

**3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006**

R1-060755

Agenda item 3
Title: Approved Report of 3GPP TSG RAN WG1 #43 in Seoul
 (Seoul, Korea, 7 – 11 November, 2005)
Document for: Information
Source: RAN1 Secretary



Notes: All timestamps in this document are in GMT+9H unless otherwise noted.

Fact Summary

Meeting: 3GPP TSG RAN WG1 #43
Dates: 7th through 11th November, 2005
Venue: Shilla Hotel, Seoul, Korea
Host: Samsung Electronics
Attendees: 191 delegates
Documents: 332 (including some withdrawn and post-meeting artefacts)

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Table of contents

Executive summary	1
1. Opening of the meeting	2
1.1 Call for IPR	2
2 Approval of the agenda	2
3 Approval of the minutes from previous meetings	2
4 Liaison statement handling	3
5. Maintenance of R99, Rel4, Rel5, Rel6	6
5.1 R99 CRs + shadow CRs	6
5.2 Rel4 CRs + shadow CRs	6
5.3 Rel5 CRs + shadow CRs	6
5.4 Rel6 CRs	7
5.5 Other	7
6. 3.84 Mcps TDD Enhanced Uplink	9
7. 7.68 Mcps TDD Option	10
8. Evolved UTRA and UTRAN (physical Layer)	12
8.1 Further discussion on SC-FDMA/OFDMA for Uplink	13
8.1.1 Results from email reflector discussions	18
8.2 Further aspects of OFDMA for Downlink	18
8.2.1 Results from email reflector discussions	25
8.3 Further aspects of MC-WCDMA, MC-TDSCDMA	25
8.3.1 Results from email reflector discussions	26
8.4 System evaluation results for the concepts	26
8.4.1 Results from email reflector discussions	30
8.5 MIMO	30
8.5.1 Results from email reflector discussions	35
8.6 Other topics for discussion depending on available meeting time	35
8.6.1 Results from email reflector discussions	36
8.7 Decision on the Multiple Access Concept	36
9. MIMO in UTRA (Rel'7 work item)	40
10. Improved Support of IMS Realtime Services using HSDPA/E-DCH	43
11. Continuous Connectivity for Packet Data Users	44
12. Closing of the meeting: Friday 4.00 PM	48
Annex A: List of participants at RAN1 #43	50
Annex B: TSG RAN WG1 meetings in 2006	56
Annex C: List of CRs agreed at RAN1#43	57
Annex D: List of Outgoing LSs	58
Annex E: List of Tdocs at RAN1 #43	59
Annex F: List of actions	83

Executive summary

WG RAN1#43 took place in Shilla Hotel in Seoul, Korea. The meeting started at 9:15 on Monday 7th November and finished at 16:00 on Friday 11th November.

At first, the incoming LS and CRs were treated. The total number of agreed CR was 7 in this meeting. After that, the documents for Rel-7 TDD topics, "Improved support of IMS Realtime services using HSDPA/EDCH, and "Continuous Connectivity for Packet Data Users" Several text proposals were agreed to be included in TR and TS.

LTE session started from the morning on the second day, 8th of November. As well as the last meeting, MIMO LTE topic was discussed in the parallel session to the main session on 2nd and 3rd day. With regards to SC-FDMA/OFDMA for Uplink, the topics such as performance comparison between OFDMA and SC-FDMA, implementation of SC-FDMA, Pilots structure, Multiplexing, Signalling for Scheduling, HARQ and Link Adaptation and TDD were discussed and several text proposals for TR25.814. Regarding DL OFDMA, the topics such as cell search, pilots and channel estimation, and numerology and frame structure were discussed, but many documents for the other topics on DL were not treated due to the lack of time. With regards to the system evaluation results, some companies submitted the simulation results and they were merged into the text proposal on system evaluation results in R1-051601 and also with regards to MIMO, the text proposal captured MIMO session was agreed in R1-051622. The latest of TR 25.814 is version 0.4.0 in R1-051569. As the most important topic, the decision on the Multiple Access Concept was discussed, but RAN1 could not reach to the agreement. Therefore, RAN1 summarised the information about MA scheme to RAN in R1-051595.

The MIMO scheme for Rel-7 work item was discussed in parallel session as well as LTE MIMO. There were two opposite different view on interpretation of the simulation results and way forward with no agreement as well as two opposite different view on the complexity aspects with no agreement. The output which summarise the RAN1 discussion and situation is sent to RAN in R1-051615.

The number of contributions for this meeting was 316, and those documents were categorized as followed.

Agenda Item	Input Document	Treated Document
Liaison Statement handling	27	27
Maintenance of R99, Rel4, Rel5, Rel6	18	18
3.84 Mcps TDD Enhanced Uplink	6	6
7.68 Mps TDD option	17	17
Evolved UTRA and UTRAN (physical Layer)	198	149
MIMO in UTRA	20	20
Improved support of IMS Realtime Services using HSDPA/E-DCH	2	2
Continuous Connectivity for packet Data Users	27	27

1. Opening of the meeting

07/11/2005 09:15

RAN1 Chairman, Mr. Dirk Gerstenberger and welcomed the participants to RAN WG1 #43 meeting and opened the meeting at 09.15.

Dr. Juho LEE welcomed the RAN1 delegates on behalf of the host company, Samsung.

1.1 Call for IPR

07/11/2005 09:16

The Chairman drew attention to Members' obligations under the 3GPP Partner Organizations' IPR policies. Every Individual Member organization is obliged to declare to the Partner Organization or Organizations of which it is a member any IPR owned by the Individual Member or any other organization which is or is likely to become essential to the work of 3GPP.

The attention of the members 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 members take note that they are hereby invited:

- to investigate in their company whether their company does own IPRs which are, or are likely to become Essential in respect of the work of the Technical Specification Group.
- to notify the Director-General, or the Chairman of their **respective** Organizational Partners, of all potential IPRs that their company may own, by means of the IPR Statement and the Licensing declaration forms (e.g. see the ETSI IPR forms <http://webapp.etsi.org/Ipr/>).

2 Approval of the agenda

R1-051295 Draft Agenda

(RAN1 Chairman)

R1-051319 Revised Draft Agenda

(RAN1 Chairman)

07/11/2005 09:20 Presented by Mr. Dirk Gerstenberger.

Discussion (Question / Comment): Mr. Chairman explained the meeting schedule for this week.

LTE session will start from Tuesday and MIMO session for LTE MIMO and also Rel-7 MIMO will be held parallel to the main session. From Vice chairman, Dr. Juho commented that in this meeting we must make a decision regarding MIMO Rel-7 for presenting in the next plenary so we will start from MIMO rel-7. From Vodafone commented that the decision and summary should be endorsed by RAN1 main session.

Decision: This document was approved

3. Approval of the minutes from previous meetings

R1-051296 Draft report from RAN#42bis

(RAN1 Vice Chairman, RAN1 Secretary)

07/11/2005 09:20 Presented by Mr. Yoshikazu Ishii.

Discussion (Question / Comment): No comments

Decision: This document was approved in R1-051568.

R1-051568 Approved report from RAN#42bis

(RAN1 Vice Chairman, RAN1 Secretary)

4. Liaison statement handling

R1-051298 LS on Time Plan for FS on 3GPP System Architecture Evolution (To: SA1, SA3, RAN1, RAN2, RAN3, RAN, SA) (SA WG2, Vodafone)

07/11/2005 09:30 Presented by Mr. Yannick Le Pezennec

Discussion (Question / Comment): If there are some comments, should feedback to Vodafone during this week.

Decision: This document was noted.

R1-051299 LS on Latest Status of SAE work in SA 2 (To: RAN1, RAN2, RAN3) (SA WG2, Vodafone)

07/11/2005 09:32 Presented by Mr. Yannick Le Pezennec

Discussion (Question / Comment): If there are some comments, should feedback to Vodafone during this week.

Decision: This document was noted.

R1-051547 Reply to LS on Time Plan for FS on 3GPP System Architecture Evolution (To: SA2, Cc: SA3, RAN1, RAN2, RAN3, RAN) (WG SA1, NTT DoCoMo)

07/11/2005 09:35 Presented by Mr. Shinsuke Ogawa

Discussion (Question / Comment):

Decision: This document was noted.

R1-051323 Draft Replay LS on High Bit Rate SRB (Siemens)

07/11/2005 09:40 Presented by Ms. Malgorzata Wimmer

Discussion (Question / Comment):

From Ericsson, the question was raised on R2-052499 => Offline discussion.

Decision: This document was revised in R1-051591 after off-line discussion.

R1-051561 Draft Replay LS on High Bit Rate SRB (Siemens)

10/11/2005 11:20 Presented by Ms. Malgorzata Wimmer

Discussion (Question / Comment):

Decision: This is approved in R1-051591.

R1-051351 [Draft] Response to LS (R2-052312) on VoIMS RAB (Samsung)

07/11/2005 09:45 Presented by Mr. Yongjun Kwak

Discussion (Question / Comment): The question was raised on CR0048 of 25.993 that 2*3kbps in max. Samsung answered yes.

Decision: The draft LS was agreed LS in R1-051553.

R1-051545 Draft Reply LS on multi-rate AMR-NB RAB using SRB#5 (Nortel)

07/11/2005 09:55 Presented by Ms. Sarah Boumendil.

Discussion (Question / Comment): Vodafone commented that 25.993 point of view should be considered and should modify RAN5 to copy.

Decision: This draft LS was revised in R1-051554 (Remove action to RAN5, make clear that proposal is for 25.993).

R1-051554 Reply LS on multi-rate AMR-NB RAB using SRB#5 (To: RAN2, Cc: RAN5) (RAN WG1)

10/11/2005 11:30 Presented by Ms. Sarah Boumendil.

Discussion (Question / Comment):

Decision: This LS was agreed in this version.

R1-051297 Synchronisation of Reconfiguration with activation time "now" (To: RAN1, RAN4) (RAN WG2, LG Electronics)

07/11/2005 10:00 Presented by Dr. Dragan Vujcic.

Discussion (Question / Comment):

Decision: This document was noted

R1-051363 Discussion for response to LS on Synchronization of Reconfiguration with activation time "now" (LG Electronics)

07/11/2005 10:05 Presented by Dr. Dragan Vujcic.

Discussion (Question / Comment): Some companies raised the concerns on if Node B doesn't know the new scrambling code (if the wrong code was detected, how does Node B perform. From Philips, this new proposal is on RAN4 item, not RAN1. But RAN1 chairman clarified we must do if L1 signalling is revised and we will make the new WI on RAN1. For making the new WI, Panasonic raised a concern that Rel-6 already was closed. Finally, we postpone this issue to the next meeting and continue discussion, and also discuss offline whether LS should be sent.

Decision: Continue offline discussion during the week on whether to send an LS and the contents. On Friday the status of offline discussion is confirmed that further analysis are required, so that it was decided to continue discussion in RAN1 before sending reply LS.

**R1-051540 Reply LS on RAB and the error-delay-profile for the performance
characterization of VoIMS over HSDPA/EUL (To: SA4, Cc: RAN1, RAN5)
(RAN WG2, Ericsson)**

07/11/2005 11:15 Presented by Mr. Johan Bergman.

Discussion (Question / Comment): Lucent proposed to make a reply LS

Decision: It was decided to provide a response from RAN1 to the original LS at next meeting.

**R1-051541 Improved Support of IMS Realtime Services using HSDPA/HSUPA (To:RAN1,
RAN4, Cc:RAN3)
(RAN WG2, Qualcomm)**

07/11/2005 11:15 Presented by Mr. Juan Montojo

Discussion (Question / Comment): Nokia commented that this LS is related to the AI 10 document. So Mr. Chairman suggested that we can come back to this document after AI 10.

From Nokia, We could come back after the AI 10

Decision: After the discussion on the AI 10, RAN1 could not reach to any agreement at this stage whether there is a problem (as described in the RAN2 document). It was decided to reports this status to RAN.

**R1-051548 LS on Higher data rates in MBMS user service (To: RAN1, SA4)
(WG SA1, Huawei)**

07/11/2005 11:25 Presented by Mr. Gaoke Du

Discussion (Question / Comment): Motorola raised a question that this is outside of Rel-6, so the issue could be on LTE. Mr. Chairman clarified we don't have any WI on this item.

Decision: This document was noted. It was decided to provide a draft reply in R1-051559 from Motorola for indicating supported data rates and that there is no WI in RAN1.

R1-051559 Draft LS on Higher data rates in MBMS user service (Motorola)

10/11/2005 11:30 Presented by Mr. Mark

Decision: This is approved in R1-051592.

**R1-051576 LS on WB-AMR reference configurations in 34.108 (To: RAN1, RAN5)
(WG RAN2, Nokia)**

10/11/2005 10:25 Presented by Mr. Markku Tarkiainen.

Discussion (Question / Comment):

Decision: This document was noted. It was decided to provide reply LS before RAN#30 in R1-051585.

R1-051585 Draft Reply LS on WB-AMR reference configurations in 34.108 (Nokia)

Discussion (Question / Comment):

Decision: This draft LS was approved in R1-051625 after the meeting.

**R1-051590 S-CCPCH power offset for MBMS reception (To: RAN4, Cc: RAN1)
(RAN WG1, Qualcomm Europe)**

11/11/2005 08:55 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment):

Decision: This LS was noted

**R1-051607 LS on Support of Different Combining Schemes (To;RAN1, Cc: RAN2)
(RAN WG3, Siemens)**

11/11/2005 14:20 Presented by Dr. Juergen Michel

Discussion (Question / Comment): This LS was treated with R1-051594.

Decision: Discuss LS and LS reply (R1-051614) over email, and (if needed) agree on RAN1 CR for removal of Chase via email (until Nov 22).

R1-051614 Support of Different Combining Schemes (WG RAN1)

Decision: This LS was approved as the final version on the RAN1 reflector. The related RAN1 CR in R1-051594 was rejected.

Outgoing LS

R1-051553 Response to LS (R2-052312) on VoIMS RAB (To: RAN2) (RAN1 WG1)

R1-051554 Reply LS on multi-rate AMR-NB RAB using SRB#5 (To:RAN2, Cc: RAN5) (RAN WG1)

**R1-051560 Draft LS on PL for Conversational / speech (12.65, 8.85, 6.6) kbps + Interactive
0 kbps (To: RAN2) (RAN WG1)**

R1-051591 Replay LS on High Bit Rate SRB (To:RAN2) (RAN WG1)

R1-051592 LS on Higher data rates in MBMS user service (To:SA1, Cc:SA2) (RAN WG1)

R1-051595 UTRAN LTE Multiple Access Selection (To: RAN) (RAN WG1)

R1-051614 Support of Different Combining Schemes (RAN WG1)

R1-051615 Results of study on the benefits of MIMO in Rel-7 (To: RAN) (RAN WG1)

R1-051625 Reply LS on WB-AMR reference configurations in 34.108 (To: RAN) (RAN WG1)

5. Maintenance of R99, Rel4, Rel5, Rel6

The summary of this section is as followed.

1. Two Rel-5 CRs and shadow two CRs were agreed.
2. Two EDCH CRs and one Rel-6 CR were agreed.

5.1 R99 CRs + shadow CRs

No input

5.2 Rel4 CRs + shadow CRs

No input

5.3 Rel5 CRs + shadow CRs

R1-051450 25.211CR0226(Rel-5, F) "Clean up due to removal of CSICH" (Ericsson)

07/11/2005 11:30 Presented by Mr. Johan Bergman .

Discussion (Question / Comment): From Vodafone, the questions was raised why the CR was from Rel-5. Mr. Chairman clarified that the CR about clean up was decided just from Rel-5, not Rel99 and Rel-4 by TSG RAN.

Decision: This CR was agreed.

R1-051451 25.211CR0227(Rel-6, A) "Clean up due to removal of CSICH" (Ericsson)

07/11/2005 11:30 Presented by Mr. Johan Bergman.

Discussion (Question / Comment):

Decision: This CR was agreed.

R1-051473 25.224CR0145(Rel-5,F)"Clarify the power control procedure of HS-SCCH for TDD" (ZTE)

R1-051550 25.224CR0145r1(Rel-5,F)"Clarify the power control procedure of HS-SCCH for TDD" (ZTE)

07/11/2005 11:38 Presented by Mr. Zhifeng Ma.

Discussion (Question / Comment):

Decision: This CR was agreed. WI code was revised to HSDPA-Phys by the secretary for submitting to RAN plenary

R1-051474 25.224CR0146(Rel-6,A)"Clarify the power control procedure of HS-SCCH for TDD" (ZTE)

R1-051551 25.224CR0146r1(Rel-6,A)"Clarify the power control procedure of HS-SCCH for TDD" (ZTE)

07/11/2005 11:38 Presented by Mr. Zhifeng Ma.

Discussion (Question / Comment):

Decision: This CR was agreed. WI code was revised to HSDPA-Phys by the secretary for submitting to RAN plenary

R1-051475 25.224CR0147(Rel-5,F)"Clarification of UL synchronization for HS-SICH in 1.28Mcps TDD" (ZTE)

07/11/2005 11:35 Presented by Mr. Zhifeng Ma.

Discussion (Question / Comment): From CATT, it was commented that this aspect should be considered in the higher layer.

Decision: This CR was rejected. It should be clarified in RRC instead.

R1-051476 25.224CR0148(Rel-6,A)"Clarification of UL synchronization for HS-SICH in 1.28Mcps TDD" (ZTE)

07/11/2005 11:35 Presented by Mr. Zhifeng Ma.

Discussion (Question / Comment):

Decision: **This CR was rejected** It should be clarified in RRC instead.

5.4 Rel6 CRs

R1-051304 25.211CR0225r2(Rel-6, F) "Combination of DPCCH and E-DCH"
(LG Electronics, Panasonic, Philips)

07/11/2005 11:40 Presented by Dr. Joon-Kui Ahn from LGE

Discussion (Question / Comment):

Decision: **This CR was agreed**

R1-051459 25.212CR0231(Rel-6, F) "Usage of 2xSF4 with puncturing" (Nokia)

R1-051546 25.212CR0231r1(Rel-6, F) "Usage of 2xSF4 with puncturing"
(Nokia, Samsung)

07/11/2005 11:45 Presented by Mr. Karri Ranta-aho.

Discussion (Question / Comment):

Decision: **This CR was agreed**

R1-051318 25.223CR0037(Rel-6, F) "Correction to 16QAM modulation function"
(IPWireless)

07/11/2005 11:40 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: **This CR was agreed** WI code was revised to HSDPA-Phys by the secretary for submitting to RAN plenary.

R1-051404 25.804CR0001(Rel-6, F) "Simulation results of LCR TDD enhanced uplink"
(CATT)

07/11/2005 11:45 Presented by Ms. Jinling Hu

Discussion (Question / Comment):

IPWireless raised a concern that they have some technical questions because the text proposal don't provide any technical description for the simulation results, so that the text proposal should be divided to separately to each technical item and we should confirm each by each. But, CATT raised a concern why we need more discussion because this is just for text proposal not included in SI (TR).

Mr. Chairman clarified that we should try to finish the RAN1 part for the next plenary so talk with each other during the next couple week.

CH1, we should try to finish the RAN1 part for the next Plenary, so talk with each other during this week.

Decision: It was decided that issues should be raised on the reflector and shall be addressed (if possible) until before RAN#30, results captured in a new CR. After the meeting, IPWireless pointed out the concerns on the CR and the email discussion took place. This CR was revised in R1-051621 with reflected to the comments from IPWireless.

R1-051621 25.804CR0001r1(Rel-6, F) "Simulation results of LCR TDD enhanced uplink"
(CATT)

Decision: IPWireless still raised a concerned for the revised CR, so it was decided to continue more discussion and if appropriate, to bring a CR as company contribution to the RAN.

R1-051594 25212 CR0232 (Rel-6, F) "Removal of Chase Combining" (Siemens)

11/11/2005 14:30 Presented by Dr. Juergen Michel

Discussion (Question / Comment): This LS was discussed with R1-051607, incoming LS from RAN3

Nortel, this CR is not any correspondence to the RAN3 response. After the meeting, there were some discussion for this CR. Ericsson and Nokia commented that the case when a Chase-only Node B is neighbor to an IR-only Node B is probably not going to be very common, but it seems unnecessary to forbid someone from implementing Chase+IR if they see this situation as a problem. On the other hand, it can't be agreed at this stage to mandate all Node B to support Chase. So they proposed to allow three Node B capabilities: Chase only, IR only, and Chase+IR.

Decision: It was decided to discuss LS (R1-051607) and LS reply (R1-051614) over e-mail, and (if need) RAN1 CR for removal of Chase via e-mail until Nov. 22. **This CR was rejected on the reflector after the meeting.**

5.5 Other

R1-051447 Draft LS on PL for Conversational / speech (12.65, 8.85, 6.6) kbps + Interactive
0 kbps (Ericsson)

07/11/2005 12:10 Presented by Mr. Johan Bergman.

Discussion (Question / Comment): Ericsson notified that the action should be to RAN2, not RAN5
Decision: This document was agreed LS in R1-051560 with correction that action is to RAN2.

R1-051481 Sub signalling support for enhanced power control operation
(Qualcomm Europe)

07/11/2005 12:15 Presented by Mr. Juan Montojo

Discussion (Question / Comment): Qualcomm clarified that this proposal is for Rel-6.

From Ericsson, the concern was raised on implementation complexity on Node B v.s gain. We should consider the solution to reduce the impact. Nortel raised a concern on SHO case that we should continue this discussion. There is a long discussion for impact of the proposal. Mr. Chairman commented that we should stretch to the other WGs and more meeting to consider this proposal issue well.

Decision: Revisit on Friday after offline discussion. => Qualcomm commented that this time, there is no possible way forward to this one. It was decided to continue discussion via email.

R1-051482 On F-DPCH power control (or lack thereof) (Qualcomm Europe)

07/11/2005 12:50 Presented by Mr. Juan Montojo

Discussion (Question / Comment): Philips commented that it's good idea to extend the pilot format. It was clarified by Qualcomm that the proposal could be for Rel-6, but the slot format is more like to Rel-7. From Nortel, we cannot understand that the proposal is for Rel-6 because it was already closed. Qualcomm commented that we just proposed the small enhancement, not new WI, the discussion is just on whether we can do small enhancement or not. Mr. Chairman suggested keeping this issue and continuing the discussion. Lucent commented that they are supposed to submit the simulation results.

Decision: It was decided to continue discussion at next meeting.

6. 3.84 Mcps TDD Enhanced Uplink

The summary of this section is as followed.

1. The latest TR25.826 was endorsed as version 0.3.0.
2. 4 text proposals for TR25.826 were agreed.

- R1-051528 TR25.826 v0.2.1** (IPWireless)
07/11/2005 14:20 Presented by Mr. Nicholas Anderson.
Discussion (Question / Comment):
Decision: This version was endorsed 0.3.0 in R1-051562.
- R1-051562 TR25.826 v0.3.0** (IPWireless)
- R1-051529 EU-TDD: Further Details of E-AGCH** (IPWireless)
07/11/2005 14:23 Presented by Mr. Nicholas Anderson.
Discussion (Question / Comment):
Decision: The text proposal in this document was agreed to be included in TR25.826.
- R1-051530 Physical channel aspects of TDD E-AGCH** (IPWireless)
07/11/2005 14:30 Presented by Mr. Nicholas Anderson.
Discussion (Question / Comment):
Decision: The text proposal in this document was agreed to be included in TR25.826.
- R1-051531 Coding and Multiplexing of TDD E-AGCH** (IPWireless)
07/11/2005 14:31 Presented by Mr. Nicholas Anderson.
Discussion (Question / Comment):
Decision: The text proposal in this document was agreed to be included in TR25.826.
- R1-051532 Timing Advance for 3.84Mcps TDD Enhanced Uplink** (IPWireless)
07/11/2005 14:32 Presented by Mr. Nicholas Anderson.
Discussion (Question / Comment):
Decision: The text proposal in this document was agreed to be included in TR25.826.
- Withdrawn**
- R1-051533 EU-TDD: Multiplexing of E-UCCH and E-DCH** (IPWireless)

7. 7.68 Mcps TDD Option

The summary of this section is as followed.

1. The latest TR25.809 was endorsed as version 1.0.0 and the latest TS25.202 was endorsed as version 1.0.0. They are submitted to RAN#30 as information.
2. 4 text proposals for TR and TS were agreed. (one is on e-mail approval before Plenary)
3. Draft CRs to TDD core specifications were presented and noted. (Waiting to create Rel-7 specification).

R1-051518 TR25.809 v0.4.1 (IPWireless)

07/11/2005 14:33 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: This version was endorsed 0.5.0 in R1-051563. It was decided to present TR (updated with TP from this meeting) as 1.0.0 for information to RAN.

R1-051563 TR25.809 v0.5.0 (IPWireless)

R1-051586 TR25.809 v0.5.1 (IPWireless)

11/11/2005 14:33 Presented by Dr. Martin Beale.

Discussion (Question / Comment): IPWireless commented that they would like to endorse this as v.1.0.0 after TP in R1-051311 is approved and included in TR. So this version was not endorsed as v1.0.0.

Decision: This document was noted.

R1-051519 TS25.202 v0.3.1 (IPWireless)

07/11/2005 14:35 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: This version was endorsed 0.4.0 in R1-051564. It was decided to present TR (updated with TP from this meeting) as 1.0.0 for information to RAN.

R1-051564 TS25.202 v0.4.0 (IPWireless)

R1-051587 TS25.202 v0.4.1 (IPWireless)

11/11/2005 14:33 Presented by Dr. Martin Beale.

Discussion (Question / Comment): IPWireless commented that they would like to endorse this as v.1.0.0 after TP in R1-051311 is approved and included in TS. So this version was not endorsed as v1.0.0.

Decision: This document was noted.

R1-051311 Basic Midamble Codes for 7.68 Mcps TDD Option (IPWireless)

07/11/2005 14:38 Presented by Dr. Martin Beale.

Discussion (Question / Comment): CATT raised a concern on the midamble in Table 1 that we need more results.

Decision: It was decided to provide Requests for additional results to be made on the reflector, provide results (if possible) until before RAN#30. The TP in this contribution was agreed on the RAN1 reflector after the meeting.

R1-051520 Transport channel processing for the 7.68Mcps TDD option (IPWireless)

07/11/2005 14:50 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: The text proposal in this document was agreed to be included in TR and TS.

R1-051521 Timeslot formats for the 7.68Mcps TDD option (IPWireless)

07/11/2005 14:53 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: The text proposal in this document was agreed to be included in TR.

R1-051522 Spreading and modulation for the 7.68Mcps TDD option (IPWireless)

07/11/2005 14:55 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: The text proposal in this document was agreed to be included in TR and TS.

R1-051524 draft CR to TS25.221 for 7.68Mcps TDD option (IPWireless)

07/11/2005 15:00 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: Midmbles are subject to confirmation (related to discussion on R1-051311.) This draft CR was just noted because of waiting to create Rel-7 specification.

R1-051523 draft CR to TS25.222 for 7.68Mcps TDD option (IPWireless)

07/11/2005 15:05 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: This draft CR was just noted because of waiting to create Rel-7 specification.

R1-051525 draft CR to TS25.223 for 7.68Mcps TDD option (IPWireless)

07/11/2005 15:08 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: This draft CR was just noted because of waiting to create Rel-7 specification.

R1-051526 draft CR to TS25.224 for 7.68Mcps TDD option (IPWireless)

07/11/2005 15:10 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: This draft CR was just noted because of waiting to create Rel-7 specification.

R1-051527 draft CR to TS25.225 for 7.68Mcps TDD option (IPWireless)

07/11/2005 15:13 Presented by Dr. Martin Beale.

Discussion (Question / Comment):

Decision: This draft CR was just noted because of waiting to create Rel-7 specification.

R1-051588 Cross correlation properties of basic midamble codes for 7.68Mcps TDD option (IPWireless)

Decision: This document was noted on the RAN1 reflector as the information for e-mail approval of R1-051311.

R1-051619 TR25.809 v0.5.2 (IPWireless)

Decision: This document was distributed on the RAN1 reflector after the meeting with addition of TP in R1-051311 to version 0.5.1.

R1-051620 TS25.202 v0.4.2 (IPWireless)

Decision: This document was distributed on the RAN1 reflector after the meeting with addition of TP in R1-051311 to version 0.4.1.

8. Evolved UTRA and UTRAN (physical Layer)

The summary of this section is as followed.

1. The latest TR25.814 was endorsed as version 0.4.0. And after this meeting, the latest TR captured the agreed text proposal in this meeting is submit as version 0.5.0 to RAN#30 plenary meeting in RP-050729.
2. With regards to SC-FDMA/OFDMA for Uplink, the topics such as performance comparison between OFDMA and SC-FDMA, implementation of SC-FDMA, Pilots structure, Multiplexing, Signalling for Scheduling, HARQ and Link Adaptation and TDD were discussed. The text proposals regarding multiplexing method of L1/L2 control signalling, Uplink timing control, HARQ operation and frequency selective transmission fro TDD were agreed.
3. With regards to DL OFDMA, the topics such as cell search, pilots and channel estimation, and numerology and frame structure were discussed. The other topics on DL were not treated due to the lack of time. The text proposal on DL reference-signal structure was agreed.
4. With regards to MC-CDMA and MC-TDSCDMA, two text proposals were agreed.
5. With regards to the system evaluation results, some companies submitted the simulation results and they were merged into the text proposal on system evaluation results in R1-051601.
6. MIMO topic was discussed on the MIMO Ad Hoc session parallel to the main session from 2nd and 3rd day. The text proposal captured MIMO session was agreed in R1-051622.
7. Regarding Decision on the Multiple Access Concept, RAN1 could not reach to the agreement so that RAN1 summarised the information about MA scheme to RAN in R1-051595.
Way forward on MA scheme selection for LTE from RAN1
 - a) Strong desire from the clear majority of the meeting the same MA scheme for paired and unpaired spectrum operation as also indicated by the requirements in 25.913.
 - b) The concepts fulfilling the above requirements are
 - i. SC-FDMA UL, OFDM DL (as proposed by 23 companies in R1-051577)
 - ii. Proposed based on MC-(W) CDMA supported by a small number of companies
 - c) Other proposal (OFDM UL TDD, OFDM DL TDD, SC-FDMA UL FDD) with different MA scheme for paired and unpaired spectrum operation are objected by a big majority of the meeting.

R1-051305 TR25.814 v.0.3.1 Physical Layer Aspects for Evolved UTRA
(Editor, NTT DoCoMo)

08/11/2005 09:40 Presented by Dr. Sadayuki Abeta

Discussion (Question / Comment):

Decision: This version was endorsed as 0.4.0 in R1-051569.

R1-051569 TR25.814 v.0.4.0 Physical Layer Aspects for Evolved UTRA
(Editor, NTT DoCoMo)

After the meeting, the agreed text proposals in RAN1#43 except for R1-051622 and the decision of R1-051367 were captured in TR version 0.4.1 in R1-051623.

R1-051623 TR25.814 v.0.4.1 Physical Layer Aspects for Evolved UTRA
(Editor, NTT DoCoMo)

Decision: This version was revised with R1-051622 and the decision of R1-051367 as version 0.4.2 in R1-051624.

R1-051624 TR25.814 v.0.4.2 Physical Layer Aspects for Evolved UTRA
(Editor, NTT DoCoMo)

Decision: This version was endorsed in version 0.5.0 on the RAN1 reflector and is submitted to RAN#30 plenary meeting in RP-050729.

Not Treated

R1-051513 Channel sounding for LTE-FDD **(Nortel)**

Withdrawn

R1-051618 TR25.814 v.0.4.1 Physical Layer Aspects for Evolved UTRA
(Editor, NTT DoCoMo)

8.1 Further discussion on SC-FDMA/OFDMA for Uplink

SC-FDMA vs OFDMA

R1-051421 UL Link level performance of SC-FDMA and OFDMA with real channel estimation and virtual MIMO (Nortel)

08/11/2005 09:45 Presented by Dr. Moussa Abdi.

Discussion (Question / Comment): The question was raised from Ericsson what is the reason why the OFDM improved more than SC-OFDMA. The answer was that one is the receiver different and the other is MIMO reason (frequency and time domain scheduling)

Decision: This document was noted.

R1-051485 Further comparison between OFDMA and SC-FDMA based E-UTRA uplink (Qualcomm Europe)

R1-051555 Further comparison between OFDMA and SC-FDMA based E-UTRA uplink (Qualcomm Europe)

In R1-051099, we compared the link performance of uplink SC-FDM and OFDM assuming a single Rx antenna. In this document, we compare the link performance of uplink SC-FDM and OFDM assuming 2 Rx antennas.

08/11/2005 09:50 Presented by Dr. Durga Malladi

Discussion (Question / Comment): From Samsung, the question was raised that you consider the retransmission on your simulation. The answer was that we have no retransmission on the simulation.

Decision: This document was noted.

Implementation of SC-FDMA

R1-051355 Further Results for Distributed FDMA and Localised FDMA with Frequency Hopping for EUTRA Uplink (NEC Group)

In this contribution new results are presented with real channel estimation and a frequency domain transceiver architecture, in line with the latest assumptions in TR 25.814. In the D-FDMA case, the effect of staggered pilot transmission is also evaluated.

08/11/2005 09:00 Presented by Ms. Nahoko Kuroda.

Discussion (Question / Comment): Nokia commented that we also same results on the comparison of L-FDMA and D-FDMA on HARQ aspects.

Decision: This document was noted.

R1-051384 Further description of DFT-S-GMC implementation (SHRCWC)

This contribution provides a further description of the DFT-S-GMC implementation module by module. The mathematics principle of each processing are also provided.

08/11/2005 09:14 Presented by Mr. Zhigang Zhou.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051385 Further simulation results of DFT-S-GMC in comparison with DFT-S-OFDM (SHRCWC)

In this contribution, we provide updated performance comparisons between the DFT-S-GMC and DFT-S-OFDM in the fields of PAPR, synchronization and BER performance.

08/11/2005 09:17 Presented by Mr. Zhigang Zhou.

Discussion (Question / Comment): The question was asked by Nokia if the roll off factor is same for both DFT-S-GMC and DFT-S-OFDM. The answer is "Same factor".

From NTT DoCoMo, the question was asked regarding figure 10 and 11 that why DFT-S-OFDM D is better than DFT-S-OFDM L for the frequency offset and phase noise. => Off-line discussion.

Decision: This document was noted.

R1-051386 On the PAR/CM performance of DFT-S-GMC (SHRCWC)

In this contribution, we compare the PAPR and Cubic Metric (CM) performances of DFT-S-GMC, DFT-S-OFDM and OFDM.

08/11/2005 09:25 Presented by Mr. Zhigang Zhou.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051387 Bandwidth Efficiency Aspects of DFT-S-GMC (SHRCWC)

In this contribution, the bandwidth efficiency of DFT-S-GMC is analyzed.

08/11/2005 09:30 Presented by Mr. Zhigang Zhou.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051388 DFT-S-GMC for EUTRA Uplink (SHRCWC)

In this contribution, we summarize the principle and advantages of DFT-S-GMC, and recommend it to be candidate scheme for EUTRA uplink.

08/11/2005 09:35 Presented by Mr. Zhigang Zhou.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051405 Offset DFT-Spread OFDM for the Evolved UTRA Uplink (RITT, CATT)

In this paper, we present an offset DFT-spread OFDM, which has comparable PAPR performance as conventional single-carrier signal with offset QAM. This leads to a significant PAPR reduction over the DFT-spread OFDM.

08/11/2005 09:40 Presented by Dr. Shen Jia.

Discussion (Question / Comment):

From Nokia, it was commented that CM also should be evaluated in addition to PAPR.

From Ericsson, the question was raised that there are any impact on the basic error rate performance. RITT clarified that there is no impact and the proposed scheme has the same performance as no offset scheme.

Decision: This document was noted.

R1-051434 Optimum family of spectrum-shaping functions for PAPR reduction in SC-FDMA (Huawei)

In the present contribution, we derive the criterion for optimum spectrum-shaping functions for PAPR reduction in SC-FDMA.

08/11/2005 09:50 Presented by Dr. Oskar Mauritz

Discussion (Question / Comment): Huawei clarified that the PAPR in table 2 is on 99.9% point. It was commented from Ericsson that the CM should be evaluated in addition to PAPR. Samsung commented that the impact on Inter symbol interference also should be considered.

Decision: This document was noted.

R1-051543 Circular 16QAM for UL SC PAPR reduction (Fujitsu, NTT DoCoMo)

08/11/2005 09:xx Presented by Mr. Yoshihiro Kawasaki

Discussion (Question / Comment): Qualcomm commented that the performance should be evaluated under the real channel estimation. NTT DoCoMo clarified that this simulation is under the channel estimation, but we think this also have benefit under the real channel estimation so we would like to submit the results for the real channel estimation at the next meeting.

Motorola commented that the simulation assumption should be in line to E-UTRA, not UTRA. Fujitsu would like to submit the results for E-UTRAN at the next time.

Samsung commented that the scheme has the link level loss on the replace of the benefit on the CM and PAPR.

Decision: This document was noted.

Mr. Chairman suggested providing the CM results at the next meeting for R1-051405, R1-051434, and R1-051543.

Pilots

R1-051374 Update on Link - Level Evaluation of Localized and Distributed Pilot for SC - FDMA (Texas Instruments)

In this contribution we answer the following two questions.

- 1) Would the conclusions of R1-051153 change if the pilot signals from past and future TTIs are not available? Specifically, assuming that both data and SB2 were localized, what is the BLER penalty that is introduced by allowing SB1 to be distributed?
- 2) What is the utility of distributed SB1 in channel estimation, provided that both SB2 and data are localized?

08/11/2005 11:10 Presented by Dr. Trik Muharemovic.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051432 Pilot structure of SC-FDMA in Evolved UTRA uplink (Huawei)

In this contribution we propose pilot structure which gives orthogonal pilots within the cell and randomizes inter-cell pilot interference for SC-FDMA based uplink transmission in Evolved UTRA.

08/11/2005 11:15 Presented by Mr. Gaoke Du.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051370 Considerations on SC-FDMA Pilot Design (Freescale Semiconductor)

R1-051557 Considerations on SC-FDMA Pilot Design (Freescale Semiconductor)

The purpose of this paper is to discuss the design of pilot sequences for SC-FDMA. It has been shown that SC-FDMA link performance lags that of OFDMA. This paper shows the reason for the difference in the performance and suggests an alternative pilot design for SC-FDMA. In addition, this paper shows that under a different pilot design approach that the link performance for SC-FDMA is comparable or slightly better than that of OFDMA. Finally, issues related to the new pilot design are discussed.

08/11/2005 11:30 Presented by Dr. Wes McCoy.

Discussion (Question / Comment): ZTE commented that the link loss performance is important on TD pilot. The concern was raised on PAPR issue for the proposal. Freescale clarified that TD type is same as DFT-SODMA on PAPR aspect.

Decision: This document was noted.

Multiplexing

R1-051306 Revised Text Proposal on Multiplexing Method of L1/L2 Control Signaling in Uplink Single-Carrier FDMA Radio Access (Ericsson, Fujitsu, Mitsubishi Electric Corporation, NEC, Nokia, NTT DoCoMo, Panasonic, SHARP, Siemens, Toshiba Corporation)

For the Evolved UTRA (E-UTRA) uplink, we proposed a joint text proposal on single-carrier FDMA (SC-FDMA) radio access with an advantageous low PAPR feature to achieve wide coverage provisioning. Following the proposal, the text proposal for multiplexing of shared control channel in uplink SC-FDMA was made based on the discussion at the RAN1#42bis meeting. However, the current text proposal contains multicarrier multiplexing of an L1/L2 control signaling channel with other physical channels in the same UE. Multicarrier multiplexing brings about an increased PAPR and diminishes the merit to employing SC-FDMA radio access. Therefore, this paper presents a revised text proposal for the multiplexing of L1/L2 control signaling in uplink SC-FDMA radio access based on the discussion at the RAN1#42bis.

08/11/2005 11:40 Presented by Dr. Mamoru Sawahashi.

Discussion (Question / Comment):

There are many discussion on the FDM (multi-carrier) and TDM multiplexing. From Samsung, it was concerns on multicarrier approach (FDM) approach should be also options because FDM has benefit on the PAPR issue.

DoCoMo also commented that they already showed the results fro FDM benefits at San Diego meeting so more evident results are necessary for deleting the FDM. NTT DoCoMo clarified that our motivation is for reducing the options, they also agree to Samsung results on the PAPR aspects of FDM, but many carriers is needed when many user are supported.

Decision: This document was noted.

R1-051343 Data and control channel multiplexing in SC-FDMA for EUTRA uplink (Samsung)

In this contribution, we further elaborate on the time-multiplexing structure for data and *data-dependent control*. Two alternative structures for the multiplexing are considered: multiplexing within an identical block or multiplexing into different blocks.

08/11/2005 09:xx Presented by Dr. Joonyoung Cho.

Discussion (Question / Comment): From Motorola, it was commented that the control channel had better be distributed. Samsung clarified that we already distributed the control channel on the whole band, so any more distribution is not necessary.

Decision: This document was noted.

R1-051395 Mapping position of control channel for Uplink SC-FDMA (Panasonic)

Several multiplexing method for uplink control channel have been discussed. In this contribution, we further discuss mapping position of control channel regarding timing and multiplexing.

08/11/2005 12:15 Presented by Mr. Kenichi Miyoshi.

Discussion (Question / Comment):

Samsung and Motorola raised concerns on the 2dB gain on Figure 9 and 10. Regarding the text proposal, Motorola raise a concern to agree to this proposal and commented that the more results should be necessary.

Qualcomm commented that Panasonic idea is good and we should reach to the agreement.

Finally, RAN1 could not reach to the agreement on the text proposal. Mr. Chairman suggested Panasonic off-line discussion about TP.

Decision: This document was noted.

After the off-line discussion in Motorola, the text proposal of R1-051395 was revised in R1-051571.

R1-051571 TP on Mapping position of control channel for Uplink SC-FDMA (Panasonic, Motorola)

10/11/2005 18:10 Presented by Mr. Kenichi Miyoshi.

Discussion (Question / Comment):

Decision: This TP was agreed.

R1-051430 Further considerations on multiplexing method of shared Control Channel in Uplink SC-FDMA (Huawei)

This contribution presents some further considerations on multiplexing method of shared control channels (SCCH) in Evolved UTRA uplink radio access based on the discussion in RAN1#42bis meeting.

08/11/2005 12:35 Presented by Mr. Gaoke Du.

Discussion (Question / Comment): Nokia asked how the impact on the PAPR issue is. Huawei clarified that this is the small enhancement from NTT DoCoMo proposal, so PAPR is the same as the proposal. NTT DoCoMo clarified that this proposal can be included in B type of NTT DoCoMo proposal, this is one candidate for B type.

Decision: This document was noted.

After the discussion on the contributions for Multiplexing, Mr. Chairman suggest continuing discussion and trying to draft a revised TP in R1-051570 (NTT DoCoMo)

R1-051570 Revised Text Proposal on Multiplexing Method of L1/L2 Control Signaling in Uplink Single-Carrier FDMA Radio Access (Ericsson, Fujitsu, Huawei, Mitsubishi Electric Corporation, Motorola, NEC, Nokia, NTT DoCoMo, Panasonic, Samsung, SHARP, Siemens, Toshiba Corporation)

10/11/2005 18:10 Presented by Dr. Mamoru Sawahashi.

Discussion (Question / Comment):

Decision: This TP was agreed.

Associated signalling for Scheduling, HARQ, Link Adaptation, etc.

R1-051347 Uplink scheduling procedure (Samsung)

In this paper, we discuss some aspects related to scheduling procedure for SC-FDMA based uplink including:

(1)Scheduling request, e.g., buffer status, QoS parameter, power headroom (?) etc. (2)Resource allocation (scheduling), e.g., channel dependent/independent, dynamic/static, etc. (3)Scheduling grant which may include UE ID, resource allocation information, MCS level, HARQ related information, etc. (4)HARQ, synchronous/asynchronous IR, adaptive, etc. (5)Possible way to transmitting reference signals for SINR measure to support channel dependent scheduling. (6)Power control and link adaptation.

08/11/2005 12:40 Presented by Mr. Eddy Kwon.

Discussion (Question / Comment): The question was asked what the difference between type 2 and 3 in Table 1 is. Samsung clarified that their main motivation is for minimising the signalling overhead and we can do if Service-dependent scheduling procedure is considered.

Decision: This document was noted.

R1-051390 Channel-Dependent Packet Scheduling for Single-Carrier FDMA in Evolved UTRA Uplink (NTT DoCoMo)

This paper presents frequency domain channel-dependent scheduling employing adaptive transmission bandwidth of pilot channel for uplink single-carrier FDMA radio access with minimum chunk bandwidth of 1.25 MHz.

08/11/2005 14:20 Presented by Dr. Mamoru Sawahashi.

Discussion (Question / Comment):

From Samsung, the question was asked if the both CDMA and D-FDMA type in figure 1 are options. NTT DoCoMo clarified that both are options but D-FDMA is better than CDMA. Samsung also commented that the Node B indicate on the control flow in Fig. 6 because Node B has many information from every UE to determine. NTT DoCoMo clarified that Node B should determine finally but UE indicate firstly because this control is depending on UE capability such as pilot and payload transmission bandwidth.

Decision: This document was noted.

R1-051392 Link Adaptation Method in Evolved UTRA Uplink (NTT DoCoMo)

This paper investigates the optimum link adaptation method for SC-FDMA packet radio access in the E-UTRA uplink.

08/11/2005 14:30 Presented by Dr. Mamoru Sawahashi.

Discussion (Question / Comment):

Nokia commented that they also considered this topic and had the same conclusion.

From Samsung, it was commented regarding the combination of AMC, TPC, and ATB that they intensively agree to DoCoMo conclusion, but scheme one is not better for the VoIP. NTT DoCoMo commented that they agree to Samsung option, but the minimum transmission duration should be considered.

Decision: This document was noted.

R1-051393 CQI-based Transmission Power Control for Control Channel in Evolved UTRA Uplink (NTT DoCoMo, Fujitsu, NEC)

In this contribution, we discuss the application of CQI-based TPC on each uplink control signaling channel and impact on the air interface.

08/11/2005 14:40 Presented by Dr. Mamoru Sawahashi.

Discussion (Question / Comment): NTT DoCoMo clarified that this contribution provides the impact on the air interface which Mr. Chairman suggest at the last meeting.

Decision: This document was noted. Mr. Chairman suggested NTT DoCoMo providing the text proposal in next meeting.

R1-051446 Text proposal for E-UTRA uplink timing control (Section 9.1.2.6)
(Ericsson, NTT DoCoMo)

08/11/2005 09:50 Presented by Dr. Erik Dahlman from Ericsson.

Discussion (Question / Comment): Ericsson clarified that this control is not micro sec order control. From Nortel, the question was asked if the specific signaling needs for this control. Yes, it needs the uplink transmission

Decision: This Text proposal was agreed.

R1-051483 TP on HARQ operation for SC-FDMA/OFDMA based E-UTRA uplink
evaluation (Qualcomm Europe)

We propose to assume synchronous HARQ operation for SC-FDMA/OFDMA based E-UTRA uplink evaluation.

08/11/2005 14:55 Presented by Dr. Durga Malladi

Discussion (Question / Comment):

There are discussions on the HARQ type that is Asynchronous and Synchronous HARQ. Samsung raised a concern that we should support also A-HARQ depending on the service type as like our proposal. Ericsson and Motorola supported to Qualcomm proposal, just S-HARQ because TTI level retransmission such as A-HARQ is very difficult and also the overhead should be reduced.

The long discussion continues but could not reach the agreement. Mr. Chairman commented that if the different proposals are possible and we leave this issue open, we will come to continue the discussion next and next. Mr. Chairman suggested every proponent discussing off-line.

Decision: This TP was revised in R1-051572.

R1-051572 TP on HARQ operation for SC-FDMA/OFDMA based E-UTRA uplink
evaluation (Qualcomm Europe, Samsung)

10/11/2005 18:15 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment): ZTE raised a concern on the first sentence on the revised text regarding IR.

Decision: This TP was revised in R1-051600.

R1-051600 TP on HARQ operation for SC-FDMA/OFDMA based E-UTRA uplink
evaluation (Qualcomm Europe, Samsung, IPWireless, ZTE)

11/11/2005 14:35 Presented by Dr. Durga Malladi

Discussion (Question / Comment):

Decision: This Text proposal was agreed.

TDD

R1-051380 Application and Consideration of TDD mode (Samsung)

TDD systems have various own features which can be differentiated from FDD mode [1]. In this contribution, we present and discuss application areas in which TDD mode is preferred to FDD.

08/11/2005 15:15 Presented by Mr. Panyh Joo.

Discussion (Question / Comment): The question was asked from Ericsson what kinds of services you assumed for the UE-UE direct communication. Samsung commented that the figure is just example and our point is that we should consider the potential TDD mode.

Mr. Chairman clarified that it's is not scope of study item.

Decision: This contribution is not the scope of study item.

R1-051381 Latency Requirement for TDD mode (Samsung)

In this contribution, we discuss a latency requirement for TDD systems. The recommended value for it in TR25.913, particularly for U-Plane latency, is too tight when TDD specific features are considered. Hence, it is proposed to reconsider the latency requirement in TDD mode.

08/11/2005 15:25 Presented by Mr. Panyh Joo.

Discussion (Question / Comment): Nokia commented that any modification on the requirement is not ant room in WG. Also Mr. Chairman clarified that we don't discuss the requirement in WG any more.

Decision: Requirements are not discussed in RAN1.

R1-051382 Differentiated Approaches in Evaluation and Optimization between TDD and FDD modes (Samsung)

08/11/2005 15:30 Presented by Mr. Panyh Joo.

Discussion (Question / Comment): From Ericsson, 25.913 describe the minimum additional complexity and the compatibility between paired and unpaired and we cannot agree to the Samsung proposal. Qualcomm also commented that the commonality between paired and unpaired is important and we disagree to the Samsung proposal. Samsung commented that we should discuss this issue in Plenary.

Decision: Requirements of 25.913 seem not to be as quoted in the paper.

R1-051534 Frequency Selective Transmission for TDD Unscheduled Uplink (IPWireless)

In this document, the performance of Localised FDMA, Distributed FDMA and CDMA-based non-scheduled TDD uplink access channels have been compared for the case in which the UE is able to autonomously select the access channel used for transmission based on knowledge of the downlink channel status.

08/11/2005 15:35 Presented by Mr. Nicholas Anderson.

Discussion (Question / Comment): Nokia commented that they can support the IPWireless idea. IPWireless clarified that LFDMA is better than DFDMA as the results of comparison between two schemes. Regarding approving TP, Vodafone pointed out the commonality with FDD.

Decision: The text proposal in this document was agreed.

Withdrawn

R1-051437 Circular 16QAM for UL SC PAPR reduction (Fujitsu, NTT DoCoMo)

R1-051484 Further considerations on control/data structure for OFDMA/FDMA based E-UTRA uplink (Qualcomm Europe)

R1-051486 Further consideration on PAR aspects for SC-FDMA/OFDMA based E-UTRA uplink (Qualcomm Europe)

R1-051487 Considerations on TTI and control channel overhead for SC-FDMA/OFDMA based E-UTRA (Qualcomm Europe)

8.1.1 Results from email reflector discussions

No input

8.2 Further aspects of OFDMA for Downlink

Cell Search

**R1-051308 Text Proposal on Cell Search in Evolved UTRA
(Ericsson, Fujitsu, Mitsubishi Electric Corporation, NEC, NTT DoCoMo,
Panasonic, SHARP, Siemens, Toshiba Corporation)**

This paper presents a text proposal for cell search, initial acquisition, and a method to support a scalable transmission bandwidth from 1.25 to 20 MHz for the Evolved UTRA downlink.

10/11/2005 11:35 Presented by Dr. Mamoru Sawahashi

Discussion (Question / Comment):

Some company asked questions about the effect, purpose and so on of the scrambling code. Nortel commented that the BW of BCH and SCH is depending on the UE capability such as frequency band, BW and and the band aggregation and so should take care of UE capability. ZTE commented that how to evaluate the case that the FTT of UE having the wider BW capability remove the out of band when UE receive 1.25 MHz SCH. They would like to see the evaluation for this proposal.

Decision: This document was noted.

R1-051329 Cell Search and Initial Acquisition for OFDM Downlink (Motorola)

In this contribution, a simplified, low overhead synchronization symbol format for supporting cell search and initial acquisition was investigated. Example edge-of-cell detection error rate performances in multi-cell environments were also shown.

10/11/2005 12:00 Presented by Mr. Akita Hidenori.

Discussion (Question / Comment):

Nokia asked what the impact is on the case of asynchronous although the assumption is synchronous. The answer was that the issue is for the future work.

Huawei asked why the SCH must has better power property. The answer is that it is for better cell edge performance. Huawei and Ericsson raised concerns on the number of cell IDs for the proposal.

Decision: This document was noted.

R1-051412 Cell Search procedure for initial synchronization and neighbour cell identification (Nokia)

R1-051549 Cell Search procedure for initial synchronization and neighbour cell identification (Nokia) (Revision of R1-051412)

In this contribution we discuss the requirements further and propose a common channel design that would meet these requirements. We also show initial simulation results for the proposed cell search scheme in the Section 4 of the document.

10/11/2005 12:20 Presented by Mr. Jussi Kahtava.

Discussion (Question / Comment):

NTT DoCoMo agree that they agree with Nokia at the point that SCH is mapped at the end of subframe and also the different between DoCoMo and Nokia proposal seems that the pilot scrambling is for every 1.25MHz on Nokia proposal and asked what the merit of the repeat on the whole band is.

Decision: This document was noted.

R1-051357 Comparing of Two Downlink Synchronization Channel Schemes for E-UTRA (ZTE)

At the #42bis meeting in San Diego there are several contributions concerned about the design of synchronization channel schemes or cell search procedure. But the structure of downlink synchronization channel (SCH) for E-UTRA is still under study. Basically there are two kinds of schemes, one is only using the minimum bandwidth such as 1.25MHz as the synchronization channel, and the other is combining it with the design of pilot structure. In this contribution, we present our design based on these two schemes and do some analysis about these two designs.

10/11/2005 11:40 Presented by Miss Dongyan Bi.

Discussion (Question / Comment):

LGE commented that if the synchronization steps combine and the number of stages reduce to 2 stages the performance would be better.

Decision: This document was noted.

After the discussion on each document, RAN1 chairman commented that this time is too early to put the TP in TR so we continue discussion to the coming meeting.

Pilot, Channel estimation

R1-051313 Overview of Scattered Pilot and TDM Pilot Aspects for E-UTRA Downlink (Texas Instruments)

10/11/2005 14:30 Presented by Mr. Aris Papasakellariou.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051327 Text Proposal for Downlink Pilot Design for EUTRA (Ericsson, Motorola, Nokia, NTT DoCoMo)

This contribution proposes additional reference/pilot symbol text based on the discussion and contributions from RAN1#42bis.

10/11/2005 14:55 Presented by Mr. Brian Classon.

Discussion (Question / Comment):

Huawei objected deletion from the TR of the sentence describing the possible frequency-hopping of pilots. Huawei also objected the introduction in the TR of the final numerical values for the frequency spacing of reference symbols. Finally, Huawei pointed out some ambiguous formulations in the TP.

Decision: This document was noted. TP was revised in R1-051599

R1-051344 Downlink pilot and control channel structure for EUTRA (Samsung)

In this contribution, we highlight and discuss key benefits and drawbacks of the TDM and scattered pilot structures. In the discussion, we try to evaluate the power saving gain achievable by the micro-sleep mode, which is enabled by an early decoding of the control channel time-multiplexed in the early part within the sub-frame.

10/11/2005 14:15 Presented by Dr. Joonyoung Cho

Discussion (Question / Comment):

Nokia asked why the control channel structure is scattered. Samsung clarified that the scatter control channel has more gain than the TDM structure by the simulation. Ericsson commented that they disagree to the structure that the control channel is the beginning of the subframe. Also Alcatel commented that the control channel should not be at the beginning of the subframe.

Decision: This document was noted.

R1-051419 Downlink pilot structure (Siemens)

10/11/2005 14:40 Presented by Dr. Przemek Czerepinski

Discussion (Question / Comment):

Decision: This document was noted.

R1-051489 TP on pilot structure for OFDMA based E-UTRA downlink unicast
(Qualcomm Europe)

In R1-051104, we evaluated the options for OFDM unicast downlink common pilot multiplexing structure. Specifically, we compared the data channel performance with a time/frequency scattered pilot (FDM) and a hybrid TDM/FDM pilot wherein the pilot tones are present in two OFDM symbols per slot. In this document, we continue the evaluation with the following additions: (1) Hybrid TDM/FDM modes I and II (i) Boosted pilot E_c/I_{or} (ii) Increased pilot bandwidth, (2) Impact of Rx diversity

10/11/2005 14:45 Presented by Dr. Durga Malladi

Discussion (Question / Comment):

Alcatel asked if the simulation considers the intercell interference. Qualcomm answered that this is the link simulation so that they do not consider the interference, but we should consider for the system level simulation. Siemens asked if the physical channel is localized or distributed. Qualcomm answered "distributed".

Decision: This document was noted.

R1-051596 TP on Downlink Pilot Structure for EUTRA
(Qualcomm Europe, Samsung, Nortel)

10/11/2005 15:55 Presented by Dr. Durga Malladi

Discussion (Question / Comment):

Decision: This TP was revised in R1-051599 merged with R1-051327.

R1-051599 Text proposal for 7.1.1.2.2 (Downlink reference-signal structure) (Ericsson)

11/11/2005 14:40 Presented by Dr. Erik Dahlman.

Discussion (Question / Comment):

Decision: This TP was agreed

R1-051361 E-UTRA Downlink common pilot structure compatible with MIMO
(ZTE)

In this proposal, a downlink common pilot structure for MIMO is presented. According to our proposal, the pilot sequences transmitted by the transmitter antennas can be transmitted in the same sub-carriers if they are encoded with STC. By this way, not only the orthogonality of pilots from different antennas is preserved, the efficiency of power is also increased.

10/11/2005 16:45 Presented by Mr. Zhisong Zuo.

Discussion (Question / Comment): Nokia commented that it seems there are some impacts due to STC pilot synchronization. ZTE commented that they don't consider. LGE asked what the difference between STC and orthogonal pilots. => offline

Decision: This document was noted.

R1-051397 Further Aspects on OFDM Downlink Pilot Structure for Evolved UTRA
(ZTE)

This contribution discusses several techniques to improve the channel estimation performance at high Doppler situations with TDM pilot structure for OFDMA scheme in the downlink transmission.

10/11/2005 16:50 Presented by Miss Zhihua Hou

Discussion (Question / Comment):

Decision: This document was noted.

R1-051410 E-UTRA DL pilot considerations
(Nokia)

This contribution evaluates the expected power savings from micro-sleep in E-UTRA OFDM DL.

10/11/2005 17:00 Presented by Mr. Jussi Kahtava.

Discussion (Question / Comment): TI commented on the relation between CQI reporting and power saving. Chairman also commented that there is trade off between the power saving and to optimize the performance so that we had better to have a good reference to discuss and approve TP

Decision: This document was noted.

R1-051490 On Pilot Structure for OFDM based E-UTRA Downlink Multicast
(Qualcomm Europe)

In this document, we discuss the issues that govern the pilot structure for multicast vs. unicast. Further, we evaluate the performance using the reference 5 MHz downlink numerology outlined in TR 25.814.

10/11/2005 17:15 Presented by Dr. Durga Malladi

Discussion (Question / Comment):

Samsung asked what kind of the channel estimation on FD is used. Qualcomm answered "non-linear".

Ericsson commented it is better that the pilot structure of MBMS and non-MBMS is same. Qualcomm commented that they also think the similar structure is more preferable for MBMS and non-MBMS.
Lucent commented that they make the different structure for MBMS and non-MBMS.

Decision: This document was noted.

R1-051346 Control-Aided Channel Estimation (Samsung)

In this contribution, we show the performance results of a control-aided channel estimation, which may help the UE receiver improve channel estimation performance for data channel with given pilot overhead.

10/11/2005 17:30 Presented by Miss Yunok Cho.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051458 Some practical aspects for OFDM/OQAM channel estimation (France Telecom, Orange)

This contribution focuses on some practical aspects for OFDM/OQAM channel estimation. The method described here is compared to conventional OFDM channel estimation. Simulation results are also provided.

10/11/2005 17:35 Presented by Mr. Jean-Philippe JAVAUDIN.

Discussion (Question / Comment):

Ericsson commented that it's the very big issue that the compensation symbol has much more power than data symbol as regards with average power and also peak power.

Decision: This document was noted.

R1-051356 Further Issues on Downlink Pilot and and Control Channel for EUTRA (NEC Group)

In this paper, we extend that analysis and show the demodulation performance of the shared control channel assuming the two different pilot patterns. We also provide an initial analysis on the feasibility of mapping the entire shared control channel within one OFDM symbol in the downlink.

10/11/2005 17:50 Presented by Ms. Nahoko Kuroda

Discussion (Question / Comment):

Decision: This document was noted.

Numerology, Frame structure

R1-051358 TP-A modification of frame structure for CP length (ZTE, CMCC)

R1-051558 TP-A modification of frame structure for CP length (ZTE, CMCC)

11/11/2005 15:10 Presented by Mr. Zhisong Zuo.

Discussion (Question / Comment):

Ericsson asked where the CP is placed. ZTE answered that they don't have strong opinion and put it at the beginning.

Also Ericsson commented that it is more meaningful at first that at mid.

Decision: The text proposal in this document was agreed. It was addressed at the next meeting where to place the CP.

R1-051400 Numerology of EUTRA TDD based on OFDMA and text proposal for TR 25.814 (CATT, RITT, ZTE, TD-tech)

In this contribution, we propose DL Numerology based on OFDM, aiming at frame structure of E-UTRA TDD described in section 6.2.1.1 of TR25.814.

11/11/2005 15:15 Presented by Mr. Hai Tang.

Discussion (Question / Comment): Ericsson asked if the additional information is necessary for the LCR TDD.

CATT answered "Yes". Ericsson raised a concern on the text proposal that more discussion is need on the reflector.

Decision: It was decided to revise the TP (provide until next Monday) and agree via email until Nov 18 in R1-051616.

R1-051616 Text proposal for Numerology for EUTRA TDD co-existing with UTRA TDD LCR (CATT, RITT, ZTE, TD-tech)

Decision: This TP was agreed on the RAN1 reflector after the meeting.

R1-051401 Design of special timeslots and pilot channel for EUTRA TDD (CATT, RITT)

This contribution aim at the EUTRA TDD frame structure of section approach 1 in TR25.814, propose the design method of UL and DL special synchronization access timeslot apply for this frame structure. The simulation results show that this method can increase the efficiency and accuracy of cell search.

11/11/2005 15:20 Presented by Mr. Hai Tang.

Discussion (Question / Comment):

IPWireless asked for clarification on what subcarriers not used for sync purposes in the UpPTS / DownPTS special timeslots are used for in system bandwidths greater than 1.25MHz. Tang Hai (CATT) replied that there could be some re-use pattern of the sync signal in order to reduce interference in these greater bandwidth systems. IPWireless stated that he was generally supportive of some text being added to the TR that explained what the special timeslots were used for and commented on the text proposal that:

- the first sentence of the text proposal should state that “The cell search method for the LCR-TDD co-existence mode of E-UTRA TDD, according to section 6.2.1.1.1 is designed as follows:” as the current text incorrectly implies that the cell search method described is also applicable to the generic frame structure and HCR-TDD co-existence modes also described in 6.2.1.1
- the statement in the text proposal that “the cell radius can be supported is larger than 6km” is misleading as the correct reading of the statement is that “the cell radius that can be supported is 300m larger than 6km”. Hence the statement should be changed to “the cell radius that can be supported is less than 6.3km”.

CATT agreed that these proposed changes would add greater precision to the text.

Ericsson commented that there is a little problem in text proposal regarding cell search considering the TDD/FDD commonality.

Chairman commented that we should continue to discuss a couple of issues on TDD/FDD before being captured in TR.

Decision: This document was noted. It was decided to progress the discussion on cell search jointly for TDD/FDD.

R1-051453 Proposal for the reduced set of DL transmission parameters
(ChinaMobile, Huawei, RITT, ZTE)

11/11/2005 15:35 Presented by Mr. Gaoke Du from Huawei.

Discussion (Question / Comment): The same comment was raised from Siemens, Nokia and Ericsson that the text proposal is just related to the implementation so that it would not be captured in TR.

Decision: This document was noted. The text proposal is not agreed.

R1-051536 Frame structures for half duplex communications
(IPWireless, Mitsubishi Electric)

In this contribution, we first describe the two frame structures in order to cope with UTRA TDD coexistence. Then, we propose some techniques to improve the spectral efficiency of the generic frame structure. Finally, the spectral efficiencies of both approaches are compared in the case of EUTRA TDD – UTRA TDD LCR coexistence on unpaired bands and in the case of standalone (green field) EUTRA TDD deployment.

11/11/2005 15:45 Presented by Dr. Loic Brunel from Mitsubishi Electric

Discussion (Question / Comment): Some companies raised a concern on the latency regarding on TDD/FDD commonality. T-mobile the latency for FDD/TDD should be discussed at RAN.

Decision: It was decided to continue discussion until next meeting.

Not Treated

- R1-051535 Clarification on E-UTRA/UTRA TDD coexistence solutions**
(IPWireless, Mitsubishi Electric, Motorola, Ericsson)
- R1-051538 Framing structure compatible with 3.84Mcps TDD for E-UTRA coexistence**
approach 1 (IPWireless)

The following documents in 8.2 were not treated due to lack of time.

Control & Data channel multiplexing

R1-051331 E-UTRA Downlink Control Channel Design and TP (Motorola)

This contribution proposes the control channel structure for OFDMA downlink with the goal of minimizing control overhead while ensuring reliable decoding performance.

R1-051339 Control Channel Mapping for MIMO Antennas in Evolved UTRA OFDMA
Downlink (Sharp Corporation) (Revision of R1-051196)

This contribution addresses mapping and transmission method of SCSCCH (Shared Control Signaling Channel) in multiple antennas case such as MIMO. We assume co-existence of MIMO-transmitted and non-MIMO transmitted ‘block’ (chunk or group of chunks) within one radio frame. We propose that SCSCCH should include information indicating MIMO or non-MIMO transmission of the ‘block’ to the UE. Then, this contribution also proposes SCSCCH mapping in relation to pilot symbol, which is a reference for demodulating the SCSCCH, and allocation of them to TX antenna.

R1-051340 Monitoring of Paging Information for Evolved UTRA Scalable Bandwidth
(Sharp Corporation)

In this document, we discuss frequency band allocation to UEs in idle and DRX/DTX mode, and propose that the UE shifts the frequency band to an appropriate position for monitoring paging information after the initial cell search was conducted.

R1-051342 Multiplexing of Broadcast and Unicast Traffic (Samsung)

In this contribution, we propose a scheme that allows frequency-multiplexing of broadcast and unicast traffic in addition to pure time-multiplexing approach.

R1-051348 Downlink resource allocation and multiplexing (Samsung)

R1-051349 Text proposal on downlink data multiplexing for EUTRA (Samsung, LGE, Nokia)

R1-051433 Downlink multiplexing for traffic channels (Huawei)

In previous RAN1 meeting, we proposed a hybrid multiplexing of diversity transmission and block wise transmission which can flexibly allocate time-frequency (TF) resource to users [R1-051192]. In the present contribution, we further consider the uniform TF resource denotation by TF pattern identifiers for both diversity transmission and block wise transmission.

R1-051517 Multiplexing Distributed and Localized allocations (Motorola)

R1-051302 Downlink resource allocation in EUTRA (LG Electronics)

In this contribution, we provide simulation results to compare the link performances of Chunk_DS and Chunk_CS in case of distributed allocation. Also, we prune down the previous possible candidate schemes of multiplexing distributed and localized allocation within a sub-frame.

R1-051324 Downlink OFDM resource allocation structure for E-UTRA (Alcatel)

In this contribution we want to show some aspects which have to be considered for the definition of the allocation structure and the resource sizes. We want to address some aspects that have not been considered so much in previous contributions namely: common control channel reception in bad geometries, multi-antenna reception, signalling and interference coordination.

R1-051328 Text Proposal for Downlink Resource Block for EUTRA (Motorola, NTT DoCoMo, Siemens, Nokia)

This document contains a text proposal for the number of subcarriers to be used as a resource block size in the frequency dimension in the case of non-distributed transmission.

R1-051350 Text proposal on downlink resource block size for localized transmission (Samsung, Texas Instruments)

R1-051359 E-URTA Resource Allocation Design for Downlink (ZTE)

In this document, we first present some principles about how to allocate resource (both in frequency and time domain) to UEs, and then two detailed methods are designed both based on RS series.

R1-051364 Relation between chunk-size and CQI signaling (Siemens)

In this contribution we focus on signaling requirements to signal CQI values for a multitude of chunks and show that by applying proper coding optimizations the overhead per chunk can be set to a comparatively low value. Consequently we conclude that signaling is not a mayor deterrent to use more chunks or equivalently a smaller chunk size.

R1-051365 Frequency bandwidth of resource blocks for DL OFDMA (Siemens)

R1-051417 Downlink Scheduling For OFDMA (Siemens)

This paper discusses some issues that might be taken into account in considering downlink scheduling and sketches out the signalling overhead that might be required.

R1-051418 Distributed resource allocation for OFDMA (Siemens)

This paper discusses options for the structure for distributed channels and multiplexing of the localised and distributed modes.

R1-051309 UE Capability on Supportable Minimum Maximum-Bandwidth (Ericsson, Fujitsu, Mitsubishi Electric Corporation, NEC, NTT DoCoMo, Panasonic, SHARP, Toshiba Corporation)

The support for a scalable bandwidth is adopted in the Evolved UTRA (E-UTRA) in order to accommodate spectrum allocations ranging from 1.25 to 20 MHz. However, the UE capability in terms of supported bandwidths has not been thoroughly discussed although it is very important since it influences not only the UE implementation complexity, but also imposes restrictions on physical-channel structures such as synchronization signals ("SCH")

and broadcast-control signaling (“BCH”). This paper discusses this topic and presents the merits and demerits of different UE capability alternatives in terms of supported bandwidths.

R1-051378 Adaptive sub carrier spacing for OFDM downlink (Fujitsu)

R1-051556 Enhancement of Distributed Mode for Maximizing Frequency Diversity(KDDI)

Link Adaptation, Resource allocation

R1-051301 Link adaptation in EUTRA downlink (LG Electronics)

In last RAN1 meeting, there was a discussion on the desirable options for link adaptation R1-051149 but no agreement is reached yet. In this paper, we discuss further aspects on the link adaptation options and suggest a way forward.

R1-051307 Text proposal on Adaptive Modulation and Channel Coding Rate Control for Frequency Domain Scheduling in Evolved UTRA Downlink (Ericsson, Fujitsu, Mitsubishi Electric Corporation, Motorola, NEC, Nokia, NTT DoCoMo, Panasonic, SHARP, Siemens, Toshiba Corporation)

This paper presents a text proposal for link adaptation associated with hybrid ARQ (HARQ) with packet combining and frequency and time domain channel-dependent scheduling in E-UTRA downlink OFDMA radio access. Note that this, currently, only covers the single-TX (non-MIMO) case.

R1-051362 OFDMA Based Link Adaptation for Physical Layer in EUTRA Downlink and text proposal for TR 25.814 (ZTE)

In this document, we propose two schemes to implement the link adaptation for the physical layer in EUTRA downlink mentioned in the section 7.1.2 in 3GPP TR 25.814.

R1-051415 E-UTRA Link adaptation: consideration on MIMO (Nokia)

This document extends the discussion on E-UTRA DL link adaptation addressed in R1-051307 for MIMO case.

Signalling aspects

R1-051330 Text Proposal for CQI Report (Motorola)

R1-051454 CQI feedback for EUTRA and text proposal (Samsung)

Samsung presented a contribution regarding the CQI report and scheduling procedure for EUTRA downlink during the RAN1 #42bis, San Diego meeting [R1-051045], with a relevant text proposal. Per the comment on the TP that it would be too detailed at this stage, a revised TP with more general description is presented in this paper.

R1-051488 TP on HARQ operation for OFDMA based E-UTRA downlink (timing) (Qualcomm Europe)

This document presents a text proposal for HARQ operation in the OFDMA based E-UTRA downlink to be incorporated in TR25.814.

R1-051491 Evaluation of control overhead for OFDM based E-UTRA downlink (Qualcomm Europe)

In this document, we evaluate the performance of downlink control channel (equivalent of R5 HS-SCCH) for OFDM based E-UTRA downlink and analyze its impact on the DL micro-sleep mode operation discussed in recent RAN1 meetings.

MBMS

R1-051300 MBMS transmission in EUTRA (LG Electronics)

In last RAN1 meeting, there was a discussion on multiplexing method of MBMS data and unicast data in EUTRA downlink R1-051103. In this paper, we discuss the possible options for the multiplexing of MBMS and unicast data, and suggest a way forward.

R1-051336 Text proposal on MBMS transmission (LG Electronics, Huawei)

R1-051408 Text proposal for macro diversity in MBMS (ETRI)

R1-051431 Multiplexing of multicast/broadcast and unicast services (Huawei)

R1-051493 TP on channel structure for E-UTRA MBMS evaluation (Qualcomm Europe)

This document presents a text proposal for the channel structure for E-UTRA MBMS evaluation to be incorporated in TR25.814. This document also presents a text proposal for the multiplexing of unicast and multicast traffic in the OFDMA based E-UTRA downlink to be incorporated in TR25.814.

Interference

R1-051303 Further aspects of interference coordination (LG Electronics)

There have been various proposals on interference coordination schemes to mitigate inter-cell interference in EUTRA, and the evaluation of basic concepts of the interference coordination is also starting currently. On the other hand, we think there are remaining issues which must be considered to evaluate the validity of the interference coordination concept, that is, coexistence of interference coordination scheme with other necessary features. In this paper, we discuss those issues and provide LG's view.

R1-051312 Performance of Inter-Cell Interference Mitigation with Semi-Static Frequency Planning for EUTRA Downlink (Texas Instruments)

This contribution considers the performance of the ICI mitigation method proposed in R1-051059 based on the soft reuse principle for the allocation of reserved frequency sub-bands in adjacent cells.

R1-051341 Flexible Fractional Frequency Reuse Approach (Samsung)

In this paper, we describe some aspects of the scheduler operation that can enable Inter-cell-interference coordination/avoidance without any impact on the specifications.

R1-051366 Aspects of Interference mitigation by coordination (Siemens)

In this document, we give some insights how to apply a frequency coordination scheme over a network. This means in general that some frequencies may not be used within one cell to reduce the interference on these frequencies in neighboring cells. It is taken care of the following two main aspects:

- A re-use of one should be still possible at least for many users within a cell.
- A trade-off between fast frequency domain scheduling and interference coordination has to be found.

R1-051396 Comparison of bit repetition and symbol repetition for Inter-cell Interference Mitigation (Panasonic)

Several inter-cell interference mitigation techniques have been discussed and proposed for OFDM based evolved UTRA downlink transmission schemes TR25.814. In this contribution, we further discuss inter-cell interference mitigation techniques especially comparing the bit repetition and symbol repetition.

R1-051494 TP on interference management for OFDM based E-UTRA downlink evaluation (Qualcomm Europe)

Complexity

R1-051496 TP on complexity aspects of E-UTRA Downlink (Qualcomm Europe)

Withdrawn

R1-051492 Signalling requirement in support of interference management schemes for OFDM based E-UTRA downlink (Qualcomm Europe)

8.2.1 Results from email reflector discussions

No input

8.3 Further aspects of MC-WCDMA, MC-TDSCDMA

R1-051402 Analysis of HSDPA in the MC TD-SCDMA (CATT)

In this contribution, we focus on the analysis of MC TD-SCDMA Downlink Shared Channel, and give the operation of shared channels on multiple carriers.

08/11/2005 16:40 Presented by Dr. Ke Wang.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051495 SCH design considerations for WCDMA (LCR) based E-UTRA downlink (Qualcomm Europe)

This contribution proposes a scheme for the Synchronization Channel (SCH) of the 1.25MHz option (low chip rate: LCR) of WCDMA based EUTRA.

08/11/2005 16:50 Presented by Mr. Juan Montojo

Discussion (Question / Comment): Mr. Chairman clarified that this topic should be address at next time.

Decision: This document was noted.

R1-051496 TP on complexity aspects of E-UTRA Downlink (Qualcomm Europe)

This text proposal for 25.814 relies on analysis presented in R1-051107.

08/11/2005 16:55 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment):

Qualcomm commented that OFDM part could confuse everyone if you consider in this AI, so we should take WCDMA part in this AI.

There is long discussion on the complexity aspect of channel coding structure and Node B point about joint scheduling for UTRA and E-UTRA. But the discussion could not conclude in the agreement. Mr. chairman suggesting interested company (Qualcomm, Nokia, Ericsson,) discussing off-line.

Decision: The text proposal for WCDMA part was revised in R1-051573.

R1-051573 TP on complexity aspects of WCDMA based Downlink (Qualcomm Europe)

10/11/2005 18:15 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment):

Decision: The TP was agreed.

R1-051497 TP on description on MC-WCDMA based E-UTRA (Qualcomm Europe)

08/11/2005 17:00 Presented by Mr. Juan Montojo

Discussion (Question / Comment):

Decision: The TP was agreed.

8.3.1 Results from email reflector discussions

No input

8.4 System evaluation results for the concepts

Uplink

R1-051335 Simulation Methodology for EUTRA UL: IFDMA and DFT-Spread-OFDMA (Motorola)

In this paper, we derive the SINR performance for IFDMA and DFT-SOFDMA with Frequency Domain Equalizer (FDE) followed by considering the non-idea factors such as non-idea channel estimation, losses due to Doppler, i.e. Evaluation methodology to calculate the equivalent SINR for system simulation with multiple IFDMA (DFT-SOFDMA) symbols and multiple transmissions of Hybrid-ARQ is proposed with verification simulation results.

08/11/2005 17:35 Presented by Dr. Wemin Ziao

Discussion (Question / Comment):

Alcatel asked if Motorola assume Asynchronous or Synchronous for UL IFDMA and commented that considering the Intercell interference issue, it should be synchronous.

Decision: This document was noted.

R1-051352 Simulation methodology for EUTRA uplink: SC-FDMA and OFDMA (Samsung)

In this document we show the SNR analysis and performance of link error prediction method for SC-FDMA, in addition to EESM(Exponential Effective SIR Mapping) for OFDMA.

08/11/2005 17:40 Presented by Mr. KIM, Youngbum

Discussion (Question / Comment):

Decision: This document was noted.

R1-051411 System level performance of UL SC-FDMA (Nokia)

This contribution contains a comparison of SC-FDMA system performance against E-UTRA performance requirements given in TR25.913.

08/11/2005 17:45 Presented by Mr. Antti Toskaka

Discussion (Question / Comment): Qualcomm raised a concerns that there are their SIC proposal so that the comparison in Fig.1 is not enough. With related to the Qualcomm comment, the long discussion on the interference cancellation technique for WCDMA and also MDC continued. As the other discussion topic, Vodafone commented that what target we should set up as the reference and the reference in Fig.1 had better be upper band for LTE requirement. The long discussion on the reference target and comparison assumption between WCDMA and new MA scheme such as receiver type and BW continued, however there was no agreement.

Decision: This document was noted.

R1-051420 Comparison of System Level Throughput between Single-carrier FDMA and OFDMA in Evolved UTRA Uplink (NTT DoCoMo)

08/11/2005 18:15 Presented by Mr. Hiroyuki Atarashi,

Discussion (Question / Comment): Qualcomm commented on scheduling and HARQ impacts. NTT DoCoMo commented that we don't consider the scheduling because of only one user and also the HARQ impact will be provided at the next meeting.

Decision: This document was noted.

R1-051422 UL Virtual MIMO System Level Performance Evaluation for E-UTRA (Nortel)

In this contribution, we present the preliminary system level simulation results for the E-UTRA based on the simulation scenarios listed in TR25.814. The objective for this simulation is to calibrate the basic system configuration and associated performance in the UL, particularly for evaluating the UL OFDMA virtual MIMO and adaptive power operation R1-051160. The simulation results are presented in terms of the aggregated sector throughput.

08/11/2005 18:35 Presented by Mr. Jianming Wu.

Discussion (Question / Comment): The concern was raised from Qualcomm on the results of 1*2 SIMO. Nortel clarified that the operating point on 2*2 MIMO and 1*2 SIMO is same. Motorola pointed out that the results are different from R1-051444.

Decision: This document was noted.

R1-051444 Uplink Multiple Access for E-UTRA - System Simulation Results (Ericsson)

This document provides system simulation results, comparing two uplink multiple access candidates: single-carrier (SC-FDMA) and OFDMA. Note that a single-carrier uplink can be designed either orthogonal or non-orthogonal; the current paper discusses single-carrier transmission vs OFDMA and does not address orthogonal vs non-orthogonal transmission.

08/11/2005 18:50 Presented by Dr. Stefan Parkvall.

Discussion (Question / Comment): Ericsson clarified that simulation consider HARQ (Chase) and round robin scheduling. Nortel commented that the real estimation with pilot should be considered. ZTE also point out the channel estimation issue and pilot insertion aspect

Decision: This document was noted.

R1-051414 Comments on the Feasibility and Performance of Uplink multi-user Detection with WCDMA and SC-FDMA (Nokia)

This contribution contains discussion for the performance enhancements on top of SC-FDMA like interference cancellation (as also discussed in connection with WCDMA), interference rejection and four-antenna reception.

08/11/2005 19:05 Presented by Mr. Antti Toskaka

Discussion (Question / Comment): Qualcomm raised concerns that they already showed the cancellation technique for WCDMA so that WCDMA also obtain the enhancement by the technique.

Decision: This document was noted.

R1-051498 Further evaluation of WCDMA based E-UTRA uplink (Qualcomm Europe)

In this document we extend the simulations to include larger cells and in case of OFDMA with 4 Rx antennas diversity we show benefits of spatial division multiple access (SDMA) R1-051118.

08/11/2005 19:25 Presented by Dr. Durga Malladi.

Discussion (Question / Comment): Alcatel asked if the contribution assumes synchronous or asynchronous.

Qualcomm clarified they assume asynchronous in this contribution. Samsung and Ericsson commented that the SIC should be considered to OFDM. Also TI commented that the timing error should be considered in the comparison. Alcatel commented that we should consider many distributed user, cell edge performance and SIC for the comparison.

Decision: This document was noted.

R1-051502 TP on system level comparison of Rel-6, MC-WCDMA (IC), OFDMA based uplink for E-UTRA (Qualcomm Europe)

This text proposal for TR 25.814 is based on the analysis in R1-050500 and initial evaluation presented in R1-051115 and R1-051498; this is an initial evaluation in the sense that these results are all for 5 MHz bandwidth and based on full buffer traffic models.

08/11/2005 19:40 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment): The long discussion on the comparison assumption and how to conclude the decision of MA scheme continued. Some companies raised questions on the SIC from Qualcomm. Finally, there are no conclusion on the way forward for the comparison and decision of the MA.

Mr. Chairman asked the main companies which contribute on this topic to provide the joint text proposal the main companies.

Decision: This document was noted.

After the discussion, it was decided to make a draft text proposal containing the results from R1-051498, R1-051420, R1-051422, R1-051444, including explanatory text in R1-051574.

R1-051574 TP on system evaluation results (Qualcomm Europe, Nokia, Ericsson, Nortel)

10/11/2005 18:25 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment): Qualcomm note that NTT DoCoMo document should be added in the reference.

TI commented that we must make a decision based on the results, however this TP has not enough results. Motorola raised a concern that the reference is not good in table 10.1.2.1-2, 4 Rx type. Samsung pointed out that it is not comparison because there are some differences such as the receiver so this will be the wrong information.

Vodafone commented that at this stage there are many different evaluations so we should not have too much discussion. Nokia also commented that at this stage TR is not approved and the change is OK so more detail and better results can be added before June.

The long discussion continued and at last it was agreed that text "and can be further improved with SIC" is added at the end of sentence above table 10.1.2.1.-2 and LMMSE is added in OFDM box in table 10.1.2.1-2. .

Decision: This TP was approved in R1-051601 with revision.

R1-051601 TP on system evaluation results (Qualcomm Europe, Nokia, Ericsson, Nortel)

Downlink

R1-051428 DL System Level Performance Evaluation for E-UTRA (Nortel)

In this contribution, we present the preliminary down-link (DL) system level simulation results for the E-UTRA based on the simulation scenario listed in R1-050680.

09/11/2005 09:15 Presented by Mr. Jianming Wu.

Discussion (Question / Comment): From Qualcomm, the question was asked if the fairness is considered for all configurations. Nortel commented that yes, but we will show the fairness curves at the next meeting. The other question was asked if CQI feedback is in every TTI. Nortel clarified that CQI is in every TTI. Chairman pointed out about the reason for 10% outage (the requirement is 5%). Nortel commented that the conclusion does not change for 5%.

Decision: This document was noted.

R1-051499 Further evaluation of WCDMA based E-UTRA downlink (LCR) (Qualcomm Europe)

In this document, we evaluate the performance of MC-WCDMA (LCR) HSDPA based E-UTRA downlink in different scenarios. The detailed MC-WCDMA (LCR) based E-UTRA system description and assumptions are given in R1-051109 and R1-051108.

09/11/2005 09:25 Presented by Mr. Jianming Wu.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051500 Evaluation of OFDM based E-UTRA downlink with partial feedback sub-band scheduling (Qualcomm Europe)

In this document, we present further results on the system performance, including 0.5ms TTI and reduced sub-band information feedback.

09/11/2005 09:35 Presented by Dr. Durga Malladi.

Discussion (Question / Comment):

TI commented about no improvement by the scheduling on the 0.5TTI that other documents show the improvement. Also Motorola pointed out this issue.

Decision: This document was noted.

R1-051334 CQI Feedback Schemes for EUTRA (Motorola)

This contribution considers several reduced overhead CQI feedback schemes.

09/11/2005 09:40 Presented by Dr. Amitabha Ghosh

Discussion (Question / Comment):

Decision: This document was noted.

R1-051333 E-MBMS System Level Performance (Motorola)

We provide some preliminary simulation results that augment those of R1-051116 and that further illustrate the behaviour of MBMS transmissions using the same time-frequency resources. We observe:

- Macro diversity transmission on the same time-frequency resource can dramatically improve performance over single cell transmission. Only a few cells are needed to provide performances on the order of 10x better than single cell.
- Macro diverse transmission has diminishing gains as the number of diversity cells increases.

09/11/2005 09:50 Presented by Mr. Mark Harrison.

Discussion (Question / Comment): LGE asked if all 3 sectors have the best pass loss or 1 site only has the best in the simulation for 3 cell case. Motorola commented that all has the best.

Decision: This document was noted.

R1-051503 TP on system evaluation of E-UTRA MBMS (Qualcomm Europe)

This text proposal for TR 25.814 is based on the initial evaluation presented in R1-051116; this is an initial evaluation in the sense that these results are all for 5 MHz bandwidth.

09/11/2005 09:55 Presented by Dr. Durga Malladi.

Discussion (Question / Comment): Chairman point out the reference case, Rel-6 and the relation to TR25.803. Nokia commented that we have not discussed about E-MBMS reference case in Plenary and we should discuss at the next Plenary so we must not describe it in TP. Chairman suggest the contributor revising the document with removal the Rel-6 results.

Decision: This TP was revised in R1-051579 with removal Rel-6 results.

R1-051579 TP on system evaluation of E-UTRA MBMS (Qualcomm Europe)

10/11/2005 19:05 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment):

Decision: This TP was approved.

R1-051501 TP for initial evaluation of WCDMA and OFDMA based E-UTRA downlink (Qualcomm Europe)

This text proposal for TR 25.814 is based on the initial evaluation presented in [1, 2, 3, 4, 5]; this is an initial evaluation in the sense that these results are all for 5 MHz bandwidth and based on full buffer traffic models.

09/11/2005 10:05 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment): Nokia, Samsung, TI and Motorola raised a concern on the values for OFDM in the table that many companies provide more improved results though the comparison reference is different depending on each company so that additional reference should be added in the table. It was also commented that the results for OFDM is quite different between Qualcomm and the other companies also some companies show the improvement by frequency domain scheduling although Qualcomm shows no improvement. There long discussion continued on whether additional reference for OFDM are added or not, but there are no agreement. Chairman suggested interested companies drafting.

Decision: This TP was revised in R1-051580 with additional results.

R1-051580 TP for initial evaluation of WCDMA and OFDMA based E-UTRA downlink (Qualcomm Europe, Motorola, Samsung)

R1-051608 TP for downlink performance evaluation (Qualcomm Europe, Motorola, Samsung) (Revision of R1-051580)

11/11/2005 14:45 Presented by Dr. Durga Malladi.

Discussion (Question / Comment):

Decision: This TP was agreed.

Other

R1-051423 UL virtual MIMO scheduling (Nortel)

09/11/2005 11:35 Presented by Mr. Jianming Wu.

Discussion (Question / Comment): Motorola asked Nortel to explain V-MIMO. Nortel raised a concern that they already explained at the last meeting also they clarified that V-MIMO is named from MIMO, but this is not MIMO, the scheme is a single stream.

Decision: This document was noted.

R1-051429 Link-to-System Mapping for 2x2 Spatial Multiplexing Mode with MLD Receiver (Nortel)

09/11/2005 11:45 Presented by Mr. Jianming Wu.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051593 Performance Evaluation for DL HSDPA and E-UTRA OFDM (Motorola)
R1-051613 Performance Evaluation for DL HSDPA and E-UTRA OFDM
(Motorola) (Revision of R1-051593)

R1-051332	System Performance of SC-FDMA	(Motorola)
R1-051345	Performance comparison between SC-FDMA and OFDMA for EUTRA uplink	(Samsung)

No input

Parallel MIMO ad-hoc session during day 2 – 3. Results were endorsed by the RAN1 plenary session.

Decision: This notes was endorsed by the RAN1 main session. It was decided to TP capturing fro MIMO sessions in the TR (based on summary in this report) for e-mail approval until Nov. 22 in R1-051604.

Decision: E-mail approval until Nov. 22 in R1-051604. After the discussion on the RAN1 reflector, this TP was revised in R1-051622.

Decision: This TP was agreed on the RAN1 reflector. The discussion on further details will naturally continue over the reflector for the next meetings.

Decision: This document was noted.

Decision: This document was noted.

Presented by Mr. Rupert Rheinschmitt.

Discussion (Question / Comment): There was the question if the selection of option A does signify the assumption that primarily no channel information is available. If the assumption of significant channel information is made, other options would be first choice. It was confirmed, that indeed the selection of option A signifies an emphasis on a system working with no (useful) feedback information.

Decision: This document was noted.

R1-051326 Pre-coded MIMO DL for E-UTRA exploiting X-pol antennas (TenXc Wireless)

This paper describes a precoded MIMO-OFDMA downlink arrangement using a very compact cross-polarised antenna array. The approach offers the benefit of robust single or dual stream MIMO transmission in polarization space, coupled with the option of single user or multi-user beamforming to allow tradeoff between coverage gain and capacity.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051338 Open loop MIMO scheme for EUTRA

(LG Electronics)

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051353 Downlink MIMO for EUTRA

(Samsung)

In this document, we describe a Multi-User MIMO scheduling and pre-coding approach that exploits the additional degrees of freedom enabled by the pre-coded multiple transmit antennas to schedule multiple users simultaneously on the same OFDM subband (SDMA) or the transmission of multiple data streams to the same user (SDM).

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051375 Proposal for downlink MIMO transmission schemes in E-UTRA (ETRI)

In this paper, we propose open-loop MIMO schemes and evaluate the proposed MIMO schemes compared with the conventional other schemes.

Presented by .

Discussion (Question / Comment):

Decision: This document was noted.

**R1-051403 Modified PSRC scheme with stream number control for E-UTRA MIMO
downlink**

(CATT)

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051406 Transmit diversity for distributed, common and broadcast channels (Huawei)

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051407 Downlink MIMO for E-UTRA

(Huawei)

The aim of this contribution is to give further details about Huawei's MIMO scheme for the LTE downlink which can be described as Precoded Per User Rate Control (P-PURC).

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051413 MIMO scheme proposal for E-UTRA DL

(Nokia)

In this contribution, we present downlink MIMO schemes for the 2x2 antenna setup ($M_t=2$ transmit antennas at the NodeB, $M_r=2$ receive antennas at the terminal) according to the E-UTRA assumptions stated in TR25.814. In addition, we further describe MIMO transmission modes for $M_t=4$ transmit antennas and up to $M_r=4$ receive antennas.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051416 Downlink Beamforming with Opportunistic Scheduling

(BenQ Mobile)

In this document, a system approach employing beamforming in combination with opportunistic, frequency adaptive scheduling is presented

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051424 Adaptive MIMO modes (Nortel)

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051425 Text proposal for MIMO for DL OFDM (Nortel)

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051426 Space Time block coding based H-ARQ (Nortel)

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051427 DL MIMO modes for 4 transmit antenna (Nortel)

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051438 Multi-beam MIMO for E-UTRA Downlink (Fujitsu)

In this paper, we propose a closed-loop MIMO scheme that is a simple combination of multi-beam multiple-datastream transmission and adaptive UE-based beam selection. The scheme benefits from feed-back signaling compared to other proposed closed-loop MIMO schemes.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051455 MIMO techniques for Downlink E-UTRA Source (NEC Group)

By this proposal we intend to provide a provision for two basic modification to this general approach. First, the rank selection is very important and the codebook design should be rank-specific. The rank selection has been performed in some prior proposals, but the codebooks are not rank-specific. Second provision is the importance of power allocation over the selected mode of the channel.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051468 Coded MIMO-OFDM Schemes for E-UTRA (Philips)

In this contribution, we present one open-loop and one closed-loop MIMO technique for E-UTRA.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051470 Iterative table-driven (ITA) MIMO Concept for E-UTRA (Siemens)

The objective of this document is to provide a generic concept for the support of MIMO in the down-link of the UTRA LTE air interface. Essential parts of the concept were validated using a real-time implementation of MIMO-OFDM and channel-aware bit-loading. The proposal takes into account the fact that the feed-back rate and hence the channel information which can be provided to the transmitter may be limited.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051505 Initial comparison of MIMO schemes for OFDM based E-UTRA downlink (Qualcomm Europe)

In this document, we compare the link throughput performance among four MIMO schemes in more details: CR-BLAST with one full CQI, PARC with full CQI for each stream, basic MCW with full CQI for each stream, and efficient MCW with one full CQI and one incremental CQI value. We also show the throughput of a SIMO scheme as the baseline reference.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051516 Additional details on DCFB for obtaining MIMO channel information at Node B (Motorola)

In this contribution, additional details of DCFB are given as well as block diagrams for the other promising feedback methods described in R1-051238 (i.e., uplink sounding and codebook feedback).

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

R1-051504 TP on possible MIMO schemes for OFDM-based E- UTRA Downlink
(Qualcomm Europe)

R1-051582 TP on possible MIMO schemes for OFDM-based E- UTRA Downlink
(Qualcomm Europe) (Revision of R1-051504)

In R1-051267, we provided a qualitative comparison of MIMO schemes which could be considered for OFDM based E-UTRA. We propose to capture the comparison in TR 25.814.

Presented by

Discussion (Question / Comment):

Decision: This document was noted.

Conclusion:

Each company requested to review the description of their proposals in the table and to provide revisions (if needed) with indicating the reference to R1 Tdocs to Qualcomm.

Revisit the table on Friday in the main session and try email discussion if needed.

Downlink&Uplink

R1-051354 Adaptive Cyclic Delay Diversity (Samsung)

In this document, we will describe the ACDD approach for the downlink case assuming OFDM access. However, the proposed technique is equally applicable to uplink using, for example, DFT-Spread OFDM.

Presented by

Discussion (Question / Comment):

Decision: This document was noted

R1-051389 Only One Cycle (OOC) Space Time Diversity Scheme (SHRCWC)

In this contribution, we introduce only one cycle (OOC) space time diversity scheme, which is general case for ACDD.

Presented by

Discussion (Question / Comment):

Decision: This document was noted

R1-051394 Text proposal on Antenna selection techniques
(Mitsubishi Electric, Institute for Infocomm Research)

Presented by

Discussion (Question / Comment):

Decision: This document was noted

R1-051399 MIMO Transmission Techniques for E-UTRA
(Institute for Infocomm Research, NTT DoCoMo)

In this contribution, we present detailed descriptions of a few MIMO transmission modes for MIMO-OFDMA and SC-FDMA in E-UTRA.

Presented by

Discussion (Question / Comment):

Decision: This document was noted

R1-051478 Multiple antenna solutions for E-UTRA (Ericsson)

In this contribution we describe a general multi antenna framework for E-UTRA.

Presented by

Discussion (Question / Comment):

Decision: This document was noted

Uplink

R1-051368 Uplink MIMO SC_FDMA Scheme for UTRA (InterDigital)

This contribution proposes a method for the extension of SC-FDMA to include MIMO capabilities for the uplink. Methods for both Spatial Division Multiplexing (SDM) and Transmit Beamforming (TxBF) are supported with this proposal.

Presented by

Discussion (Question / Comment):

Decision: This document was noted

R1-051398 Transmit Antenna Selection Techniques for Uplink E-UTRA
(Institute for Infocomm Research, Mitsubishi Electric, NTT DoCoMo)

We propose uplink transmit antenna selection schemes which only use one of the antennas for transmitting at any one time. More importantly, it requires fewer RF chains and power amplifiers for transmission and reception.

Presented by

Discussion (Question / Comment):

Decision: This document was noted

R1-051506 TP on quasi orthogonal uplink for OFDMA/FDMA based E-UTRA uplink
(Qualcomm Europe)

Presented by

Discussion (Question / Comment):

Decision: This document was noted

Questions about LTE MIMO

Unicast

Number of independent data streams which are using the same time-frequency(-code) resource and are independently channel-coded with independent CRC.

- Single only
- Multiple (including single as a special case)

If multiple independent data streams are supported using the same time-frequency(-code) resource, the maximum number of streams (which is not necessarily equal to the number of antennas) is

- 2; or
- 4

Spatial division multiplexing (SDM, SU-MIMO) vs spatial division multiple access (SDMA, MU-MIMO) (using the same time-frequency(-code) resource)

- SDM only (Single user); or
- SDM as well as SDMA (SDM as a special case of SDMA)

Use of (unitary or non-unitary) precoding

- Yes; or
- No

Rank adaptation (or antenna subset selection)

- Yes; or
- No

UE feedback

- MIMO channel state information
- CQI
- Operation mode indication?

Broadcast

What kind of MIMO for broadcast?

Not Treated

R1-051567 TP on a MIMO scheme for OFDM based EUTRA downlink (NEC Group)

Withdrawn

R1-051317 Multi-mode PU2RC for LTE-MIMO (Samsung)
R1-051337 Closed loop MIMO scheme for EUTRA (LG Electronics)

8.5.1 Results from email reflector discussions

No input

8.6 Other topics for discussion depending on available meeting time

R1-051310 Enhancement of Rel. 6 Turbo Code

(France Telecom, GET) (Resubmission of R1-051265)

This contribution proposes an enhanced turbo code scheme with only two modifications to the current Rel. 6 Turbo Code:

09/11/2005 16:50 Presented by Mr. Jean-Philippe Javaudin.

Discussion (Question / Comment): LGE asked what amount of gain from new interleaver and circular coding and also where the operating point is. France telecom clarified that the most of gain results from new interleaver and also operating point is typical area. Qualcomm raise a concern on the floor on the UMTS in fig.3-2

Decision: This document was noted.

R1-051360 Comparison of structured vector LDPC Codes and 3GPP Turbo codes

(ZTE, CATT, RITT, Huawei) (Resubmission of R1-051070)

09/11/2005 17:10 Presented by Miss Meng Zhao.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051383 Rate-Compatible LDPC codes with low complexity encoder& decoder

(Mitsubishi Electric Corporation, NTT DoCoMo)

In this contribution, we evaluate the complexity, throughput, and performance comparison with LDPC codes and 3GPP turbo codes under practical decoding condition. Furthermore, we present Rate-Compatible (RC)-LDPC codes to recover the disadvantage with respect to flexibility of code rate against turbo codes.

07/11/2005 17:20 Presented by Dr. Wataru Matsumoto.

Discussion (Question / Comment): Motorola commented that the parity-check matrix seems to be big and complicated and what kind of matrix this is. Mitsubishi clarified that it's a very simple one and it don't need memories and it's just formula form. France Telecom raised a concern on the comparison of complexity.

Decision: This document was noted.

R1-051409 Low complexity channel coding with concatenated ZigZag codes (Nokia)

In this contribution we propose to study a variant of LDPC called ZigZag codes. Zig Zag codes have the potential for comparable or lower complexity than LDPC with good properties for generating flexible code rates by rate compatible puncturing, which is beneficial for HARQ and Incremental Redundancy schemes.

09/11/2005 17:50 Presented by Mr. Asbjorn Grovlen.

Discussion (Question / Comment): Vodafone pointed out that for LTE we should take care for UE decoding complexity for high data rates. France telecomm and Samsung asked a question on the complexity comparison. Nokia clarified that LDPC and Turbo are same and this code is low.

Decision: This document was noted.

R1-051439 Lower rate extension of channel coding to the rate $<1/3$

(Fujitsu) (Resubmission of R1-051082)

In this proposal we achieve channel coding rates of less than $1/3$, using the existing UTRA turbo coding scheme with only minor modifications.

09/11/2005 18:05 Presented by Mr. Stephen Truelove

Discussion (Question / Comment):

Decision: This document was noted.

After the discussion about the above documents related to channel coding, Mr. Chairman suggested proponents starting to discuss TP for the next meeting.

R1-051367 Efficient Method for EUTRAN Synchronization (Siemens, NTT DoCoMo)

10/11/2005 08:45 Presented by Dr. Juergen Michel.

Discussion (Question / Comment): Some companies raised concerns on the reliability of this synchronization scheme depending on the number of UE, UE condition and so on.]

Chairman also pointed out that issue and commented that more detail would be needed at the next time.

Decision: It was agreed to add a section "7.1.2.6 Synchronization procedures" to the TR.

R1-051369 Discussion on potential requirements for a spectrum aggregation function
(China Mobile, Cingular, NTT DoCoMo, O2, Orange, Telefonica, TIM,
T-Mobile, Vodafone)

The aim of this document is to provide information to RAN1 regarding the discussion triggered in RAN4 by a number of operators on the need for a spectrum aggregation function. The intention is to focus on the complexity study in RAN4, while providing this for information to the other WGs also, so that they may have a chance to provide early comments.

10/11/2005 09:05 Presented by Mr. Yannick Le Pezennec from Vodafone Group.

Discussion (Question / Comment):

Some companies raised comments and questions on the each type of spectrum aggregation. For type 1, Ericsson, Nortel and Nokia commented that what the different from valuable and scalable bandwidth and type 1 should be taken care if OFDM is taken as MA scheme. For type 2 and 3, it was asked what the different between type 2 and 3. Also some companies raised a concern on the simultaneous reception with broadcast regarding the complexity of the simultaneous reception. Vodafone commented that we also address the complexity of the simultaneous reception so we should take care of the UE complexity on the simultaneous reception.

Decision: This document was noted.

R1-051376 Uplink Multiple Antenna Systems (Motorola)

In this document, we provide some preliminary simulation results demonstrating the relative ideal packet data throughputs of various uplink multi-antenna schemes such as closed loop transmit diversity ("TxAA"), multi-stream transmission (MIMO), and selection transmit diversity; all with two transmit antennas at the UE.

10/11/2005 09:40 Presented by Mr. Mark Harrison.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051391 Random Access Transmission for Scalable Multiple Bandwidth in Evolved
UTRA Uplink (NTT DoCoMo)

This paper presents random access transmission method for supporting a scalable transmission bandwidth from 1.25 to 20 MHz for the Evolved UTRA uplink.

10/11/2005 09:45 Presented by Dr. Mamoru Sawahasi

Discussion (Question / Comment): Samsung commented and asked that if it happened that the preamble is not detected the payload is lost in this structure so why preamble and payload are successive in one frame structure. NTT DoCoMo commented that they agree to the concern and our intention for this structure is to reduce the delay so the system level evaluation should be provided.

Nortel commented that the RACH BW is depending on UE capability. NTT DoCoMo commented that yes they agreed with Nortel and our other document is for this issue.

Decision: This document was noted.

R1-051445 E-UTRA Random Access (Ericsson)

10/11/2005 10:05 Presented by Dr. Stefan Parkvall.

Discussion (Question / Comment): Some companies raised questions and concerns on RACH structure such as RACH BW, guard band before and after RACH

Decision: The TP in this document was revised in R1-051584 after offline discussion.

R1-051584 Text proposal on E-UTRA Random Access (Ericsson)

11/11/2005 14:45 Presented by Dr. Stefan Parkvall.

Discussion (Question / Comment):

Decision: This TP was agreed.

8.6.1 Results from email reflector discussions

No input

8.7 Decision on the Multiple Access Concept

R1-051542 Considerations on LTE Architecture / SAE (Cingular Wireless)

09/11/2005 12:00 Presented by Mr. Sharat Chander.

Discussion (Question / Comment):

Chairman commented that this issue is not RAN1 topic but for multiple WGs and should be discussed in RAN plenary, not just now here.

Nokia commented that the signalling on Macro Diversity is related to MA scheme so we would express our point of view. Three and Rosser Wireless supported to the content of this document.

Finally, Chairman clarified that we would not discuss this topic here any more so that interested people should discuss after the meeting.

Decision: This document was noted.

R1-051507 Proposal on the way forward E-UTRA multiple access technology evaluation
(Qualcomm Europe)

09/11/2005 09:25 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment): Nokia pointed out that the key issue is the cell edge performance from operator perspective. Nokia commented that every company has the different assumption and the different result so that the comparison between CDMA based and the other schemes still is not clear. The purpose document seems not to be clear and just to jump to the conclusion. TI commented that we can see the improvement owing to the frequency diversity scheduling on OFDM and the significant different on the two schemes. Motorola also pointed out this aspect. Qualcomm commented that this document is Qualcomm's paper so that this is described from Qualcomm perspective. The long discussion continued on the way forward to next Plenary regarding MA scheme. Chairman concluded the discussion with mentioned that we can come back to this issue after treating other documents.

Decision: This document was noted.

R1-051443 Uplink Transmission Scheme for E-UTRA
(Ericsson, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba)

Single-carrier transmission combined with FDMA with dynamic bandwidth (SC-FDMA) has emerged as the main candidate for the evolved UTRA uplink transmission scheme. According to the time schedule agreed by RAN, a decision on the multiple access scheme is to be taken no later than November 2005 to ensure a timely completion of the E-UTRA study item. Having analyzed different multiple accesses schemes against requirements, it is proposed that: "RAN1 agrees on single-carrier transmission as the uplink transmission scheme for E-UTRA".

A text proposal for the RAN TR 25.912 is provided in R1-051442.

09/11/2005 12:50 Presented by Dr. Stefan Parkvall.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051441 Downlink Transmission Scheme for E-UTRA
(Ericsson, Alcatel, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba)

R1-051515 Downlink Transmission Scheme for E-UTRA
(Ericsson, Alcatel, BenQ Mobile, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Samsung, Sharp, Siemens, Texas Instruments, Toshiba, ZTE) (Revision of R1-051441)

OFDM has emerged as the main candidate for the evolved UTRA downlink transmission scheme. According to the time schedule agreed by RAN, a decision on the downlink multiple access scheme is to be taken no later than November 2005 to ensure a timely completion of the E-UTRA study item. Having analyzed different multiple accesses schemes against requirements, it is proposed that: "RAN1 agrees on OFDM as the downlink transmission scheme for E-UTRA". A text proposal for the RAN TR 25.912 is provided in R1-051514.

07/11/2005 12:55 Presented by Dr. Stefan Parkvall.

Discussion (Question / Comment):

Three commented that just one operator is in the supporting company so that the operator opinion should not be forgotten.

Decision: This document was noted.

R1-051577 Text proposal on Downlink and Uplink Transmission Scheme for E-UTRA
(BenQ Mobile, CATT, Cingular, Ericsson, Fujitsu, Huawei, IPWireless, Institute for Infocomm Research, LG, Lucent, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Philips, RITT, Sharp, SHRCWC, Siemens, Toshiba)

09/11/2005 12:55 Presented by Mr. Zhaoji Xu from Nokia.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051379 Uplink Transmission Scheme for E-UTRA TDD (Samsung, Agere, Broadcom)

In this contribution, we present advantages of OFDM on uplink in TDD systems, which meet high spectral efficiency, low complexity receiver, and efficient PAPR reduction. Through the investigation of those requirements and fulfillment, it is shown that OFDM is preferred to SC-FDMA for uplink in TDD systems.

09/11/2005 14:20 Presented by Mr. Panyh Joo.

Discussion (Question / Comment): IPWireless raised a concern on Sec.2.2, Lower complexity receiver that they don't ever see the document that description about the lower complexity receiver for OFDM. Also T-mobile pointed out this aspect. As other comments, Ericsson point out the next sentences in this document. "Many research works on link performance as [1]-[3] show that higher spectral efficiency can be achieved in OFDM system than SC-FDMA." "When better spectral efficiency is considered along with superior resistance to ISI and better equalization performance, OFDM is a better technique for achieving the requirements of [4]"

Nokia pointed out the commonality between FDD and TDD on LTE.

Decision: This document was noted.

R1-051537 Operation of the OFDMA DL and SC-FDMA / OFDMA UL in unpaired spectrum according to coexistence approach 2 (IPWireless)

This document describes how the OFDMA downlink of section 7.1 of TR25.814 and the SC-FDMA or OFDMA uplinks of sections 9.1 and 9.2 of TR25.814 can be operated in unpaired spectrum when coexistence approach 2 is used.

09/11/2005 14:35 Presented by Dr. Martin Beale

Discussion (Question / Comment):

Decision: This document was noted.

After the discussion on the above documents, Chairman summarised the MA scheme and paired/unpaired aspects for the next RAN plenary.

T-mobile pointed out from the operator perspective that the commonality of FDD/TDD such as BW view and MA scheme is important. Ericsson commented that we don't need any more presentation and discussion on TDD/FDD aspects because many documents already clear this aspect and also they support to T-mobile comments.

Samsung asked what the difficulty on the TDD/FDD deployment is. T-mobile pointed out the cost for the implementation, operation, frequency and so on from the operator perspective. Nokia pointed out BS viewpoint. Also Ericsson pointed out the same issues.

Samsung commented that RAN1 should discussed more about the requirement of LTE as they pointed out by the other document.

There were many and long discussion on the paired/unpaired aspects. Many companies point out the strong desire for the commonality of TDD/FDD as shown in R1-051577. But Samsung continue proposing the OFDM DL/UL as MA scheme for the unpaired mode although chairman pointed out the majority.

Also there were long discussion on way forward of MA scheme.

Three commented that the new schemes as OFDM and SC-FDMA is described as LTE "new design" such as Qualcomm paper, not LTE L1 in the information to the next plenary, and then they support to push this issue to RAN level. Telecom Italia commented that they also support to the RAN plenary decision.

RAN1 Chairman commented that we can do best for the clear information to RAN, should not keep all things open. Nokia commented that to inform this situation to RAN is OK. Qualcomm commented again that the comparison on each scheme is not enough clear to decide now so we support to the decision on RAN level.

TSG-RAN Chairman, Francois Courau clarified that RAN accept to receive the several proposals and the concerns from each company.

At finally, RAN1 summarised the Information regarding MA scheme from RAN1 to RAN after he confirm the Samsung position still as same.

Chairman notes

Way forward on the MA scheme selection for LTE from RAN1 (reported to RAN)

- Strong desire from the clear majority of the meeting for the same MA scheme for paired and unpaired spectrum operation as also indicated by the requirements in 25.913
- The concepts fulfilling the above requirement are
 - o SC-FDMA UL, OFDM DL (as proposed by 23 companies in R1-051577)
 - o Proposal based on MC-(W)CDMA supported by a small number of companies
- Other proposal (OFDM UL TDD, OFDM DL TDD, SC-FDMA UL FDD) with different MA scheme for paired and unpaired spectrum operation are objected by a big majority of the meeting

It was decided to send a LS to RAN to be drafted based on above summary in R1-051581.

R1-051581 (Draft LS) UTRAN LTE Multiple Access Selection

(Nokia)

10/11/2005 14:25 Presented by Antti Toskala

Discussion (Question / Comment):

Decision: This is agreed in R1-051595

Not Treated (These documents were revised in R1-051577)

R1-051442 Text Proposal on Uplink Transmission Scheme for E-UTRA (Ericsson, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba)

R1-051440 Text Proposal on Downlink Transmission Scheme for E-UTRA (Ericsson, Alcatel, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba)

R1-051514 Text Proposal on Downlink Transmission Scheme for E-UTRA (Ericsson, Alcatel, BenQ Mobile, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Samsung, Sharp, Siemens, Texas Instruments, Toshiba, ZTE) (Revision of R1-051440)

Withdrawn

R1-051456 Transmission Scheme for E-UTRA (CATT, ZTE, RITT, Huawei, TD-Tech)

R1-051457 Text Proposal on Transmission Scheme for E-UTRA
(CATT, ZTE, RITT, Huawei, TD-Tech)

9. MIMO in UTRA (Rel'7 work item)

Parallel MIMO ad-hoc session during day 2 – 3. Results was endorsed by the RAN1 plenary session.

The summary of this section is as followed.

MIMO in UTRA was discussed on the MIMO Ad Hoc session parallel to the main session from 2nd and 3rd day. The discussion was on the simulation results and complexity aspects, but there were two opposite different view on interpretation of the simulation results and way forward with no agreement as well as two opposite different view on the complexity aspects with no agreement. The output which summarise the RAN1 discussion and situation is sent to RAN in R1-051615.

R1-051597 MIMO AH Chairman's notes (MIMO AH Chairman)

11/11/2005 09:15 Presented by Mr. Juho Lee from Samsung

Discussion (Question / Comment): The Rel-7 part was treated.

The discussion on what information should be send to RAN was discussed.

Decision: This document was endorsed by RAN1 main session.

R1-051583 Way forward on MIMO for Release 7 (Qualcomm Europe, 3, Agere Systems, Cingular Wireless, Ericsson, IPWireless, Mitsubishi Electric, TeliaSonera, TensorComm)

11/11/2005 09:30 Presented by Dr. Josef Blanz from Qualcomm

Discussion (Question / Comment): Motorola commented that the SIC in the following sentence is not necessary.

"Multiple codeword schemes (like PARC or S-PARC) are offering larger potential gains due to the possible use of successive interference cancellation receivers to reject inter-stream interference". Some comments and questions were raised on the reference receiver structure and modulation.

Decision: This document was noted.

R1-051598 RAN1 conclusion on HSDPA MIMO (TI, Nokia, Motorola, Nortel , Samsung, Panasonic, NEC, Vodaphone, Siemens, ZTE, ETRI)

R1-051610 RAN1 conclusion on HSDPA MIMO (TI, Nokia, Motorola, Nortel , Samsung, Panasonic, NEC, Vodaphone, Siemens, ZTE, ETRI)

11/11/2005 09:45 Presented by Mr. Markku Tarkiainen from Nokia.

Discussion (Question / Comment): The consideration on the way forward of MIMO Rel-7 is different between two groups. Motorola and Nokia commented that we already have many simulation results but there is not enough effective gain so how we could provide the MIMO scenario for HSDPA.

Qualcomm commented that the MIMO gain is valuable for HADPA so we should not stop the WI. Cingular Wireless commented that we don't stop this work because MIMO is very effective for the small cell area.

Juho Lee (MIMO Ad Hoc Chair) commented about the situation of MIMO session that we discussed for long time where the fine scenario is there, but some companies have a gain, on the other hand the other companies don't have it. RAN1 Chairman commented that we don't think to get to conclusion in RAN1, so we inform to RAN about this situation that one and the other groups have a different interpretation on the results and a different view on the complexity so there is no conclusion.

Decision: This document was noted.

Conclusion:

Two different (opposite) views on interpretation of the simulation results and the way forward (which are captured in the excel sheet) with no agreement, as well as two different (opposite) views on the complexity aspects with no agreement.

It was decided to summarise the situation in an LS to RAN (R1-051605).

R1-051605 (Draft LS) Results of study on the benefits of MIMO in Rel-7

(MIMO AH Chairman)

11/11/2005 14:50 Presented by Dr. Juho Lee

Discussion (Question / Comment):

Chairman commented that the documents regarding discussion results and complexity conclusions should be added.

Decision: It was decided to revise with addition of documents and complexity conclusions added in R1-051615.

R1-051615 Results of study on the benefits of MIMO in Rel-7 (To: RAN) (RAN WG1)

11/11/2005 16:00 Presented by Dr. Juho Lee

Discussion (Question / Comment):

Decision: This is agreed as the final version.

Link to system mapping

R1-051371 Link to system level mapping for multi-stream MIMO HSDPA

(Texas Instruments)

In this contribution we describe the link to system level mapping we use for the MIMO HSDPA system-level simulation results presented in the companion contributions R1-051372 and R1-051373. For both the single-antenna and per-antenna rate control (PARC) transmissions, we assume that the receiver employs a linear MMSE frequency domain equalizer.

Presented by Dr. Eko Onggosanusi.

Discussion (Question / Comment):

Decision: This document was noted.

System simulation results & proposed conclusions (FDD)

R1-051372 System level results for MIMO HSDPA with full buffer traffic

(Texas Instruments)

In this contribution we discuss the results of system level simulation for the proposed MIMO extension of HSDPA in Release 7 WCDMA. In particular, the 2x2 per antenna rate control (PARC) scheme is chosen as the MIMO scheme for this study.

Presented by Dr. Eko Onggosanusi.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051377 System Simulations and Way Forward for W-CDMA MIMO (Motorola)

We provide ideal simulation results comparing multi-stream MIMO systems and release 6 antenna systems in a macrocellular environment assuming 2 and 4 UE antennas and 3, 6, or 12 sectors.

Presented by Mr. Mark Harrison.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051435 Simulation Results by Using Increased Sectorisation for WCDMA MIMO

(Nokia)

In this document our key purpose is to present system level simulation results in 3-sector and 6-sector cases to show how system performance is impacted on the way how Tx antennas are used with MIMO and non-MIMO schemes.

Presented by Mr. Markku Tarkiainen.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051436 MIMO system level simulation results

(Nokia)

In this document we present system level simulation results for 1x2 (UE RX diversity with LMMSE receiver) and 2x2 MIMO (PARC with LMMSE receiver) in macrocell and microcell environments.

Presented by Mr. Markku Tarkiainen.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051469 Further simulation results for STTCC

(Philips)

This document provides further link-level simulation results for the Spatial Temporal Turbo Channel Coding (STTCC) MIMO scheme proposed in R1-050723.

Presented by Dr. Tim Mouldsley.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051508 System evaluation for MIMO-WCDMA

(Qualcomm Europe)

In this document, we evaluate the performance improvement of MIMO applied to HSDPA. The focus of this contribution is on the multi code word (MCW) MIMO scheme as described in R1-050912.

Presented by Dr. Josef Blanz.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051509 Proposed conclusion for the MIMO-WCDMA work item study phase
(Qualcomm Europe)

In this document we summarize the results presented so far; we also propose a way forward for endorsement by RAN WG1 and submission to TSG-RAN #31.

Presented by Dr. Josef Blanz.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051477 System level simulation results for MIMO **(Ericsson)**

R1-051544 System level simulation results for MIMO (Ericsson) (Revision of R1-01477)

In this contribution we present dynamic system level simulation results of some MIMO transmission schemes, including PARC, S-PARC.

Presented by Dr. Bo G6ransson.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051575 Further MIMO system level simulation results **(Nokia)**

Presented by Mr. Markku Tarkiainen.

Discussion (Question / Comment):

Decision: This document was noted.

System simulation results & proposed conclusions (TDD)

R1-051539 Per-Antenna Rate Control for UTRA TDD: Additional system Level Results
(IPWireless)

In this document, we present further system level results, obtained under the simulation parameters agreed in R1-051271.

Presented by Mr. Nicholas Anderson.

Discussion (Question / Comment):

Decision: This document was noted.

UE complexity

R1-051510 UE complexity evaluation for UTRA-FDD MIMO **(Qualcomm Europe)**

This document presents the relative amount of complex multiplications per second needed to implement the Linear MMSE MIMO downlink demodulator for Single Carrier CDM.

Presented by Dr. Josef Blanz.

Discussion (Question / Comment):

Decision: This document was noted.

R1-051578 Complexity: 2x2 SIC vs 1x2 LMMSE **(Texas Instruments)**

Presented by Dr. Eko Onggosanusi.

Discussion (Question / Comment):

Decision: This document was noted.

Withdrawn

R1-051373 System level results for MIMO HSDPA with HTTP traffic
(Texas Instruments)

R1-051316 Single-user MIMO performance results for WCDMA-HSDPA **(Samsung)**

10. Improved Support of IMS Realtime Services using HSDPA/E-DCH

R1-051460 HS-DSCH serving cell change performance (Nokia)

In this contribution we analyse HS-DSCH serving cell change performance based on Rel6 specifications and present our conclusion on this matter.

07/11/2005 15:15 Presented by Mr. Karri Ranta-aho.

Discussion (Question / Comment): This document was related to the LS from RAN2 in R1-051541. Siemens commented that they also submitted the same issue to RAN2 and they agree to the conclusion of Nokia paper. Also Ericsson commented during the discussion that they supported to Nokia.

From Qualcomm raised a concern on the power allocation of the channel estimation on the simulation. Nokia commented that they don't consider the channel assumption such as Qualcomm document (Attachment in R1-051541)

Qualcomm presented the RAN2 document attached in R1-051541 and then it was discussed how to finalise this item and send a reply LS to RAN2 (R1-0515410). Mr. Chairman suggested to make a draft LS considering the agreement among Nokia, Siemens and Ericsson. However, Qualcomm raised a concern for stopping the discussion and sending LS because we don't have any agreement. Finally, there are no agreement on the issue related to R1-051541 and sending a reply LS to RAN2.

Decision: This document was noted.

R1-051511 HS-SCCH-less HS-PDSCH operation for improved support of IMS RT services (Qualcomm Europe)

At the RAN plenary #27, there was a proposal to introduce better support for real-time services over HSDPA and HSUPA, Nokia proposed a technique to reduce the overhead of the DPCCH on the uplink by gating it. Lucent identified that the E-DPCCH is a significant overhead for VoIP on EUL, and proposed 3 methods to eliminate or considerably reduce it. This document addresses similar issues, but for HSDPA. We propose enhancements that improve the capacity and consequently latency of real-time services on HSDPA.

07/11/2005 15:50 Presented by Mr. Serge Willenegger.

Discussion (Question / Comment): The question was asked by Panasonic if UE monitor several TFC. Yes.

Decision: This document was noted.

Withdrawn

R1-051480 Simulation Results on VoIP Performance HSDPA (Siemens)

11. Continuous Connectivity for Packet Data Users

The summary of this section is as followed.

1. 11 text proposals for TR25.903 were agreed
2. The latest version of TR25.903 is v0.2.0 in R1-051617.
3. Regarding the states and sub-states, the discussion will be coordinated with RAN2 in future meeting.

R1-051320 Text proposal for TR 25.903 on simulation of SIR target lowering concept

(Siemens)

This document provides the text proposal for TR 25.903, created for the “Continuous connectivity for packet data users” WI. It is proposed to add a subsection 4.3.2.x with the simulation results to the analysis of the “SIR target reduction” section (4.3.2).

07/11/2005 16:50 Presented by Ms. Malgorzata.Wimmer

Discussion (Question / Comment):

Decision: This text proposal was agreed to be included in TR.

R1-051321 Text proposal for TR 25.903 on analysis of SIR target lowering concept

(Siemens)

This document presents a text proposal for TR 25.903 “Continuous connectivity for packet data users” for the analysis section of the concept “SIR_target lowering/reduction”.

07/11/2005 16:51 Presented by Ms. Malgorzata.Wimmer

Discussion (Question / Comment):

Nokia raised a concern on the CQI off related to R1-051565.

Decision: This TP was agreed in principle. It was decided to remove parts sections on CQI off and revised in R1-051565.

R1-051565 Text proposal for TR 25.903 on analysis of SIR target lowering concept

(Siemens)

11/11/2005 10:10 Presented by Ms. Malgorzata.Wimmer

Discussion (Question / Comment):

Decision: This TP was agreed.

R1-051322 Text proposal for TR 25.903 on analysis of CQI off concept

(Siemens)

This document presents a text proposal for TR 25.903 “Continuous connectivity for packet data users” for the analysis section of the concept “CQI off”.

07/11/2005 16:55 Presented by Ms. Malgorzata.Wimmer

Discussion (Question / Comment):

Nokia commented that the text “(which is rather short)” is not good.

Decision: This TP was agreed except for “(which is rather short)”.

R1-051448 Opportunities for resource saving in the Node B receiver

(Ericsson)

This document describes some opportunities for resource saving in the Node B receiver that should be taken into consideration in order to avoid that the Node B resources at the receiver side become a bottleneck when the number of packet data users is increased significantly.

07/11/2005 16:55 Presented by Mr. Johan Bergman

Discussion (Question / Comment):

Siemens commented that the proposed points are very important.

Decision: This document was noted.

R1-051449 Transition between periods of activity and inactivity for continuous connectivity

(Ericsson)

The concepts “SIR_target reduction” and “CQI reporting reduction” described in [2] use lower layer signalling between the Node B and the UE (either from the Node B to the UE or from the UE to the Node B) to inform about the detection of packet traffic activity/inactivity. However, this document shows that no frequent, error-prone and resource-consuming signalling is needed between UE and Node B to coordinate the transitions between active and inactive periods.

07/11/2005 17:05 Presented by Mr. Johan Bergman

Discussion (Question / Comment): Some comments were raised on the signalling of the SIR_target reduction and CQI reporting reduction. Additional signalling of the SIR_target reduction and CQI reporting reduction need to be more offline discussion.

- Decision:** The text proposal in this document was revised in R1-051566.
- R1-051566 Text proposal for 25.903 on Transitions between periods of activity and inactivity without signalling (Ericsson)**
- 11/11/2005 10:10 Presented by Mr. Johan Bergman
Discussion (Question / Comment)
Decision: This TP was agreed.
- R1-051452 HSPA silent mode for continuous connectivity (Huawei)**
- 07/11/2005 17:15 Presented by Mr. Gaoke Du.
Discussion (Question / Comment): Siemens asked if the silent mode is for both DL/UL. The concerns was raised on the synchronization procedure
Decision: This document was noted.
- R1-051461 TP on Uplink DPCCCH Gating Concept Description (Nokia)**
- This document contains a text proposal to TR25.903 further describing the technical concept of the Uplink DPCCCH Gating to the 3GPP Technical Report on Continuous Connectivity for Packet Data Users work item.
07/11/2005 17:30 Presented by Mr. Karri Ranta-aho.
Discussion (Question / Comment): Panasonic asked if the period of the gating is 2ms or 10ms. It was clarified that it is not slot by slot, but TTI by TTI.
Decision: This text proposal was agreed.
- R1-051462 TP on Uplink DPCCCH Gating Concept Analysis (Nokia)**
- This document contains the results of the R1-051463 in a form of text proposal.
07/11/2005 17:35 Presented by Mr. Karri Ranta-aho.
Discussion (Question / Comment):
Decision: This text proposal was agreed.
- R1-051463 UL DPCCCH Gating - Link results (Nokia)**
- This document presents further link level results evaluating the Uplink DPCCCH Gating concept described in the TR25.903. These results investigate the usefulness of different power control preamble lengths before the E-DCH transmission and the power control stability.
07/11/2005 17:40 Presented by Mr. Karri Ranta-aho.
Discussion (Question / Comment): Lucent asked if the channel estimation is also changed. Nokia clarified that this proposal is just for the power control, isolated to the channel estimation.
Decision: This document was noted.
- R1-051464 UL DPCCCH Gating - Initial system results (Nokia)**
- This document presents the first system level capacity results for VoIP using UL DPCCCH Gating concept.
07/11/2005 17:50 Presented by Mr. Karri Ranta-aho.
Discussion (Question / Comment):
Decision: This document was noted.
- R1-051465 New UL DPCCCH Slot Formats for Inactive Periods (Philips)**
- In this contribution we discuss some considerations relevant to the design of the new slot format with particular reference to operation in the operation in SHO.
11/11/2005 10:15 Presented by Dr. Tim Mousley.
Discussion (Question / Comment): Nortel commented that they don't understand the slot format with TFCI. Ericsson asked if the slot format is changed between active and inactive state. Philips answered that yes and our proposal does not take the nature of the signalling into consideration but look at what happens. Vodafone asked what the difference between Philips and Qualcomm proposal is. The answer was that Qualcomm propose not to have TPC.
Decision: The TP in this document was revised in R1-051606 (without TFCI part, alternative of one slot format for active/inactive).
- R1-051606 New UL DPCCCH Slot Formats for Inactive Periods (Philips)**
- 11/11/2005 14:55 Presented by Dr. Tim Mousley.
Discussion (Question / Comment):
Decision: This TP was agreed.
- R1-051466 Further Considerations for New UL DPCCCH Slot Format for Inactive Periods (Philips)**
- In this contribution we examine some more detailed aspects of the operation of this kind of new UL DPCCCH slot format when the UE.
11/11/2005 11:30 Presented by Dr. Tim Mousley.

Discussion (Question / Comment): Ericsson commented that there is another possibility for CQI reporting timing reduction and SIR target reduction. Philips commented that our proposal for SIR target adjustment is preliminary and this topic would be considered in more detail later. Nokia commented that we should discuss the difference from Siemens proposal on the SIR target topics.

Decision: The TP in this document was revised in R1-051609 (revision just SIR target part.)

R1-051609 Further Considerations for New UL DPCCH Slot Format for Inactive Periods
(Philips)

11/11/2005 15:00 Presented by Dr. Tim Mousley.

Discussion (Question / Comment):

Decision: This TP was agreed.

R1-051467 Further simulation results for new UL DPCCH slot format for inactive periods
(Philips)

In this document we present further simulation results for multi-path channels and a range of UE speeds.

11/11/2005 11:40 Presented by Dr. Tim Mousley.

Discussion (Question / Comment): The questions and comments were raised on the simulation assumption regarding the channel estimation in Fig.7.

Decision: The TP was revised in R1-051611 with removal Fig.7.

R1-051611 Further simulation results for new UL DPCCH slot format for inactive periods
(Philips)

11/11/2005 15:05 Presented by Dr. Tim Mousley.

Discussion (Question / Comment):

Decision: This TP was agreed.

R1-051471 Text proposal to TR 25.903 to clarify terminology for Continuous Connectivity
(Siemens)

R1-051603 Text proposal to TR 25.903 to clarify terminology for Continuous Connectivity
(Siemens)

The present Tdoc/text proposal will try to take up this terminology debate again, discuss the base which applies to all proposals of the work item and makes a proposal for a corresponding input to TR 25.903 to cover these aspects.

11/11/2005 12:05 Presented by Dr. Joern Krause.

Discussion (Question / Comment): Ericsson commented that they agree to the almost parts but the joint control is more preferable. Qualcomm commented that they agree to this approach but our proposal would be a good help to revise this text proposal. Chairman suggested discussing further and revising the text proposal except for the first paragraph considering the Qualcomm proposal.

Decision: The first paragraph of the TP is agreed. It was decided to discuss the remaining parts further via email (conclude email discussion latest 2 weeks before RAN1#44).

R1-051472 Text proposal to TR 25.903 to comparing Continuous Connectivity concepts
(Siemens)

11/11/2005 14:10 Presented by Dr. Joern Krause.

Discussion (Question / Comment):

Decision: It was decided to continue discussion and revisit at RAN1#44.

R1-051479 Basic Design Options for the Continuous Connectivity Feature
(Lucent Technologies)

This paper discusses basic design options for continuous connectivity that may be applied to the concepts outlined in the RAN1#42bis meeting

11/11/2005 12:30 Presented by Dr. Rainer Bachl.

Discussion (Question / Comment): Chairman commented that the state and sub-state topics should be synchronous to RAN2.

Decision: This document was noted.

R1-051512 TP for 25.903
(Qualcomm Europe)

R1-051589 TP for 25.903
(Qualcomm Europe) (Revision of R1-051512)

This document presents a text proposal for the Continuous Connectivity TR using the concepts introduced in RAN1#42bis in R1-051125 and R1-051131.

11/11/2005 12:55 Presented by Mr. Juan Montojo

Discussion (Question / Comment): The discussion continued on sub-states. Siemens commented we should not jump to the details in this time and the summary is better for progress. And also they raised a concern on the difference of the two modes in connected mode. Qualcomm commented that these two sub-states have different behaviour and each state is very useful so that it is good to capture each state in TR. Chairman commented that the discussion on the states should be taken with RAN2 and it is too early to put them into TR.

Decision: This TP was revised in R1-051612 (just Sec. 4.2 and 4.x)

R1-051612 TP for 25.903

(Qualcomm Europe) (Revision of R1-051589)

11/11/2005 15:05 Presented by Mr. Juan Montojo

Discussion (Question / Comment):

Decision: This TP was agreed

It was decided that Discussion regarding states to be coordinated with RAN2.

R1-051602 TR25.903 v0.1.1 Continuous Connectivity for Packet Data Uses

(Editor: Siemens)

Decision: This document was distributed on the RAN1 reflector after the meeting, and was endorsed as version 0.2.0 in R1-051617 with small revision of the editorial error and numbering.

R1-051617 TR25.903 v0.2.0 Continuous Connectivity for Packet Data Uses

(Editor: Siemens)

12. Any Other Business

R1-051626 Reference scenario for the selection of the UTRA MIMO scheme
(Cingular Wireless, Orange, 3, Telecom Italia, T-Mobile, Vodafone Group)

After the meeting, almost at the end of 2005, this document was submitted on the RAN1 reflector as agreed at RAN plenary #30 (see endorsed way forward in Tdoc RP-050884), This was the result of a discussion between many operators. This document was not correctly for RAN1#43 meeting, but the tdoc number of RAN1#43 meeting was allocated tentatively for this document so that it could be used for future reference in the MIMO discussions.

13. Closing of the meeting: Friday 4.00 PM

11/11/2005 16:05. RAN1 Chairman, Mr. Dirk Gerstenberger expressed his appreciation to the delegates and the host, Samsung. Further, he showed the meeting tentative schedule in 2006. The tentative meeting schedule in 2006 is shown in Annex B. The meeting was closed.

Annex A: List of participants at RAN1 #43

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3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

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3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

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3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

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3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

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3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

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Annex B: TSG RAN WG1 meetings in 2006

TITLE	TYPE	DATES	LOCATION	CTRY
3GPPRAN1AH on LTE	AH	23 - 25 Jan 2006	Helsinki	FI
3GPPRAN1#44	WG	13 - 17 Feb 2006	Denver	USA
3GPPRAN1#44bis	WG	27 - 31 Mar 2006	TBD	EU
3GPPRAN1#45	WG	08 - 12 May 2006	TBD	CN
3GPPRAN1#46	WG	28 Aug -01 Sept 2006	Tallin	Estonia
3GPPRAN1#47	WG	06 - 10 Nov 2006	TBD	EU

MEETING TYPES

AH = Ad Hoc	CM = Chairmen's meeting
JM = Joint	OR = Ordinary
PM = Preparatory Meeting	RG = Rapporteurs Group
RM = Resolution Meeting	SG = Steering Group
ST = Startup Meeting	TG = Task Group
WG = Working Group	XO = Extraordinary

Annex C: List of CRs agreed at RAN1#43

Spec	CR	R	Cat	Rel	R1 Tdoc	Title	Work Item
25.211	0226	-	F	Rel-5	R1-051450	Clean up due to removal of CSICH	TEI
25.211	0227	-	A	Rel-6	R1-051451	Clean up due to removal of CSICH	TEI
25.224	0145	1	F	Rel-5	R1-051550	Clarify the power control procedure of HS-SCCH	HSDPA-Phys
25.224	0146	1	A	Rel-6	R1-051551	Clarify the power control procedure of HS-SCCH	HSDPA-Phys
25.211	0225	2	F	Rel-6	R1-051304	Combination of DPCCH and E-DCH	EDCH-Phys
25.212	0231	1	F	Rel-6	R1-051546	Usage of 2xSF4 with puncturing	EDCH-Phys
25.223	0037	-	F	Rel-6	R1-051318	Correction to 16QAM modulation function	HSDPA-Phys

Annex D: List of Outgoing LSs

NUMBER	TITLE	WI	To	Cc
R1-051553	Response to LS (R2-052312) on VoIMS RAB	RAB Support Enhancement	RAN2	-
R1-051554	Reply LS on multi-rate AMR-NB RAB using SRB#5	TEI4	RAN2	RAN5
R1-051560	LS on PL for Conversational / speech (12.65, 8.85, 6.6) kbps + Interactive 0 kbps	TEI	RAN2	-
R1-051591	Replay LS on High Bit Rate SRB	RANimp-DelayOpt	RAN2	-
R1-051592	LS on Higher data rates in MBMS user service	MBMS Enhancement	SA1	SA4
R1-051595	UTRAN LTE Multiple Access Selection	Evolved UTRA and UTRAN	RAN	-
R1-051614	Support of Different Combining Schemes	EDCH-lurub	RAN3	RAN2
R1-051615	Results of study on the benefits of MIMO in Rel-7	MIMO	RAN	-
R1-051625	Reply LS on WB-AMR reference configurations in 34.108		RAN	-

Annex E: List of Tdocs at RAN1 #43

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051295	Draft Agenda	RAN1 Chairman	2	R1-051319		Revised in R1-051319
R1-051296	Draft report from RAN1#42bis	RAN1 Vice Chairman, RAN1 Secretary	3		07/11/2005	Approved in R1-051568
R1-051297	Synchronisation of Reconfiguration with activation time "now" (To: RAN1, RAN4)	RAN WG2, LG Electronics	4	= R2-052613	07/11/2005	Noted
R1-051298	LS on Time Plan for FS on 3GPP System Architecture Evolution (To: SA1, SA3, RAN1, RAN2, RAN3, RAN, SA)	SA WG2, Vodafone	4	= S2-052480	07/11/2005	Noted
R1-051299	LS on Latest Status of SAE work in SA 2 (To: RAN1, RAN2, RAN3)	SA WG2, Vodafone	4	= S2-052481	07/11/2005	Noted
R1-051300	MBMS transmission in EUTRA	LG Electronics	8.2			Not Treated
R1-051301	Link adaptation in EUTRA downlink	LG Electronics	8.2			Not Treated
R1-051302	Downlink resource allocation in EUTRA	LG Electronics	8.2			Not Treated
R1-051303	Further aspects of interference coordination	LG Electronics	8.2			Not Treated
R1-051304	25.211CR0225r2(Rel-6, F) "Combination of DPCCH and E-DCH"	LG Electronics, Panasonic, Philips	5.4		07/11/2005	Agreed.
R1-051305	TR25.814 v.0.3.1 Physical Layer Aspects for Evolved UTRA	Editor (NTT DoCoMo)	8		08/11/2005	Endorsed as 0.4.0 as R1-051569
R1-051306	Revised Text Proposal on Multiplexing Method of L1/L2 Control Signaling in Uplink Single-Carrier FDMA Radio Access	Ericsson, Fujitsu, Mitsubishi Electric Corporation, NEC, Nokia, NTT DoCoMo, Panasonic, SHARP, Siemens, Toshiba Corporation	8.1		08/11/2005	Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051307	Text proposal on Adaptive Modulation and Channel Coding Rate Control for Frequency Domain Scheduling in Evolved UTRA Downlink	Ericsson, Fujitsu, Mitsubishi Electric Corporation, Motorola, NEC, Nokia, NTT DoCoMo, Panasonic, SHARP, Siemens, Toshiba Corporation	8.2			Not Treated
R1-051308	Text Proposal on Cell Search in Evolved UTRA	Ericsson, Fujitsu, Mitsubishi Electric Corporation, NEC, NTT DoCoMo, Panasonic, SHARP, Siemens, Toshiba Corporation	8.2		10/11/2005	Noted
R1-051309	UE Capability on Supportable Minimum Bandwidths	Ericsson, Fujitsu, Mitsubishi Electric Corporation, NEC, NTT DoCoMo, Panasonic, SHARP, Toshiba Corporation	8.2			Not Treated
R1-051310	Enhancement of Rel. 6 Turbo Code	France Telecom, GET	8.6	(R1-051265)	09/11/2005	Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051311	Basic Midamble Codes for 7.68 Mcps TDD Option	IPWireless	7		07/11/2005	The TP in this document was agreed on the RAN1 reflector after the meeting.
R1-051312	Performance of Inter-Cell Interference Mitigation with Semi-Static Frequency Planning for EUTRA Downlink	Texas Instruments	8.2			Not Treated
R1-051313	Overview of Scattered Pilot and TDM Pilot Aspects for E-UTRA Downlink	Texas Instruments	8.2		10/11/2005	Noted
R1-051314	Performance of pre-coded MIMO and per group rate control for OFDMA E-UTRA	Texas Instruments	8.5			Noted
R1-051315	MIMO OFDMA E-UTRA proposal for different antenna configurations	Texas Instruments	8.5			Noted
~~R1-051316~~	~~Single user MIMO performance results for WCDMA HSDPA~~	~~Samsung~~	~~9~~		07/11/2005	Withdrawn
~~R1-051317~~	~~Multi mode PU2RC for LTE MIMO~~	~~Samsung~~	~~8.5~~		07/11/2005	Withdrawn
R1-051318	25.223CR0037(Rel-6, F) "Correction to 16QAM modulation function"	IPWireless	5.4		07/11/2005	Agreed
R1-051319	Revised Draft Agenda	RAN1 Chairman	2	(R1-051295)	07/11/2005	Approved
R1-051320	Text proposal for TR 25.903 on simulation of SIR target lowering concept	Siemens	11		07/11/2005	Agreed
R1-051321	Text proposal for TR 25.903 on analysis of SIR target lowering concept	Siemens	11	R1-051565	07/11/2005	Revised in R1-051565
R1-051322	Text proposal for TR 25.903 on analysis of CQI off concept	Siemens	11		07/11/2005	Agreed
R1-051323	Draft Replay LS on High Bit Rate SRB	Siemens	4	R1-051561	07/11/2005	Revised in R1-051561
R1-051324	Downlink OFDM resource allocation structure for E-UTRA	Alcatel	8.2			Not Treated
R1-051325	Proposal for Downlink LTE MIMO Scheme	Alcatel	8.5			Noted
R1-051326	Pre-coded MIMO DL for E-UTRA exploiting X-pol antennas	TenXc Wireless	8.5			Noted
R1-051327	Text Proposal for Downlink Pilot Design for EUTRA	Ericsson, Motorola, Nokia, NTT DoCoMo	8.2	R1-051599	10/11/2005	Noted. Revised in R1-051599.
R1-051328	Text Proposal for Downlink Resource Block for EUTRA	Motorola, NTT DoCoMo, Siemens, Nokia	8.2			Not Treated
R1-051329	Cell Search and Initial Acquisition for OFDM Downlink	Motorola	8.2		08/11/2005	Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051330	Text Proposal for CQI Report	Motorola	8.2			Not Treated
R1-051331	E-UTRA Downlink Control Channel Design and TP	Motorola	8.2			Not Treated
~~R1-051332~~	~~System Performance of SC-FDMA~~	~~Motorola~~	~~8.4~~		07/11/2005	Withdrawn
R1-051333	E-MBMS System Level Performance	Motorola	8.4		09/11/2005	Noted
R1-051334	CQI Feedback Schemes for EUTRA	Motorola	8.4		09/11/2005	Noted
R1-051335	Simulation Methodology for EUTRA UL: IFDMA and DFT-Spread-OFDMA	Motorola	8.4		08/11/2005	Noted
R1-051336	Text proposal on MBMS transmission	LG Electronics, Huawei	8.2			Not Treated
~~R1-051337~~	~~Closed loop MIMO scheme for EUTRA~~	~~LG Electronics~~	~~8.5~~			Withdrawn
R1-051338	Open loop MIMO scheme for EUTRA	LG Electronics	8.5		07/11/2005	Noted
R1-051339	Control Channel Mapping for MIMO Antennas in Evolved UTRA OFDMA Downlink	Sharp Corporation	8.2	(R1-051196)		Not Treated
R1-051340	Monitoring of Paging Information for Evolved UTRA Scalable Bandwidth	Sharp Corporation	8.2			Not Treated
R1-051341	Flexible Fractional Frequency Reuse Approach	Samsung	8.2			Not Treated
R1-051342	Multiplexing of Broadcast and Unicast Traffic	Samsung	8.2			Not Treated
R1-051343	Data and control channel multiplexing in SC-FDMA for EUTRA uplink	Samsung	8.1		08/11/2005	Noted
R1-051344	Downlink pilot and control channel structure for EUTRA	Samsung	8.2		10/11/2005	Noted
~~R1-051345~~	~~Performance comparison between SC-FDMA and OFDMA for EUTRA uplink~~	~~Samsung~~	~~8.4~~			Withdrawn
R1-051346	Control-Aided Channel Estimation	Samsung	8.2		10/11/2005	Noted
R1-051347	Uplink scheduling procedure	Samsung	8.1		08/11/2005	Noted
R1-051348	Downlink resource allocation and multiplexing	Samsung	8.2			Not Treated
R1-051349	Text proposal on downlink data multiplexing for EUTRA	Samsung, LGE, Nokia	8.2			Not Treated
R1-051350	Text proposal on downlink resource block size for localized transmission	Samsung, Texas Instruments	8.2			Not Treated

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGENDA ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051351	[Draft] Response to LS (R2-052312) on VoIMS RAB	Samsung	4		07/11/2005	Approved in R1-051553
R1-051352	Simulation methodology for EUTRA uplink: SC-FDMA and OFDMA	Samsung	8.4		08/11/2005	Noted
R1-051353	Downlink MIMO for EUTRA	Samsung	8.5			Noted
R1-051354	Adaptive Cyclic Delay Diversity	Samsung	8.5			Noted
R1-051355	Further Results for Distributed FDMA and Localised FDMA with Frequency Hopping for EUTRA Uplink	NEC Group	8.1		08/11/2005	Noted
R1-051356	Further Issues on Downlink Pilot and Control Channel for EUTRA	NEC Group	8.2		10/11/2005	Noted
R1-051357	Comparing of Two Downlink Synchronization Channel Schemes for E-UTRA	ZTE	8.2		10/11/2005	Noted
R1-051358	TP-A modification of frame structure for CP length	ZTE, CMCC	8.2	R1-051558		Revised in R1-051558
R1-051359	E-URTA Resource Allocation Design for Downlink	ZTE	8.2			Not Treated
R1-051360	Comparison of structured vector LDPC Codes and 3GPP Turbo codes	ZTE, CATT, RITT, Huawei	8.6	(R1-051070)	09/11/2005	Noted
R1-051361	E-UTRA Downlink common pilot structure compatible with MIMO	ZTE	8.2		08/11/2005	Noted
R1-051362	OFDMA Based Link Adaptation for Physical Layer in EUTRA Downlink and text proposal for TR 25.814	ZTE	8.2			Not Treated
R1-051363	Discussion for response to LS on Synchronization of Reconfiguration with activation time "now"	LG Electronics	4		07/11/2005	Continue discussion in RAN1 before sending reply LS.
R1-051364	Relation between chunk-size and CQI signaling	Siemens	8.2			Not Treated
R1-051365	Frequency bandwidth of resource blocks for DL OFDMA	Siemens	8.2			Not Treated
R1-051366	Aspects of Interference mitigation by coordination	Siemens	8.2			Not Treated
R1-051367	Efficient Method for EUTRAN Synchronization	Siemens	8.6	(R1-051077)	09/11/2005	Agreed to add a section "7.1.2.6 Synchronization procedures" to the TR.
R1-051368	Uplink MIMO SC-FDMA Scheme for UTRA	InterDigital	8.5			Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051369	Discussion on potential requirements for a spectrum aggregation function	China Mobile, Cingular, NTT DoCoMo, O2, Orange, Telefonica, TIM, T-Mobile, Vodafone	8.6		09/11/2005	Noted
R1-051370	Considerations on SC-FDMA Pilot Design	Freescall Semiconductor	8.1	R1-051557		Revised in R1-051557
R1-051371	Link to system level mapping for multi-stream MIMO HSDPA	Texas Instruments	9			Noted
R1-051372	System level results for MIMO HSDPA with full buffer traffic	Texas Instruments	9			Noted
R1-051373	System level results for MIMO HSDPA with HTTP traffic	Texas Instruments	9			Noted
R1-051374	Update on Link - Level Evaluation of Localized and Distributed Pilot for SC - FDMA	Texas Instruments	8.1		08/11/2005	Noted
R1-051375	Proposal for downlink MIMO transmission schemes in E-UTRA	ETRI	8.5			Noted
R1-051376	Uplink Multiple Antenna Systems	Motorola	8.6		10/11/2005	Noted
R1-051377	System Simulations and Way Forward for W-CDMA MIMO	Motorola	9			Noted
R1-051378	Adaptive sub carrier spacing for OFDM downlink	Fujitsu	8.2			Not Treated
R1-051379	Uplink Transmission Scheme for E-UTRA TDD	Samsung, Agere, Broadcom	8.7		09/11/2005	Noted
R1-051380	Application and Consideration of TDD mode	Samsung	8.1		08/11/2005	Noted
R1-051381	Latency Requirement for TDD mode	Samsung	8.1		08/11/2005	Noted
R1-051382	Differentiated Approaches in Evaluation and Optimization between TDD and FDD modes	Samsung	8.1		08/11/2005	Noted
R1-051383	Rate-Compatible LDPC codes with low complexity encoder & decoder	Mitsubishi Electric Corporation, NTT DoCoMo	8.6		09/11/2005	Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051384	Further description of DFT-S-GMC implementation	SHRCWC	8.1		08/11/2005	Noted
R1-051385	Further simulation results of DFT-S-GMC in comparison with DFT-S-OFDM	SHRCWC	8.1		08/11/2005	Noted
R1-051386	On the PAR/CM performance of DFT-S-GMC	SHRCWC	8.1		08/11/2005	Noted
R1-051387	Bandwidth Efficiency Aspects of DFT-S-GMC	SHRCWC	8.1		08/11/2005	Noted
R1-051388	DFT-S-GMC for EUTRA Uplink	SHRCWC	8.1		08/11/2005	Noted
R1-051389	Only One Cycle (OOC) Space Time Diversity Scheme	SHRCWC	8.5			Noted
R1-051390	Channel-Dependent Packet Scheduling for Single-Carrier FDMA in Evolved UTRA Uplink	NTT DoCoMo	8.1		08/11/2005	Noted
R1-051391	Random Access Transmission for Scalable Multiple Bandwidth in Evolved UTRA Uplink	NTT DoCoMo	8.1		10/11/2005	Noted
R1-051392	Link Adaptation Method in Evolved UTRA Uplink	NTT DoCoMo	8.1		08/11/2005	Noted
R1-051393	CQI-based Transmission Power Control for Control Channel in Evolved UTRA Uplink	NTT DoCoMo, Fujitsu, NEC	8.1		08/11/2005	Noted
R1-051394	Text proposal on Antenna selection techniques	Mitsubishi Electric, Institute for Infocomm Research	8.5			Noted
R1-051395	Mapping position of control channel for Uplink SC-FDMA	Panasonic	8.1	R1-051571	08/11/2005	Noted. TP revised in R1-051571.
R1-051396	Comparison of bit repetition and symbol repetition for Inter-cell Interference Mitigation	Panasonic	8.2			Not Treated
R1-051397	Further Aspects on OFDM Downlink Pilot Structure for Evolved UTRA	ZTE	8.2		10/11/2005	Noted
R1-051398	Transmit Antenna Selection Techniques for Uplink E-UTRA	Institute for Infocomm Research, Mitsubishi Electric, NTT DoCoMo	8.5			Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051399	MIMO Transmission Techniques for E-UTRA	Institute for Infocomm Research, NTT DoCoMo	8.5			Noted
R1-051400	Numerology of EUTRA TDD based on OFDMA and text proposal for TR 25.814	CATT, RITT, ZTE, TD-tech	8.2	R1-051616	11/11/2005	Revise the TP in R1-051616 after the meeting.
R1-051401	Design of special timeslots and pilot channel for EUTRA TDD	CATT, RITT	8.2		11/11/2005	Noted
R1-051402	Analysis of HSDPA in the MC TD-SCDMA	CATT	8.3		08/11/2005	Noted
R1-051403	Modified PSRC scheme with stream number control for E-UTRA MIMO downlink	CATT	8.5			Noted
R1-051404	25.804CR0001(Rel-6, F) "Simulation results of LCR TDD enhanced uplink"	CATT	5.4	R1-051621	07/11/2005	Revised in R1-051621 on the RAN1 reflector after the meeting
R1-051405	Offset DFT-Spread OFDM for the Evolved UTRA Uplink	RITT, CATT	8.1		08/11/2005	Noted
R1-051406	Transmit diversity for distributed, common and broadcast channels	Huawei	8.5			Noted
R1-051407	Downlink MIMO for E-UTRA	Huawei	8.5			Noted
R1-051408	Text proposal for macro diversity in MBMS	ETRI	8.2			Not Treated
R1-051409	Low complexity channel coding with concatenated ZigZag codes	Nokia	8.6		09/11/2005	Noted
R1-051410	E-UTRA DL pilot considerations	Nokia	8.2		10/11/2005	Noted
R1-051411	System level performance of UL SC-FDMA	Nokia	8.4		08/11/2005	Noted
R1-051412	Cell Search procedure for initial synchronization and neighbour cell identification	Nokia	8.2	R1-051549		Revised in R1-051549
R1-051413	MIMO scheme proposal for E-UTRA DL	Nokia	8.5			Noted
R1-051414	Comments on the Feasibility and Performance of Uplink multi-user Detection with WCDMA and SC-FDMA	Nokia	8.4		08/11/2005	Noted
R1-051415	E-UTRA Link adaption: consideration on MIMO	Nokia	8.2			Not Treated
R1-051416	Downlink Beamforming with Opportunistic Scheduling	BenQ Mobile	8.5			Noted
R1-051417	Downlink Scheduling For OFDMA	Siemens	8.2			Not Treated
R1-051418	Distributed resource allocation for OFDMA	Siemens	8.2			Not Treated

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051419	Downlink pilot structure	Siemens	8.2		10/11/2005	Noted
R1-051420	Comparison of System Level Throughput between Single-carrier FDMA and OFDMA in Evolved UTRA Uplink	NTT DoCoMo	8.4		08/11/2005	Noted
R1-051421	UL Link level performance of SC-FDMA and OFDMA with real channel estimation and virtual MIMO	Nortel	8.1		08/11/2005	Noted
R1-051422	UL Virtual MIMO System Level Performance Evaluation for E-UTRA	Nortel	8.1		08/11/2005	Noted
R1-051423	UL virtual MIMO scheduling	Nortel	8.4		09/11/2005	Noted
R1-051424	Adaptive MIMO modes	Nortel	8.5			Noted
R1-051425	Text proposal for MIMO for DL OFDM	Nortel	8.5			Noted
R1-051426	Space Time block coding based H-ARQ	Nortel	8.5			Noted
R1-051427	DL MIMO modes for 4 transmit antenna	Nortel	8.5			Noted
R1-051428	DL System Level Performance Evaluation for E-UTRA	Nortel	8.4		09/11/2005	Noted
R1-051429	Link-to-System Mapping for 2x2 Spatial Multiplexing Mode with MLD Receiver	Nortel	8.4		09/11/2005	Noted
R1-051430	Further considerations on multiplexing method of shared Control Channel in Uplink SC-FDMA	Huawei	8.1		08/11/2005	Noted
R1-051431	Multiplexing of multicast/broadcast and unicast services	Huawei	8.2			Not Treated
R1-051432	Pilot structure of SC-FDMA in Evolved UTRA uplink	Huawei	8.1		08/11/2005	Noted
R1-051433	Downlink multiplexing for traffic channels	Huawei	8.2			Not Treated
R1-051434	Optimum family of spectrum-shaping functions for PAPR reduction in SC-FDMA	Huawei	8.1		08/11/2005	Noted
R1-051435	Simulation Results by Using Increased Sectorisation for WCDMA MIMO	Nokia	9			Noted
R1-051436	MIMO system level simulation results	Nokia	9			Noted
R1-051437	Circular 16QAM for UL SC PAPR reduction	Fujitsu, NTT-DoCoMo	8.4		07/11/2005	Withdrawn
R1-051438	Multi-beam MIMO for E-UTRA Downlink	Fujitsu	8.5			Noted
R1-051439	Lower rate extension of channel coding to the rate <1/3	Fujitsu	8.6	= R1-051082	09/11/2005	Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051440	Text Proposal on Downlink Transmission Scheme for E-UTRA	Ericsson, Alcatel, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba	8.7	R1-051514		Revised in R1-051514
R1-051441	Downlink Transmission Scheme for E-UTRA	Ericsson, Alcatel, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba	8.7	R1-051515		Revised in R1-051515
R1-051442	Text Proposal on Uplink Transmission Scheme for E-UTRA	Ericsson, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba	8.7			Not Treated

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051443	Uplink Transmission Scheme for E-UTRA	Ericsson, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Sharp, Siemens, Texas Instruments, Toshiba	8.7		09/11/2005	Noted
R1-051444	Uplink Multiple Access for E-UTRA - System Simulation Results	Ericsson	8.4		08/11/2005	Noted
R1-051445	E-UTRA Random Access	Ericsson	8.6	R1-051584	10/11/2005	Noted
R1-051446	Text proposal for E-UTRA uplink timing control (Section 9.1.2.6)	Ericsson, NTT DoCoMo	8.1		08/11/2005	Agreed
R1-051447	Draft LS on PL for Conversational / speech (12.65, 8.85, 6.6) kbps + Interactive 0 kbps	Ericsson	5.5		07/11/2005	Approved in R1-051560
R1-051448	Opportunities for resource saving in the Node B receiver	Ericsson	11		07/11/2005	Noted
R1-051449	Transition between periods of activity and inactivity for continuous connectivity	Ericsson	11	R1-051566	07/11/2005	Revised in R1-051566
R1-051450	25.211CR0226(Rel-5, F) "Clean up due to removal of CSICH"	Ericsson	5.3		07/11/2005	Approved
R1-051451	25.211CR0227(Rel-6, A) "Clean up due to removal of CSICH"	Ericsson	5.3		07/11/2005	Approved
R1-051452	HSPA silent mode for continuous connectivity	Huawei	11		07/11/2005	Noted
R1-051453	Proposal for the reduced set of DL transmission parameters	ChinaMobile, Huawei, RITT, ZTE	8.2		11/11/2005	Noted. TP not agreed.
R1-051454	CQI feedback for EUTRA and text proposal	Samsung	8.2			Not Treated
R1-051455	MIMO techniques for Downlink E-UTRA Source	NEC Group	8.5			Noted
R1-051456	Transmission Scheme for E-UTRA	CATT, ZTE, RITT, Huawei, TD Tech	8.7			Withdrawn

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051457	Text Proposal on Transmission Scheme for E-UTRA	CATT, ZTE, RITT, Huawei, TD-Tech	8.7			Withdrawn
R1-051458	Some practical aspects for OFDM/OQAM channel estimation	France Telecom, Orange	8.2		10/11/2005	Noted
R1-051459	25.212CR0231(Rel-6, F) "Usage of 2xSF4 with puncturing"	Nokia	5.4	R1-051546		Revised in R1-051546
R1-051460	HS-DSCH serving cell change performance	Nokia	10		07/11/2005	Noted
R1-051461	TP on Uplink DPCCH Gating Concept Description	Nokia	11		07/11/2005	Agreed
R1-051462	TP on Uplink DPCCH Gating Concept Analysis	Nokia	11		07/11/2005	Agreed
R1-051463	UL DPCCH Gating - Link results	Nokia	11		07/11/2005	Noted
R1-051464	UL DPCCH Gating - Initial system results	Nokia	11		07/11/2005	Noted
R1-051465	New UL DPCCH Slot Formats for Inactive Periods	Philips	11	R1-051606	11/11/2005	Revised in R1-051606
R1-051466	Further Considerations for New UL DPCCH Slot Format for Inactive Periods	Philips	11	R1-051609	11/11/2005	Revised in R1-051609
R1-051467	Further simulation results for new UL DPCCH slot format for inactive periods	Philips	11	R1-051611	11/11/2005	Revised in R1-051611
R1-051468	Coded MIMO-OFDM Schemes for E-UTRA	Philips	8.5			Noted
R1-051469	Further simulation results for STTCC	Philips	9			Noted
R1-051470	Iterative table-driven (ITA) MIMO Concept for E-UTRA	Siemens	8.5			Noted
R1-051471	Text proposal to TR 25.903 to clarify terminology for Continuous Connectivity	Siemens	11	R1-051603		Revised in R1-051603
R1-051472	Text proposal to TR 25.903 to comparing Continuous Connectivity concepts	Siemens	11		11/11/2005	Continue discussion and revisit at RAN1#44
R1-051473	25.224CR0145(Rel-5,F)"Clarify the power control procedure of HS-SCCH for TDD"	ZTE	5.3	R1-051550		Revised in R1-051550
R1-051474	25.224CR0146(Rel-6,A)"Clarify the power control procedure of HS-SCCH for TDD"	ZTE	5.3	R1-051551		Revised in R1-051550
R1-051475	25.224CR0147(Rel-5,F)"Clarification of UL synchronization for HS-SICH in 1.28Mcps TDD"	ZTE	5.3		07/11/2005	Rejected

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051476	25.224CR0148(Rel-6,A)"Clarification of UL synchronization for HS-SICH in 1.28Mcps TDD"	ZTE	5.3		07/11/2005	Rejected
R1-051477	System level simulation results for MIMO	Ericsson	9	R1-051544		Revised in R1-051544
R1-051478	Multiple antenna solutions for E-UTRA	Ericsson	8.5			Noted
R1-051479	Basic Design Options for the Continuous Connectivity Feature	Lucent Technologies	11		11/11/2005	Noted
R1-051480	~~Simulation Results on VoIP Performance- HSDPA~~	~~Siemens~~	~~10~~			Withdrawn
R1-051481	lub signalling support for enhanced power control operation	Qualcomm Europe	5.5		07/11/2005	Continue discussion via email.
R1-051482	On F-DPCH power control (or lack thereof)	Qualcomm Europe	5.5		07/11/2005	Continue discussion at next meeting.
R1-051483	TP on HARQ operation for OFDM/FDM based E-UTRA uplink evaluation	Qualcomm Europe	8.1	R1-051572	08/11/2005	Revised in R1-051572
R1-051484	~~Further considerations on control/data-structure for OFDMA/FDMA based E-UTRA uplink.~~	~~Qualcomm Europe~~	~~8.1~~		07/11/2005	Withdrawn
R1-051485	Further comparison between OFDMA and FDMA based E-UTRA uplink	Qualcomm Europe	8.1	R1-051555		Revised in R1-051555
R1-051486	~~Further consideration on PAR aspects for OFDMA/FDMA based E-UTRA uplink~~	~~Qualcomm Europe~~	~~8.1~~			Withdrawn
R1-051487	~~Considerations on TTI and control channel-overhead for OFDMA/FDMA based E-UTRA~~	~~Qualcomm Europe~~	~~8.1~~		07/11/2005	Withdrawn
R1-051488	TP on HARQ operation for OFDMA based E-UTRA downlink (timing)	Qualcomm Europe	8.2			Not Treated
R1-051489	TP on pilot structure for OFDM based E-UTRA downlink unicast	Qualcomm Europe	8.2		10/11/2005	Noted
R1-051490	On Pilot Structure for OFDM based E-UTRA Downlink Multicast	Qualcomm Europe	8.2		10/11/2005	Noted
R1-051491	Evaluation of control overhead for OFDM based E-UTRA downlink	Qualcomm Europe	8.2			Not Treated
R1-051492	~~Signalling requirement in support of-interference management schemes for-OFDM based E-UTRA downlink~~	~~Qualcomm Europe~~	~~8.2~~		07/11/2005	Withdrawn
R1-051493	TP on channel structure for E-UTRA MBMS evaluation	Qualcomm Europe	8.2			Not Treated

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051494	TP on interference management for OFDM based E-UTRA downlink evaluation	Qualcomm Europe	8.2			Not Treated
R1-051495	SCH design considerations for WCDMA (LCR) based E-UTRA downlink	Qualcomm Europe	8.3		08/11/2005	Noted
R1-051496	TP on complexity aspects of E-UTRA Downlink	Qualcomm Europe	8.3	R1-051573	08/11/2005	Revised in R1-051573
R1-051497	TP on description on MC-WCDMA based E-UTRA	Qualcomm Europe	8.3		08/11/2005	Agreed
R1-051498	Further evaluation of WCDMA based E-UTRA uplink	Qualcomm Europe	8.4		08/11/2005	Noted
R1-051499	Further evaluation of WCDMA based E-UTRA downlink (LCR)	Qualcomm Europe	8.4		09/11/2005	Noted
R1-051500	Evaluation of OFDM based E-UTRA downlink with partial feedback sub-band scheduling	Qualcomm Europe	8.4		09/11/2005	Noted
R1-051501	TP for initial evaluation of WCDMA and OFDMA based E-UTRA downlink	Qualcomm Europe	8.4	R1-051580	09/11/2005	Revised in R1-051580
R1-051502	TP on system level comparison of Rel-6, MC-WCDMA (IC), OFDMA based uplink for E-UTRA	Qualcomm Europe	8.4		08/11/2005	Noted
R1-051503	TP on system evaluation of E-UTRA MBMS	Qualcomm Europe	8.4	R1-051579	09/11/2005	Revised in R1-051589
R1-051504	TP on possible MIMO schemes for OFDM-based E-UTRA Downlink	Qualcomm Europe	8.5	R1-051582		Revised in R1-051504
R1-051505	Initial comparison of MIMO schemes for OFDM based E-UTRA downlink	Qualcomm Europe	8.5			Noted
R1-051506	TP on quasi orthogonal uplink for OFDMA/FDMA based E-UTRA uplink	Qualcomm Europe	8.5			Noted
R1-051507	Proposal on the way forward E-UTRA multiple access technology evaluation	Qualcomm Europe	8.7		09/11/2005	Noted
R1-051508	System evaluation for MIMO-WCDMA	Qualcomm Europe	9			Noted
R1-051509	Proposed conclusion for the MIMO-WCDMA work item study phase	Qualcomm Europe	9			Noted
R1-051510	UE complexity evaluation for UTRA-FDD MIMO	Qualcomm Europe	9			Noted
R1-051511	HS-SCCH-less HS-PDSCH operation for improved support of IMS RT services	Qualcomm Europe	10		07/11/2005	Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051512	TP for 25.903	Qualcomm Europe	11	R1-051589		Revised in R1-051589
R1-051513	Channel sounding for LTE-FDD	Nortel				Not treated
R1-051514	Text Proposal on Downlink Transmission Scheme for E-UTRA	Ericsson, Alcatel, BenQ Mobile, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Samsung, Sharp, Siemens, Texas Instruments, Toshiba, ZTE	8.7	(R1-051440)		Not Treated
R1-051515	Downlink Transmission Scheme for E-UTRA	Ericsson, Alcatel, BenQ Mobile, Fujitsu, Institute for Infocomm Research, LG, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Samsung, Sharp, Siemens, Texas Instruments, Toshiba, ZTE	8.7	(R1-051441)	09/11/2005	Noted
R1-051516	Additional details on DCFB for obtaining MIMO channel information at Node B	Motorola	8.5			Noted
R1-051517	Multiplexing Distributed and Localized allocations	Motorola	8.2			Not Treated
R1-051518	TR25.809 v0.4.1	IPWireless	7		07/11/2005	Endorsed 0.5.0 in R1-051563.
R1-051519	TS25.202 v0.3.1	IPWireless	7		07/11/2005	Endorsed 0.4.0 in R1-051564.
R1-051520	Transport channel processing for the 7.68Mcps TDD option	IPWireless	7		07/11/2005	Agreed

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051521	Timeslot formats for the 7.68Mcps TDD option	IPWireless	7		07/11/2005	Agreed
R1-051522	Spreading and modulation for the 7.68Mcps TDD option	IPWireless	7		07/11/2005	Agreed
R1-051523	draft CR to TS25.222 for 7.68Mcps TDD option	IPWireless	7		07/11/2005	Noted
R1-051524	draft CR to TS25.221 for 7.68Mcps TDD option	IPWireless	7		07/11/2005	Noted
R1-051525	draft CR to TS25.223 for 7.68Mcps TDD option	IPWireless	7		07/11/2005	Noted
R1-051526	draft CR to TS25.224 for 7.68Mcps TDD option	IPWireless	7		07/11/2005	Noted
R1-051527	draft CR to TS25.225 for 7.68Mcps TDD option	IPWireless	7		07/11/2005	Noted
R1-051528	TR25.826 v0.2.1	IPWireless	6		07/11/2005	Endorsed 0.3.0 in R1-051562
R1-051529	EU-TDD: Further Details of E-AGCH	IPWireless	6		07/11/2005	Agreed
R1-051530	Physical channel aspects of TDD E-AGCH	IPWireless	6		07/11/2005	Agreed
R1-051531	Coding and Multiplexing of TDD E-AGCH	IPWireless	6		07/11/2005	Agreed
R1-051532	Timing Advance for 3.84Mcps TDD Enhanced Uplink	IPWireless	6		07/11/2005	Agreed
R1-051533	EU TDD: Multiplexing of E-UCCH and E-DCH	IPWireless	6		07/11/2005	Withdrawn
R1-051534	Frequency Selective Transmission for TDD Unscheduled Uplink	IPWireless	8.1		08/11/2005	Agreed.
R1-051535	Clarification on E-UTRA/UTRA TDD coexistence solutions	IPWireless, Mitsubishi Electric, Motorola, Ericsson	8.2			Not Treated
R1-051536	Frame structures for half duplex communications	Mitsubishi Electric, IPWireless	8.2		11/11/2005	Noted
R1-051537	Operation of the OFDMA DL and SC-FDMA / OFDMA UL in unpaired spectrum according to coexistence approach 2	IPWireless	8.7		09/11/2005	Noted
R1-051538	Framing structure compatible with 3.84Mcps TDD for E-UTRA coexistence approach 1	IPWireless	8.2			Not Treated

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051539	Per-Antenna Rate Control for UTRA TDD: Additional system Level Results	IPWireless	9			Noted
R1-051540	Reply LS on RAB and the error-delay-profile for the performance characterization of VoIMS over HSDPA/EUL (To: SA4, Cc: RAN1, RAN5)	RAN WG2, Ericsson	4	=R2-052616	07/11/2005	Provide a response from RAN1 to the original LS at next meeting
R1-051541	Improved Support of IMS Realtime Services using HSDPA/HSUPA (To:RAN1, RAN4, Cc:RAN3)	RAN WG2, Qualcomm	4	=R2-052619	07/11/2005	RAN1 could not reach to any agreement at this stage whether there is a problem (as described in the RAN2 document). It was decided to reports this status to RAN.
R1-051542	Considerations on LTE Architecture / SAE	Cingular Wireless	8		09/11/2005	Noted
R1-051543	Circular 16QAM for UL SC PAPR reduction	Fujitsu, NTT DoCoMo	8.1		08/11/2005	Noted
R1-051544	System level simulation results for MIMO	Ericsson	9	(R1-051477)		Noted
R1-051545	Draft Reply LS on verification of L1 parameters for multi-rate AMR-NB RAB using SRB#5	Nortel	4	R1-051554	07/11/2005	Revised in R1-051554
R1-051546	25.212CR0231r1(Rel-6, F) "Usage of 2xSF4 with puncturing"	Nokia, Samsung	5.4	(R1-051459)	07/11/2005	Agreed.
R1-051547	Reply to LS on Time Plan for FS on 3GPP System Architecture Evolution (To: SA2, Cc: SA3, RAN1, RAN2, RAN3, RAN)	SA WG1, NTT DoCoMo	4	= S1-051185	07/11/2005	Noted
R1-051548	LS on Higher data rates in MBMS user service (To: RAN1, SA4)	SA WG1, Huawei	4	= S1-051228	07/11/2005	Noted. Draft reply LS in R1-051559
R1-051549	Cell Search procedure for initial synchronization and neighbour cell identification	Nokia	8.2	(R1-051412)	10/11/2005	Noted
R1-051550	25.224CR0145r1(Rel-5,F)"Clarify the power control procedure of HS-SCCH for TDD"	ZTE	5.3	(R1-051473)	07/11/2005	Approved
R1-051551	25.224CR0146r1(Rel-6,A)"Clarify the power control procedure of HS-SCCH for TDD"	ZTE	5.3	(R1-051474)	07/11/2005	Approved
R1-051552	Void					
R1-051553	Response to LS (R2-052312) on VoIMS RAB (To:RAN2)	WG RAN1	4			Approved version
R1-051554	Draft Reply LS on multi-rate AMR-NB RAB using SRB#5	Nortel	4	(R1-051545)	10/11/2005	Approved as final version

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051555	Further comparison between OFDMA and SC-FDMA based E-UTRA uplink	Qualcomm Europe	8.1	(R1-051485)	08/11/2005	Noted
R1-051556	Enhancement of Distributed Mode for Maximizing Frequency Diversity	KDDI	8.2			Not Treated
R1-051557	Considerations on SC-FDMA Pilot Design	Freescall Semiconductor	8.1	(R1-051370)	08/11/2005	Noted
R1-051558	TP-A modification of frame structure for CP length	ZTE, CMCC	8.2	(R1-051358)	11/11/2005	Agreed.
R1-051559	Draft LS on Higher data rates in MBMS user service	Motorola	4		10/11/2005	Approved in R1-051592
R1-051560	LS on PL for Conversational / speech (12.65, 8.85, 6.6) kbps + Interactive 0 kbps (To: RAN2)	WG RAN1	4			Approved version
R1-051561	Draft Replay LS on High Bit Rate SRB	Siemens	4	(R1-051323)	10/11/2005	Approved in R1-051591
R1-051562	TR25.826 v0.3.0	IPWireless	6			Endorsed version
R1-051563	TR25.809 v0.5.0	IPWireless	7			Endorsed version
R1-051564	TS25.202 v0.4.0	IPWireless	7			Endorsed version
R1-051565	Text proposal for TR 25.903 on analysis of SIR target lowering concept	Siemens	11	(R1-051321)	11/11/2005	Agreed
R1-051566	Text proposal for 25.903 on Transitions between periods of activity and inactivity without signalling	Ericsson	11	(R1-051449)	11/11/2005	Agreed
R1-051567	TP on a MIMO scheme for OFDM based EUTRA downlink	NEC Group	8.5			Not Treated
R1-051568	Approved report from RAN1#42bis	RAN1 Vice Chairman, RAN1 Secretary	3			Approved version
R1-051569	TR25.814 v.0.4.0 Physical Layer Aspects for Evolved UTRA	Editor (NTT DoCoMo)	8			Endorsed version

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051570	Revised Text Proposal on Multiplexing Method of L1/L2 Control Signaling in Uplink Single-Carrier FDMA Radio Access	Ericsson, Fujitsu, Huawei, Mitsubishi Electric Corporation, Motorola, NEC, Nokia, NTT DoCoMo, Panasonic, Samsung, SHARP, Siemens, Toshiba Corporation	8.1		10/11/2005	Agreed
R1-051571	TP on Mapping position of control channel for Uplink SC-FDMA	Panasonic, Motorola	8.1		10/11/2005	Agreed
R1-051572	TP on HARQ operation for SC-FDMA/OFDMA based E-UTRA uplink evaluation	Qualcomm Europe, Samsung	8.1	(R1-051483), R1-051600	10/11/2005	Revised in R1-051600
R1-051573	TP on complexity aspects of WCDMA based E-UTRA Downlink	Qualcomm Europe	8.3	(R1-051496)	10/11/2005	Agreed
R1-051574	TP on system evaluation results	QUALCOMM Europe, Ericsson, Nokia, Nortel	8.4	R1-051601	10/11/2005	Revised in R1-051601
R1-051575	Further MIMO system level simulation results	Nokia	9			Noted
R1-051576	LS on WB-AMR reference configurations in 34.108 (To: RAN1, RAN5)	RAN WG2	4		10/11/2005	Noted. Draft Reply in R1-051585

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051577	Text proposal on Downlink and Uplink Transmission Scheme for E-UTRA	BenQ Mobile, CATT, Cingular, Ericsson, Fujitsu, Huawei, IPWireless, Institute for Infocomm Research, LG, Lucent, Mitsubishi, Motorola, NEC, Nokia, Nortel, NTT DoCoMo, Panasonic, Philips, RITT, Sharp, SHRCWC, Siemens, Toshiba	8.7		09/11/2005	Noted
R1-051578	Complexing comparison of 2*2 SIC to 1*2 LMMSE	Texas Instruments	9			Noted
R1-051579	TP on system evaluation of E-UTRA MBMS	Qualcomm Europe	8.4	(R1-051503)	10/11/2005	Agreed
R1-051580	TP for initial evaluation of WCDMA and OFDMA based E-UTRA downlink	Qualcomm Europe, Motorola, Samsung	8.4	(R1-051501)		Revised in R1-051608
R1-051581	(Draft LS) UTRAN LTE Multiple Access Selection	Nokia	8.7		10/11/2005	Approved in R1-051595
R1-051582	TP on possible MIMO schemes for OFDM-based E- UTRA Downlink	Qualcomm Europe	8.5	(R1-051504)		Noted

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051583	Way forward on MIMO for Release 7	Qualcomm Europe, 3, Agrere Systems, Cingular Wireless, Ericsson, IPWireless, TensorComm, Mitsubishi, TeliaSovera	9		11/11/2005	Noted
R1-051584	Text Proposal on E-UTRA Random Access	Ericsson	8.6	(R1-051445)	11/11/2005	Agreed
R1-051585	Draft Reply LS on WB-AMR reference configurations in 34.108	Nokia	4			Approved in R1-051625 after the meeting
R1-051586	TR25.809 v0.5.1	IPWireless	7		11/11/2005	Noted
R1-051587	TR25.202 v0.4.1	IPWireless	7		11/11/2005	Noted
R1-051588	Cross correlation properties of basic midamble codes for 7.68Mcps TDD option	IPWireless	7			Noted in RAN1 reflector after the meeting.
R1-051589	TP for 25.903	Qualcomm Europe	11	(R1-051512), R1-051612	11/11/2005	Revised in R1-051612
R1-051590	S-CCPCH power offset for MBMS reception (To: RAN4, Cc:RAN1)	RAN WG2	4		11/11/2005	Noted
R1-051591	Replay LS on High Bit Rate SRB (To: RAN2)	WG RAN1	4			Approved version
R1-051592	LS on Higher data rates in MBMS user service (To: SA1, SA2)	WG RAN1	4			Approved version
R1-051593	Performance Evaluation for DL HSDPA and E-UTRA OFDM	Motorola	8.4	R1-051613		Revised in R1-051613
R1-051594	25212 CR0232 (Rel-6, F) "Removal of Chase Combining"	Siemens	5.4		11/11/2005	Rejected
R1-051595	UTRAN LTE Multiple Access Selection (To: RAN)	RAN WG1	8.7			Approved version
R1-051596	TP on Downlink Pilot Structure for EUTRA	Qualcomm Europe, Nortel, Samsung	8.2	R1-051599	10/11/2005	Revised in R1-051599 merged with R1-051327.
R1-051597	MIMO AH Chairman's notes	MIMO AH Chairman	8.5 / 9		11/11/2005	Endorsed

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051598	RAN1 conclusion on HSDPA MIMO	TI, Nokia, Motorola, Nortel , Samsung, Panasonic, NEC, Vodafone, Siemens, ZTE, ETRI	9	R1-051610		Revised in R1-051610
R1-051599	Text proposal for 7.1.1.2.2 (Downlink reference-signal structure)	Ericsson	8.2	(R1-051327, R1-051596)	11/11/2005	Agreed
R1-051600	TP on HARQ operation for SC-FDMA/OFDMA based E-UTRA uplink evaluation.	Qualcomm Europe, Samsung, IP Wireless, ZTE	8.1	(R1-051572)	11/11/2005	Agreed
R1-051601	TP on system evaluation results	QUALCOMM Europe, Ericsson, Nokia, Nortel	8.4	(R1-051574)	10/11/2005	Agreed
R1-051602	TR25.903 v0.1.1 Continuous Connectivity for Packet Data Uses	Editor, Siemens	11			Endorsed as version 0.2.0 in R1-051617
R1-051603	Text proposal to TR 25.903 to clarify terminology for Continuous Connectivity	Siemens	11	(R1-051471)	11/11/2005	The first paragraph of the TP is agreed
R1-051604	TP on MIMO LTE based on summary	MIMO AH Chair	8.5	R1-051622		Revised in R1-051622
R1-051605	(Draft LS) Results of study on the benefits of MIMO in Rel-7	MIMO AH Cnairman	9		11/11/2005	Revised in R1-051615
R1-051606	New UL DPCCH Slot Formats for Inactive Periods	Philips	11	(R1-051465)	11/11/2005	Agreed
R1-051607	LS on Support of Different Combining Schemes (To;RAN1, Cc: RAN2)	RAN WG3, Siemens	4		11/11/2005	Discuss LS and LS reply (R1-051614) over email, and (if needed) agree on RAN1 CR for removal of Chase via email (until Nov 22).
R1-051608	TP on downlink performance evaluation	Qualcomm Europe, Motorola, Samsung	8.4		11/11/2005	Agreed

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051609	Further Considerations for New UL DPCCH Slot Format for Inactive Periods	Philips	11	(R1-051466)	11/11/2005	Agreed
R1-051610	RAN1 conclusion on HSDPA MIMO	Nokia, TI, Motorola, Nortel, Samsung, Panasonic, NEC, Vodafone, Siemens, ZTE, Fujitsu, ETRI	9	(R1-051598)	11/11/2005	Noted
R1-051611	Further simulation results for new UL DPCCH slot format for inactive periods	Philips	11	(R1-051467)	11/11/2005	Agreed
R1-051612	TP for 25.903	Qualcomm Europe	11	(R1-051589)	11/11/2005	Agreed
R1-051613	Performance Evaluation for DL HSDPA and E-UTRA OFDM	Motorola, Texas Instruments	8.4	(R1-051593)		Not Treated
R1-051614	Support of Different Combining Schemes	Siemens	4			Approved as the final version on the RAN1 reflector after the meeting.
R1-051615	Results of study on the benefits of MIMO in Rel-7 (To: RAN)	WG RAN1	9	(R1-051605)	11/11/2005	Approved as final version.
R1-051616	Text proposal for Numerology for EUTRA TDD co-existing with UTRA TDD LCR	CATT, RITT, ZTE, TD-tech	8.2	(R1-051400)		Agreed on the reflector after the meeting
R1-051617	TR25.903 v0.2.0 Continuous Connectivity for Packet Data Uses	Editor, Siemens	11			Endorsed version
R1-051618	TR25.814 v.0.4.1 Physical Layer Aspects for Evolved UTRA	Editor (NTT DoCoMo)	8			Withdrawn
R1-051619	TR25.809 v0.5.2	IPWireless	7			This version was endorsed as v1.0.0 and sent out to RAN#30
R1-051620	TR25.202 v0.4.2	IPWireless	7			This version was endorsed as v1.0.0 and sent out to RAN#30
R1-051621	25.804CR0001r1(Rel-6, F) "Simulation results of LCR TDD enhanced uplink"	CATT	5.4	(R1-051404)		The email discussion could not reach to agreement, so continue to discuss.
R1-051622	Text proposal for summarizing the LTE MIMO discussion	MIMO AH Chairman	8.5	(R1-051604)		Agreed on the RAN1 reflector
R1-051623	TR25.814 v.0.4.1 Physical Layer Aspects for Evolved UTRA	Editor (NTT DoCoMo)	8			Updated to R1-051624.
R1-051624	TR25.814 v.0.4.2 Physical Layer Aspects for Evolved UTRA	Editor (NTT DoCoMo)	8			This version was endorsed as v0.5.0 and sent out to RAN#30

3GPP TSG RAN WG1 Meeting #44
Denver, USA, 13 – 17 February, 2006

R1-060755

NUMBER	TITLE	SOURCE	AGEND A ITEM	REVISED BY (From)	Treated Date	Conclusion/decision
R1-051625	Reply LS on WB-AMR reference configurations in 34.108 (To: RAN)	WG RAN1	4			Approved version
R1-051626	Reference scenario for the selection of the UTRA MIMO scheme	Cingular Wireless, Orange, 3, Telecom Italia, T-Mobile, Vodafone Group				This document was submitted tentatively as the contribution for RAN1#43 meeting according to the decision on RAN#30 meeting

Annex F: List of actions

1. R1-051363 "Discussion for response to LS on Synchronization of Reconfiguration with activation time "now"": Continue discussion in RAN1 before sending reply LS to RAN2.
2. R1-051540 "Reply LS on RAB and the error-delay-profile for the performance characterization of VoIMS over HSDPA/EUL (To: SA4, Cc: RAN1, RAN5)": Provide a response from RAN1 to the original LS at next meeting.
3. R1-051585 "Draft Reply LS on WB-AMR reference configurations in 34.108": E-mail approval until November 18th (Nokia)
4. R1-051607 "LS on Support of Different Combining Schemes (To: RAN1, Cc: RAN2)": Discuss this LS and LS reply (R1-051614) over email, and (if needed) agree on RAN1 CR for removal of Chase (R1-051594) via email (until November 22nd). (Siemens)
5. R1-051404 "25.804CR0001(Rel-6, F) "Simulation results of LCR TDD enhanced uplink": Issues should be raised on the reflector and shall be addressed (if possible) until before RAN#30, results captured in a new CR. E-mail approval until November 22nd (CATT)
6. R1-051594 "25212 CR0232 (Rel-6, F) "Removal of Chase Combining"": Discuss via e-mail until November 22nd. (Siemens).
7. R1-051331 "Basic Midamble Codes for 7.68 Mcps TDD Option"; Provide Requests for additional results to be made on the reflector, provide results (if possible) until before RAN#30, and if agreed the text proposal will be captured in TR and TS to be provided in RAN plenary as information. (IPWireless)
8. R1-051393 "CQI-based Transmission Power Control for Control Channel in Evolved UTRA Uplink"; Provide the text proposal in next meeting. (NTT DoCoMo)
9. R1-051400 "Numerology of EUTRA TDD based on OFDMA and text proposal for TR 25.814": Revise the TP (provide until November 14th) in R1-051616 and agree via email until November 18th. (CATT)
10. R1-051536 "Frame structures for half duplex communications": Continue discussion until next meeting.
11. R1-051604 "TP on LTE MIMO based on Summary": E-mail approval until November 22nd
12. R1-051603 "Text proposal to TR 25.903 to clarify terminology for Continuous Connectivity": Discussed the remaining parts (not agreed parts) further via email (conclude email discussion latest 2 weeks before RAN1#44). (Siemens)
13. R1-051602 "TR25.903 v0.1.1 Continuous Connectivity for Packet Data Uses": Provide updated TR via email, email agreement before RAN.(Siemens)