R2-116529	approved	Correction of Emergency call	9.8.0	9.9.0	R2	TEI9
36.300	0413	-	Rel-10	F	RP-111711	R2-116530	approved	HeNB Architecture Clarification	10.5.0	10.6.0	R2	TEI10, EHNB-RAN3

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36.300	0414	1	Rel-10	F	RP-111604	-	approved	Correction of Support for RACH optimization	10.5.0	10.6.0	R2	SONenh_LTE-Core
36.300	0415	-	Rel-10	F	RP-111711	R2-116532	approved	Correction of inbound mobility	10.5.0	10.6.0	R2	TEI10, EHNB-RAN3
36.300	0416	-	Rel-10	F	RP-111714	R2-116533	approved	Correction of MBMS Resumption Function	10.5.0	10.6.0	R2	MBMS_LTE_enh-Core
36.300	0417	1	Rel-11	F	RP-111644	-	approved	MME behavior in case of broken SCTP connection	10.5.0	11.0.0	R2	TEI11
36.300	0418	-	Rel-10	F	RP-111711	R2-116535	approved	Routing of MME Direct Information Transfer message	10.5.0	10.6.0	R2	TEI10, EHNB-RAN3
36.300	0419	-	Rel-10	F	RP-111714	R2-116536	approved	Correction of support for Mobility Robustness Optimisation	10.5.0	10.6.0	R2	SONenh_LTE-Core
36.300	0420	-	Rel-10	F	RP-111714	R2-116537	approved	Clarification of MRO Unnecessary Handover	10.5.0	10.6.0	R2	SONenh_LTE-Core
36.300	0421	-	Rel-10	F	RP-111716	R2-116538	approved	Correction of the MRO stage-2 description	10.5.0	10.6.0	R2	TEI10, LTE-L23
36.300	0422	-	Rel-11	C	RP-111721	R2-116539	approved	Addition of M3 Setup	10.5.0	11.0.0	R2	TEI11, MBMS_LTE
36.300	0423	-	Rel-11	C	RP-111721	R2-116540	approved	Correction of MCCH Update Synchronization mechanism	10.5.0	11.0.0	R2	TEI11, MBMS_LTE
36.302	0029	-	Rel-10	F	RP-111716	R2-115698	approved	Corrections to channel model	10.2.0	10.3.0	R2	TEI10, LTE-L23
36.304	0166	1	Rel-9	F	RP-111710	R2-116367	approved	Clarification of inter-RAT cell reselection enhancements	9.8.0	9.9.0	R2	TEI9, LTE-L23
36.304	0167	1	Rel-10	A	RP-111710	R2-116368	approved	Clarification of inter-RAT cell reselection enhancements	10.3.0	10.4.0	R2	TEI9, LTE-L23
36.306	0070	1	Rel-10	F	RP-111716	R2-116379	approved	Corrections to enhancedDualLayerTDD	10.3.0	10.4.0	R2	TEI10, LTE-L23
36.306	0071	-	Rel-9	F	RP-111710	R2-115700	approved	Optionality of SR Masking	9.5.0	9.6.0	R2	TEI9, LTE-L23
36.306	0072	-	Rel-10	A	RP-111710	R2-115701	approved	Optionality of SR Masking	10.3.0	10.4.0	R2	TEI9, LTE-L23
36.306	0073	1	Rel-9	F	RP-111709	R2-116381	approved	Optionality of UE Rx-Tx time difference report	9.5.0	9.6.0	R2	LCS_LTE
36.306	0074	1	Rel-10	A	RP-111709	R2-116382	approved	Optionality of UE Rx-Tx time difference report	10.3.0	10.4.0	R2	LCS_LTE
36.306	0077	-	Rel-10	F	RP-111714	R2-116398	approved	Correction to the number of soft channel bits	10.3.0	10.4.0	R2	LTE_CA-Core, LTE-L23
36.321	0514	-	Rel-8	F	RP-111707	R2-115704	approved	CSI/SRS reporting at DRX state transitions	8.10.0	8.11.0	R2	LTE-L23
36.321	0516	1	Rel-10	F	RP-111714	R2-116374	approved	UE soft buffer handling in MAC	10.3.0	10.4.0	R2	LTE_CA-Core
36.321	0521	-	Rel-9	A	RP-111707	R2-116378	approved	CSI/SRS reporting at DRX state transitions	9.4.0	9.5.0	R2	LTE-L23
36.321	0523	-	Rel-10	F	RP-111716	R2-116388	approved	Correction on determining SPS occasions	10.3.0	10.4.0	R2	TEI10, LTE-L23
36.321	0526	-	Rel-10	A	RP-111707	R2-116383	revised	CSI/SRS reporting at DRX state transitions	10.3.0		R2	LTE-L23
36.321	0526	1	Rel-10	A	RP-111605	-	approved	CSI/SRS reporting at DRX state transitions	10.3.0	10.4.0	R2	LTE-L23
36.321	0527	-	Rel-10	F	RP-111606	-	approved	CSI/SRS reporting at unexpected Active Time stopping	10.3.0	10.4.0	R2	TEI10, LTE-L23
36.331	0812	1	Rel-10	F	RP-111711	R2-116483	approved	Clarification of PCI range for CSG cells	10.3.0	10.4.0	R2	EHNB-RAN2, TEI10
36.331	0813	-	Rel-10	F	RP-111716	R2-115708	approved	Clarifications to Default Radio Configurations	10.3.0	10.4.0	R2	TEI10, LTE-L23
36.331	0814	1	Rel-10	F	RP-111716	R2-116380	approved	Corrections to enhancedDualLayerTDD	10.3.0	10.4.0	R2	TEI10, LTE-L23
36.331	0815	-	Rel-10	F	RP-111716	R2-115710	approved	Miscellaneous small corrections	10.3.0	10.4.0	R2	TEI10, LTE-L23
36.331	0816	1	Rel-10	F	RP-111716	R2-116513	approved	Correction on notation of SRS transmission comb	10.3.0	10.4.0	R2	TEI10, LTE-L23

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36.331	0823	1	Rel-10	A	RP-111706	R2-116523	approved	36.331 CR SPS reconfiguration	10.3.0	10.4.0	R2	LTE-L23
36.331	0824	-	Rel-8	F	RP-111706	R2-116389	approved	Clarification on SPS intervals	8.15.0	8.16.0	R2	LTE-L23
36.331	0825	-	Rel-9	A	RP-111706	R2-116390	approved	Clarification on SPS intervals	9.8.0	9.9.0	R2	LTE-L23
36.331	0827	2	Rel-10	F	RP-111716	R2-116521	approved	Clarification of list sizes in measurement configuration stored by UE	10.3.0	10.4.0	R2	TEI10, LTE-L23
36.331	0833	-	Rel-8	F	RP-111706	R2-116384	approved	Clarification of the event B1 and ANR related FGI bits	8.15.0	8.16.0	R2	LTE-L23
36.331	0834	-	Rel-9	A	RP-111706	R2-116385	approved	Clarification of the event B1 and ANR related FGI bits	9.8.0	9.9.0	R2	LTE-L23
36.331	0835	-	Rel-10	A	RP-111706	R2-116386	approved	Clarification of the event B1 and ANR related FGI bits	10.3.0	10.4.0	R2	LTE-L23
36.331	0838	-	Rel-8	F	RP-111706	R2-116395	approved	Clarification on parallel message transmission upon connection re-establishment	8.15.0	8.16.0	R2	LTE-L23
36.331	0840	1	Rel-10	F	RP-111714	R2-116511	approved	Clarification on MBSFN and measurement resource restrictions	10.3.0	10.4.0	R2	eICIC_LTE-Core
36.331	0842	-	Rel-8	F	RP-111706	R2-116392	approved	36.331 CR SPS reconfiguration	8.15.0	8.16.0	R2	LTE-L23
36.331	0843	-	Rel-9	A	RP-111706	R2-116393	approved	36.331 CR SPS reconfiguration	9.8.0	9.9.0	R2	LTE-L23
36.331	0844	-	Rel-9	A	RP-111706	R2-116550	approved	Clarification on parallel message transmission upon connection re-establishment	9.8.0	9.9.0	R2	LTE-L23
36.331	0845	-	Rel-10	A	RP-111706	R2-116551	approved	Clarification on parallel message transmission upon connection re-establishment	10.3.0	10.4.0	R2	LTE-L23
36.331	0846	-	Rel-9	F	RP-111632	-	revised	Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1"	9.8.0		R2	TEI9, LTE-L23
36.331	0846	1	Rel-9	F	RP-111731	-	revised	Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1"	9.8.0		R2	TEI9, LTE-L23
36.331	0846	2	Rel-9	F	RP-111738	-	withdrawn	Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1"	9.8.0		R2	TEI9, LTE-L23
36.331	0847	-	Rel-10	A	RP-111633	-	revised	Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1"	10.3.0		R2	TEI9, LTE-L23
36.331	0847	1	Rel-10	A	RP-111732	-	revised	Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1"	10.3.0		R2	TEI9, LTE-L23
36.331	0847	2	Rel-10	A	RP-111739	-	withdrawn	Rel-9 CR to 36.331 for Mandating setting FGI bit 27 to "1"	10.3.0		R2	TEI9, LTE-L23
36.355	0065	-	Rel-9	F	RP-111709	R2-115711	approved	Clarification of packed encoding rules of LPP	9.7.0	9.8.0	R2	LCS_LTE
36.355	0066	-	Rel-10	A	RP-111709	R2-115712	approved	Clarification of packed encoding rules of LPP	10.3.0	10.4.0	R2	LCS_LTE
36.355	0067	-	Rel-9	F	RP-111709	R2-116399	approved	Clarification of first bit in BIT STRING definitions	9.7.0	9.8.0	R2	LCS_LTE
36.355	0068	-	Rel-10	A	RP-111709	R2-116500	approved	Clarification of first bit in BIT STRING definitions	10.3.0	10.4.0	R2	LCS_LTE
36.413	0941	-	Rel-10	F	RP-111648	R3-112732	approved	Definition of Maximum no. of candidate cells	10.3.0	10.4.0	R3	SONenh_LTE-Core
36.413	0942	-	Rel-9	F	RP-111647	R3-112738	approved	Correction of Emergency call	9.7.0	9.8.0	R3	TEI9
36.413	0943	-	Rel-10	F	RP-111651	R3-112741	approved	Correction of Emergency call	10.3.0	10.4.0	R3	TEI10

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36.413	0944	-	Rel-10	F	RP-111651	R3-112742	approved	Correction of the annex on the processing of transparent containers at MME	10.3.0	10.4.0	R3	TEI10
36.413	0945	1	Rel-10	F	RP-111648	R3-113075	approved	GW Context Release Indication correction	10.3.0	10.4.0	R3	HNB_HENB_mob_enh, TEI10
36.413	0954	3	Rel-10	F	RP-111649	R3-113117	approved	Alignment on privacy requirements for MDT	10.3.0	10.4.0	R3	MDT_UMTSLTE-Core
36.423	0480	2	Rel-10	F	RP-111648	R3-113158	approved	Correction on ABS Information	10.3.0	10.4.0	R3	eICIC_LTE-Core,TEI10
36.443	0060	-	Rel-10	F	RP-111648	R3-112737	approved	Correction of Counting Request	10.3.0	10.4.0	R3	MBMS_LTE_enh-Core
36.443	0061	1	Rel-10	F	RP-111651	R3-113155	approved	Correction to the eNB Configuration Update procedure, and the MCE Configuration Update procedure	10.3.0	10.4.0	R3	TEI10
36.444	0022	-	Rel-10	F	RP-111650	R3-112774	approved	Correction on MBMS Session Stop	10.2.0	10.3.0	R3	MBMS_LTE, TEI10
36.444	0025	4	Rel-11	C	RP-111655	R3-113166	approved	Correction of MCCH Update Synchronization mechanism	10.2.0	11.0.0	R3	TEI11
36.444	0026	5	Rel-11	C	RP-111655	R3-113165	approved	Addition of M3 Setup	10.2.0	11.0.0	R3	TEI11
36.508	0248	-	Rel-9	F	RP-111579	R5-115091	approved	Correction of the default message contents of Transaction Identifiers in Activate Default EPS Bearer Context and Activate Dedicated EPS Bearer Context messages	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0250	-	Rel-9	F	RP-111596	R5-115185	approved	Adding band 22 (3500MHz FDD) to 36.508	9.6.0	9.7.0	R5	LTE-UEConTest_LTE3500
36.508	0251	-	Rel-9	F	RP-111579	R5-115264	approved	Update of UE Registration pre-registration on 1xRTT registrationPeriod	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0252	-	Rel-9	F	RP-111579	R5-115533	approved	Update UTRA RRC message for handover to UTRAN	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0253	-	Rel-9	F	RP-111579	R5-115537	approved	Add reference default EPS bearer context for QCI 5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0254	-	Rel-9	F	RP-111579	R5-115585	approved	Correction of EPS Bearer Contexts	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0255	-	Rel-9	F	RP-111579	R5-115618	approved	Correction to ESM default messages	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0256	-	Rel-9	F	RP-111579	R5-115619	approved	Introduction of Combined Generic test procedure for IMS Speech call	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0257	-	Rel-9	F	RP-111576	R5-115633	approved	default band configuration for RF testing in band 25	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.508	0258	-	Rel-9	F	RP-111579	R5-115694	approved	Complete the system configuration for dual mode network scenario	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0259	-	Rel-9	F	RP-111579	R5-115696	approved	Correction to IE PhysicalConfigDedicated-DEFAULT definition in Table 4.8.2.1.6-1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0260	-	Rel-9	F	RP-111579	R5-115708	approved	Updates for 1xRTT pre-registration scenario	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0261	-	Rel-9	F	RP-111579	R5-115750	approved	Update of UE 1xRTT registrationPeriod in SystemInformationBlock type8	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.508	0262	-	Rel-9	F	RP-111579	R5-115791	approved	Correction to 1xRTT Overhead Message contents	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.521-1	0507	-	Rel-9	F	RP-111576	R5-115112	approved	RF: Coverage of MPR and A-MPR requirements in emissions tests	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0508	-	Rel-9	F	RP-111576	R5-115113	approved	RF: Update to names of some RMC-s used in different releases	9.6.0	9.7.0	R5	LTE-UEConTest_RF

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36.521-1	0509	-	Rel-9	F	RP-111576	R5-115114	approved	RF TC 6.2.4, 6.6.2.2, 6.6.3.3: Corrections to A-MPR related tests	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0510	-	Rel-9	F	RP-111576	R5-115115	approved	RF TC-s 9: Corrections to UL allocation for some CQI tests	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0511	-	Rel-9	F	RP-111576	R5-115116	approved	RF TC 6.3.5.2: Missing extreme conditions in test requirements	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0512	-	Rel-9	F	RP-111576	R5-115117	approved	RF TC 6.2.3: Missing test requirements for band 25	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0513	-	Rel-9	F	RP-111576	R5-115118	approved	RF TC 6.5.2.1: Redundand conflicting IE-s in message contents	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0514	-	Rel-9	F	RP-111576	R5-115119	approved	RF TC 6.6.3.1: Correction of reference to the connection diagram	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0515	-	Rel-10	F	RP-111600	R5-115162	approved	Definitions, symbols and abbreviations for CA RF	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0516	-	Rel-9	F	RP-111576	R5-115209	postponed	Test Tolerance for 6.6.3.3 additional spurious emissions NS_07	9.6.0		R5	LTE-UEConTest_RF
36.521-1	0517	-	Rel-9	F	RP-111576	R5-115324	approved	LTE RF: CSI test case update	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0518	-	Rel-9	F	RP-111576	R5-115472	approved	Corrections to the dual-layer beamforming demodulation requirements	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0519	-	Rel-9	F	RP-111576	R5-115475	approved	Correction to Code Block Numbers	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0520	-	Rel-10	F	RP-111600	R5-115565	approved	In-band blocking for CA (New)	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0521	-	Rel-10	F	RP-111600	R5-115568	approved	Spurious Response for CA (New)	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0522	-	Rel-9	F	RP-111576	R5-115800	approved	Delete note in PUSCH-EVM	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0523	-	Rel-10	F	RP-111600	R5-115801	approved	Out-of-Band blocking for CA (new)	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0524	-	Rel-10	F	RP-111600	R5-115802	approved	Narrow band blocking for CA (new)	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0525	-	Rel-10	F	RP-111600	R5-115803	approved	Addition of new RMCs for CA feature related Chapter8 test cases	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0526	-	Rel-9	F	RP-111576	R5-115812	approved	RF: Corrections to tests with release dependent requirements	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0527	-	Rel-9	F	RP-111576	R5-115815	approved	Test Frequency for Relative Power Tolerance	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0528	-	Rel-10	F	RP-111600	R5-115816	approved	General Section for CA RF	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0529	-	Rel-10	F	RP-111600	R5-115817	approved	Frequency Band and Channel Assignments for CA RF	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0530	-	Rel-10	F	RP-111600	R5-115818	approved	UE Maximum Output Power for intra-band contiguous CA (new)	9.6.0	10.0.0	R5	LTE_CA-UEConTest
36.521-1	0531	-	Rel-9	F	RP-111576	R5-115821	approved	RF: General review of the reference measurement channels	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0532	-	Rel-9	F	RP-111576	R5-115822	approved	Corretion for codebook subset restriction insingle-layer closed loop spatial multiplexing test	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0533	-	Rel-9	F	RP-111596	R5-115830	approved	Uncertainties and Test Tolerances for 3000MHz to 4200MHz, Tx Test cases	9.6.0	9.7.0	R5	LTE-UEConTest_LTE3500
36.521-1	0534	-	Rel-9	F	RP-111596	R5-115831	approved	Uncertainties and Test Tolerances for 3000MHz to 4200MHz, Rx Test cases	9.6.0	9.7.0	R5	LTE-UEConTest_LTE3500
36.521-1	0535	-	Rel-9	F	RP-111596	R5-115832	approved	Support for band 22, 42 and 43	9.6.0	9.7.0	R5	LTE-UEConTest_LTE3500

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36.521-1	0536	-	Rel-9	F	RP-111599	R5-115837	approved	Update LTE RF test cases with test requirements for FDD LTE Band 23 in 36.521-1	9.6.0	9.7.0	R5	S_Band_LTE_ATC_MSS-UEConTest
36.521-1	0537	-	Rel-9	F	RP-111593	R5-115875	approved	Correction on FDD and TDD MBMS conformance requirements	9.6.0	9.7.0	R5	MBMS_LTE-UEConTest
36.521-1	0538	-	Rel-9	F	RP-111576	R5-115877	approved	Introduction of test system uncertainties and TT to new TCs in clauses 9.3.4 to 9.4.2.2.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0539	-	Rel-9	F	RP-111576	R5-115879	approved	Uncertainties and Test Tolerances for Sustained data rate test cases	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-1	0540	-	Rel-9	F	RP-111576	R5-115891	approved	Requirement change in UE spurious emissions for Band 7 and 38 co-existence (Rel-8 only)	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-2	0039	-	Rel-9	F	RP-111576	R5-115128	approved	Correction the content of A.4.4-1_16 in 36.521-2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-2	0040	-	Rel-9	F	RP-111576	R5-115134	approved	Correction to the test case condition of C12 in 3GPP TS 36.521-2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-2	0041	-	Rel-9	F	RP-111596	R5-115186	approved	Adding band 22 (3500MHz FDD) to 36.521-2	9.6.0	9.7.0	R5	LTE-UEConTest_LTE3500
36.521-2	0042	-	Rel-9	F	RP-111576	R5-115785	approved	Requirement change in UE spurious emissions for Band 7 and 38 co-existence (Rel-8 only)	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-2	0043	-	Rel-9	F	RP-111576	R5-115422	approved	Update of FGI bit table in 36.521-2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-2	0044	-	Rel-9	F	RP-111576	R5-115813	approved	RF: Update of the applicability list	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0446	-	Rel-9	F	RP-111577	R5-115121	approved	RRM TC-s 7, 8: Iteration loop and usuage of the UE states 3A / 3A-RF	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0447	-	Rel-9	F	RP-111577	R5-115140	approved	Modify the test requirement table in the TC 5.2.1	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0449	-	Rel-9	F	RP-111577	R5-115142	approved	LTE-RRM :Update to Annex E	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0452	-	Rel-9	F	RP-111577	R5-115189	approved	Uncertainties and Test Tolerances for RRM test case 8.11.3	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0453	-	Rel-9	F	RP-111577	R5-115199	approved	Correction of references to Annex I in TS36.521-3	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0454	-	Rel-9	F	RP-111596	R5-115200	approved	Test System uncertainties for frequencies between 3000MHz to 4200MHz in 36.521-3	9.6.0	9.7.0	R5	LTE-UEConTest_LTE3500
36.521-3	0456	-	Rel-9	F	RP-111577	R5-115202	approved	Uncertainties and Test Tolerance for TDD SON ANR test case 8.7.3	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0457	-	Rel-9	F	RP-111577	R5-115327	approved	Correction to RRM tests 7.1.2 and 7.2.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0458	-	Rel-9	F	RP-111577	R5-115379	approved	Update of operating band configuration	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0459	-	Rel-9	F	RP-111577	R5-115381	approved	Correction to FGI in test applicability for Cell reselection test case	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0460	-	Rel-9	F	RP-111577	R5-115385	approved	Correction to 5.2.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0461	-	Rel-9	F	RP-111577	R5-115386	approved	Alignment of the exceptional messages in 7.3.x RLM	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0462	-	Rel-9	F	RP-111577	R5-115387	approved	Correction to 8.10.1 and 8.10.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0463	-	Rel-9	F	RP-111577	R5-115388	approved	Correction to the exceptional message in 8.6.1.1	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0465	-	Rel-9	F	RP-111577	R5-115403	approved	Uncertainties and Test Tolerances for RRM test case 4.3.3	9.6.0	9.7.0	R5	LTE-UEConTest_RF

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.521-3	0466	-	Rel-9	F	RP-111577	R5-115433	approved	Corrections to TC 5.1.5 and TC 5.1.6 inter-f HO: unknown target cell	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0467	-	Rel-9	F	RP-111577	R5-115435	approved	Updates of TC 5.2.3: E-UTRAN FDD - GSM handover	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0468	-	Rel-9	F	RP-111577	R5-115479	approved	Corrections to RSRQ in Intra-Frequency Measurement Minimum Requirements	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0469	-	Rel-9	F	RP-111577	R5-115482	approved	Addition to measurement uncertainties and test tolerances E-UTRAN FDD - UTRAN FDD event triggered reporting w/DRX under fading test in Annex	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0471	-	Rel-9	F	RP-111577	R5-115787	approved	Uncertainties and Test Tolerances for RRM test case 8.11.1 and 8.11.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0472	-	Rel-9	F	RP-111577	R5-115582	approved	RRM TC 6.2: Corrections to power settings	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0473	-	Rel-9	F	RP-111577	R5-115814	approved	Incomplete test case for 7.1.1 and 7.1.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0474	-	Rel-9	F	RP-111577	R5-115823	approved	Uncertainties and TT for TC 6.1.3 and 6.1.4 in 36.521-3	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0477	-	Rel-9	F	RP-111578	R5-115827	approved	Correction to Test Tolerances for RRM ch.9 test cases	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0478	-	Rel-9	F	RP-111596	R5-115833	approved	Adding band 22 (3500MHz FDD) to 36.521-3	9.6.0	9.7.0	R5	LTE-UEConTest_LTE3500
36.521-3	0479	-	Rel-9	F	RP-111578	R5-115834	approved	RRM: Phase rotation for intra frequency tests in static conditions	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0480	-	Rel-9	F	RP-111578	R5-115835	approved	Addition of the exceptional message in 4.6.1.1	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0481	-	Rel-9	F	RP-111578	R5-115836	approved	Addition of undefined UTRA system information for TC 4.3.1.1	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0482	-	Rel-9	F	RP-111578	R5-115838	approved	Corrections to TC 5.2.1 and TC 5.2.2: E-UTRAN FDD/TDD - UTRAN FDD handover	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0483	-	Rel-9	F	RP-111578	R5-115839	approved	Corrections to message content definition for TC 5.1.1 and TC 5.1.2: intra-f HO	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0484	-	Rel-9	F	RP-111578	R5-115840	approved	Updates to TC 5.1.3 and TC 5.1.4: inter-f HO	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0485	-	Rel-9	F	RP-111578	R5-115841	approved	Updates of TC 5.2.4 and TC 5.2.5: E-UTRAN FDD/TDD - UTRAN TDD handover	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0486	-	Rel-9	F	RP-111578	R5-115842	approved	Removal of measurement related message definitions in TC 5.2.7, TC 5.2.9 and TC 5.2.10	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0487	-	Rel-9	F	RP-111578	R5-115843	approved	Modification of message definitions in the Annex H	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0488	-	Rel-9	F	RP-111578	R5-115844	approved	Modification of the test cases of Random Access	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0489	-	Rel-9	F	RP-111578	R5-115845	approved	RRM TC-s 9: Missing bands in specification	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0490	-	Rel-9	F	RP-111578	R5-115846	approved	RRM TC-s 7.3: SRS configuration in radio link monitoring tests	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0491	-	Rel-9	F	RP-111578	R5-115847	approved	Correction to test frequency in MeasConfig-DEFAULT	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0492	-	Rel-9	F	RP-111578	R5-115848	approved	Corrections to TC 7.1.1 and TC 7.1.2: UE Transmit Timing Accuracy	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0493	-	Rel-9	F	RP-111578	R5-115850	approved	Correction to 5.2.6	9.6.0	9.7.0	R5	LTE-UEConTest_RF

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.521-3	0494	-	Rel-9	F	RP-111578	R5-115878	approved	Correction to cell reselection delay in test procedure	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0495	-	Rel-9	F	RP-111578	R5-115882	approved	Addition of undefined UTRA system information for TC 4.3.1.2 and TC 4.3.1.3	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0496	-	Rel-9	F	RP-111578	R5-115883	approved	Addition of undefined UTRA system information for TC 4.3.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0497	-	Rel-9	F	RP-111578	R5-115884	approved	Addition of undefined UTRA system information for TC 4.3.3	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0498	-	Rel-9	F	RP-111578	R5-115885	approved	Addition of undefined UTRA system information for TC 4.3.4.1	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0499	-	Rel-9	F	RP-111578	R5-115886	approved	Addition of UTRA system information definitions for TC 4.3.4.2	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0500	-	Rel-9	F	RP-111578	R5-115887	approved	Updates of the message content definitions for TC 4.3.4.3	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0501	-	Rel-9	F	RP-111578	R5-115888	approved	Updates of TC 4.4.1 and TC 4.4.2: E-UTRAN FDD/TDD - GSM cell re-selection	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0502	-	Rel-9	F	RP-111578	R5-115786	approved	Corrections to test cases for E-UTRAN RRC Re-establishment	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0503	-	Rel-9	F	RP-111578	R5-115893	approved	RRM TC-s 4: General review of the test procedures of cell re-selection test cases	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.521-3	0504	-	Rel-9	F	RP-111575	R5-115481	approved	Uncertainties and test tolerances E-UTRAN FDD - UTRAN FDD event triggered reporting w/DRX under fading test	9.6.0	9.7.0	R5	LTE-UEConTest_RF
36.523-1	1511	-	Rel-9	F	RP-111580	R5-115138	approved	GCF Priority U2 - Correction to EUTRA RRC test case 8.3.3.2	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1512	-	Rel-9	F	RP-111580	R5-115164	approved	GCF Priority 3 - Correction to test case 6.1.2.13	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1513	-	Rel-9	F	RP-111580	R5-115167	approved	GCF Priority g1 - Correction to GERAN CSFB test cases	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1514	-	Rel-9	F	RP-111580	R5-115176	approved	GCF Priority 4 - Removal of test case 14.3	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1515	-	Rel-9	F	RP-111580	R5-115228	approved	GCF Priority 4 - Correction to Idle Mode Testcase 6.1.1.4	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1516	-	Rel-9	F	RP-111580	R5-115230	approved	GCF Priority 3: Correction to EMM test cases 9.2.2.2.2, 9.3.1.3, 9.3.2.2, 9.3.2.2a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1517	-	Rel-9	F	RP-111580	R5-115239	approved	GCF Priority 3 - Correction to EUTRA RRC test case 8.3.1.7	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1518	-	Rel-9	F	RP-111593	R5-115244	approved	Correction to parameter ' sf-AllocEnd-r9' in MBMS test cases	9.6.0	9.7.0	R5	MBMS_LTE-UEConTest
36.523-1	1519	-	Rel-9	F	RP-111580	R5-115245	approved	Editorial correction to test case 8.1.3.10	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1520	-	Rel-9	F	RP-111580	R5-115272	approved	Update of test cases 8.4.7.3, 8.4.7.4, 8.4.7.5 and 8.4.7.6	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1521	-	Rel-9	F	RP-111580	R5-115305	approved	GCF Priority X Addition new test case 6.1.2.2a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1522	-	Rel-9	F	RP-111580	R5-115311	approved	GCF Priority X Correction for test cases 8.3.4.1_2_3_4	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1523	-	Rel-9	F	RP-111591	R5-115314	approved	Update of TC 11.2.6 IMS Emergency CT1 aspects	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.523-1	1524	-	Rel-9	F	RP-111580	R5-115355	approved	GCF Priority 3 - Correction to EMM test case 9.2.1.1.25	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1525	-	Rel-9	F	RP-111580	R5-115361	approved	GCF Priority 2 - Correction to EMM test case 9.2.3.3.5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1526	-	Rel-9	F	RP-111580	R5-115370	approved	Correction to GCF P3 EMM test case 9.3.1.17	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1527	-	Rel-9	F	RP-111580	R5-115448	approved	GCF Priority 4 - Correction to EUTRA Idle Mode test case 6.1.1.3	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1528	-	Rel-9	F	RP-111580	R5-115455	approved	GCF Priority 4 - Removal of test case 6.1.2.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1529	-	Rel-9	F	RP-111591	R5-115511	approved	GCF Priority X: Addition of new test case 8.3.1.9a	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1530	-	Rel-9	F	RP-111591	R5-115532	approved	Update of TC 11.2.4 IMS Emergency CT1 aspects	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1531	-	Rel-9	F	RP-111580	R5-115539	approved	GCF Priority 1 - Correction to EUTRA MAC test case 7.1.4.10	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1532	-	Rel-9	F	RP-111580	R5-115547	approved	GCF Priority 1 - Correction to EUTRA MAC test case 7.1.3.3	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1533	-	Rel-9	F	RP-111580	R5-115560	approved	GCF Priority 2 (and lower) - Corrections to various EMM test cases	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1534	-	Rel-9	F	RP-111580	R5-115561	approved	GCF Priority 2 (and lower) - Corrections to ESM test cases 10.3.1 and 10.9.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1535	-	Rel-9	F	RP-111580	R5-115564	approved	GCF Priority 1 - Correction to EUTRA MAC test case 7.1.3.9	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1536	-	Rel-9	F	RP-111580	R5-115576	approved	GCF Priority 2 - Editorial Correction to EUTRA RLC test case 7.2.3.13	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1537	-	Rel-9	F	RP-111580	R5-115620	approved	CGF Priority 1 - Correction to EUTRA MAC test case 7.1.7.2.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1538	-	Rel-9	F	RP-111580	R5-115622	approved	GCF Priority 1 - Correction to RRC test case 8.5.4.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1539	-	Rel-9	F	RP-111580	R5-115624	approved	GCF Priority 2 Correction for test cases 6.1.2.13 and 6.1.2.15	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1540	-	Rel-9	F	RP-111580	R5-115625	approved	GCF Priority 2 - Correction to Idle Mode test case 6.1.1.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1541	-	Rel-9	F	RP-111580	R5-115626	approved	GCF Priority 2 - Correction to EMM test case 9.2.3.3.5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1542	-	Rel-9	F	RP-111580	R5-115627	approved	GCF Priority 2: Corrections to equivalent PLMN test case 9.2.3.1.4	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1543	-	Rel-9	F	RP-111580	R5-115628	approved	GCF Priority 2: Corrections to test case 9.2.3.1.16	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1544	-	Rel-9	F	RP-111580	R5-115629	approved	GCF Priority 3 - Corrections to Idle mode Shared network test cases	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1545	-	Rel-9	F	RP-111580	R5-115630	approved	GCF Priority 3: Addition of new idle mode test case for Manual support for CSG ID selection	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1546	-	Rel-9	F	RP-111580	R5-115631	approved	GCF Priority 3 - Correction to test case 6.2.3.13	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1547	-	Rel-9	F	RP-111580	R5-115634	approved	GCF Priority 3 - Correction to EMM test case 9.2.3.2.1a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1548	-	Rel-9	F	RP-111580	R5-115635	approved	GCF Priority 3 - Correction to EMM test case 9.1.5.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
36.523-1	1549	-	Rel-9	F	RP-111580	R5-115636	approved	GCF Priority 3 - Update of EMM test case 9.3.1.15	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1550	-	Rel-9	F	RP-111580	R5-115637	approved	GCF Priority 3 - Update to test case 9.2.3.1.23	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1551	-	Rel-9	F	RP-111580	R5-115638	approved	GCF Priority 3 - Correction to ESM test cases 10.8.5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1552	-	Rel-9	F	RP-111580	R5-115639	approved	GCF Priority 4 - Update to test case 6.1.2.14	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1553	-	Rel-9	F	RP-111580	R5-115640	approved	GCF Priority 4 - Correction to GCF WI-081 Idle Mode Testcase 6.1.1.3	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1554	-	Rel-9	F	RP-111591	R5-115642	approved	Removal of TC 11.2.9	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1555	-	Rel-9	F	RP-111580	R5-115644	approved	GCF Prio 3: Corrections to TC 8.4.3.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1556	-	Rel-9	F	RP-111580	R5-115645	approved	GCF Priority 4 Correction for test cases 6.2.3.13 and 6.2.3.31	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1557	-	Rel-9	F	RP-111580	R5-115646	approved	GCF Priority 4 - Update to EUTRA RRC test case 8.3.1.6	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1558	-	Rel-9	F	RP-111580	R5-115647	approved	GCF Priority 4 - Correction to EMM test case 9.2.3.1.17	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1559	-	Rel-9	F	RP-111580	R5-115648	approved	GCF Priority 4 - Correction to EMM test cases 9.3.1.12a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1560	-	Rel-9	F	RP-111580	R5-115649	approved	GCF Priority 4: Correction to test case 9.2.1.2.1d	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1561	-	Rel-9	F	RP-111581	R5-115650	approved	GCF priority 4: Minor correction to test case 9.2.1.2.1c	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1562	-	Rel-9	F	RP-111581	R5-115651	approved	GCF Priority 4 - Add new test case 13.4.3.3	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1563	-	Rel-9	F	RP-111581	R5-115652	approved	GCF Priority 4 - Add new test case 13.4.3.5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1564	-	Rel-9	F	RP-111581	R5-115653	approved	GCF Priority 4 - Update test case 13.4.3.2	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1565	-	Rel-9	F	RP-111581	R5-115654	approved	GCF Priority 4 - Update test case 13.4.3.1	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1566	-	Rel-9	F	RP-111581	R5-115655	approved	GCF Priority 4 - Update test case 13.4.3.4	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1567	-	Rel-9	F	RP-111581	R5-115656	approved	GCF Priority 4 - Correction to EMM test case 9.2.3.3.5a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1568	-	Rel-9	F	RP-111581	R5-115792	approved	GCF priority X - new test case 6.1.1.3a for Cell reselection of ePLMN in manual mode / between FDD and TDD	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1569	-	Rel-9	F	RP-111581	R5-115662	approved	GCF Priority 4 - Correction to EUTRA RRC test case 8.2.4.8	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1570	-	Rel-9	F	RP-111591	R5-115672	approved	Update of TC 11.2.7 IMS Emergency CT1 aspects	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1571	-	Rel-9	F	RP-111591	R5-115673	approved	Update of test case 11.2.1	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1572	-	Rel-9	F	RP-111591	R5-115675	approved	Update of test case 11.2.3	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1573	-	Rel-9	F	RP-111591	R5-115676	approved	Update of test case 11.2.4	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest

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36.523-1	1574	-	Rel-9	F	RP-111581	R5-115677	approved	GCF Priority U1: Correction to TC 6.3.7 Inter-RAT Cell reselection from E-UTRA idle non-CSG cell to a UTRA CSG cell	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1575	-	Rel-9	F	RP-111581	R5-115678	approved	GCF Priority U1 - Correction to EUTRA RRC testcase 8.4.1.4	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1576	-	Rel-9	F	RP-111581	R5-115680	approved	Addition of new Rel-9 test case 6.2.3.7a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1577	-	Rel-9	F	RP-111581	R5-115681	approved	Addition of new Rel-9 test case 6.2.3.8a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1578	-	Rel-9	F	RP-111581	R5-115682	approved	Addition of new new Rel-9 test case 6.2.3.9a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1579	-	Rel-9	F	RP-111581	R5-115683	approved	Addition of new Rel-9 test case 6.2.3.10a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1580	-	Rel-9	F	RP-111581	R5-115684	approved	GCF Priority X Addition new test case 6.1.2.3a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1581	-	Rel-9	F	RP-111581	R5-115685	approved	GCF Priority X Addition new test case 6.1.2.17	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1582	-	Rel-9	F	RP-111581	R5-115686	approved	GCF Priority X Addition new test case 6.1.2.18	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1583	-	Rel-9	F	RP-111581	R5-115687	approved	GCF Priority U2: Correction to TC 6.3.3 Inter-RAT cell reselection / From UTRA_Idle to E-UTRA RRC_IDLE CSG cell	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1584	-	Rel-9	F	RP-111581	R5-115794	approved	GCF priority x - Add new test case 6.1.1.1a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1585	-	Rel-9	F	RP-111581	R5-115691	approved	GCF Priority X - Addition of new test case 8.5.1.x	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1586	-	Rel-9	F	RP-111581	R5-115692	approved	GCF Priority X - Addition of new test case 8.1.2.x	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1587	-	Rel-9	F	RP-111581	R5-115693	approved	GCF Priority X: Addition of new test case 8.3.1.11a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1588	-	Rel-9	F	RP-111581	R5-115709	approved	GCF Priority 4 - Update of test cases 13.1.11	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1589	-	Rel-9	F	RP-111581	R5-115710	approved	GCF Priority 4 - Update of test cases 13.1.12	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1590	-	Rel-9	F	RP-111581	R5-115711	approved	GCF Priority 4 - Update of test cases 13.1.13	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1591	-	Rel-9	F	RP-111581	R5-115712	approved	Addition of new test case for e1xCSFB emergency call	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1592	-	Rel-9	F	RP-111581	R5-115713	approved	Addition of new test case for 1xCSFB emergency call	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1593	-	Rel-9	F	RP-111581	R5-115720	approved	GCF Priority 3 - Correction to EMM test case 9.2.3.1.26	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1594	-	Rel-9	F	RP-111581	R5-115722	approved	Maximum bandwidth config for MAC TBS test cases in band 25	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1595	-	Rel-9	F	RP-111581	R5-115726	approved	GCF Priority 1 - Correction to EUTRA MAC test case 7.1.4.5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1596	-	Rel-9	F	RP-111581	R5-115793	approved	Addition of a new TC for Cell reselection / interband operation / Between FDD and TDD	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1597	-	Rel-9	F	RP-111581	R5-115753	approved	Update of test case 6.2.3.8 and 6.2.3.10	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1598	-	Rel-9	F	RP-111581	R5-115795	approved	PLMN selection in shared network environment / Automatic mode / between FDD and TDD	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1599	-	Rel-9	F	RP-111581	R5-115796	approved	Inter-frequency cell reselection according to cell reselection priority provided by SIBs / Between FDD and TDD	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1600	-	Rel-9	F	RP-111581	R5-115797	approved	Addition of new test case 6.2.3.1a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG

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36.523-1	1602	-	Rel-9	F	RP-111581	R5-115763	approved	GCF Priority 4: Modification on the Event A3 timeToTrigger value in TC 8.3.1.6	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1603	-	Rel-9	F	RP-111581	R5-115798	approved	GCF Priority 2 - Update of EMM test case 9.2.2.1.7	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1604	-	Rel-9	F	RP-111581	R5-115766	approved	GCF Priority 3 - Correction to EMM test cases 9.2.3.1.22	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1605	-	Rel-9	F	RP-111581	R5-115767	approved	GCF Priority 3 - Update of EMM test cases 9.2.3.1.26 Preamble	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1606	-	Rel-9	F	RP-111581	R5-115768	approved	GCF Priority 2 - Update of EMM test cases 9.2.3.2.3	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1607	-	Rel-9	F	RP-111581	R5-115769	approved	GCF Priority 2 - Update test case 9.2.3.1.6	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-1	1608	-	Rel-9	F	RP-111591	R5-115771	approved	Update test case 11.2.2	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-1	1609	-	Rel-9	F	RP-111581	R5-115774	approved	GCF Priority 2 - Correction to Idle mode test case 6.2.2.5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0244	-	Rel-9	F	RP-111582	R5-115168	approved	GCF Priority 4 - Correction to test case selection expression for test case 9.2.3.1.20	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0245	-	Rel-9	F	RP-111582	R5-115171	approved	Correction to the applicability condition of test case 8.4.7.6 in TS 36.523-2	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0246	-	Rel-9	F	RP-111582	R5-115178	approved	GCF Priority 4 - Removal of applicability for test case 14.3	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0247	-	Rel-9	F	RP-111582	R5-115190	approved	Adding band 22 (3500MHz FDD) to 36.523-2	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0248	-	Rel-9	F	RP-111582	R5-115238	approved	Correction to the applicability statements - PSHO from E to G is mapped incorrectly and other corrections to Multi-layer procedures	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0249	-	Rel-9	F	RP-111582	R5-115273	approved	Addition of applicability statement for new Rel-9 test case 6.2.3.7a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0250	-	Rel-9	F	RP-111582	R5-115274	approved	Addition of applicability statement for new Rel-9 test case 6.2.3.8a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0251	-	Rel-9	F	RP-111582	R5-115276	approved	Addition of applicability statement for new Rel-9 test case 6.2.3.9a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0252	-	Rel-9	F	RP-111582	R5-115277	approved	Addition of applicability statement for new Rel-9 test case 6.2.3.10a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0253	-	Rel-9	F	RP-111582	R5-115301	approved	Editorial correction to conditionals C32 and C33	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0254	-	Rel-9	F	RP-111582	R5-115302	approved	Corrections to the applicability of CSG test cases	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0255	-	Rel-9	F	RP-111582	R5-115312	approved	GCF Priority x - New TC 6.1.2.2a_3a_17_18 Applicability	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0256	-	Rel-9	F	RP-111582	R5-115317	approved	Update of Indication of Number of TC Executions for TCs that contain multi-RAT branches	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0257	-	Rel-9	F	RP-111582	R5-115356	approved	GCF Priority 3 - Correction to applicability EMM test case 9.2.1.1.25	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0258	-	Rel-9	F	RP-111582	R5-115362	approved	GCF Priority 2 - Correction to applicability EMM test case 9.2.3.3.5	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0259	-	Rel-9	F	RP-111582	R5-115364	approved	Correction of PICS pc_HO_from_UTRA	9.6.0	9.7.0	R5	LTE-UEConTest_SIG

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36.523-2	0260	-	Rel-9	F	RP-111582	R5-115372	approved	Update to conditional C55 for GCF P2 - P4 test cases 10.8.1 - 10.8.7	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0261	-	Rel-9	F	RP-111582	R5-115551	approved	GCF priority 4 - Corrections to applicability of EMM test case 9.2.3.3.5a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0262	-	Rel-9	F	RP-111582	R5-115577	approved	Correction to the applicability of the MIMO RB test cases 12.3.x	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0263	-	Rel-9	F	RP-111591	R5-115632	approved	Update the title of test case 11.2.4	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-2	0264	-	Rel-9	F	RP-111591	R5-115643	approved	Removal of TC 11.2.9 Applicability	9.6.0	9.7.0	R5	IMS_EMER_GPRS_EPS_UEConTest
36.523-2	0265	-	Rel-9	F	RP-111582	R5-115714	approved	Addition of applicability statement for 1xCSFB emergency call	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0266	-	Rel-9	F	RP-111582	R5-115715	approved	Clarification of Release-dependency in EUTRA test applicability	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0267	-	Rel-9	F	RP-111582	R5-115716	approved	Correction to the title of test case 13.1.9 and 13.1.11 in TS 36.523-2	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0268	-	Rel-9	F	RP-111582	R5-115717	approved	Applicability of new test case for Dedicated RLF timer	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0269	-	Rel-9	F	RP-111582	R5-115718	approved	Applicability of new test case for High speed flag	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0270	-	Rel-9	F	RP-111582	R5-115719	approved	GCF Priority X: Addition of Applicability for new test cases 8.3.1.9a and 8.3.1.11a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0271	-	Rel-9	F	RP-111582	R5-115894	approved	Addition of applicability for new test case 6.2.3.1a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0272	-	Rel-9	F	RP-111582	R5-115799	approved	GCF priority x - Addition of applicability of new test case 6.1.1.1a	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0273	-	Rel-9	F	RP-111582	R5-115895	approved	GCF Priority 2 - Update of applicability of EMM test case 9.2.2.1.7	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0274	-	Rel-9	F	RP-111582	R5-115772	approved	GCF Priority 3 - Update of EMM test cases 9.2.3.1.26	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-2	0275	-	Rel-9	F	RP-111582	R5-115773	approved	GCF Priority 3 - Correction to applicability EMM test cases 9.2.1.2.4 and 9.2.3.2.4	9.6.0	9.7.0	R5	LTE-UEConTest_SIG
36.523-3	0799	-	Rel-9	F	RP-111582	R5-115770	approved	Routine maintenance and updates for EUTRA test model	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0800	-	Rel-9	F	RP-111588	-	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	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0801	-	Rel-9	B	RP-111589	R5s110549	approved	Addition of GCF WI 82 EMM test case 9.3.1.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0802	-	Rel-9	B	RP-111589	R5s110547	approved	Addition of GCF WI 86 EUTRA Idle Mode test case 6.2.2.5	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0803	-	Rel-9	F	RP-111589	R5s110575	approved	Correction to GCF WI-087 Idle Mode Testcases 6.2.2.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0804	-	Rel-9	B	RP-111589	R5s110573	approved	Addition of GCF WI-081 E-UTRA MAC testcase 7.1.5.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0805	-	Rel-9	F	RP-111589	R5s110571	approved	Correction to EUTRA MAC test case 7.1.5.4	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0806	-	Rel-9	F	RP-111589	R5s110570	approved	Correction to AT commands	9.1.0	9.2.0	R5	LTE-UEConTest_SIG

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36.523-3	0807	-	Rel-9	F	RP-111589	R5s110569	approved	Correction to GCF WI-086 EMM Testcases 9.2.1.2.11	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0808	-	Rel-9	F	RP-111589	R5s110568	approved	Correction to GCF WI-082 EMM Testcases 9.2.3.1.17	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0809	-	Rel-9	B	RP-111589	R5s110566	approved	Addition of GCF WI82 EMM test case 9.2.3.1.22	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0810	-	Rel-9	F	RP-111589	R5s110565	approved	Correction to GCF WI-081 RRC test case 8.5.4.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0811	-	Rel-9	F	RP-111589	R5s110444	approved	Correction to GCF WI-081 EUTRA RRC Testcase 8.2.4.7	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0812	-	Rel-9	F	RP-111589	R5s110563	approved	Correction to GCF WI-086 EUTRA RRC Testcase 8.4.1.2	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0813	-	Rel-9	B	RP-111589	R5s110561	approved	Addition of GCF WI 82 EMM Test Case 9.2.1.2.12	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0814	-	Rel-9	F	RP-111589	R5s110560	approved	Correction to GCF WI-081 EUTRA RRC test case 8.2.4.7	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0815	-	Rel-9	F	RP-111589	R5s110558	approved	Correction to GCF WI-091 EUTRA MAC test cases 7.1.4.15 + 7.1.4.16 and RLC test case 7.2.3.15	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0816	-	Rel-9	B	RP-111589	R5s110556	approved	Addition of GCF WI 81 EUTRA Test Case 6.1.1.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0817	-	Rel-9	F	RP-111589	R5s110559	approved	Correction to GCF WI-081 EUTRA RRC Testcase 8.2.4.12	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0818	-	Rel-9	F	RP-111589	R5s110555	approved	Correction of GCF WI 91 RLC test case 7.2.3.17	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0819	-	Rel-9	F	RP-111589	R5s110587	approved	Correction to EMM test case 9.2.1.1.20	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0820	-	Rel-9	B	RP-111589	R5s110580	approved	Addition of GCF WI 86 Multilayer Test Case 13.1.2	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0821	-	Rel-9	F	RP-111589	R5s110588	approved	Correction to GCF WI-086 Idle Mode Testcases 6.2.3.13	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0822	-	Rel-9	F	RP-111589	R5s110584	approved	Correction to EMM test case 9.1.5.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0823	-	Rel-9	B	RP-111589	R5s110585	approved	Addition of GCF WI-081 E-UTRA MAC testcase 7.1.7.1.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0824	-	Rel-9	B	RP-111589	R5s110582	approved	Addition of GCF WI-081 E-UTRA MAC testcase 7.1.7.1.5	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0825	-	Rel-9	F	RP-111589	R5s110572	approved	Correction of DRB test cases 12.3.1,12.3.2,12.3.3,12.3.4	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0826	-	Rel-9	F	RP-111589	R5s110576	approved	Correction to GCF WI-081 EUTRA MAC test case 7.1.3.9	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0827	-	Rel-9	B	RP-111589	R5s110598	approved	Addition of GCF WI-086 EUTRA RRC test case 8.3.3.2	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0828	-	Rel-9	F	RP-111589	R5s110603	approved	Corrections to the IP component	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0829	-	Rel-9	F	RP-111589	R5s110593	approved	Regression CR for LTE wk37 ATS	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0830	-	Rel-9	B	RP-111589	R5s110604	approved	Addition of GCF WI-082 ESM test case 10.9.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0831	-	Rel-9	F	RP-111589	R5s110634	approved	Correction to GCF WI 82 ESM test case 10.3.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0832	-	Rel-9	F	RP-111589	R5s110633	approved	Correction to function f_UT_ManualPLMN_Select	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0833	-	Rel-9	F	RP-111589	R5s110632	approved	Correction to EMM test cases	9.1.0	9.2.0	R5	LTE-UEConTest_SIG

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36.523-3	0834	-	Rel-9	F	RP-111589	R5s110631	approved	Correction to GCF WI-082 Idle Mode Testcases 9.3.2.2 and 9.3.2.2a	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0835	-	Rel-9	F	RP-111589	R5s110623	approved	Correction to GCF WI-081 E-UTRA MIMO DRB Test Case Testcases 12.3.1, 12.3.2, 12.3.3 and 12.3.4	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0836	-	Rel-9	B	RP-111589	R5s110610	approved	LTE_TDD: Addition of GCF WI-095 EUTRA RRC test case 8.2.4.9	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0837	-	Rel-9	B	RP-111589	R5s110608	approved	LTE_TDD: Addition of GCF WI-095 EUTRA Idle Mode test case 6.1.2.5	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0838	-	Rel-9	B	RP-111589	R5s110621	approved	LTE_TDD: Addition of GCF WI-091 EUTRA MAC testcase 7.1.5.5	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0839	-	Rel-9	B	RP-111589	R5s110619	approved	LTE_TDD: Addition of GCF WI-091 EUTRA MAC testcase 7.1.5.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0840	-	Rel-9	F	RP-111589	R5s110607	approved	Correction to GCF WI-86 EMM test case 9.2.3.3.5	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0841	-	Rel-9	F	RP-111589	R5s110618	approved	Correction to LTE wk37 ATS	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0842	-	Rel-9	B	RP-111589	R5s110616	approved	LTE_TDD: Addition of GCF WI-091 EUTRA Idle mode testcase 6.1.2.10	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0843	-	Rel-9	B	RP-111589	R5s110614	approved	LTE_TDD: Addition of GCF WI-091 EUTRA MAC testcase 7.1.7.1.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0844	-	Rel-9	B	RP-111589	R5s110612	approved	LTE_TDD: Addition of GCF WI-091 EUTRA MAC testcase 7.1.7.1.5	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0845	-	Rel-9	F	RP-111589	R5s110596	approved	Regression CR for LTE IWD_wk37	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0846	-	Rel-9	B	RP-111589	R5s110594	approved	Addition of GCF WI-082 E-UTRA EMM testcase 9.2.3.2.1a	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0847	-	Rel-9	B	RP-111589	R5s110591	approved	LTE_TDD: Addition of GCF WI 97 EUTRA Idle mode test case 6.2.2.7	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0848	-	Rel-9	B	RP-111589	R5s110589	approved	LTE_TDD: Addition of GCF WI 97 EUTRA RRC test case 8.1.3.8	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0849	-	Rel-9	F	RP-111589	R5s110577	approved	Correction to EMM test case 9.2.3.2.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0850	-	Rel-9	B	RP-111589	R5s110643	approved	Addition of GCF WI 82 EMM test case 9.2.2.1.4	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0851	-	Rel-9	F	RP-111589	R5s110641	approved	Correction to EMM test case 9.2.3.1.17	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0852	-	Rel-9	B	RP-111589	R5s110639	approved	Addition of GCF WI 81 EUTRA MAC test case 7.1.4.14	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0853	-	Rel-9	B	RP-111589	R5s110637	approved	Addition of GCF WI 82 EMM test case 9.3.1.12a	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0854	-	Rel-9	F	RP-111589	R5s110636	approved	Correction of GCF WI81 EUTRA Idle Mode in test case 6.1.1.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0855	-	Rel-9	B	RP-111589	R5s110600	approved	Addition of GCF WI-088 EUTRA –1xRTT InterRAT test case 6.2.2.4	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0856	-	Rel-9	F	RP-111589	R5s110658	approved	Correction to Timing Issues in Case of Big RRC + NAS Messages in EUTRA Testcases	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0857	-	Rel-9	F	RP-111589	R5s110657	approved	Correction of GERAN Common Functions and Type Definitions in LTE / SAE ATS	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0858	-	Rel-9	B	RP-111589	R5s110655	approved	Addition of GCF WI-086 EUTRA-UTRA Idle Mode test case 6.2.3.32	9.1.0	9.2.0	R5	LTE-UEConTest_SIG

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36.523-3	0859	-	Rel-9	B	RP-111589	R5s110653	approved	Addition of GCF WI-086 EUTRA-UTRA Idle Mode test case 6.2.3.31	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0860	-	Rel-9	B	RP-111589	R5s110651	approved	Addition of GCF WI-086 EUTRA-UTRA Idle Mode test case 6.2.2.8	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0861	-	Rel-9	B	RP-111589	R5s110649	approved	Addition of GCF WI-086 E-UTRA EMM testcase 9.2.3.2.14	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0862	-	Rel-9	B	RP-111589	R5s110647	approved	Addition of GCF WI-086 E-UTRA EMM testcase 9.2.2.1.10	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0863	-	Rel-9	F	RP-111589	R5s110666	approved	Correction to GCF WI-081 EUTRA MAC Testcase 7.1.4.14	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0864	-	Rel-9	F	RP-111589	R5s110602	approved	Removal of SRB0 from SS SRB / DRB handling functions	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0865	-	Rel-9	F	RP-111589	R5s110659	approved	Correction to GCF WI-081 EUTRA RAB test cases 12.3.x	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0866	-	Rel-9	F	RP-111589	R5s110682	approved	Correction to Type Def. in LTE/SAE ATS	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0867	-	Rel-9	B	RP-111589	R5s110680	approved	LTE_TDD: Addition of GCF WI-091 EUTRA Idle mode testcase 6.1.1.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0868	-	Rel-9	B	RP-111589	R5s110678	approved	LTE_TDD: Addition of GCF WI-091 EUTRA Idle mode testcase 6.1.1.4	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0869	-	Rel-9	B	RP-111589	R5s110676	approved	LTE_TDD: Addition of GCF WI-091 EUTRA Idle mode testcase 6.1.1.2	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0870	-	Rel-9	F	RP-111589	R5s110675	approved	Corrections to GCF WI82 ESM test case 10.5.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0871	-	Rel-9	F	RP-111589	R5s110674	approved	Correction to GCF WI-081 EUTRA RRC Testcase 8.1.2.13	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0872	-	Rel-9	F	RP-111589	R5s110673	approved	Corrections to GCF WI82 ESM test case 10.3.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0873	-	Rel-9	F	RP-111589	R5s110645	approved	Corrections to GCF WI82 ESM test case 10.9.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0874	-	Rel-9	F	RP-111589	R5s110646	approved	Correction to GCF WI81 Idle Mode test case 6.1.2.14	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0875	-	Rel-9	F	RP-111589	R5s110688	approved	Correction to EMM test case 9.2.3.1.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0876	-	Rel-9	F	RP-111589	R5s110685	approved	Correction required to EMM test case 9.2.3.2.1a	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0877	-	Rel-9	F	RP-111589	R5s110695	approved	Correction to Multi-Layer test case 13.1.2	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0878	-	Rel-9	F	RP-111589	R5s110697	approved	Correction to EUTRA MAC test case 7.1.7.1.5 and 7.1.7.1.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0879	-	Rel-9	F	RP-111589	R5s110694	approved	Correction to EMM test case 9.2.2.1.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0880	-	Rel-9	F	RP-111589	R5s110687	approved	Correction to GCF WI-081 EUTRA MAC test case 7.1.3.9	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0881	-	Rel-9	B	RP-111589	R5s110690	approved	Addition of GCF WI-086 EUTRA-UTRA Idle Mode test case 6.2.1.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0882	-	Rel-9	F	RP-111589	R5s110696	approved	Correction to Idle mode test case 6.2.2.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0883	-	Rel-9	B	RP-111589	R5s110699	approved	Addition of GCF WI-087 EUTRA RRC test case 8.3.3.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0884	-	Rel-9	F	RP-111589	R5s110702	approved	Correction to EMM test case 9.3.1.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0885	-	Rel-9	F	RP-111589	R5s110701	approved	Correction to EMM test case 9.3.1.17	9.1.0	9.2.0	R5	LTE-UEConTest_SIG

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36.523-3	0886	-	Rel-9	F	RP-111589	R5s110698	approved	Correction to EUTRA MAC test cases 7.1.6.1 and 7.1.6.2	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0887	-	Rel-9	F	RP-111589	R5s110705	approved	Correction to EMM test case 9.2.3.2.14	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0888	-	Rel-9	B	RP-111589	R5s110683	approved	Addition of GCF WI-086 EUTRA-UTRA (HSPA) RRC test case 8.4.1.4	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0889	-	Rel-9	F	RP-111589	R5s110710	approved	Correction to EMM test case 9.2.1.1.24	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0890	-	Rel-9	F	RP-111589	R5s110709	approved	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 for LTE band 25	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0891	-	Rel-9	F	RP-111589	R5s110708	approved	Correction to EUTRA RRC test case 8.1.2.8	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0892	-	Rel-9	F	RP-111589	R5s110707	approved	Correction to RRC test case 8.2.4.8	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0893	-	Rel-9	F	RP-111589	R5s110706	approved	Correction to MAC test case 7.1.2.3	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0894	-	Rel-9	F	RP-111589	R5s110692	approved	Correction to EMM test cases 9.2.1.1.20 and 9.2.1.1.26	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0895	-	Rel-9	F	RP-111589	R5s110693	approved	Correction to MAC test case 7.1.4.5	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0896	-	Rel-9	B	RP-111589	R5s110718	approved	Addition of GCF WI-086 E-UTRA EMM testcase 9.2.3.2.13	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0898	-	Rel-9	B	RP-111589	R5s110724	approved	Addition of GCF WI 88 EUTRA test case 8.3.2.6	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0899	-	Rel-9	B	RP-111589	R5s110721	approved	Addition of GCF WI 87 EUTRA test case 8.3.2.1	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.523-3	0900	-	Rel-9	F	RP-111589	R5s110720	approved	Correction of LTE GERAN test cases	9.1.0	9.2.0	R5	LTE-UEConTest_SIG
36.816	0009	-	Rel-11	F	RP-111722	R2-115713	approved	CR to 36.816 on DRX based TDM solution	11.1.0	11.2.0	R2	FS_SPIA_IDC
36.819	0001	-	Rel-11	F	RP-111673	R1-114222	approved	Update of UL CoMP simulation assumption	11.0.0	11.1.0	R1	FS_CoMP_LTE
36.903	0014	-	Rel-9	F	RP-111578	R5-115149	approved	Add Inter-RAT test case groups in 36.903	9.1.0	9.2.0	R5	LTE-UEConTest_RF
36.903	0015	-	Rel-9	F	RP-111578	R5-115825	approved	Test tolerances methodology for UE measurement procedures Inter-RAT event triggered reporting when DRX is used under fading test case 8.5.3 in TR 36.903	9.1.0	9.2.0	R5	LTE-UEConTest_RF
36.903	0016	-	Rel-9	F	RP-111577	R5-115188	approved	Test Tolerance analysis for RRM test case 8.11.3	9.1.0	9.2.0	R5	LTE-UEConTest_RF
36.903	0017	-	Rel-9	F	RP-111577	R5-115201	approved	Test Tolerance analysis for TS36.521-3 TDD SON ANR test case 8.7.3	9.1.0	9.2.0	R5	LTE-UEConTest_RF
36.903	0018	-	Rel-9	F	RP-111577	R5-115402	approved	Test Tolerance analysis for RRM test case 4.3.3	9.1.0	9.2.0	R5	LTE-UEConTest_RF
36.903	0019	-	Rel-9	F	RP-111577	R5-115788	approved	GCF Priority 2 - Add RRM Test Tolerance analysis for RRM test case 8.11.1 and 8.11.2	9.1.0	9.2.0	R5	LTE-UEConTest_RF
36.903	0020	-	Rel-9	F	RP-111578	R5-115826	approved	Update of Test Tolerances analysis for ch.9 test cases	9.1.0	9.2.0	R5	LTE-UEConTest_RF
36.903	0021	-	Rel-9	F	RP-111577	R5-115898	approved	Add test tolerance analysis for 6.1.3 and 6.1.4	9.1.0	9.2.0	R5	LTE-UEConTest_RF
37.104	0053	-	Rel-10	F	RP-111735	R4-115413	approved	Definition of multi-carrier configuration	10.4.0	10.5.0	R4	TEI10
37.104	0053	-	Rel-10	F	RP-111689	R4-115413	reissued	Definition of multi-carrier configuration	10.4.0		R4	TEI10
37.104	0054	-	Rel-10	F	RP-111734	R4-115418	approved	Clarification of general blocking requirements for co-existence in TS 37.104	10.4.0	10.5.0	R4	TEI10

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37.104	0054	-	Rel-10	F	RP-111688	R4-115418	reissued	Clarification of general blocking requirements for co-existence in TS 37.104	10.4.0		R4	TEI10
37.104	0055	-	Rel-10	F	RP-111735	R4-115464	approved	CR to TS37.104 Adding the OBW requirements for carrier aggregation	10.4.0	10.5.0	R4	TEI10
37.104	0055	-	Rel-10	F	RP-111689	R4-115464	reissued	CR to TS37.104 Adding the OBW requirements for carrier aggregation	10.4.0		R4	TEI10
37.104	0056	-	Rel-10	F	RP-111735	R4-115723	approved	Correction of MSR NC requirements	10.4.0	10.5.0	R4	TEI10
37.104	0056	-	Rel-10	F	RP-111689	R4-115723	reissued	Correction of MSR NC requirements	10.4.0		R4	TEI10
37.104	0058	2	Rel-10	F	RP-111687	R4-116171	approved	TX ON or OFF CR 37.104	10.4.0	10.5.0	R4	TEI10
37.104	0059	-	Rel-10	F	RP-111733	R4-116264	approved	Correction of frequency range for spurious emission requirements	10.4.0	10.5.0	R4	RInImp8-UMTSLTE3500
37.104	0059	-	Rel-10	F	RP-111685	R4-116264	reissued	Correction of frequency range for spurious emission requirements	10.4.0		R4	RInImp8-UMTSLTE3500
37.113	0018	-	Rel-10	F	RP-111688	R4-115722	revised	Removal of references to operating bands i) and h)	10.3.0		R4	TEI10
37.113	0018	1	Rel-10	F	RP-111734	-	approved	Removal of references to operating bands i) and h)	10.3.0	10.4.0	R4	TEI10
37.113	0019	-	Rel-10	F	RP-111689	R4-115811	revised	EMC requirements for MSR-NC	10.3.0		R4	TEI10
37.113	0019	1	Rel-10	F	RP-111735	-	approved	EMC requirements for MSR-NC	10.3.0	10.4.0	R4	TEI10
37.141	0086	-	Rel-10	F	RP-111735	R4-115415	approved	Definition of multi-carrier configuration	10.4.0	10.5.0	R4	TEI10
37.141	0086	-	Rel-10	F	RP-111689	R4-115415	reissued	Definition of multi-carrier configuration	10.4.0		R4	TEI10
37.141	0087	-	Rel-10	F	RP-111734	R4-115419	approved	Clarification of general blocking requirements for co-existence in TS 37.141	10.4.0	10.5.0	R4	TEI10
37.141	0087	-	Rel-10	F	RP-111688	R4-115419	reissued	Clarification of general blocking requirements for co-existence in TS 37.141	10.4.0		R4	TEI10
37.141	0088	-	Rel-10	F	RP-111735	R4-115465	approved	CR to TS37.141 Adding the OBW requirements for carrier aggregation	10.4.0	10.5.0	R4	TEI10
37.141	0088	-	Rel-10	F	RP-111689	R4-115465	reissued	CR to TS37.141 Adding the OBW requirements for carrier aggregation	10.4.0		R4	TEI10
37.141	0091	1	Rel-9	F	RP-111683	R4-116176	approved	2C test case for MSR	9.5.0	9.6.0	R4	TEI9
37.141	0092	1	Rel-10	F	RP-111690	R4-116162	approved	update to improve readability of tables in section 4.4 of 37.141	10.4.0	10.5.0	R4	TEI10
37.141	0093	-	Rel-10	F	RP-111735	R4-115724	approved	Correction of MSR NC requirements	10.4.0	10.5.0	R4	TEI10
37.141	0093	-	Rel-10	F	RP-111689	R4-115724	reissued	Correction of MSR NC requirements	10.4.0		R4	TEI10
37.141	0095	1	Rel-9	F	RP-111683	R4-116201	approved	Alignment of TC carrier position with channel raster in TS 37.141 (Rel-9)	9.5.0	9.6.0	R4	TEI9
37.141	0096	1	Rel-10	A	RP-111683	R4-116202	approved	Alignment of TC carrier position with channel raster in TS 37.141 (Rel-10)	10.4.0	10.5.0	R4	TEI9
37.141	0097	-	Rel-10	F	RP-111735	R4-115981	approved	Clarification of multi-carrier transmission and reception with multiple antenna connectors	10.4.0	10.5.0	R4	TEI10
37.141	0097	-	Rel-10	F	RP-111689	R4-115981	reissued	Clarification of multi-carrier transmission and reception with multiple antenna connectors	10.4.0		R4	TEI10
37.141	0098	2	Rel-10	F	RP-111687	R4-116174	approved	TX ON or OFF CR 37.141	10.4.0	10.5.0	R4	TEI10

Spec	CR	Rev	Phase	Cat	Plenary doc	WG doc	TSG status	Subject	CR written to	Resulting vers	WG	Workitem
37.141	0099	-	Rel-10	F	RP-111733	R4-116265	approved	Correction of frequency range for spurious emission requirements	10.4.0	10.5.0	R4	RInImp8-UMTSLTE3500
37.141	0099	-	Rel-10	F	RP-111685	R4-116265	reissued	Correction of frequency range for spurious emission requirements	10.4.0		R4	RInImp8-UMTSLTE3500
37.320	0038	-	Rel-10	F	RP-111714	R2-115714	approved	CR to 37.320 on Immediate MDT handling at handover	10.3.0	10.4.0	R2	MDT_UMTSLTE-Core
37.320	0039	-	Rel-10	F	RP-111714	R2-116373	approved	Small Corrections to 37.320	10.3.0	10.4.0	R2	MDT_UMTSLTE-Core
37.571-5	0001	-	Rel-9	F	RP-111590	R5-115203	approved	Removal of editor's notes on OTDOA values	9.0.0	9.1.0	R5	LCS_LTE_UEConTest
37.571-5	0002	-	Rel-9	F	RP-111590	R5-115204	approved	Correction of references	9.0.0	9.1.0	R5	LCS_LTE_UEConTest
37.901	0001	-	Rel-11	F	RP-111602	R5-115286	approved	Addition of LCR TDD part in A.2.6 and A.2.7	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0002	-	Rel-11	F	RP-111602	R5-115697	approved	CR for TR 37.901 Concerning the Study Item Conclusions	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0003	-	Rel-11	F	RP-111602	R5-115698	approved	Add the TDD parts in 37.901 Annex A.2 for FTP/UDP Uplink Performance	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0004	-	Rel-11	F	RP-111602	R5-115701	approved	Additon of LCR TDD part in TR37.901	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0005	-	Rel-11	F	RP-111602	R5-115702	approved	CR for TR 37.901 Concerning HSPA General Settings and Test Parameters	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0006	-	Rel-11	F	RP-111602	R5-115703	approved	Corrections to TR 37.901	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0007	-	Rel-11	F	RP-111602	R5-115704	approved	CR for TR 37.901 Concerning the Completeness of Test Procedures for LTE	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0008	-	Rel-11	F	RP-111602	R5-115705	approved	Update on LTE / UDP Downlink vs. SNR Performance test	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0009	-	Rel-11	F	RP-111602	R5-115707	approved	CR for TR 37.901 Concerning the Statistical Analysis Clause	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf
37.901	0010	-	Rel-11	F	RP-111602	R5-115779	approved	Add the TDD parts in 37.901 Annex A.2 for Downlink HSPA FTP/UDP Performance	11.0.0	11.1.0	R5	FS_UE_App_Data_Perf

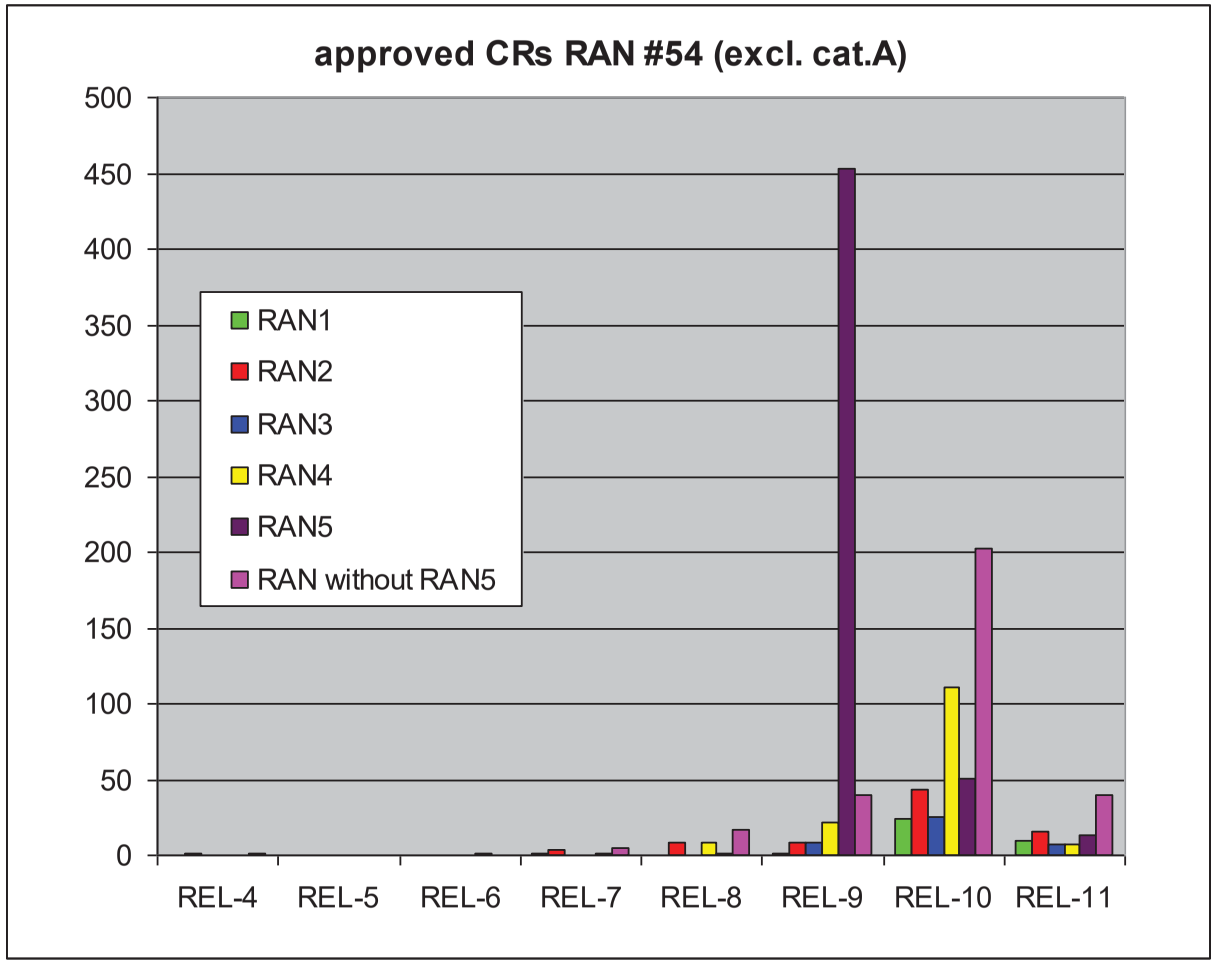


Fig. E-1: Approved CRs (excluding category A CRs) of RAN #54 per WG and release

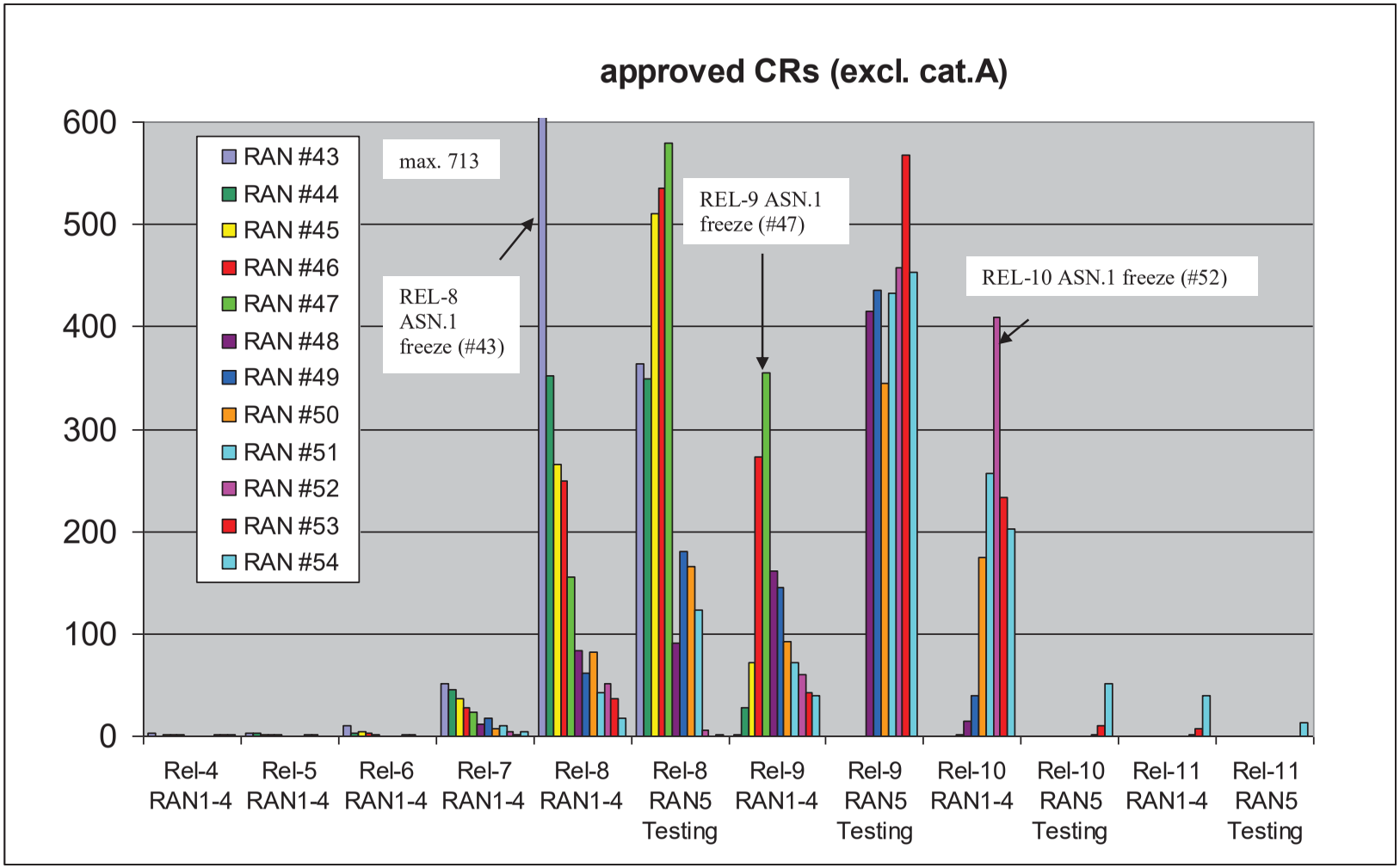


Fig. E-2: Approved CRs (excluding category A CRs) of previous RAN meetings per release

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 #54

ACTION_ITEM_1:

for:	RAN1, RAN4
task:	Treat LS ITU-R WP5A/TEMP/342 = RP-111609 and provide feedback to RAN #55
completion date:	Tdoc submission deadline of RAN #55

ACTION_ITEM_2:

for:	MCC
task:	provide LS R5-115775 = RP-111417 for information to RAN2
completion date:	submission deadline of RAN2 #77

Annex H:
History

Document history		
Date	**TSG RAN Tdoc**	**Subject**
05.12.2011	-	Skeleton report for RAN #54 provided before the meeting.
12.12.2011	-	Draft report of RAN #54 v1.0 (this version is also submitted as SP-110846 to SA #54 for information)

In case of comments/questions/corrections please contact:

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