UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner

v.

TELEFONAKTIEBOLAGET LM ERICSSON,

Patent Owner

Inter Partes Review Case No. IPR2022-00648

U.S. Patent No. 9,860,044

DECLARATION OF FRIEDHELM RODERMUND IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF PATENT NO. 9,860,044

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I, Friedhelm Rodermund, declare as follows:

I. INTRODUCTION AND ENGAGEMENT

1. I have been retained in this matter by Apple Inc. ("Petitioner" or "Apple") to provide testimony regarding 3GPP's standard business practices for record keeping and publishing technical specifications, change request proposals, reports, and other documents developed during the course of standards activities carried out by the 3rd Generation Partnership Project ("3GPP") and the European Telecommunications Standards Institute ("ETSI").

2. I have been asked to provide my opinions regarding the authenticity and dates of public accessibility of the following 3GPP documents:

- T-doc R1-082999, which represents a document with the title "Support of UL/DL asymmetric carrier aggregation" (hereinafter "R1-082999", Ex. 1006)
- T-doc R1-090792, which represents a document with the title "Control Signalling Design for Supporting Carrier Aggregation" (hereinafter "R1-090792", Ex. 1007)
- T-doc R1-083679, which represents a document with the title "UL Layered Control Signal Structure in LTE-Advanced" (hereinafter "R1-083679", Ex. 1008)

- Version 8.5.0 of technical specification 3GPP TS 36.211 ("Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Physical Channels and Modulation (Release 8)") (hereinafter "TS 36.211 v8.5.0") (Ex. 1009)
- Version 8.5.0 of technical specification 3GPP TS 36.213 ("Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures (Release 8)") (hereinafter "TS 36.213 v8.5.0", Ex. 1011)
- Version 8.5.0 of technical specification 3GPP TS 36.331 ("Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 8)") (hereinafter "TS 36.331 v8.5.0", Ex. 1012)
- Version 9.0.0 of a technical report 3GPP TR 36.912 ("Feasibility study for Further Advancement for E-UTRA (LTE-Advanced); (Release 9)") (hereinafter "TR 36.912 v9.0.0", Ex. 1021)

3. As an ETSI Project Manager and Secretary, from June 1998 to December 2004, I have personal knowledge of 3GPP's standard business and records keeping practices. I continued following 3GPP's work ever since. Thus, based on my experience, personal knowledge, and review of 3GPP's business

records, I am able to testify regarding the authenticity of certain documents published by 3GPP and the timing of their publication.

4. I am also knowledgeable about document management practices and the usage of email reflectors in TSG RAN WG1 and WG2. This is due to the fact that all 3GPP working groups used the same document repository on ftp.3gpp.org and all working groups use the same email exploder tool. Thus, I'm able to testify regarding the availability and authenticity of any 3GPP documents.

5. I am being compensated for my time spent on this matter at my usual rate of €450 per hour. My fee is not contingent on the outcome of this or any matter, or on the content of any of the testimony I give in this declaration. I have no financial interest in Petitioner.

6. I have been informed that Ericsson (hereinafter referred to as "Patent Owner") alleges ownership and is the current assignee of U.S. Patent No. 9,860,044 ("the '044 Patent") (Ex. 1001). I have no financial interest in the Patent Owner or the '044 patent.

II. BACKGROUND AND QUALIFICATIONS

7. I have more than 20 years of experience working with standards development organizations including the Third Generation Partnership Project ("3GPP"), the European Telecommunications Standards Institute ("ETSI"), and the Open Mobile Alliance ("OMA"). I have particular experience with the development

of standards related to cellular telecommunications, including the standards for the Universal Mobile Telecommunications System ("UMTS"), Long Term Evolution ("LTE"), and 5G, which are all standards developed by the 3GPP.

8. I attended the University of Technology Aachen in Aachen, Germany, where I performed graduate studies in Electrical Engineering with a focus on telecommunications technologies ("Dipl.-Ing. TH" degree). I also attended the University of Technology Trondheim in Trondheim, Norway, and completed my Diploma thesis, "Design of a dual processor computer for digital signal processing in power electronics," in 1993.

9. From December 1993 to June 1998, I worked at Mannesmann Mobilfunk as a System Engineer and Project Manager in Quality Assurance and Technical Standards. One of my responsibilities was to ensure by managing and performing related test activities that cellular network equipment was compatible with the Global System for Mobile Communications ("GSM") standard developed by ETSI. During that time, I also started working as a standards delegate. I attended my first ETSI meeting in 1996 (although I was already following ETSI developments from 1992 during my studies).

10. From June 1998 to December 2004, I worked at ETSI as a project manager for various ETSI Special Mobile Group ("SMG") and 3GPP working groups. First, I served as a secretary of SMG4 "Data Services" and SMG8 "Base

Stations Testing." Then, as a project manager with the ETSI Mobile Competence Center ("MCC"), I supported establishing 3GPP as the new international standards development organization for cellular telecommunications. One of my roles was acting as Secretary for 3GPP's Technical Specifications Group Terminals, Working Group ("T2"), the group which played a leading role in the creation of standards for Multimedia such as the Multimedia Messaging Service ("MMS").

11. Later, I was a secretary of the highest-level Technical Specifications Group Terminals which was besides other things responsible for the development of test specifications including tests for the radio interface.

12. I edited all technical specifications produced by my working groups and presented results to the parent body for approval. I attended all meetings (apart from some sub-working group meetings) and was also responsible for compiling meeting reports, for handling all the meeting documents, and managing the work plan. It was also my role to guide the groups and to advise the chairmen regarding 3GPP working methods and procedures including document handling, and to make sure delegates were aware of their company's obligations under the 3GPP Intellectual Property Right policy.

13. As part of my responsibilities at ETSI, I acted as a 3GPP custodian of records by personally managing 3GPP's public File Transfer Protocol (ftp) folders, which I used to make publicly accessible various 3GPP documents, including

versions of 3GPP specifications, technical reports, liaison statements, change requests, contributions, agendas, meeting reports, and other 3GPP documents from my working groups. I am also knowledgeable about document management practices used in other working groups and within 3GPP in general with regard to making documents publicly accessible through the same, public ftp server of 3GPP.

14. Since I left ETSI as a staff member in 2005, I have been continuously involved in standardization activities, including with Open Mobile Alliance, ETSI, and 3GPP. Since 2017, I also have been attending the ETSI IPR Special Committee, which is responsible for the maintenance of the ETSI IPR Policy.

15. After I left ETSI, I worked from January 2005 to October 2014 at Vodafone, first as a Project Manager for Mobile Broadcast Standards, and then as Vice Chairman of the Device Management working group of the Open Mobile Alliance, and then as a Senior Standards Strategist, all with responsibilities as described on my C.V. At Vodafone, I was deeply involved in standards work with ETSI and 3GPP and other standards setting organizations, including as a delegate to 3GPP SA1 "Services." As part of my responsibilities, I attended selected 3GPP meetings, submitted documents to 3GPP, used 3GPP resources (including 3GPP's ftp server) extensively, and remained knowledgeable about 3GPP policies and procedures with regard to document management and public accessibility. I was also

involved in the creation of patents, defense activities related to patent litigations, and patent evaluation, mostly in the context of standards development.

16. Since leaving Vodafone in 2014, I have performed consulting work regarding Internet of Things (IoT) and Machine to Machine (M2M) technology and standards, first at Friedhelm Rodermund Consulting and then as the Founder and Director of IOTECC GmbH. In connection with my work, I regularly deal with standards such as OMA's Lightweight M2M, 3GPP's LTE, Narrowband IoT (NB-IoT) and 5G standards. And I have extensively used 3GPP resources and have remained knowledgeable about 3GPP policies and procedures with regard to document management and public accessibility.

17. I also provide consulting services related to patents, in particular around 3GPP Standard Essential Patents ("SEPs"), and I have been working as an expert witness on a number of occasions. I continue to closely follow the maintenance of the ETSI IPR Policy as a delegate to the ETSI IPR Special Committee. Furthermore, I'm conducting a seminar on SEPs and the Internet of Things at the Technical University of Ilmenau, Germany.

18. At the time of writing this declaration, I am following – including attending selected meetings - the following standards committees: ETSI oneM2M, ETSI IPR Special Committee, Open Mobile Alliance, and 3GPP.

19. A copy of my curriculum vitae, which includes a detailed description of my experience and education, is attached as Appendix A. A list of litigation matters on which I have worked over the last five years is also included in my curriculum vitae.

III. SUMMARY OF MY OPINIONS

20. It is my opinion that R1-082999 (Ex. 1006) is an authentic 3GPP T-doc and would have been publicly accessible through ftp.3gpp.org no later than August 12, 2008.

21. It is my opinion that R1-090792 (Ex. 1007) is an authentic 3GPP T-doc and would have been publicly accessible through ftp.3gpp.org no later than February 3, 2009.

22. It is my opinion that R1-083679 (Ex. 1008) is an authentic 3GPP T-doc and would have been publicly accessible through ftp.3gpp.org no later than September 24, 2008.

23. It is my opinion that TS 36.211 v8.5.0 (Ex. 1009) is a technical specification published by 3GPP and would have been publicly accessible through ftp.3gpp.org as of December 18, 2008.

24. It is my opinion that TS 36.213 v8.5.0 (Ex. 1011) is a technical specification published by 3GPP and would have been publicly accessible through ftp.3gpp.org as of December 22, 2008.

25. It is my opinion that TS 36.331 v8.5.0 (Ex. 1012) is a technical specification published by 3GPP and would have been publicly accessible through ftp.3gpp.org as of March 20, 2009.

26. It is my opinion that TR 36.912 v9.0.0 (Ex. 1021) is a technical report published by 3GPP and would have been publicly accessible through ftp.3gpp.org as of September 28, 2009.

IV. PUBLICATION OF 3GPP SPECIFICATIONS AND RELATED DOCUMENTS

A. General Practices

27. Unless otherwise noted, the following is an accurate description of 3GPP general practices from 1998 to the present, regardless of whether I use the present or past tense to describe those practices.

28. 3GPP was established in 1998 by a group of telecommunications standard development organizations from Japan, Korea, China, Europe, and the United States to jointly develop worldwide standards for mobile telecommunications. Today, 3GPP consists of seven partners: Association of Radio Industries and Businesses, Japan ("ARIB"), Alliance for Telecommunications Industry Solutions, USA ("ATIS"), China Communications Standards Association ("CCSA"), European Telecommunications Standards Institute ("ETSI"), Telecommunications Technology Association, Korea ("TTA"), Telecommunication Technology Committee, Japan ("TTC"). In addition to being one of the founding

partners, ETSI hosts the Mobile Competence Centre ("MCC"), which provides administrative and technical support to the day-to-day work of 3GPP. Furthermore, ETSI manages 3GPP's IT services such as the 3GPP website, ftp server, and email exploders.

29. 3GPP is the world's leading organization for developing and maintaining cellular telecommunications standards, which it has done since its foundation in 1998. As noted above and in my C.V., I began working for 3GPP, as part of my work at ETSI, the European-based organizational partner of 3GPP.

30. In the ordinary course of its regularly conducted business activities, and pursuant to its standard business practices, 3GPP publishes technical specifications, proposals, reports, and other documents related to the development of cellular telecommunications standards. Such documents are published for the purposes of discussion and establishment of industry standards for cellular telecommunications. This has been 3GPP's ordinary course of business since when I began working at ETSI in 1998.

31. In the ordinary course of 3GPP's regularly conducted business activities, and pursuant to its standard business practices, all draft technical specifications, proposals, reports, and other temporary documents to be discussed or considered in relation to 3GPP's telecommunications standards activities were, and continue to be, assigned a temporary document number and made publicly available,

including on the ftp server associated with the 3GPP website, currently residing at ftp.3gpp.org. Such documents are referred to as "T-docs." Final versions of the technical specifications also were, and continue to be, publicly available from that same ftp server.

32. The names and the structure of 3GPP working groups can be found below[1]:

[1] See https://www.3gpp.org/specifications-groups

Project Co-ordination Group (PCG)		
TSG RAN Radio Access Network	**TSG SA** Service & System Aspects	**TSG CT** Core Network & Terminals
RAN WG1 Radio Layer 1 (Physical layer)	SA WG1 Services	CT WG1 User Equipment - Core Network protocols
RAN WG2 Radio layer 2 and Radio layer 3 Radio Resource Control	SA WG2 System Architecture and Services	CT WG3 Interworking with External Networks & Policy and Charging Control
RAN WG3 UTRAN/E-UTRAN/NG-RAN architecture and related network interfaces	SA WG3 Security and Privacy	CT WG4 Core Network Protocols
RAN WG4 Radio Performance and Protocol Aspects	SA WG4 Multimedia Codecs, Systems and Services	CT WG6 Smart Card Application Aspects
RAN WG5 Mobile Terminal Conformance Testing	SA WG5 Management, Orchestration and Charging	
	SA WG6 Application Enablement and Critical Communication Applications	
RAN AH1 RAN ad hoc group on ITU-R		

33. Each Technical Specification Group (TSG) or Working Group adopts a structured numbering system for the documents associated with their meetings, and those systems typically follow a consistent numbering system as shown in the following example: xminnzzzz. The numbering system normally comprises five logical elements: (1) x: a single letter corresponding to the TSG; where in 2007/2008 x was one of R (Radio Access Network), C (Core and Terminals), S (Service and System Aspects), or G (GSM/EDGE Radio Access Network); (2) m: A single character corresponding to the Working Group identity (typically 1, 2, 3, etc.) or, in

the case of the TSG itself, the letter "P"; (3) i: Normally the hyphen character "-"; (4) nn: the calendar year of the meeting to which the document was submitted; (5) zzzz: a running number (some Working Groups use 5 digits).

34. In the ordinary course of 3GPP's regularly conducted business activities, and pursuant to its standard business practices, from December 1998 onwards, 3GPP published all of its T-docs and all final versions of its technical specifications on its ftp server, which has always been easily and publicly accessible from its website and currently resides at ftp.3gpp.org.

35. As early as December 1998, 3GPP's ftp server was freely accessible to the general public with no login, password, or membership requirement.

36. By 1999, at least 100 companies were members of 3GPP (by December 2020: 719 companies), ranging from Bosch to Ericsson to Nokia to Samsung and generally including those interested in the discussion, creation, and adoption of cellular telecommunications standards, including UMTS. Each of these companies typically delegated multiple individuals to regularly participate in 3GPP meetings. Further, pursuant to 3GPP's standard business practices, 3GPP working groups sent emails notifying these individuals as soon as new or additional documents had been uploaded to 3GPP's ftp server. Thus, not only did the general public have access to the documents on the ftp server, but some of the most interested members of the public—those working to develop standards for cellular telecommunication or

working to implement the standards—were personally informed of their availability by email. Based on my experience with 3GPP and the telecommunications industry, I would expect any person implementing a cellular network or device, e.g., an UMTS, LTE, or 5G network or device, to consult the corresponding specifications on the 3GPP ftp server, as well as other related documents. The whole purpose of 3GPP creating and making these specifications available was so that engineers and other individuals would have ready access to them when developing and implementing cellular networks and devices.

37. By June 1999, 3GPP's ftp server was well-known to persons in the cellular telecommunications industry as a source of public information regarding industry standards and technological advances.

38. 3GPP specifications bear a specification number consisting of four or five digits, e.g., 09.02 or 29.002. The first two digits define the specification series which are defined to group the different aspects of the 3GPP system into e.g., requirements, service aspects, radio aspects codecs, security aspects, and test specifications. The series digits are followed by two additional digits for the 01 to 13 series or three further digits for the 21 to 55 series. The subjects of the individual specification series are explained on 3GPP's website at https://www.3gpp.org/specifications/specification-numbering, and reproduced below:

Subject of specification series	3G and beyond / GSM (R99 and later)	GSM only (Rel-4 and later)	GSM only (before Rel-4)
General information (long defunct)			00 series
Requirements	21 series	41 series	01 series
Service aspects ("stage 1")	22 series	42 series	02 series
Technical realization ("stage 2")	23 series	43 series	03 series
Signalling protocols ("stage 3") - user equipment to network	24 series	44 series	04 series
Radio aspects	25 series	45 series	05 series
CODECs	26 series	46 series	06 series
Data	27 series	47 series (none exists)	07 series
Signalling protocols ("stage 3") -(RSS-CN) and OAM&P and Charging (overflow from 32.- range)	28 series	48 series	08 series
Signalling protocols ("stage 3") - intra-fixed-network	29 series	49 series	09 series
Programme management	30 series	50 series	10 series
Subscriber Identity Module (SIM / USIM), IC Cards. Test specs.	31 series	51 series	11 series
OAM&P and Charging	32 series	52 series	12 series
Access requirements and test specifications		13 series (1)	13 series (1)
Security aspects	33 series	(2)	(2)
UE and (U)SIM test specifications	34 series	(2)	11 series
Security algorithms (3)	35 series	55 series	(4)
LTE (Evolved UTRA), LTE-Advanced, LTE-Advanced Pro radio technology	36 series	-	-
Multiple radio access technology aspects	37 series	-	-
Radio technology beyond LTE	38 series	-	-

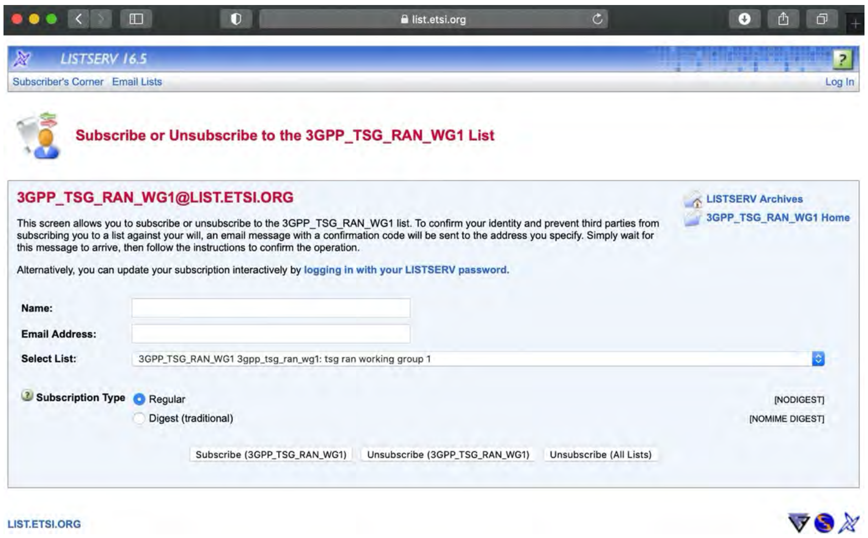
39. The LTE radio standard is covered in the "36 series" and is further subdivided into separate sections or specifications. The LTE radio specification starts at TS 36.101 and ends at TR 36.978. Excluding withdrawn specifications, the LTE standard consists of more than 250 specifications. Each specification can span from a few pages to hundreds of pages. One full version of the LTE standard is massive, spanning tens of thousands of pages.

40. In the ordinary course of 3GPP's regularly conducted business activities, and pursuant to its standard business practices, T-docs are usually uploaded to 3GPP's ftp server and website before the meeting where they are to be discussed. Documents created or revised during the course of a meeting are normally uploaded at the latest during the week following the meeting (e.g., the meeting report of the meeting is usually published for review during the week following the meeting).

41. In the ordinary course of 3GPP's regularly conducted business activities, and pursuant to its standard business practices, 3GPP maintains archives that include different versions of the specifications, as well as email communications to its membership, including emails announcing the uploading of new or additional documents to 3GPP's ftp server. These archives are created at the time the emails are initially sent.

42. At least as early as July 1999, all of 3GPP's email archives, including the dedicated email list for TSG RAN WG1 were freely accessible to the general public at https://list.etsi.org/ with no login, password, or membership requirement. The screen shot below represents the subscription page of the 3GPP RAN WG1 email list demonstrating that this webpage is publicly available and that only email address and name have to be entered to join the email list. Alternatively, everyone interested can obtain a LISTSERV password for managing subscriptions

interactively without email confirmations. I can confirm that this webpage looked similar in 2009 and that subscription was already possible for every interested individual since the early days of 3GPP in 1999.



43. Each of 3GPP's members companies typically assigned one or more individuals to regularly participate in these email lists. Thus, not only did the general public have access to the emails in 3GPP's email archives, but some of the most interested members of the public–those working to develop standards for cellular telecommunication–personally received copies of such emails through their participation in the email list.

44. By June 1999, 3GPP's email archives were well-known to persons in the cellular telecommunications industry as a source of public information and of

technical specifications, proposals, meeting announcements, technical discussions and reports regarding industry standards and technological advances.

45. Based on my experience with 3GPP and the telecommunications industry, I would expect a person interested in the development of cellular standards, e.g., LTE, to consult the emails archives of the working groups and TSGs that person is interested in, and/or, to be subscribed to the corresponding email reflectors to receive any email notifications in real-time.

46. 3GPP specifications almost always are duplicated in at least two and sometime more locations on the ftp server. One location corresponds to a "snapshot" of the specifications corresponding to a particular plenary meeting cycle, e.g., the 2018-12 snapshot contains a snapshot of numerous specifications after the December 2018 3GPP plenary meetings. The second location is an "archive" that contains all versions over time for a given specification. While 3GPP aims to upload the updated specifications to both locations at the same time, occasionally there may be a small difference in the upload date, and thus the date stamp, for the same specification uploaded to the two locations. Additionally, specifications which are not yet approved (so call "draft" specifications) are available as T-docs at working group and at plenary meetings (as soon the working group decides to submit the specification to the plenary meeting for information or approval).

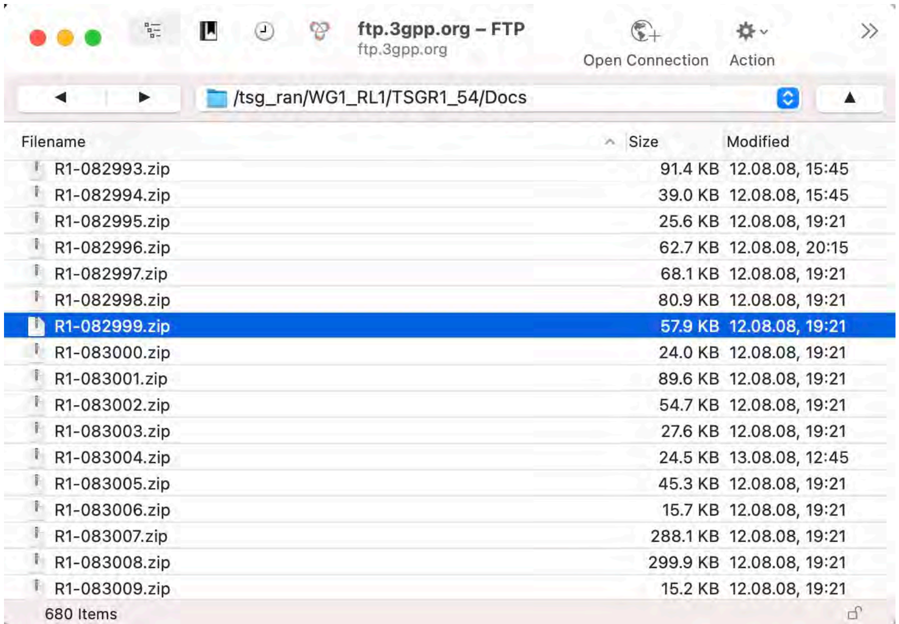
47. The timestamp on 3GPP's ftp server shows the date when the document was uploaded the last time. Thus, the timestamp shows the latest possible date the document became publicly available and accessible on 3GPP's ftp server. The given document might have been available earlier and the original timestamp might have been overwritten because the document was uploaded again. According to my experience, this is something which happened quite frequently. Thus, the ftp timestamp is reliable as the latest possible upload date, but one cannot determine whether it represents the first upload of a document to the ftp server.

48. 3GPP's working practice to store their documents on their ftp server, as described above, has not changed over time. Starting from the first 3GPP meetings in 1998 until present, all WGs and plenary meetings are represented by dedicated meeting folders on the ftp server. These meeting folders include the documents discussed at the meetings. Both the folders and the documents are accessible to the public. Almost every week, a new meeting folder with the respective documents is added. In addition to the plenary and WG meeting folders, and some other folders, there is also the "Specs" folder, which holds all 3GPP specifications including the aforementioned "snapshot" and archive folders. Since the early days of 3GPP a new folder is added inside the "Specs" folder after each TSG plenary meeting to hold the latest versions of specifications approved at those TSG plenary meetings. This is still 3GPP's working practice today; thus, this practice has not changed over time.

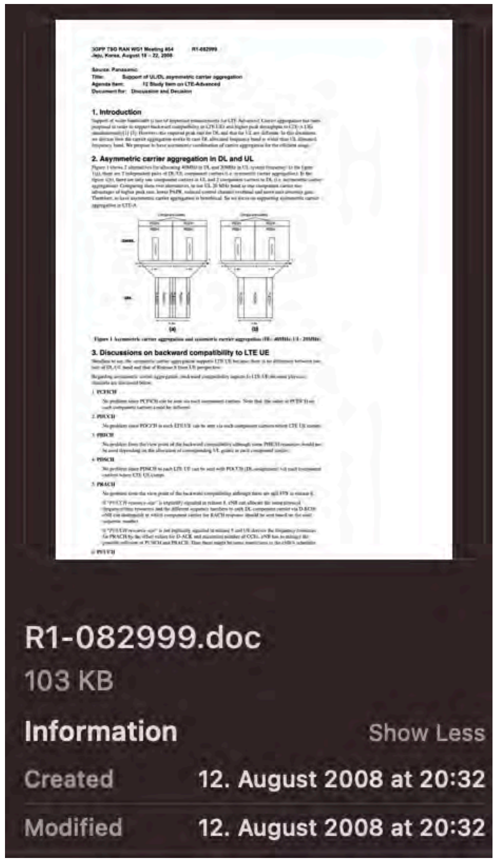
B. Specific Documents

1. R1-082999

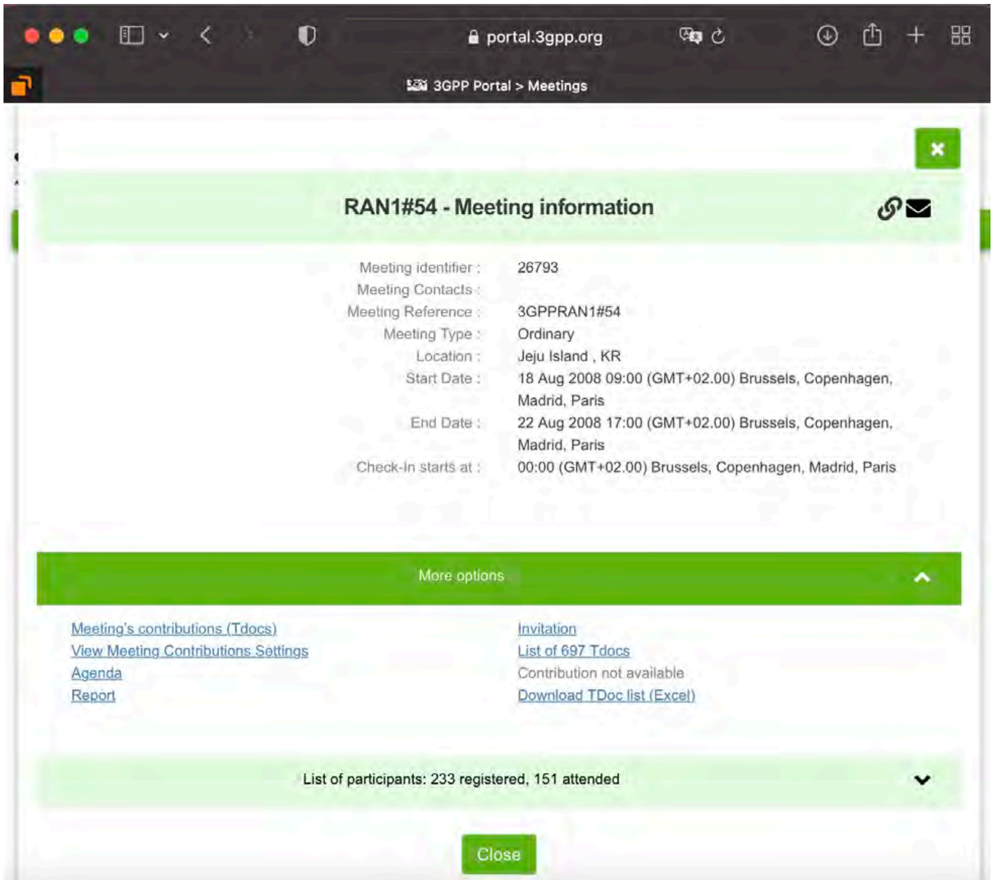
49. Based on my personal knowledge and my review of 3GPP's business records, I recognize Ex. 1006 as a true and correct copy of T-doc R1-082999, which represents a document submitted by Panasonic with the title "Support of UL/DL asymmetric carrier aggregation." The document discusses asymmetric carrier aggregation in both the uplink (UL) and downlink (DL) for LTE Advanced. On its face, R1-082999 refers to the RAN WG1 meeting #54 held on August 18-22, 2008, in Jeju, Korea. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that R1-082999 was available either prior or during that meeting to at least all attending 3GPP members. The availability of the document is confirmed by the date stamp, August 12, 2008, shown for the corresponding downloadable file ("R1-082999.zip") on the 3GPP ftp server at https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_54/Docs as can be seen by the screen shot below.



50. In addition, the information for the downloaded and extracted T-doc file states a last Modified date of "12. August 2008." Here is a screen shot showing those file details:



51. The official meeting report of the RAN WG1 meeting #54 held on August 18 – 22, 2008, in Jeju, South Korea can be found in Appendix B. According to the 3GPP website at https://portal.3gpp.org/Meetings.aspx#/ which is shown by the screen shot below, that meeting was attended by 151 individuals (out of 233 registered participants):



52. The meeting report mentions T-doc R1-082999 on page 59 which clearly indicates that the document was available at the meeting. The screen shot below shows an excerpt of page 59 of the meeting report:

Support of Wider Bandwidth

R1-082999	Support of the UL/DL asymmetric carrier aggregation	Panasonic	

The document was presented by Akihiko Nishio from Panasonic and discusses the support of asymmetric carrier aggregation in LTE-A system to handle asymmetric DL/UL traffic effectively. The paper also states that it is preferable to signal the "*PUCCH-resource-size*" explicitly in release 8 at least in FDD system to ensure the extensibility of the LTE spec.

Discussion (Question / Comment):
Decision: Document is noted.

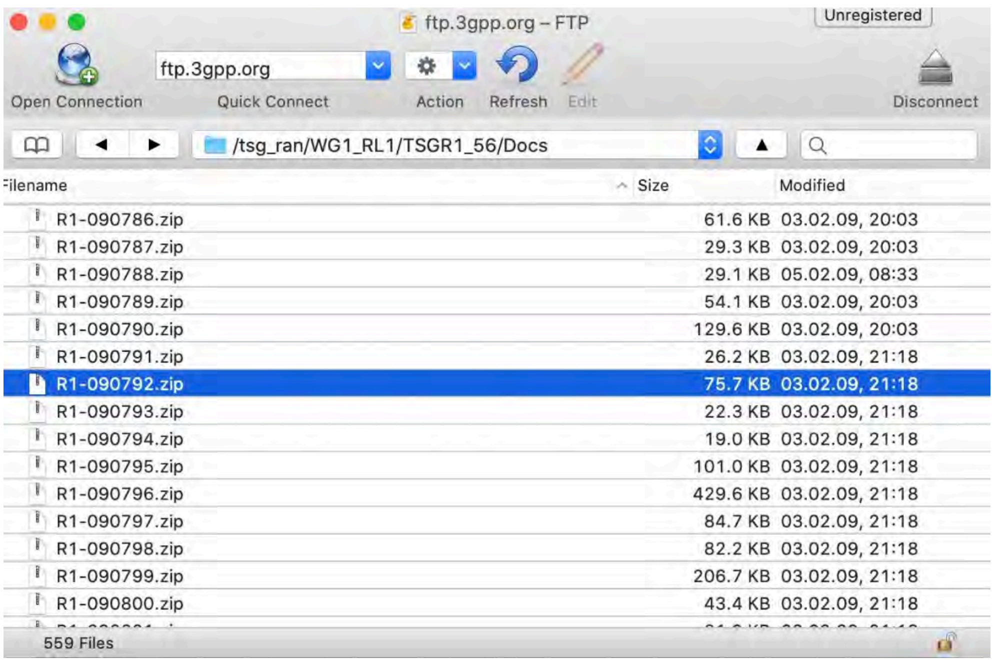
53. Furthermore, the document was distributed via the 3GPP_TSG_RAN_WG1 email exploder on August 13, 2008, as shown in Appendix C. At that time this email exploder had more than 1000 subscribers as can be seen by the Internet Archive at https://web.archive.org/web/20080919101919/http://list.etsi.org/.

54. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that this document was available to all 3GPP members and the general public by August 12, 2008, at the latest.

2. R1-090792

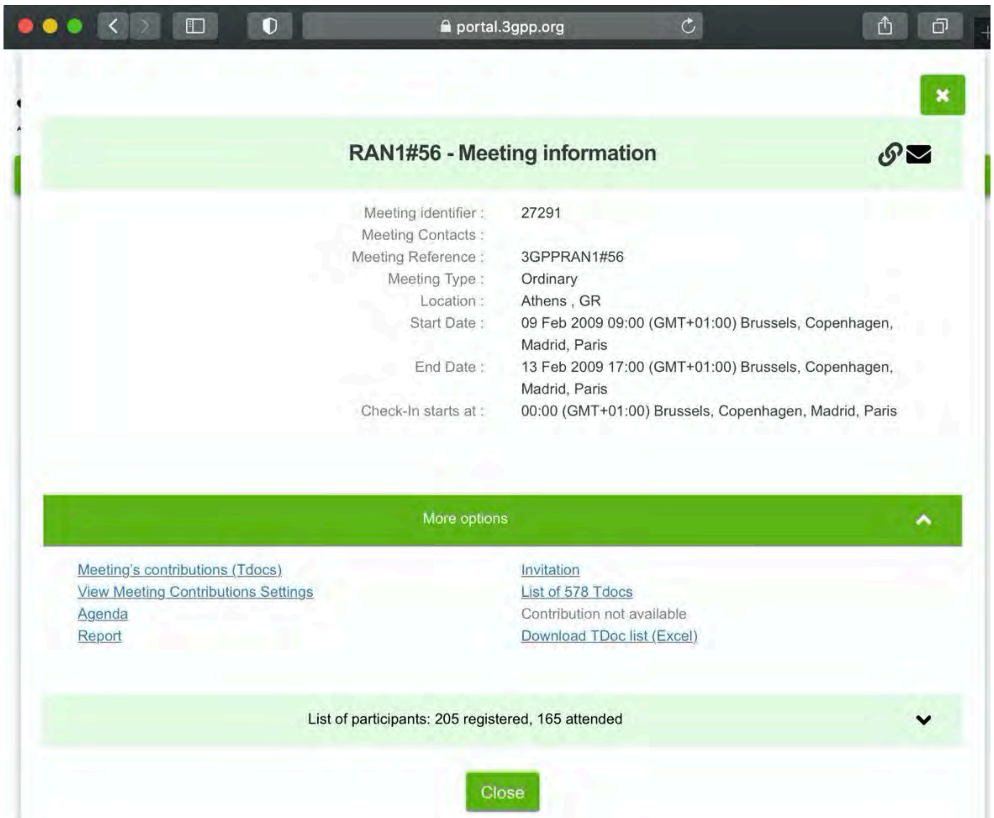
55. Based on my personal knowledge and my review of 3GPP's business records, I recognize Ex. 1007 as a true and correct copy of T-doc R1-090792, which represents a document submitted by Motorola with the title "Control Signalling Design for Supporting Carrier Aggregation." The document discusses various DL control signaling design options to support the extension of bandwidth for LTE Advanced. On its face, R1-090792 refers to the RAN WG1 meeting #56 held on

February 9-13, 2009, in Athens, Greece. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that R1-090792 was available either prior or during that meeting to at least all attending 3GPP members. The availability of the document is confirmed by the date stamp, February 3, 2009, shown for the corresponding downloadable file ("R1-090792.zip") on the 3GPP ftp server at https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_56/Docs as can be seen by the screen shot below.



56. In addition, the information for the downloaded and extracted T-doc file states a last Modified date of "3. February 2009." Here is a screen shot showing those file details:

57. The official meeting report of the RAN WG1 meeting #56 held on February 9-13, 2009, in Athens, Greece can be found in Appendix D. According to the 3GPP website at https://portal.3gpp.org/Meetings.aspx#/ which is shown by the screen shot below, that meeting was attended by 165 individuals (out of 205 registered participants):



58. The meeting report has a document list attached (Appendix E) which mentions T-doc R1-090792 marked as "Available" which clearly indicates that the

document was available at the meeting. The screen shot below shows the related excerpt of the document list:

Available	Tdoc Number	Title	Source
Yes	R1-090792	Control Signalling Design for Supporting Carrier Aggregation	Motorola

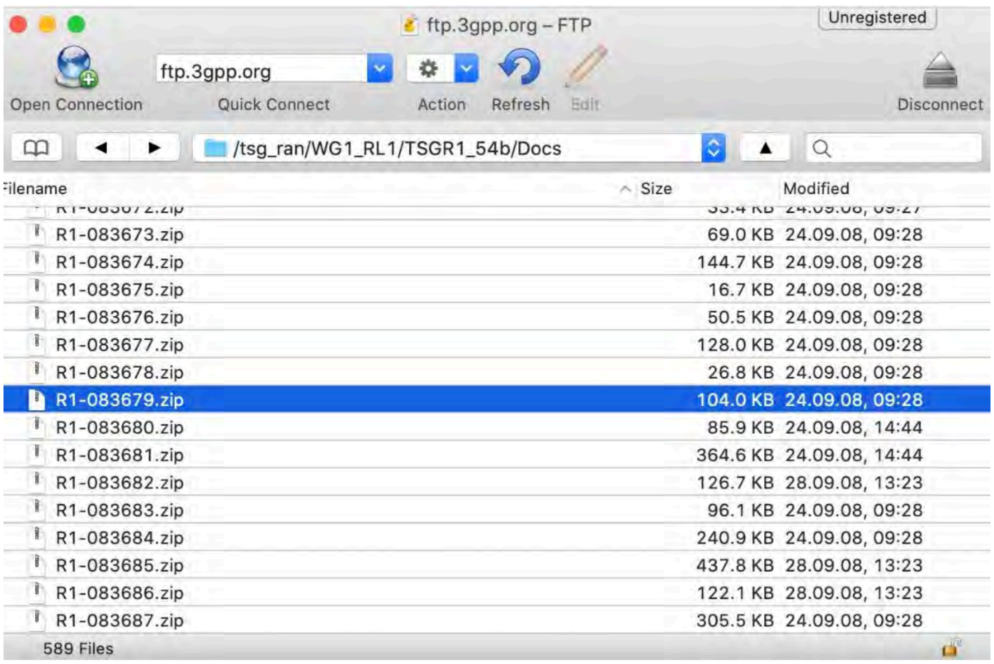
59. Furthermore, the document was distributed via the 3GPP_TSG_RAN_WG1 email exploder on February 3, 2009, as shown in Appendix F. At that time this email exploder had more than 1000 subscribers as can be seen by the Internet Archive at https://web.archive.org/web/20090620164502/http://list.etsi.org:80/.

60. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that this document was available to all 3GPP members and the general public by February 3, 2009, at the latest.

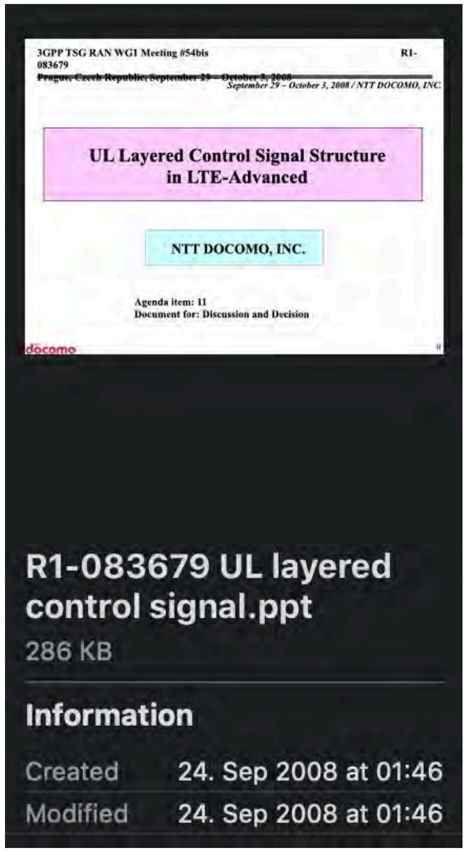
3. R1-083679

61. Based on my personal knowledge and my review of 3GPP's business records, I recognize Ex. 1008 as a true and correct copy of T-doc R1-083679, which represents a document submitted by NTT DOCOMO, Inc. with the title "UL Layered Control Signal Structure in LTE-Advanced." The document discusses various aspects of the PUCCH transmission scheme for LTE-Advanced. On its face, R1-083679 refers to the RAN WG1 meeting #54bis held on September 29 – October 3, 2008, in Prague, Czech Republic. Thus, based on my personal knowledge and

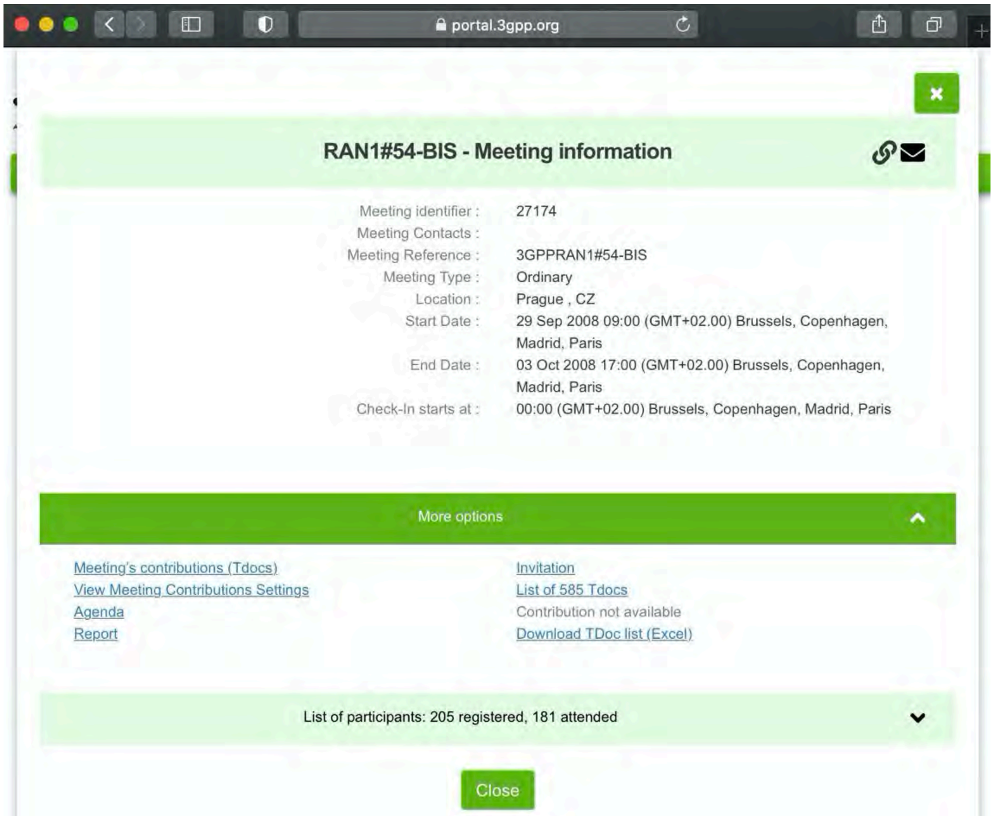
experience with ETSI's and 3GPP's standard business practices, this information tells me that R1-083679 was available either prior or during that meeting to at least all attending 3GPP members. The availability of the document is confirmed by the date stamp, September 24, 2008, shown for the corresponding downloadable file ("R1-083679.zip") on the 3GPP ftp server at https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_54b/Docs as can be seen by the screen shot below.



62. In addition, the information for the downloaded and extracted T-doc file states a last Modified date of "24. Sep 2008." Here is a screen shot showing those file details:



63. The official meeting report of the RAN WG1 meeting #54bis held on September 29 – October 3, 2008, in Prague, Czech Republic can be found in Appendix G. According to the 3GPP website at https://portal.3gpp.org/Meetings.aspx#/ which is shown by the screen shot below, that meeting was attended by 181 individuals (out of 205 registered participants):



64. The meeting report mentions T-doc R1-083679 on page 56 which clearly indicates that the document was registered for the meeting. The screen shot below shows an excerpt of page 57 of the meeting report:

R1-083679	UL Layered Control Signal Structure in LTE-Advanced	NTT DOCOMO

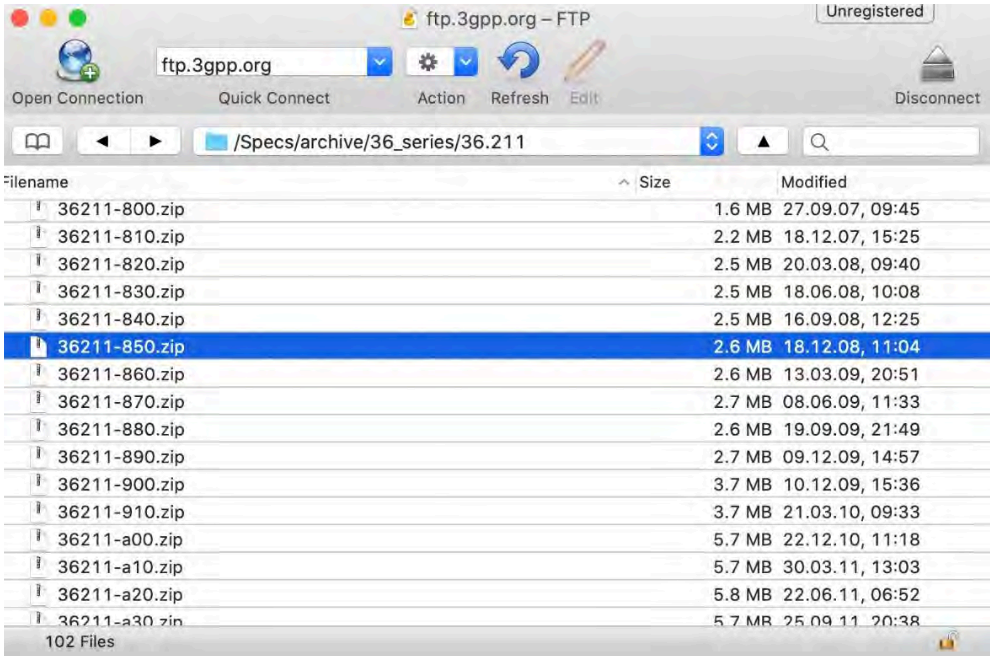
65. Furthermore, the document was distributed via the 3GPP_TSG_RAN_WG1 email exploder on September 24, 2008, as shown in

Appendix H. At that time this email exploder had more than 1000 subscribers as can be seen by the Internet Archive at https://web.archive.org/web/20080919101919/http://list.etsi.org/.

66. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that this document was available to all 3GPP members and the general public by September 24, 2008, at the latest.

4. TS 36.211 V8.5.0

67. Based on my personal knowledge and my review of 3GPP's business records, I recognize Ex. 1009 as a true and correct copy of version 8.5.0 of technical specification 3GPP TS 36.211 ("Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Physical Channels and Modulation (Release 8)"), which shows on its cover page "2008-12" as the year (2008) and month (December) during which this document was released by 3GPP. The document was published and freely available on 3GPP's ftp server by December 18, 2008. This is confirmed by the date stamp shown for the corresponding downloadable file ("36211-850.zip") on the 3GPP ftp server at https://www.3gpp.org/ftp/Specs/archive/36_series/36.211, as can be seen by the screen shot below:

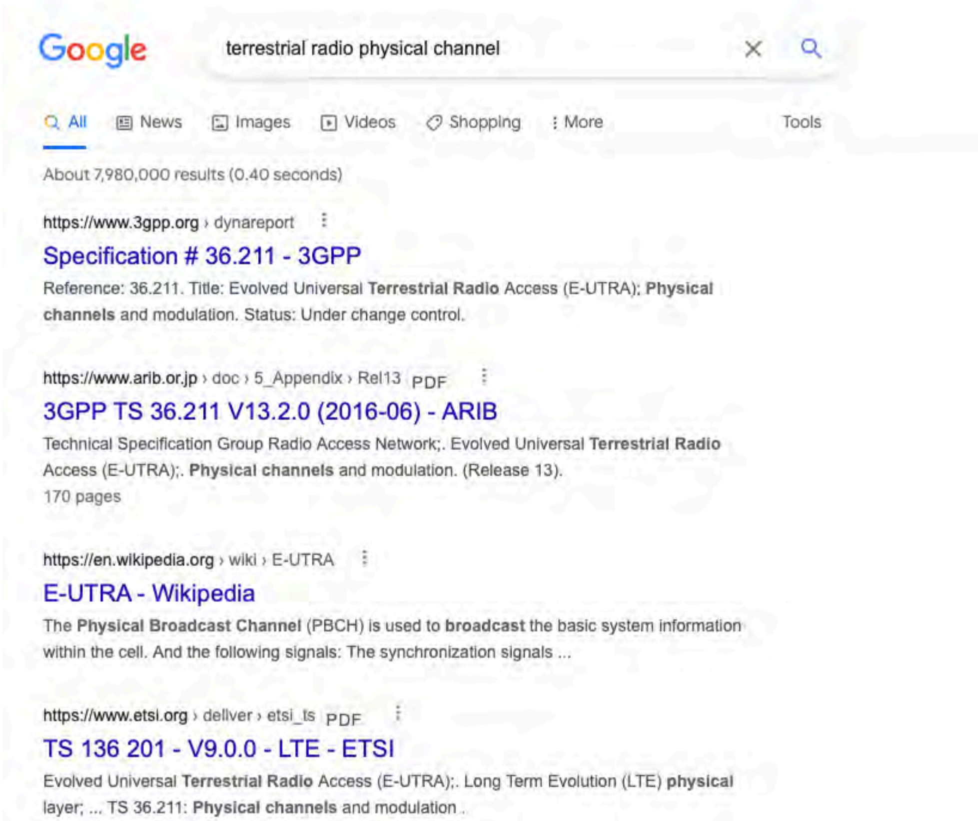


68. In addition, metadata information for the downloaded and extracted specification file states a last Modified date of "18. December 2008", as shown in the screen shot below:

69. Furthermore, the availability of the document was announced by the RAN WG1 secretary via the public 3GPP_TSG_RAN_WG1 email exploder on December 18, 2008, as shown in Appendix I. Around that time, the 3GPP_TSG_RAN_WG1 email exploder had around 1,200 subscribers as can be seen at https://web.archive.org/web/20081115051604/http://list.etsi.org/.

70. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that this document was available to all 3GPP members and the general public by December 18, 2008, at the latest.

71. I believe that a person without prior knowledge of 3GPP and/or the technical specification (TS) number would have been able to easily find the TS for download via internet search. For instance, a Google search for "terrestrial radio physical channel" provides the TS number "36.211" as the top result as can be seen in the screen shot below:


Google

terrestrial radio physical channel

All News Images Videos Shopping More Tools

About 7,980,000 results (0.40 seconds)

https://www.3gpp.org › dynareport

Specification # 36.211 - 3GPP

Reference: 36.211. Title: Evolved Universal **Terrestrial Radio** Access (E-UTRA); **Physical channels** and modulation. Status: Under change control.

https://www.arib.or.jp › doc › 5_Appendix › Rel13 PDF

3GPP TS 36.211 V13.2.0 (2016-06) - ARIB

Technical Specification Group Radio Access Network;. Evolved Universal **Terrestrial Radio** Access (E-UTRA);. **Physical channels** and modulation. (Release 13).
170 pages

https://en.wikipedia.org › wiki › E-UTRA

E-UTRA - Wikipedia

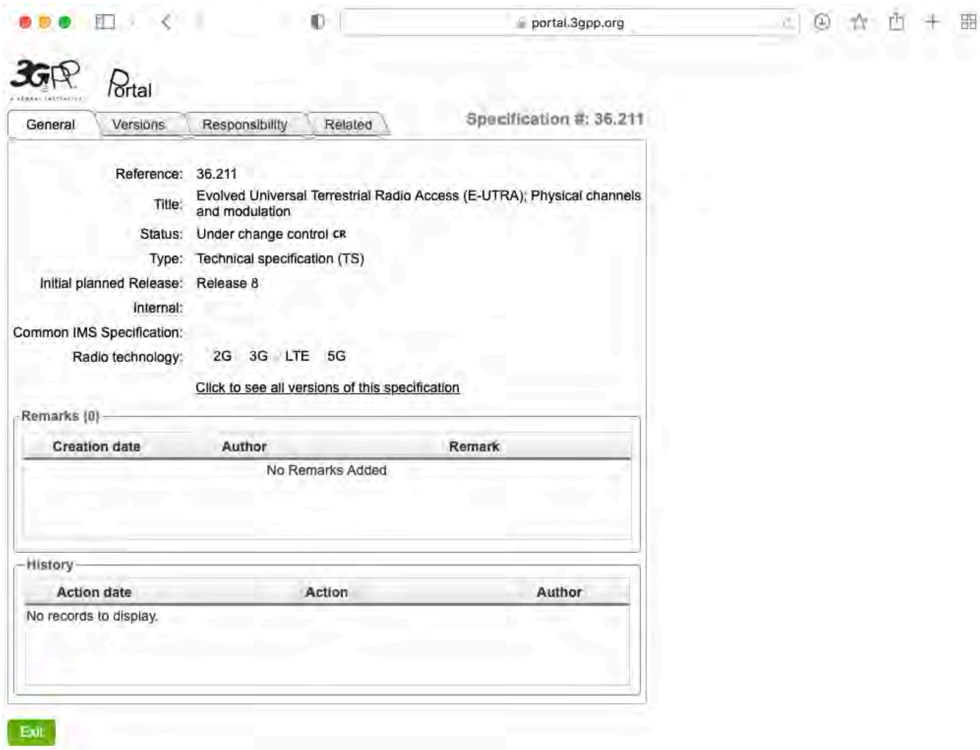
The **Physical Broadcast Channel** (PBCH) is used to **broadcast** the basic system information within the cell. And the following signals: The synchronization signals ...

https://www.etsi.org › deliver › etsi_ts PDF

TS 136 201 - V9.0.0 - LTE - ETSI

Evolved Universal **Terrestrial Radio** Access (E-UTRA);. Long Term Evolution (LTE) **physical** layer; ... TS 36.211: **Physical channels** and modulation .

72. Following the provided search result link “Specification # 36.211 – 3GPP” leads to a 3GPP web page under the tab “General” as shown by the screen shot below:


portal.3gpp.org

Portal

General | Versions | Responsibility | Related

Specification #: 36.211

Reference:	36.211
Title:	Evolved Universal Terrestrial Radio Access (E-UTRA); Physical channels and modulation
Status:	Under change control CR
Type:	Technical specification (TS)
Initial planned Release:	Release 8
Internal:	
Common IMS Specification:	
Radio technology:	2G 3G LTE 5G

Click to see all versions of this specification

Remarks (0)

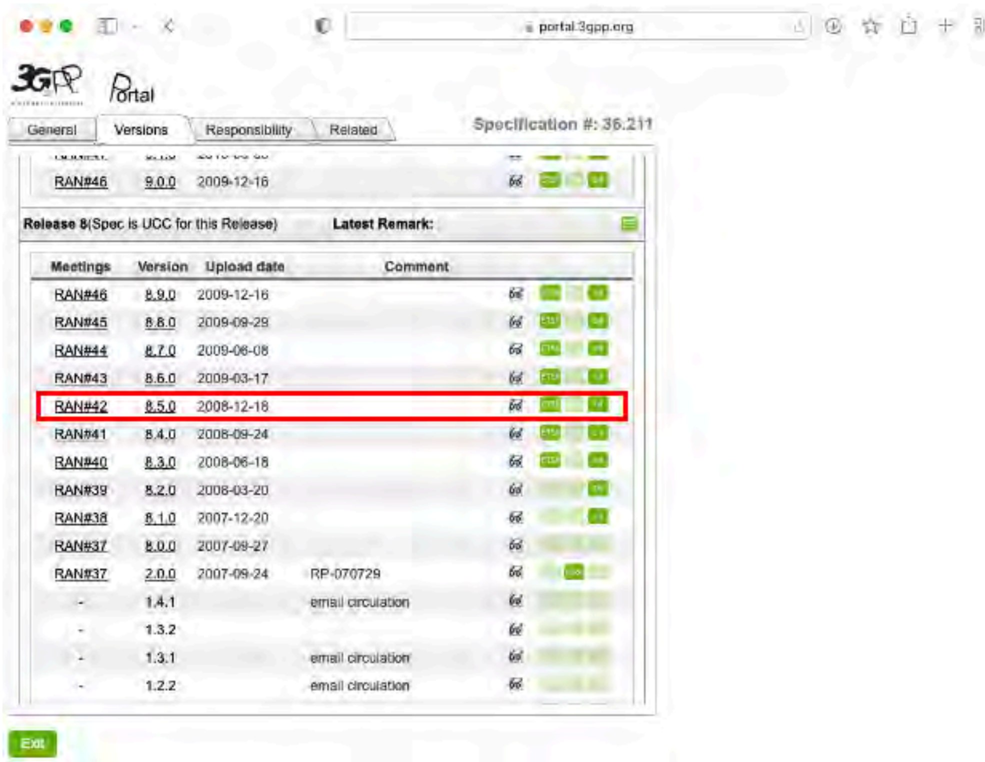
Creation date	Author	Remark
No Remarks Added		

History

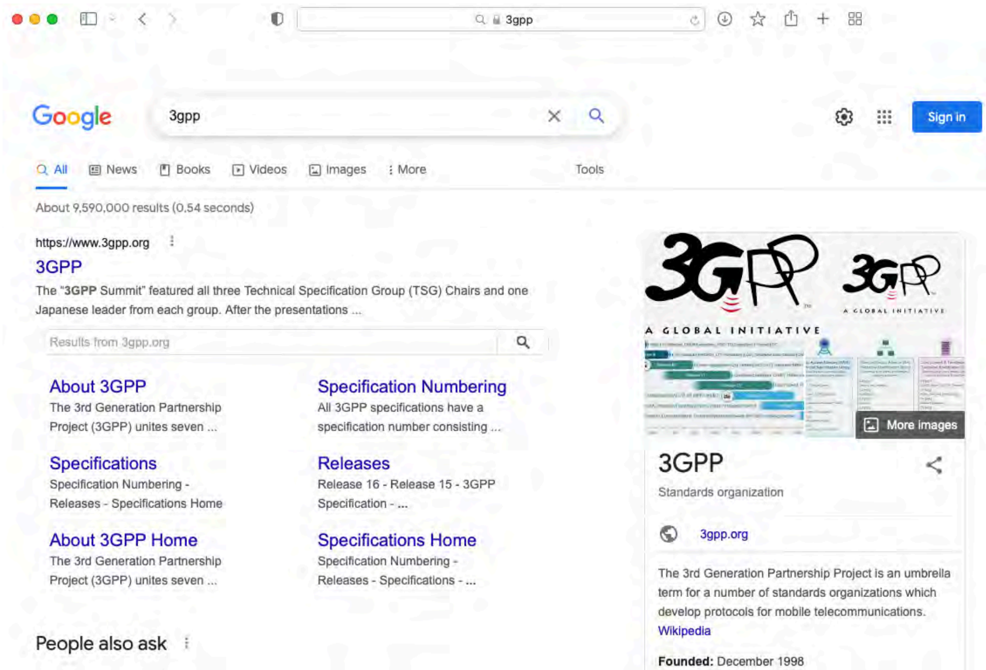
Action date	Action	Author
No records to display.		

Exit

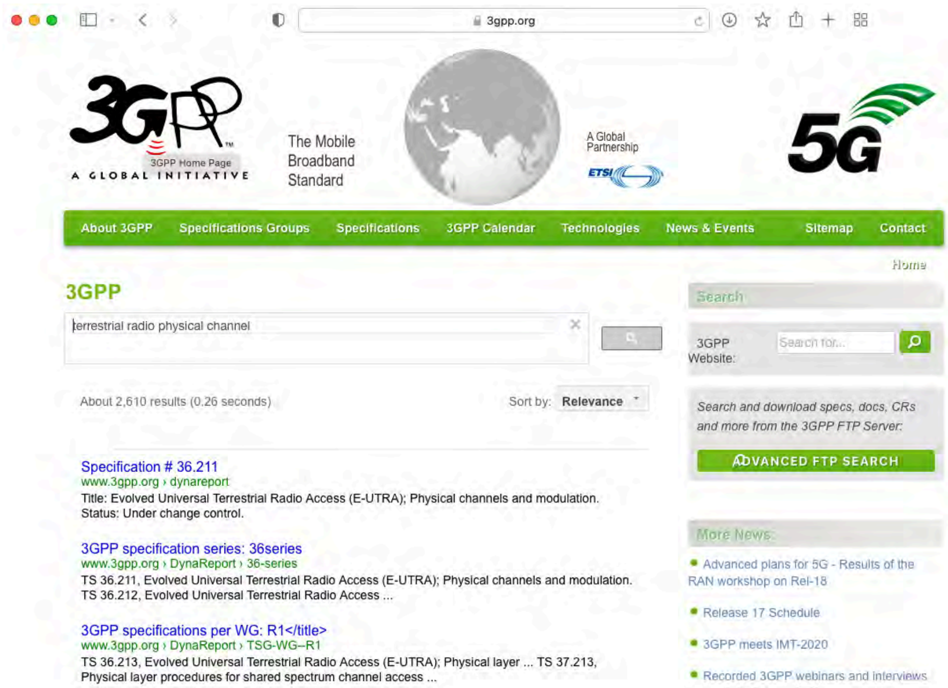
73. Selecting the "Versions" tab loads the webpage containing links to all versions of TS 36.211 including version 8.5.0, as shown by the screen shot below:



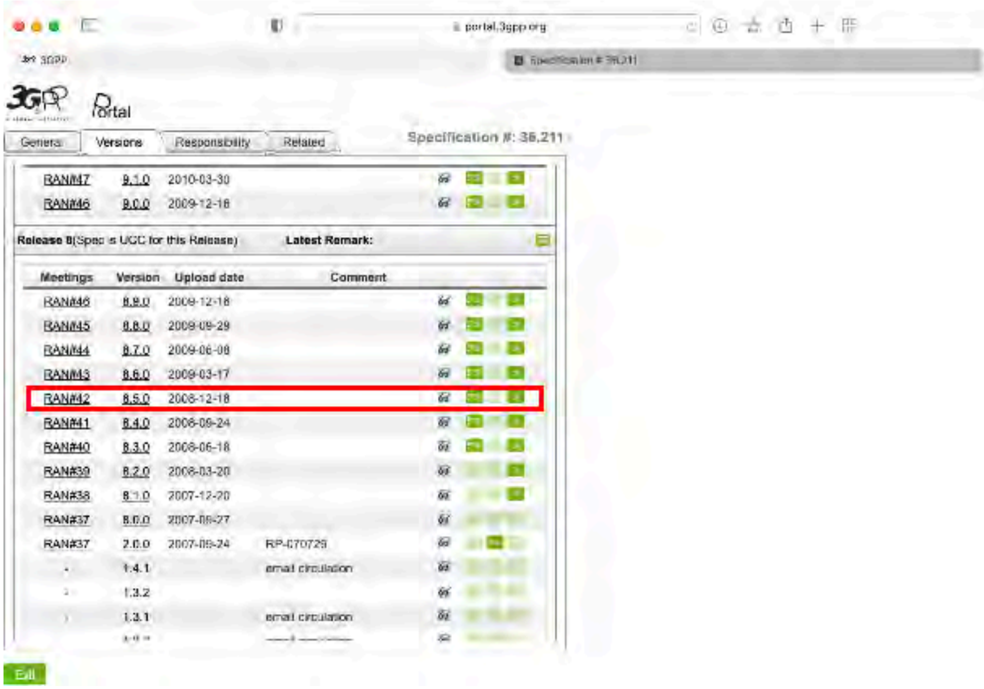
74. 3GPP is a very well-known SDO as of today and certainly was already very well-known in 2008. A person aware of 3GPP could have found TS 36.211 v8.5.0 also via a different route. Searching for "3GPP" leads to the 3GPP website http://www.3gpp.org, as can be seen by the screen shot below:



75. Entering "terrestrial radio physical channel" into the search box of the 3GPP web site provides "Specification # 36.211" as the top result, as can be seen by the screen shot below:



76. Following the provided search result link on "Specification # 36.211" leads to the same 3GPP web page as mentioned in paragraph 73 offering under the tab "Versions" download links to all versions of TS 36.211 including version 8.5.0, as shown by the screen shot below:

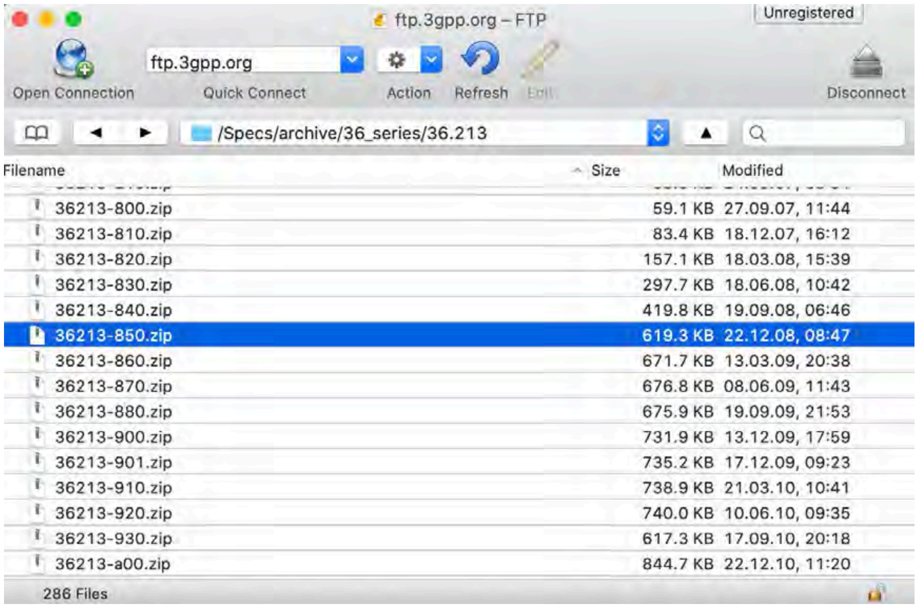


77. The above example search illustrates that it is very easy for an interested member of the public without prior knowledge of the TS number and even without prior knowledge of 3GPP to locate any version of TS 36.211, including version 8.5.0, for download.

78. The above searches were performed at the time of writing this report. According to my personal experience, similar searches done in December of 2008 or around that time frame would have similarly provided the path to download version 8.5.0 of TS 36.211.

5. TS 36.213 V8.5.0

79. Based on my personal knowledge and my review of 3GPP's business records, I recognize Ex. 1011 as a true and correct copy of version 8.5.0 of technical specification 3GPP TS 36.213 ("Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Physical layer procedures (Release 8)"), which shows on its cover page "2008-12" as the year (2008) and month (December) during which this document was released by 3GPP. The document was published and freely available on 3GPP's ftp server by December 22, 2008. This is confirmed by the date stamp shown for the corresponding downloadable file ("36213-850.zip") on the 3GPP ftp server at https://www.3gpp.org/ftp/Specs/archive/36_series/36.213, as can be seen by the screen shot below:



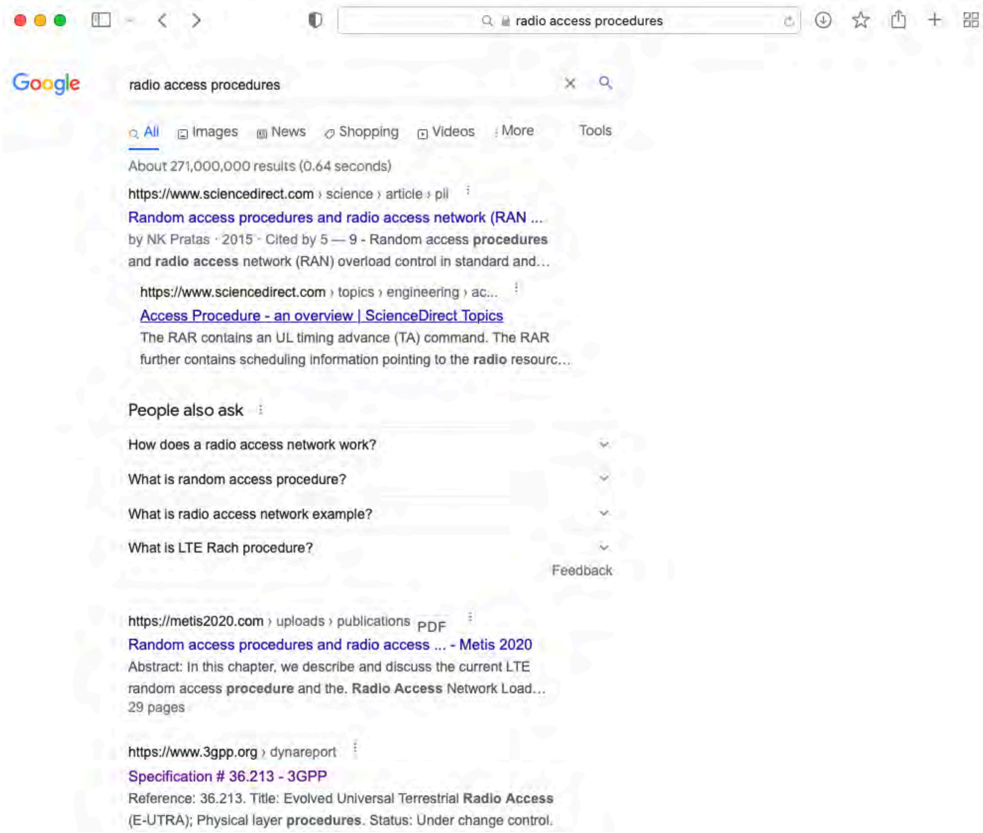
80. In addition, metadata information for the downloaded and extracted specification file states a last Modified date of “22. Dec 2008”, as shown in the screen shot below:

81. Furthermore, the availability of the updated draft document was announced by the RAN WG1 secretary via the public 3GPP_TSG_RAN_WG1 email exploder on December 18, 2008, as shown in Appendix I (although the final official version was only uploaded on December 22, 2008, as explained in the paragraphs above). Around that time, the 3GPP_TSG_RAN_WG1 email exploder

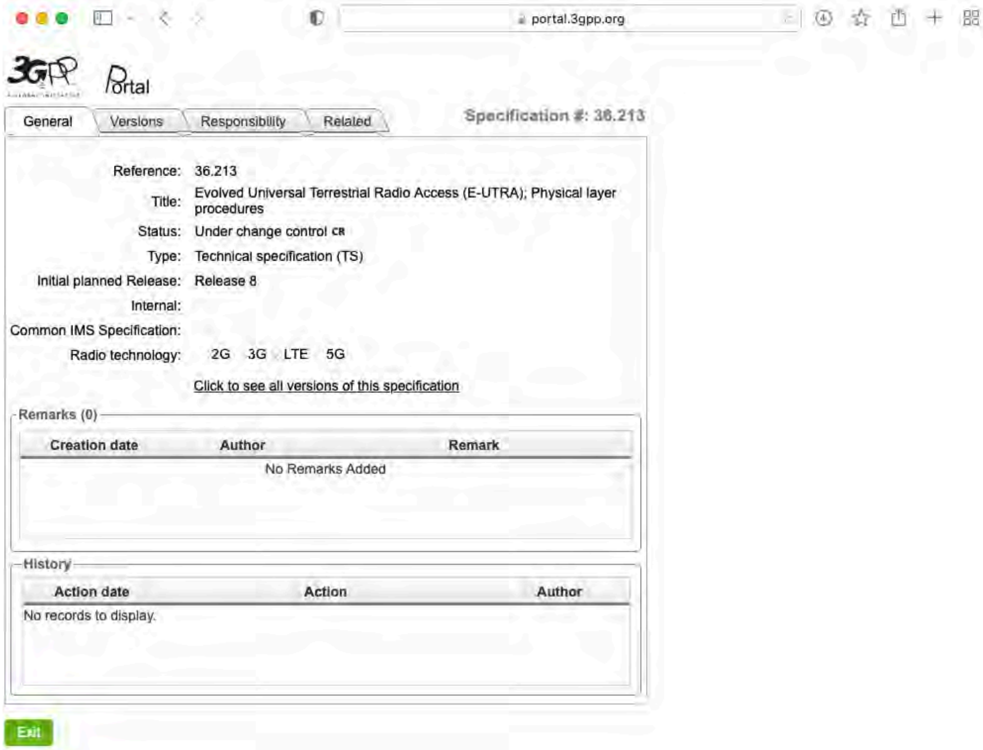
had around 1,200 subscribers as can be seen at https://web.archive.org/web/20081115051604/http://list.etsi.org/.

82. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that this document was available to all 3GPP members and the general public by December 22, 2008, at the latest.

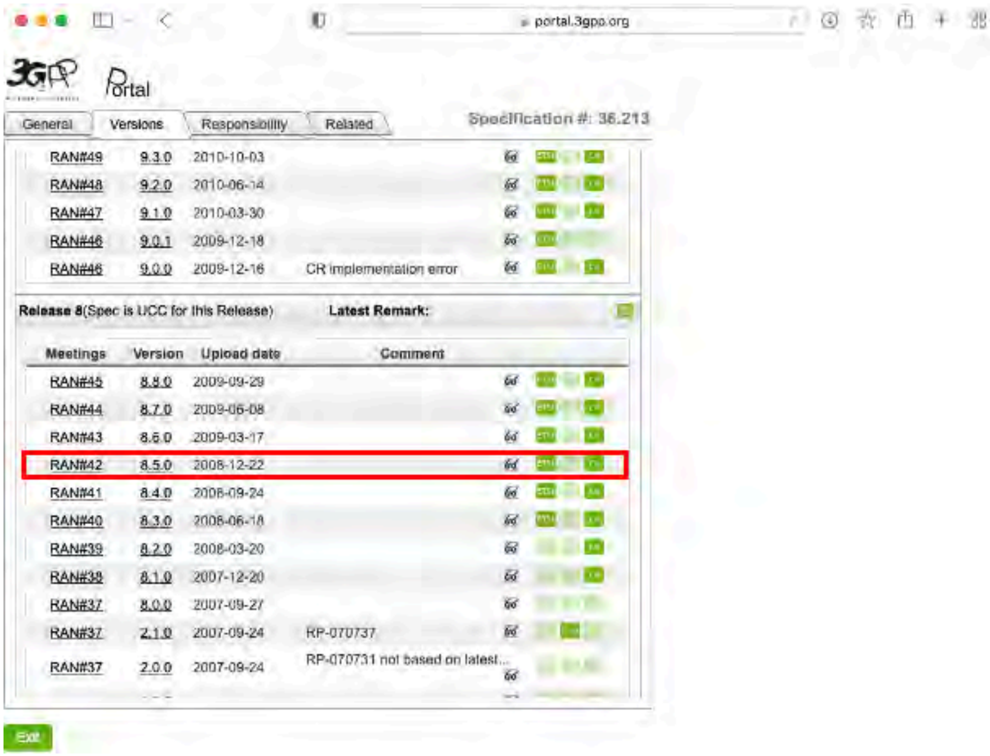
83. I believe that a person without prior knowledge of 3GPP and/or the technical specification (TS) number would have been able to easily find the TS for download via internet search. For instance, a Google search for "radio access procedures" provides the TS number "36.213" as one of the top results as can be seen in the screen shot below:



84. Following the provided search result link "Specification # 36.213 – 3GPP" leads to a 3GPP web page under the tab "General" as shown by the screen shot below:



85. Selecting the "Versions" tab loads the webpage containing links to all versions of TS 36.213 including version 8.5.0, as shown by the screen shot below:



portal.3gpp.org

3GPP Portal

General | Versions | Responsibility | Related

Specification #: 36.213

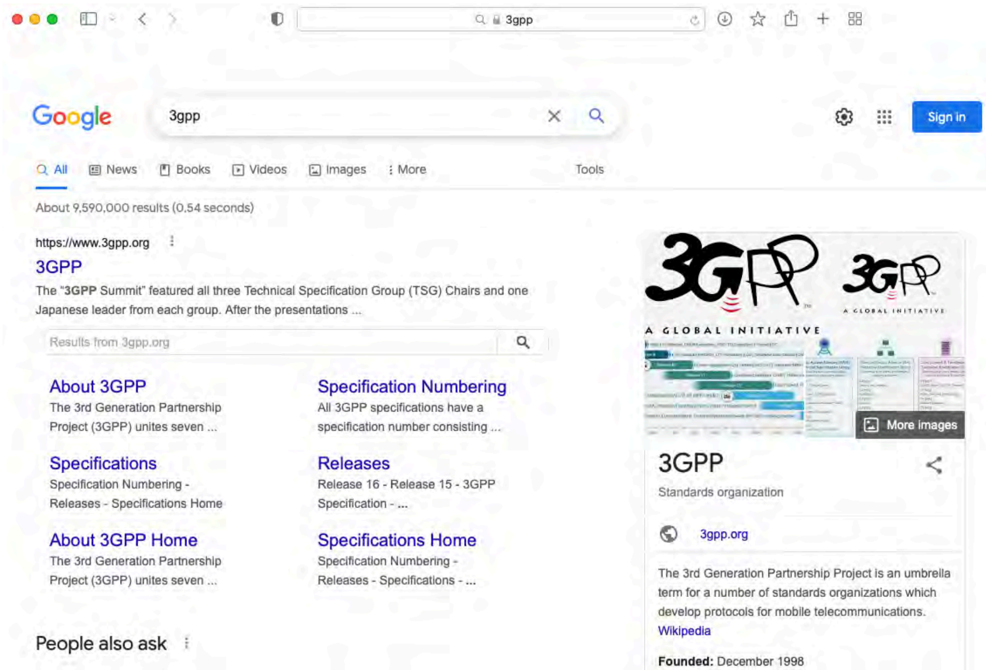
RAN#49	9.3.0	2010-10-03	
RAN#48	9.2.0	2010-06-14	
RAN#47	9.1.0	2010-03-30	
RAN#46	9.0.1	2009-12-18	
RAN#46	9.0.0	2009-12-16	CR implementation error

Release 8(Spec is UCC for this Release) Latest Remark:

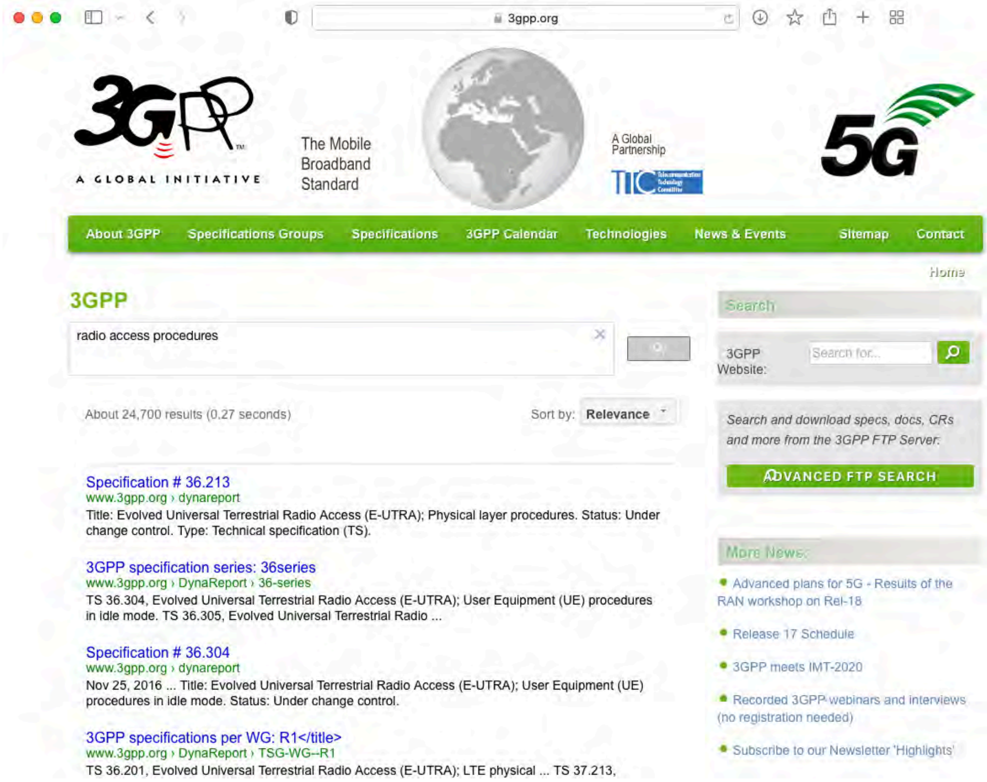
Meetings	Version	Upload date	Comment
RAN#45	8.8.0	2009-09-29	
RAN#44	8.7.0	2009-06-08	
RAN#43	8.6.0	2009-03-17	
RAN#42	8.5.0	2008-12-22	
RAN#41	8.4.0	2008-09-24	
RAN#40	8.3.0	2008-06-18	
RAN#39	8.2.0	2008-03-20	
RAN#38	8.1.0	2007-12-20	
RAN#37	8.0.0	2007-09-27	
RAN#37	2.1.0	2007-09-24	RP-070737
RAN#37	2.0.0	2007-09-24	RP-070731 not based on latest...

Exit

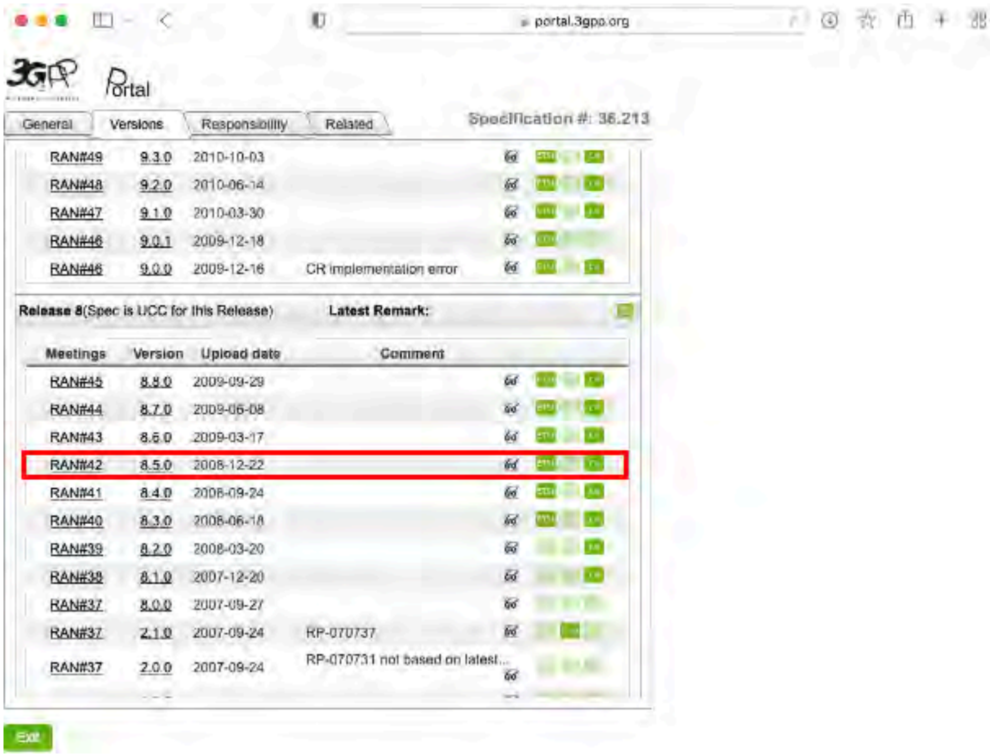
86. 3GPP is a very well-known SDO as of today and certainly was already very well-known in 2008. A person aware of 3GPP could have found TS 36.213 v8.5.0 also via a different rout. Searching for "3GPP" leads to the 3GPP website http://www.3gpp.org, as can be seen by the screen shot below:



87. Entering "radio access procedures" into the search box of the 3GPP web site provides "Specification # 36.213" as the top result, as can be seen by the screen shot below:



88. Following the provided search result link on "Specification # 36.213" leads to the same 3GPP web page as mentioned in paragraph 85 offering under the tab "Versions" download links to all versions of TS 36.213 including version 8.5.0, as shown by the screen shot below:

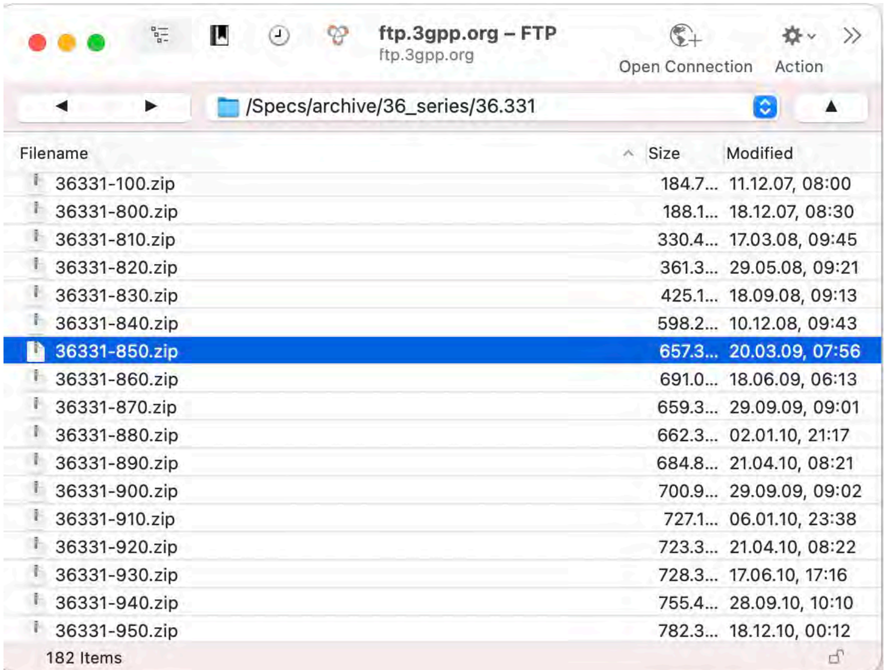


89. The above example search illustrates that it is very easy for an interested member of the public without prior knowledge of the TS number and even without prior knowledge of 3GPP to locate any version of TS 36.213, including version 8.5.0, for download.

90. The above searches were performed at the time of writing this report. According to my personal experience, similar searches done in December of 2008 or around that time frame would have similarly provided the path to download version 8.5.0 of TS 36.213.

6. TS 36.331 V8.5.0

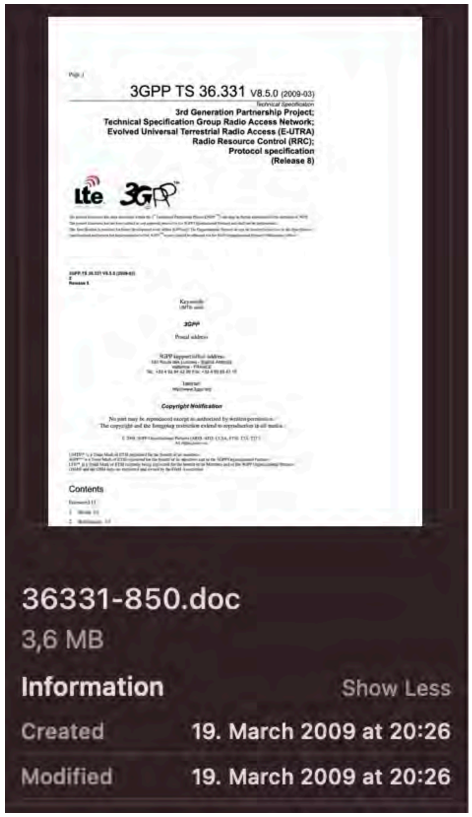
91. Based on my personal knowledge and my review of 3GPP's business records, I recognize Ex. 1012 as a true and correct copy of version 8.5.0 of technical specification 3GPP TS 36.331 ("Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA); Radio Resource Control (RRC); Protocol specification (Release 8)"), which shows on its cover page "2009-03" as the year (2009) and month (March) during which this document was released by 3GPP. The document was published and freely available on 3GPP's ftp server by March 20, 2009. This is confirmed by the date stamp shown for the corresponding downloadable file ("36331-850.zip") on the 3GPP ftp server at https://www.3gpp.org/ftp/Specs/archive/36_series/36.331, as can be seen by the screen shot below:



Filename	Size	Modified
36331-100.zip	184.7...	11.12.07, 08:00
36331-800.zip	188.1...	18.12.07, 08:30
36331-810.zip	330.4...	17.03.08, 09:45
36331-820.zip	361.3...	29.05.08, 09:21
36331-830.zip	425.1...	18.09.08, 09:13
36331-840.zip	598.2...	10.12.08, 09:43
36331-850.zip	657.3...	20.03.09, 07:56
36331-860.zip	691.0...	18.06.09, 06:13
36331-870.zip	659.3...	29.09.09, 09:01
36331-880.zip	662.3...	02.01.10, 21:17
36331-890.zip	684.8...	21.04.10, 08:21
36331-900.zip	700.9...	29.09.09, 09:02
36331-910.zip	727.1...	06.01.10, 23:38
36331-920.zip	723.3...	21.04.10, 08:22
36331-930.zip	728.3...	17.06.10, 17:16
36331-940.zip	755.4...	28.09.10, 10:10
36331-950.zip	782.3...	18.12.10, 00:12

182 Items

92. In addition, metadata information for the downloaded and extracted specification file states a last Modified date of "19. March 2009", as shown in the screen shot below:

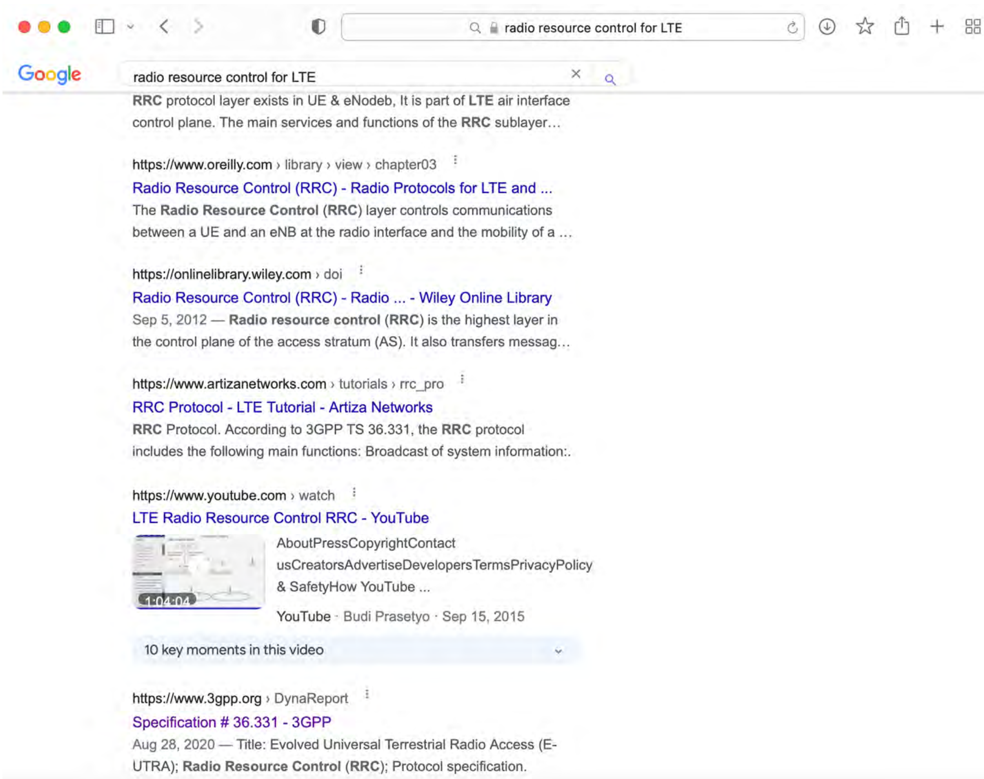


93. Furthermore, the availability of the document was announced by the RAN WG2 secretary via the public 3GPP_TSG_RAN_WG2 email exploder on March 21, 2009, as shown in Appendix J. Around that time, the 3GPP_TSG_RAN_WG2 email exploder had around 1,100 subscribers as can be seen at https://web.archive.org/web/20090620164502/http://list.etsi.org:80/.

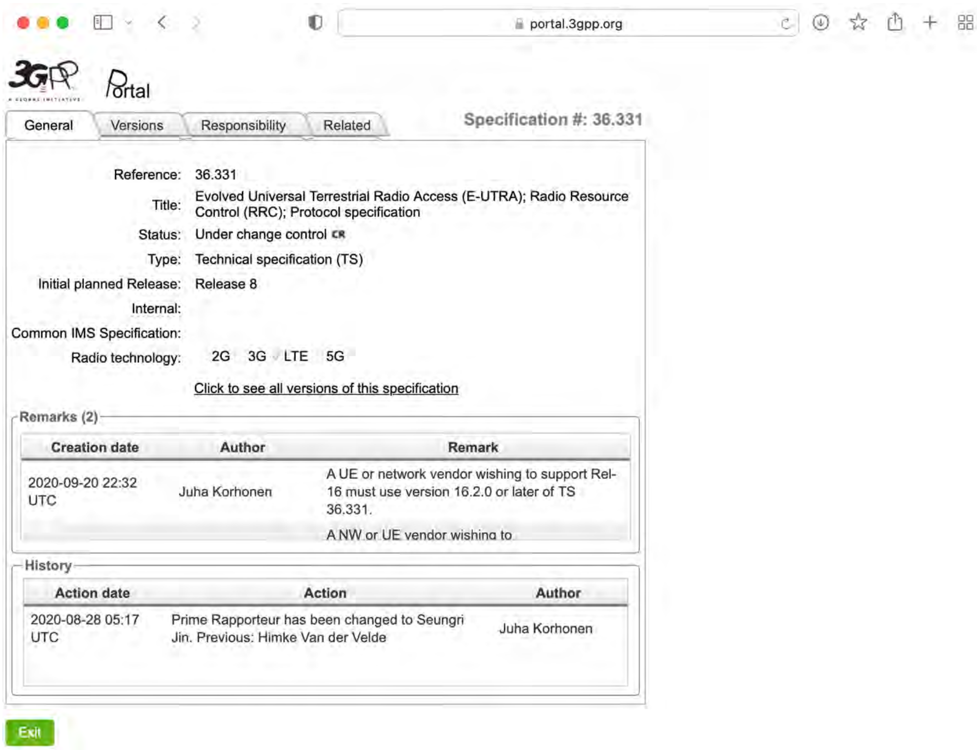
94. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that this document

was available to all 3GPP members and the general public by March 20, 2009, at the latest.

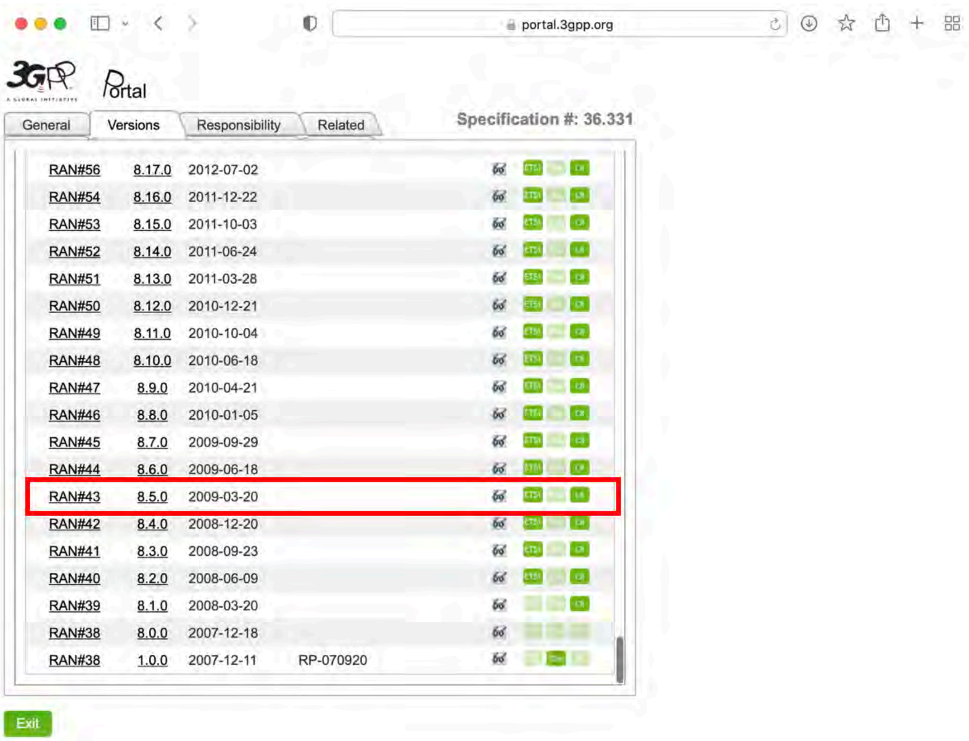
95. I believe that a person without prior knowledge of 3GPP and/or the technical specification (TS) number would have been able to easily find the TS for download via internet search. For instance, a Google search for "radio resource control for LTE" provides the TS number "36.331" as one of the top results as can be seen in the screen shot below:



96. Following the provided search result link "Specification # 36.331 – 3GPP" leads to a 3GPP web page under the tab "General" as shown by the screen shot below:

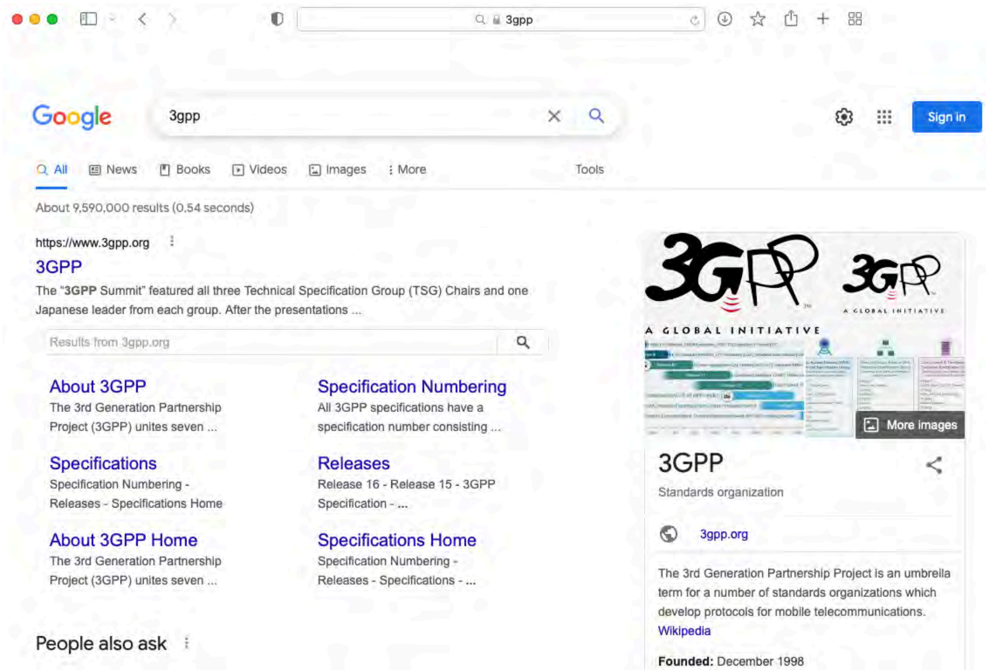


97. Selecting the "Versions" tab loads the webpage containing links to all versions of TS 36.331 including version 8.5.0, as shown by the screen shot below:

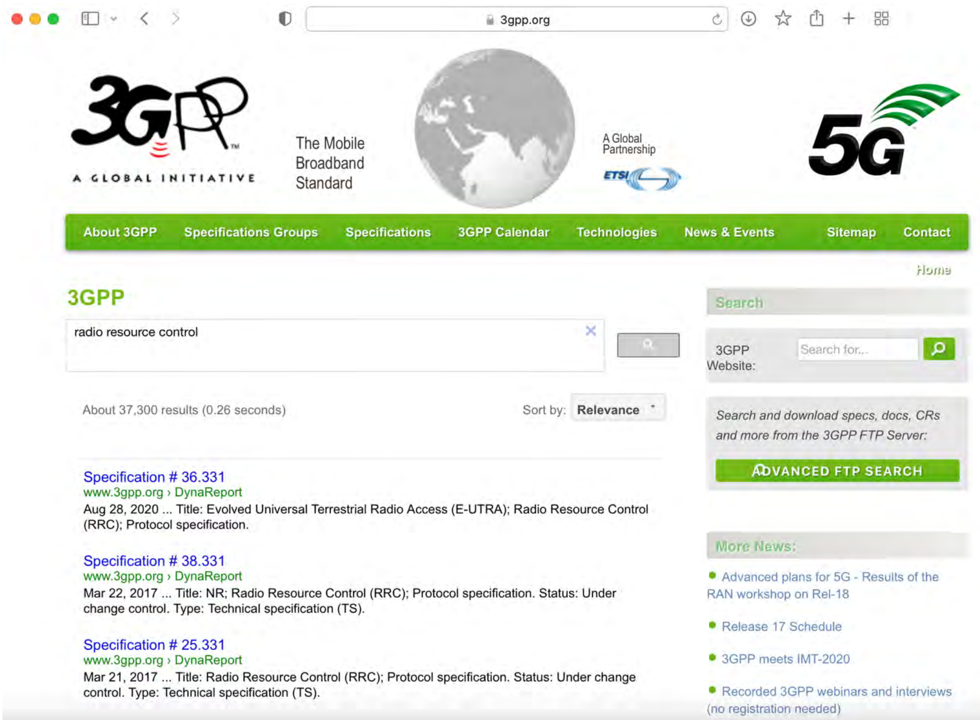


RAN#56	8.17.0	2012-07-02	
RAN#54	8.16.0	2011-12-22	
RAN#53	8.15.0	2011-10-03	
RAN#52	8.14.0	2011-06-24	
RAN#51	8.13.0	2011-03-28	
RAN#50	8.12.0	2010-12-21	
RAN#49	8.11.0	2010-10-04	
RAN#48	8.10.0	2010-06-18	
RAN#47	8.9.0	2010-04-21	
RAN#46	8.8.0	2010-01-05	
RAN#45	8.7.0	2009-09-29	
RAN#44	8.6.0	2009-06-18	
RAN#43	8.5.0	2009-03-20	
RAN#42	8.4.0	2008-12-20	
RAN#41	8.3.0	2008-09-23	
RAN#40	8.2.0	2008-06-09	
RAN#39	8.1.0	2008-03-20	
RAN#38	8.0.0	2007-12-18	
RAN#38	1.0.0	2007-12-11	RP-070920

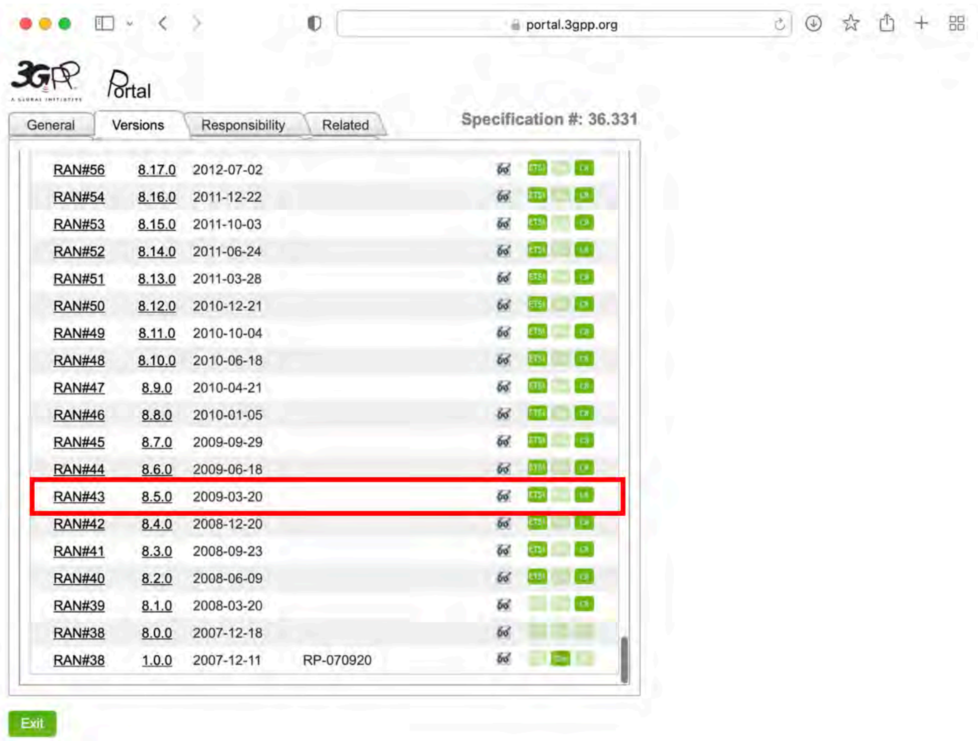
98. 3GPP is a very well-known SDO as of today and certainly was already very well-known in 2009. A person aware of 3GPP could have found TS 36.331 v8.5.0 also via a different route. Searching for "3GPP" leads to the 3GPP website http://www.3gpp.org, as can be seen by the screen shot below:



99. Entering "radio resource control" into the search box of the 3GPP web site provides "Specification # 36.331" as the top result, as can be seen by the screen shot below:



100. Following the provided search result link on "Specification # 36.331" leads to the same 3GPP web page as mentioned in paragraph 97 offering under the tab "Versions" download links to all versions of TS 36.331 including version 8.5.0, as shown by the screen shot below:


portal.3gpp.org

3GPP Portal

General | Versions | Responsibility | Related

Specification #: 36.331

RAN#56	8.17.0	2012-07-02	
RAN#54	8.16.0	2011-12-22	
RAN#53	8.15.0	2011-10-03	
RAN#52	8.14.0	2011-06-24	
RAN#51	8.13.0	2011-03-28	
RAN#50	8.12.0	2010-12-21	
RAN#49	8.11.0	2010-10-04	
RAN#48	8.10.0	2010-06-18	
RAN#47	8.9.0	2010-04-21	
RAN#46	8.8.0	2010-01-05	
RAN#45	8.7.0	2009-09-29	
RAN#44	8.6.0	2009-06-18	
RAN#43	8.5.0	2009-03-20	
RAN#42	8.4.0	2008-12-20	
RAN#41	8.3.0	2008-09-23	
RAN#40	8.2.0	2008-06-09	
RAN#39	8.1.0	2008-03-20	
RAN#38	8.0.0	2007-12-18	
RAN#38	1.0.0	2007-12-11	RP-070920

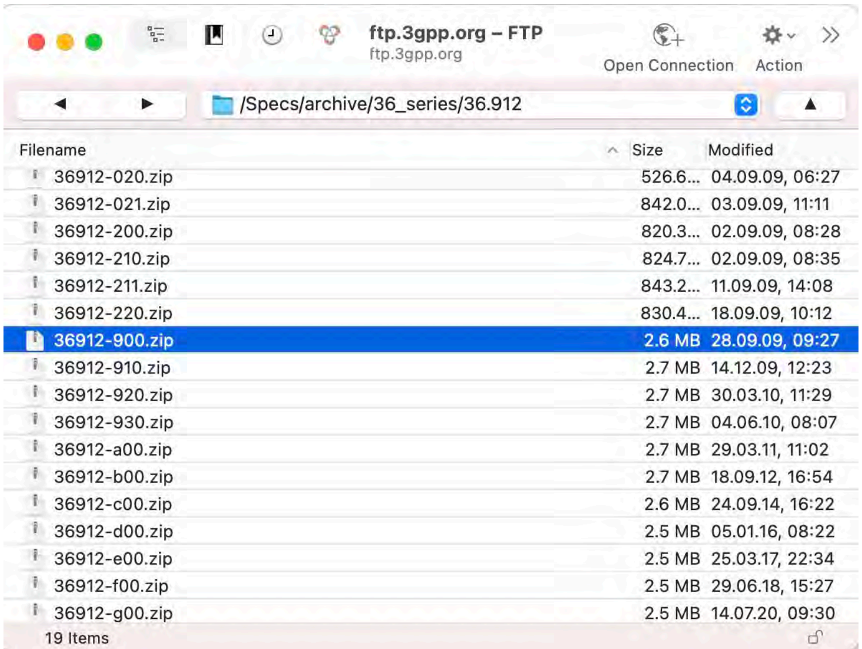
Exit

101. The above example search illustrates that it is very easy for an interested member of the public without prior knowledge of the TS number and even without prior knowledge of 3GPP to locate any version of TS 36.331, including version 8.5.0, for download.

102. The above searches were performed at the time of writing this report. According to my personal experience, similar searches done in March of 2009 or around that time frame would have similarly provided the path to download version 8.5.0 of TS 36.331.

7. TR 36.912 V9.0.0

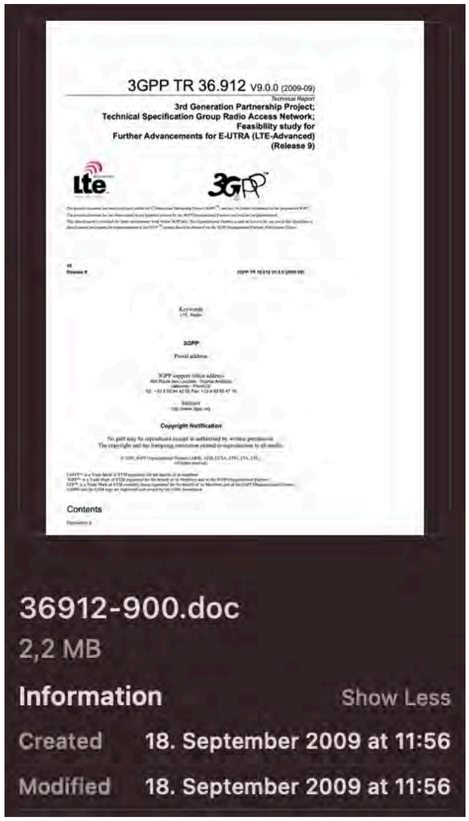
103. Based on my personal knowledge and my review of 3GPP's business records, I recognize Ex. 1021 as a true and correct copy of version 9.0.0 of technical report 3GPP TR 36.912 ("Feasibility study for Further Advancement for E-UTRA (LTE-Advanced) (Release 9)"), which shows on its cover page "2009-09" as the year (2009) and month (September) during which this document was released by 3GPP. The document was published and freely available on 3GPP's ftp server by September 28, 2009. This is confirmed by the date stamp shown for the corresponding downloadable file ("36912-900.zip") on the 3GPP ftp server at https://www.3gpp.org/ftp/Specs/archive/36_series/36.912, as can be seen by the screen shot below:


ftp.3gpp.org – FTP
ftp.3gpp.org
Open Connection Action
/Specs/archive/36_series/36.912

Filename	Size	Modified
36912-020.zip	526.6...	04.09.09, 06:27
36912-021.zip	842.0...	03.09.09, 11:11
36912-200.zip	820.3...	02.09.09, 08:28
36912-210.zip	824.7...	02.09.09, 08:35
36912-211.zip	843.2...	11.09.09, 14:08
36912-220.zip	830.4...	18.09.09, 10:12
36912-900.zip	2.6 MB	28.09.09, 09:27
36912-910.zip	2.7 MB	14.12.09, 12:23
36912-920.zip	2.7 MB	30.03.10, 11:29
36912-930.zip	2.7 MB	04.06.10, 08:07
36912-a00.zip	2.7 MB	29.03.11, 11:02
36912-b00.zip	2.7 MB	18.09.12, 16:54
36912-c00.zip	2.6 MB	24.09.14, 16:22
36912-d00.zip	2.5 MB	05.01.16, 08:22
36912-e00.zip	2.5 MB	25.03.17, 22:34
36912-f00.zip	2.5 MB	29.06.18, 15:27
36912-g00.zip	2.5 MB	14.07.20, 09:30

19 Items

104. In addition, metadata information for the downloaded and extracted specification file states a last Modified date of "18. September 2009", as shown in the screen shot below:

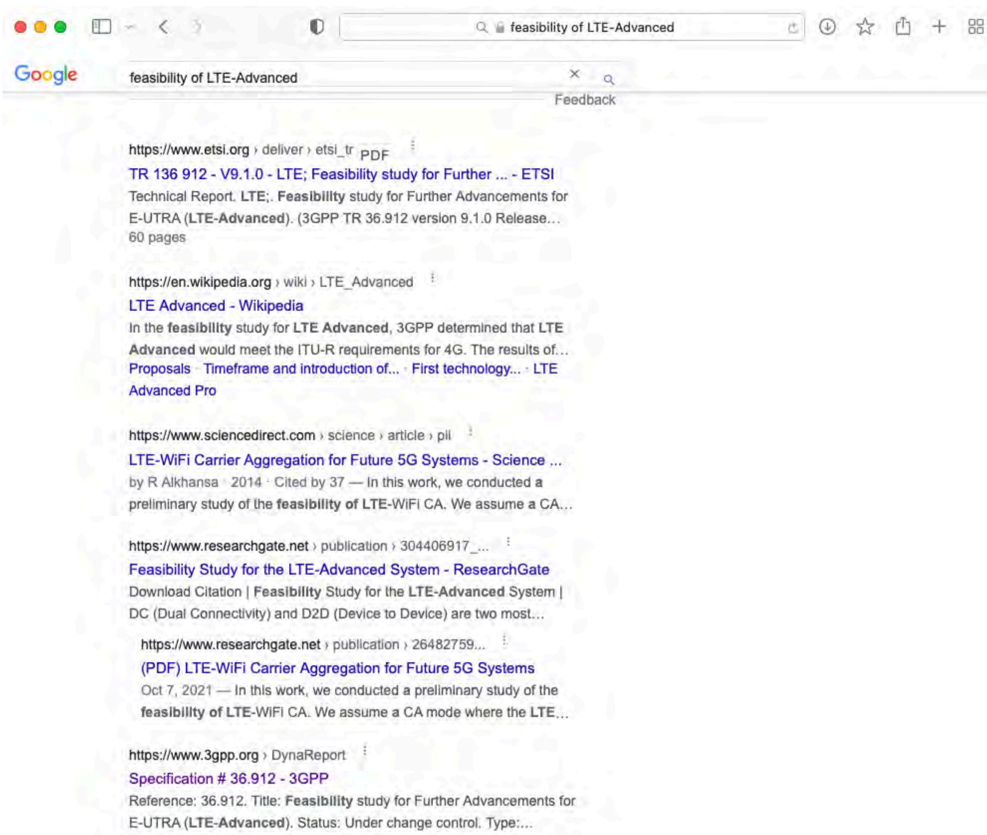


105. Furthermore, the availability of the document was announced by the RAN WG1 secretary via the public 3GPP_TSG_RAN_WG1 email exploder on September 30, 2009, as shown in Appendix K. Around that time, the 3GPP_TSG_RAN_WG1 email exploder had around 1,300 subscribers as can be seen at https://web.archive.org/web/20090911184633/http://list.etsi.org:80/.

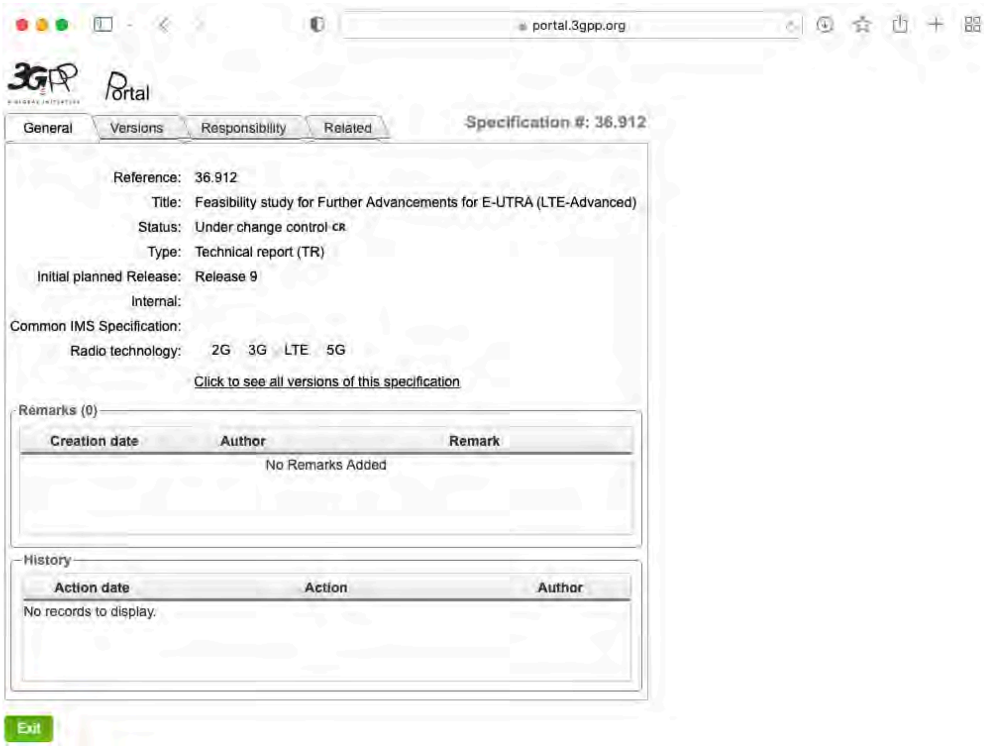
106. Thus, based on my personal knowledge and experience with ETSI's and 3GPP's standard business practices, this information tells me that this document

was available to all 3GPP members and the general public by September 28, 2009, at the latest.

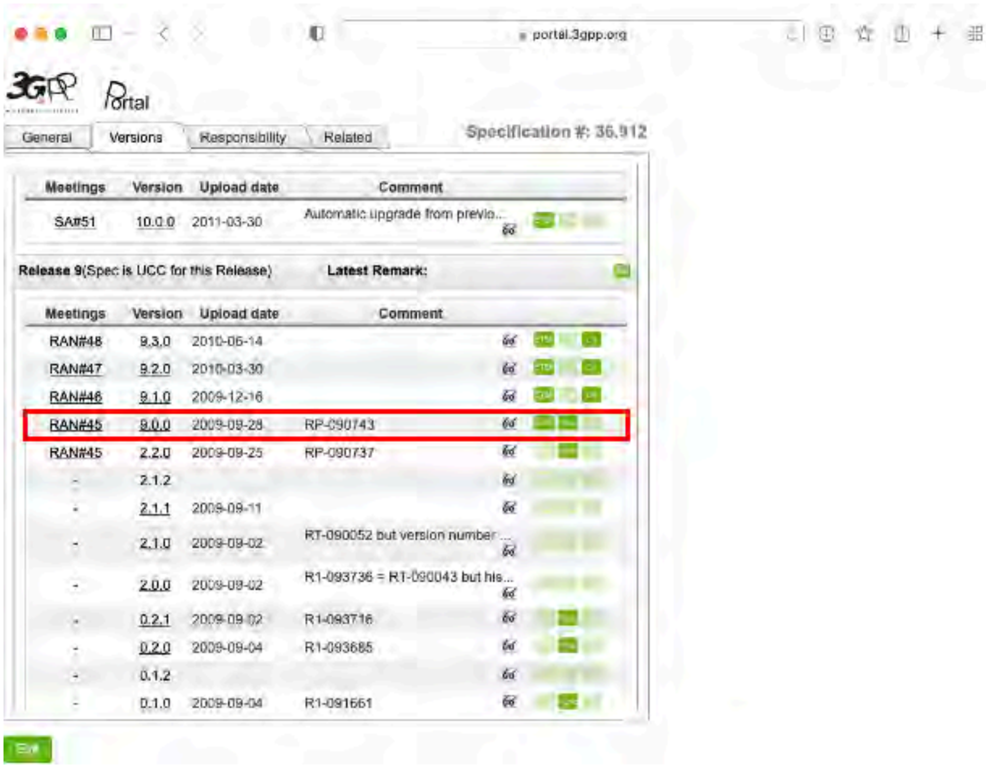
107. I believe that a person without prior knowledge of 3GPP and/or the technical specification (TR) number would have been able to easily find the TR for download via internet search. For instance, a Google search for "feasibility of LTE-Advanced" provides the TR number "36.912" as one of the top results as can be seen in the screen shot below:



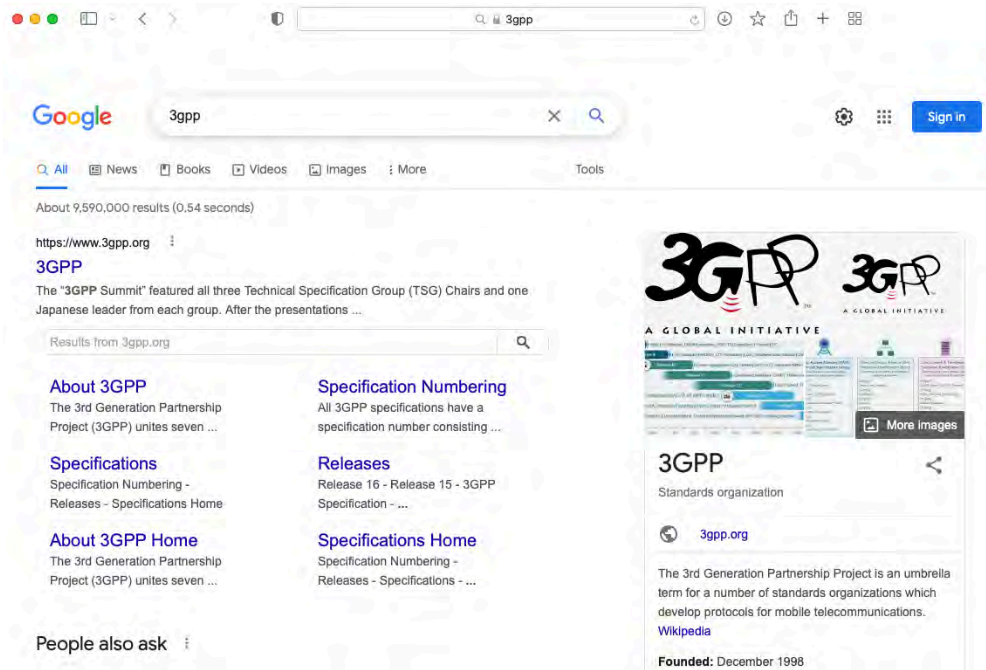
108. Following the provided search result link “Specification # 36.912 – 3GPP” leads to a 3GPP web page under the tab “General” as shown by the screen shot below:



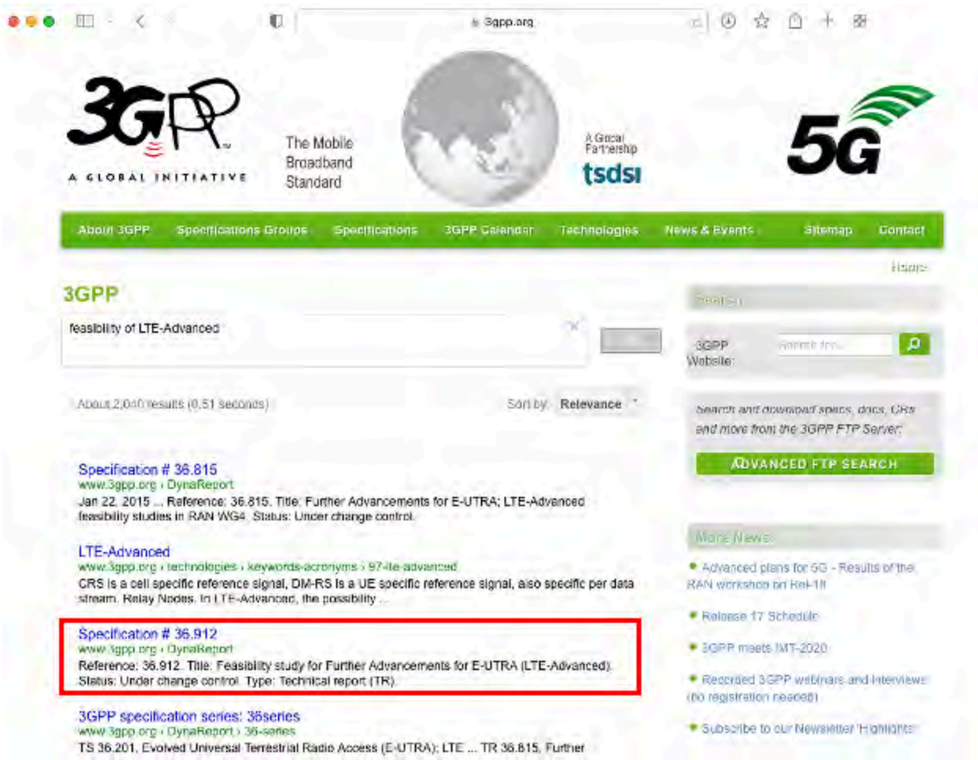
109. Selecting the “Versions” tab loads the webpage containing links to all versions of TR 36.912 including version 9.0.0, as shown by the screen shot below:



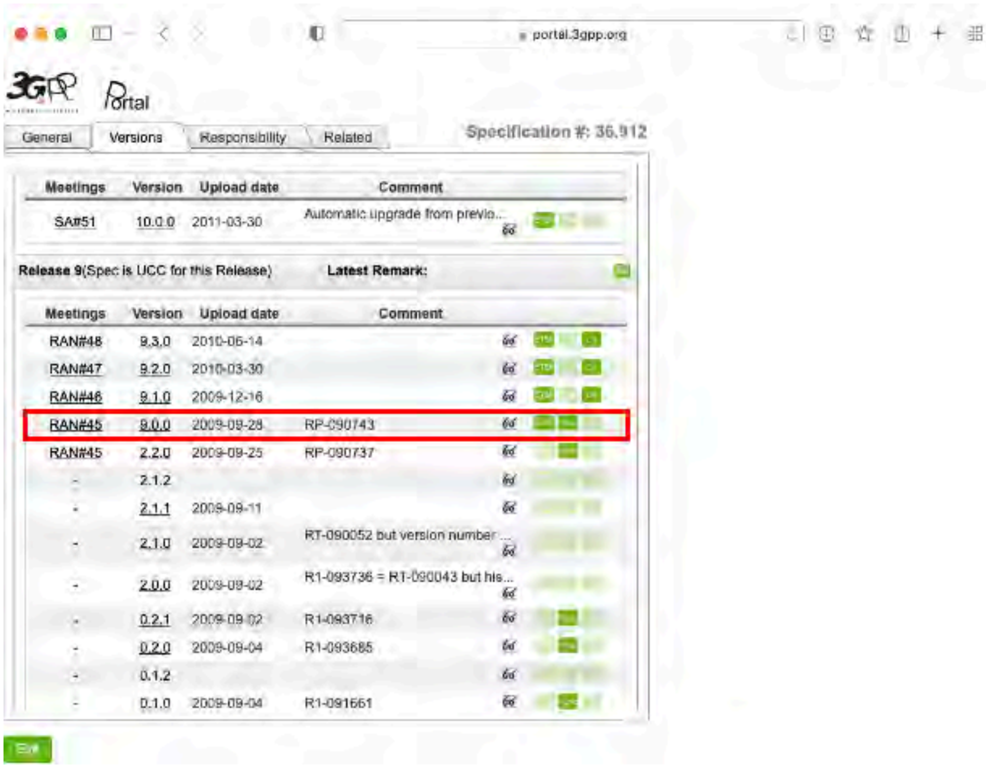
110. 3GPP is a very well-known SDO as of today and certainly was already very well-known in 2009. A person aware of 3GPP could have found TR 36.912 v9.0.0 also via a different route. Searching for "3GPP" leads to the 3GPP website http://www.3gpp.org, as can be seen by the screen shot below:



111. Entering "feasibility of LTE-Advanced" into the search box of the 3GPP web site provides "Specification # 36.912" as one of the top results, as can be seen by the screen shot below:



112. Following the provided search result link on "Specification # 36.912" leads to the same 3GPP web page as mentioned in paragraph 109 offering under the tab "Versions" download links to all versions of TR 36.912 including version 9.0.0, as shown by the screen shot below:


portal.3gpp.org

Portal

General | Versions | Responsibility | Related

Specification #: 36.912

Meetings	Version	Upload date	Comment
SA#51	10.0.0	2011-03-30	Automatic upgrade from previo...

Release 9(Spec is UCC for this Release) Latest Remark:

Meetings	Version	Upload date	Comment
RAN#48	9.3.0	2010-06-14	
RAN#47	9.2.0	2010-03-30	
RAN#46	9.1.0	2009-12-16	
RAN#45	9.0.0	2009-09-28	RP-090743
RAN#45	2.2.0	2009-09-25	RP-090737
-	2.1.2		
-	2.1.1	2009-09-11	
-	2.1.0	2009-09-02	RT-090052 but version number ...
-	2.0.0	2009-09-02	R1-093736 = RT-090043 but his...
-	0.2.1	2009-09-02	R1-093716
-	0.2.0	2009-09-04	R1-093685
-	0.1.2		
-	0.1.0	2009-09-04	R1-091661

113. The above example search illustrates that it is very easy for an interested member of the public without prior knowledge of the TR number and even without prior knowledge of 3GPP to locate any version of TR 36.912, including version 9.0.0, for download.

114. The above searches were performed at the time of writing this report. According to my personal experience, similar searches done in September of 2009 or around that time frame would have similarly provided the path to download version 9.0.0 of TS 36.912.

V. AVAILABILITY FOR CROSS-EXAMINATION

115. In signing this declaration, I recognize that the declaration may be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross examination in the case and that cross examination will take place within the United States. If cross examination is required of me, I will cooperate to the best of my ability to appear for cross examination within the United States during the time allotted for cross examination.

A. Right To Supplement

116. I reserve the right to supplement my opinions in the future to respond to any arguments that the Patent Owner raises and to take into account new information as it becomes available to me.

B. Signature

117. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

118. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Dated: December 8, 2021

Friedhelm Rodermund

Appendix A

CURRICULUM VITAE

I. PERSONAL DATA

Name: **Friedhelm RODERMUND**

Mailing address: Am Steiner Graben 18
56077 Koblenz, Germany

Phone: +49 172 2606489

Email: fred@iotecc.com

II. PROFESSIONAL EXPERIENCE

Summary

Senior expert in telecommunications and Internet of Things (IoT) technology. 25 years of experience within the mobile communications industry, and several years in the IoT domain in various roles such as project management, technology innovation and evolution, standards development, technology strategy, patent creation and patent litigations, and development/introduction of new services.

Recognized standards expert who was actively involved in leading roles in the development of key standards for mobile telephony/data and service anablers across standards development organizations such as 3GPP, ETSI, GSMA, IETF, OMA, and oneM2M. Currently focussing on standards for the Internet of Things.

Founder and director of IOTECC GmbH which provides consulting services around technologies and standards enabling the Internet of Things, and consulting and expert services related to patents for mobile telcommunications and IoT.

01/2015 – present **IOTECC GmbH** **Koblenz, Germany**

Founder and CEO

- Mobile telecommunications, Internet of Things (IoT) technology and standards consulting
- Telecommunications and IoT patent consulting
  - Consulting services around telecommunications and IoT patents in particular related to 3GPP, ETSI and OMA standards
  - State of the art/prior art research services related to patent creation e.g. for new 5G patents
  - Prior art research, patent infringement analysis related to litigations and validity actions
  - Advising on IP strategy
  - Advising on Standards Development Organisations (SDO) working processes and IPR policy
  - Experienced expert witness (please see section III for a list of supported actions)

11/2014 – 12/2014 **Friedhelm Rodermund Consulting** **Koblenz, Germany**

Internet of Things (IoT) Consultant

- IoT standards development and introduction of new IoT services

01/2011 – 10/2014 Vodafone Germany / Vodafone Group R&D Düsseldorf, Germany

Senior Standards Strategist

- Representing Vodafone in various standardisation bodies
- Driving the standardisation of the Internet of Things
- Work item lead, technical editor and key contributor of Open Mobile Alliance (OMA) “Lightweight M2M (LwM2M)” – the new standard for the Internet of Things
- Advising and supporting various IoT/M2M projects related to e.g. automotive, smart metering, health, industry
- Advising on the introduction of new IoT/M2M technologies and services
- Leading Proof of Concepts of emerging technologies
- Involved in innovation projects
- Supporting the creation and protection of Intellectual Property

01/2009 – 12/2010 Vodafone Germany Düsseldorf, Germany

Vice Chairman Open Mobile Alliance (OMA) Device Management (DM)

- Responsible for Vodafone’s Device Management standardisation
- As OMA DM Vice Chairman, co-leading the group, chairing committee meetings and web conferences, steering the technical direction, management of the different work items
- Editor of several specifications, rapporteur of various work items
- Support of projects for the introduction of device management
- Delegate to 3GPP SA1 with responsiblity for the introduction of MTC (machine type communications) related service/network requirements

01/2005 – 12/2008 Vodafone Germany Düsseldorf, Germany

Project Manager Mobile Broadcast Standards

- Responsible for Mobile Broadcast standardisation across different broadcast systems/standards bodies and across all Vodafone local operations
- Responsible for Mobile Broadcast standardisation strategy development and implementation
- Delegation Lead for the Open Mobile Alliance (OMA) BCAST working group
- Initiated and managed the BCAST device profile development in the BMCO Forum
- Leading the "Service Protection" (pay-TV) stream of the German DVB-H Consortium
- Filed several patents
- Supporting patent litigations and patent portfolio evaluation (various technical areas)

04/2003 – 12/2003 GSM Association London, United Kingdom

Member of the MMS Task Force

- Verification of the MMS operator interworking framework
- Supporting the definition and specification of the MMS functional evolution
- Acting as a “link” between 3GPP and GSMA in the area of MMS

06/1998 – 12/2004 European Telecommunications Standards Institute (ETSI)
Sophia Antipolis, France

01/2002 – 12/2004: Secretary 3GPP Technical Specifications Group *“Terminals”* and Terminals Working Group 2 *“Terminal Services and Capabilities”*

01/1999 – 12/2001: Secretary 3GPP Terminals Working Group 2 *“Terminal Services and Capabilities”* and GERAN 3 *“Base Station Testing”*

06/1998 – 03/1999: Secretary ETSI SMG4 *"Data Services"* and SMG8 *"Base Station Testing"*

- Supported the establishment of 3GPP (3rd Generation Partnership Project) as the leading standards organization for mobile telecommunications
- Project manager and secretary of TSG "Terminals" reponsbile for Terminal Conformance Testing, Terminal Services and Capabilities, Universal Subscriber Identity Module (USIM)
- Project manager and secretary of Terminals Working Group 2 "Terminal Services and Capabilities" that was responsible for Terminal Execution Environments, Messaging including Short Message Service (SMS), Cell Broadcast Service (CBS), Enhanced Messaging Service (EMS), Multimedia Messaging Service (MMS), Terminal Interfaces incl. AT-commands, Generic User Profile, Data Synchronization and others
- Establishment and management of the Work Plan and follow-up and report on the progress of the related work items
- Advising the chairmen and the standards groups on technical, procedural and political issues
- Editorship of various GSM and UMTS technical specifications
- Responsible for presenting the technical results of the working groups to the parent body
- Responsible for the communication with other standards bodies inside and outside 3GPP
- PR activities (articles, interviews)

12/1993 – 06/1998 Mannesmann Mobilfunk GmbH Düsseldorf, Germany

System Engineer and Project Manager in Quality Assurance and Technical Standards

- Leadership and management of acceptance test projects in the area of GSM Base Station Controller (BSC) and GSM Base Station (BTS) hardware and software.
- Leading project teams of around 15 people
- Responsible for the clearance of releasing new software/hardware into the network
- Supported Request for Quotations, supplier evaluation and pre-selection, project manager of System Verification as a central part of the supplier selection process.
- Representation of Mannesmann Mobilfunk to the ETSI standardization group "Standardization Technical Committee SMG3 System Architecture"
- Conduction of product and hardware development quality audits
- Representative of Mannesmann Mobilfunk in A-interface interoperability testing activities
- Member of BSS product planning group which was defining operator requirements for future BSS releases
- Development of process improvements for type acceptance

III. LIST OF SUPPORTED PATENT LITIGATIONS AND VALIDITY ACTIONS

2021

Nokia v. Lenovo
Certain Electronic Devices, Including Computers, Tablet Computers, and Components and Modules Thereof, Inv. No. 337-TA-1208 (U.S.I.T.C.)
On behalf of Lenovo
Counsel: WilmerHale
Role: Expert witness and consulting services

2021

Optis Cellular Technology LLC et al. v. Apple
Claim No. HP-2019-000006 (High Court of Justice, Business and Property Courts of England and Wales)
On behalf of Apple
Counsel: WilmerHale
Role: Expert witness and consulting services

2021

Ericsson v. Samsung
Inter Partes Review matters
On behalf of Samsung
Counsel: Kirkland&Ellis LLP, Fish&Richardson
Role: Expert witness and consulting services

2020

Panoptis Patent Management LLC et al. v. Apple Inc.
Civil Action No. 2:19-cv-66 (E.D. Tex.)
On behalf of Apple
Counsel: WilmerHale
Role: Expert witness at bench trial

2020

Sol IP, LLC v. AT&T Mobility, LLC et al.
Civil Action No. 2:18-cv-526 (E.D. Tex.)
On behalf of AT&T, Verizon, Sprint
Counsel: Gibson Dunn
Role: Expert witness and consulting services

2020

Bell Northern Research LLC v. LG Electronics Inc. et al.
Civil Action No. 18-CV-2864-CAB-BLM (S.D. Cal.)
On behalf of LG Electronics Inc.
Counsel: Fish&Richardson
Role: Expert witness and consulting services

2019

Conversant Wireless Licensing S.a.r.l. v. LG Electronics Deutschland GmbH
Civil Action No. 7 O 3277/18 (Landgericht Munich, Germany)
On behalf of LG Electronics Deutschland GmbH
Counsel: Wildanger Kehrwald Graf von Schwerin & Partner mbB
Role: Expert witness and consulting services

2019

Bell Northern Research, LLC v. Huawei Device Co., Ltd, et al.
Civil Action No. 3:18-cv-01784-CAB-BLM
On behalf of Huawei
Counsel: Fish&Richardson
Role: Expert witness and consulting services

2019

Uniloc USA, Inc., et al. v. Samsung Electronics America, Inc. and Samsung Electronics Co. Ltd.
Civil Action Nos. 2:18-cv-00040-JRG, 2:18-cv-00041-JRG, 2:18-cv-00042-JRG and 2:18-cv-00044-JRG (United States District Court for the Eastern District of Texas)
On behalf of Samsung
Counsel: Greenberg Traurig
Role: Expert witness and consulting services

2019

Uniloc USA, Inc., et al. v. Huawei Device USA, Inc. et al.
Civil Action No. 2:18-cv- 00072-JRG-RSP (E.D. Tex.)
On behalf of Huawei
Counsel: McGuireWoods
Role: Expert witness and consulting services

2019

Microsoft Corporation v. Uniloc 2017 LLC
Inter Partes Review of U.S. Pat. No. 7,167,487
Inter Partes Review of U.S. Pat. No. 7,075,917
On behalf of Microsoft and on behalf of Apple as joinder petitioner
Counsel: Klarquist Sparkman (Microsoft), Erise IP (Apple)
Role: Expert witness and consulting services

2019

Qualcomm v. KFTC
South Korean Case, Seoul High Court
On behalf of intervenor Apple supporting the KFTC
Counsel: Boies Schiller Flexner
Role: Expert witness

2018/19

Evolved Wireless, LLC v. Apple, Inc.
Civil Action No. 1:15-cv-00542-JFB-SRF
On behalf of Apple
Counsel: DLA Piper
Role: Expert witness and consulting services

2018/19

Cisco Systems Inc. v. Traxcell Technologies
Inter Partes Review of Traxcell Technologies patents
On behalf of Cisco
Counsel: King&Spalding
Role: Expert witness and consulting services

2018/19

Qualcomm Inc. v. Apple Inc.
Civil Action No. 3:17- cv-02398-DMS-MDD (United States District Court for the Southern District of California)
Civil Action No. 3:17-cv-02402-WQH-MDD
Certain Mobile Electronic Devices and Radio Frequency and Processing Components Thereof (II), Inv. No. 337-TA-1093
Inter Partes Review of U.S. PATENT NO. 9,154,356
Cases IPR2019-00047, IPR2019-00048, IPR2019-00049, IPR2019-00128, IPR2019-00129
On behalf of Apple and Intel
Counsel: WilmerHale
Role: Expert witness and consulting services

2018/19

Apple Inc. v. Qualcomm Inc.

Civil Action No. 3:17-CV-00108-GPC-MDD (United States District Court for the Southern District of California)
On behalf of Apple
Counsel: Fish&Richardson, Boies Schiller Flexner
Role: Expert witness and consulting services

2018

3G Licensing, S.A. et al. v. LG Electronics Inc. et al
Inter Partes Review of U.S. Patent No. 7,995,091
On behalf of LG Electronics
Counsel: Fish&Richardson
Role: Expert witness

2017

Huawei Technologies Co. LTD. v. T-Mobile US, Inc. & T-Mobile USA, Inc.
E.D. Tex. Case Nos. 2:16-cv-00052-JRG-RSP; 2:16-cv-00055-JRG-RSP; 2:16-cv-00056-JRG-RSP; and 2:16-cv-00057-JRG-RSP
On behalf of T-Mobile
Counsel: Gibson Dunn
Role: Expert witness and consulting services

2016

Koninklijke KPN N.V. v. Samsung Electronics America, Inc. et al.
Civil Action No. 14-cv-1165
On behalf of Samsung Electronics
Counsel: Baker Botts
Role: Expert witness and consulting services

2016

SSH v. Sony
OLG Düsseldorf, Germany
On behalf of SSH
Counsel: Cohausz&Florack
Role: Technical expert support

2015/16

LG Electronics v. Core Wireless Licensing S.A.R.L.
Inter Parles Review of U.S. Patent No. 8,165,049
On behalf of LG Electronics
Counsel: Greenberg Traurig
Role: Expert witness

2015/16

Core Wireless Licensing S.A.R.L. v. LG Electronics Inc. and LG Electronics MobileComm U.S.A., Inc
Civil Action No. 2:14-cv-911 (lead case) and Civil Action No. 2:14-cv-912 (consolidated)
On behalf of LG Electronics
Counsel: Greenberg Traurig, Sidley Austin
Role: Expert witness

2015

Intellectual Ventures I LLC v. T-Mobile USA, Inc. & T-Mobile US, Inc.
D. Del. Case No. 1:13-cv-01632
Intellectual Ventures II LLC v. T-Mobile USA, Inc. & T-Mobile US, Inc.
D. Del. Case No. 1:13-cv-01633
On behalf of T-Mobile
Counsel: Gibson Dunn
Role: Technical expert support

IV. EDUCATION

10/1984 – 10/1993 **University of Technology Aachen** **Aachen, Germany**
Graduate of Electrical Engineering with a focus on telecommunications technologies (Dipl.-Ing. TH)

10/1992 – 04/1993 **University of Technology Trondheim** **Trondheim, Norway**
Diploma Thesis "Design of a dual processor computer for digital signal processing in power electronics"

V. LANGUAGES

German, English, French

VI. RECENT PUBLICATIONS

- ”Unlocking the internet of things and driving the need for interoperability”, Global Telecoms Business, December 2013
- “The need for standardisation in the M2M services layer”, Global Telecoms Business, February 2014
- Co-authored white paper “Lightweight M2M: Enabling device management and applications for the internet of things”, Open Mobile Alliance, March 2014
- “Objects are a new way to create M2M applications”, Global Telecoms Business, April 2014
- “The need for standardisation in the M2M services layer”, M2M Now, July 2015

Appendix B

3GPP TSG RAN WG1 Meeting #54bis **R1-083471**
Prague, CZ, 29 September – 3 October, 2008

Agenda item	**3**
Title:	**Final Report of 3GPP TSG RAN WG1 #54 v1.0.0 (Jeju Island, South Korea, 18 – 22 August, 2008)**
Document for:	**Approval**
Source:	**MCC Support**

Fact Summary

Meeting:	**3GPP TSG RAN WG1 #54**
Dates:	**18th through 22nd August, 2008**
Venue:	**The Shilla Jeju hotel in Jeju, SOUTH KOREA**
Host:	**SAMSUNG Electronics**
Attendees:	**155 delegates**
Documents:	**697 (including some withdrawn and post-meeting artefacts)**

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Table of contents

Executive summary

3GPP TSG WG RAN1 #54 meeting took place in Shilla Jeju Hotel, Jeju, SOUTH KOREA.

The meeting started at 9:10 on Monday 18th August and finished at 17:00 on Friday 22nd August 2008.

The week was scheduled as follows:

- Monday: Common session on Agenda items 1, 2, 3, 4, 6, 6.4, 6.5 and 6.3.
- Tuesday: Common session dedicated to corrections to TS36.213 (Agenda item 6.3).
- Wednesday: Parallel sessions on Agenda items 5, 7, 8, 10 and 11 chaired by Dirk Gerstenberger and Agenda items 6.2 and 6.1 chaired by Sadayuki Abeta.
- Thursday morning: Common session on Agenda item 12 for LTE-Advanced.
- Thursday afternoon: Parallel sessions; Continue discussions w.r.t LTE-Advanced in main meeting room chaired by Dirk Gerstenberger. Dedicated MIMO session chaired by Juho Lee
- Friday morning: Common session on Agenda items 6.1 and 6.2.
- Friday afternoon: Revisions

The list of action points that required RAN1 close follow-up is listed in Annex F (end of document).

The number of contribution documents for this meeting was 676, and those documents were categorized as followed.

Agenda Item	Input Document	Discussed Document
Liaison statement handling	41	36
Maintenance of UTRA R99 – Rel8	46	40
Maintenance of Evolved UTRA and UTRAN	399	257
HS-PDSCH serving cell change enhancements	10	5
Dual-Cell HSDPA Operation on Adjacent Carriers	36	31
Enhanced CELL_FACH in 1.28Mcps TDD (UL/DL)	0	
Continuous Connectivity for Packet Data users for 1.28Mcps TDD	3	3
MIMO for 1.28Mcps TDD	6	6
Study Item on LTE-Advanced	135	25

Note: The amount of documents includes those discussed during the email discussion session post meeting.

The following set of documents is missing. The corresponding contributions have not been handed over by companies.

R1-082808	Support to co-existence of different UL/DL allocations for LTE TDD	Alcatel Shanghai Bell, Alcatel-Lucent
R1-082842	On UE-specific CQI-reporting	ZTE
R1-082905	On the PAPR/ESM properties between clustered DFT-S-OFDM and NxSC-FDMA	Spreadtrum Communications
R1-082909	Consideration on TTI Bundling for LTE TDD	Spreadtrum Communications
R1-082984	CQI reporting with TTI bundling or A/N repetition	Panasonic
R1-083057	36.212 CR0040 (Rel-8, F) Introducing missing parameters into 36.212	Ericsson
R1-083222	Link Error Prediction for LTE-A	Motorola
R1-083254	Considerations on Spectrum Aggregation in LTE-Advanced	CHTTL, ITRI
R1-083323	Draft CR for 36.213 regarding DCI format1C	LGE
R1-083355	Update of TR 25.929 v0.0.1	TD Tech
R1-083385	SIB1 and SI-x TBS vs Number of Transmissions	Motorola
R1-083415	36.211 CR0076 (Rel-8, F) Clarification on tree structure for CCE aggregation	Ericsson

1. Opening of the meeting

Mr. Dirk Gerstenberger (RAN1 Chairman) welcomed the participants to the 54th RAN WG1 meeting and opened the meeting at 09:10.

Juho Lee from Samsung Electronics welcomed the delegates and informed them about logistic issues during the week.

1.1 Call for IPR

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

R1-082770	Draft Agenda for RAN1#54 meeting	RAN1 Chairman	

Dirk Gerstenberger (Chairman) proposed the agenda for the meeting.

Discussion (Question / Comment):
Decision: The agenda was approved.

3. Approval of the minutes from previous meeting

R1-082771	Final report of RAN1#53bis meeting	MCC Support	

The document was presented by Patrick Mérias.

Discussion (Question / Comment): Main effort was focused in listing all "approved in principle" CRs from Warsaw's meeting. They shall be further reviewed during the week.
Decision: The document is noted and approved.

4. Liaison statement handling

Incoming LS

R1-082772	Uplink grant format in Random Access Response	RAN2, Qualcomm	= R2-083779

The document was presented by Juan Montojo from Qualcomm.

Discussion (Question / Comment): RAN2 has basically decided that the MAC layer will deliver the 20 bits containing to the UL grant to the "lower layer" instead of 21bits. Some adjustments are required in RAN1 specifications reflecting it.
Decision: Document is noted.

R1-083186	Handling of Uplink Grant in Random Access Response	Qualcomm Europe	

The document (initially under AI 6.3) was presented by Juan Montojo from Qualcomm and proposes:

- Proposal 1: Use 3 bit TPC field in RAR
- Proposal 2: Use 10 bit RB assignment in RAR

Discussion (Question / Comment): NSN commented that proposal 1 may require further discussion. On the other hand, proposal 2 may raise problem in case of 20MHz BW systems.
Decision: Document is noted.

R1-083096	PC of RACH message 3	Nokia Siemens Networks, Nokia	

The document (initially under AI 6.3) was presented by Jari Lindholm from NSN and details PC command on RACH response. The following statements are proposed:

- The power control adjustment state of PUCCH is initialized to $g(0) = \Delta P_{rampup} + \delta_{Msg2}$.
- The power control adjustment state of PUSCH is initialized to $f(0) = \alpha \cdot (\Delta P_{rampup} + \delta_{Msg2})$ but this applies only for non-contention based random access.
- A new PC formula with full PL compensation is introduced for message 3 transmission during contention based RA:

$$P_{Msg3}(i) = PREAMBLE\_INITIAL\_RECEIVED\_TARGET\_POWER + PL + \Delta_{0,preamble\_Msg3} + 10\log_{10}(M_{\mathrm{PUSCH}}(i)) + \Delta_{\mathrm{TF}}(TF(i)) + f_{Msg3}(i).,$$

where the power control adjustment state is initialized to

$$f_{Msg3}(0) = \Delta P_{rampup} + \delta_{Msg2}.$$

- After successful contention resolution UE switches to the normal PUSCH PC formula with an insertion

$$f(i) = \alpha \cdot f_{Msg3}(i).$$

Discussion (Question / Comment): In relation to the LS, NSN is more in favor of 4 bit TPC field in the grant.
Decision: Document is noted.

From the above set of contributions, agreement is as follows:

- 10 bits for RB allocation
- 3 bits with 2dB resolution for TPC

Continue off line discussion to prepare the related CR in specifications in R1-083266 (Qualcomm) and the LS reply in R1-083267.

Friday 22nd

R1-083267	DRAFT LS Reply to Uplink grant format in Random Access Response	Qualcomm	
R1-083266	Handling of Uplink Grant in Random Access Response	Qualcomm	

The draft LS was presented by Sandip Sarkar from Qualcomm and informs RAN2 on a way forward to split the 20 bits allocated in the Random Access Response for signalling the UL grant with relevant CR attached in R1-083266.

Discussion (Question / Comment): Nokia requested more time for finalizing the CR.
Decision: Document is noted and is for email approval until 28/08.

ICIC Signaling

R1-082773	LS on ICIC Signalling	RAN2, Ericsson	= R2-083785

The document was presented by Ylva Jading from Ericsson and raised 2 questions:

Q1: Is the existing measurement report, triggered when the neighbouring cell becomes offset better than the serving cell sufficient for ICIC in Rel-8?

Q2: Can RAN1 indicate if a having triggers for both neighbouring cell becomes offset better than the serving cell and when neighbouring cell becomes offset worse than the serving cell would be sufficient for ICIC in Rel-8?

Discussion (Question / Comment):
Decision: Document is noted.

R1-083031	Proposed response to LS on ICIC signaling (R2-083875)	Huawei	

The document was presented by Brian Classon from Huawei and provides replies and considerations related to the issues raised in R1-082773.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083252	Draft LS on additional RSRP trigger for ICIC	Ericsson	(R1-083051)

The document was presented by Ylva Jading from Ericsson.

Discussion (Question / Comment): Huawei reported that the answer to Q1 was similar to Huawei's view and commented that both answers could simply be "NO".
Decision: Document is noted.

R1-083107	Necessary RSRP Information for UL and DL ICIC to be provided by Layer 2	Alcatel-Lucent	

The document was presented by Christian Gerlach from Alcatel-Lucent and concludes that the proposal replied by RAN2 in R1-082773 seems not adequate for ICIC implementation. It has further been shown what kind of RSRP information in contrast is necessary to have sufficient information for UL and DL ICIC.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083108	Proposed Response LS on RSRP Signalling for ICIC	Alcatel-Lucent	

Decision: Document is noted.

Based on the above contributions, Mr Chairman decided to let the discussion continue off line (during the day) and see if more details can be agreed in providing response to RAN2 other than a simple "NO". LS reply in R1-083265 (Ericsson) shall be drafted in that sense.

Monday 18th evening

R1-083265	Draft LS on additional RSRP trigger for ICIC	Ericsson	

The document was presented by Ylva Jading from Ericsson and provides RAN1 answers to RAN2:

- Q1 answer: No, this will not be sufficient for ICIC purposes.
- Q2 answer: Yes, as indicated above RAN1 would find it sufficient to have multiple trigger conditions for both neighbouring cell becoming offset better than the serving cell and when neighbouring cell becomes offset worse than the serving cell. RAN1 thinks that at least three additional trigger conditions for ICIC purposes should be possible to set if seen feasible from a RAN2 perspective.

Discussion (Question / Comment): RAN3 shall be copied in the LS response.
Decision: Document is noted and final LS is agreed in R1-083272

ETWS

R1-082774	Further questions on Earthquake and Tsunami Warning System	RAN2, NTT DoCoMo	= R2-083786

The document was presented by Sadayuki Abeta from NTT DoCoMo

Discussion (Question / Comment): No actions to RAN1.
Decision: Document is noted.

Discussion papers

R1-083138	36.213 CR0066 (Rel-8, F) Alignment of RAN1/RAN2 RACH specification	Ericsson	(R1-082459)

The document was presented by Stefan Parkvall from Ericsson and deals with a disalignment between the physical-random-access procedure in 36.213 Section 6 and the corresponding text in MAC specification 36.321.

- 36.213 assumes that higher layers provide a preamble transmission power while 36.321 provides a target received power
- 36.213 assumes that higher layers provide a random-access response window, something that is not provided according to 36.321.

Discussion (Question / Comment):
Decision: Document is noted. CR is agreed in principle and shall be merged into CR in R1-083266. Inform RAN2 that delta_preamble is assumed to be in MAC.

R1-083203	Alignment of L1/L2 PRACH power control specification	LG Electronics, Ericsson, Qualcomm	

The document was presented by Dragan Vujcic from LGE. It's the background for previous CR in R1-083138.

Discussion (Question / Comment): Typo error (minus sign should be +) in PRACH output power formula.
Decision: Document is noted.

R1-083204	[DRAFT] LS on PRACH preamble power offset	LG Electronics, Ericsson, Qualcomm	

The document was presented by Dragan Vujcic from LGE and captures the decisions on PRACH power control formula.

Discussion (Question / Comment): Panasonic requested to add an action to RAN4 to apply Cubic Matrix also to the preamble.
Decision: Document is noted and shall be revised in R1-083269.

Thursday 21st

R1-083269	[DRAFT] LS on PRACH preamble power offset	LG Electronics, Ericsson, Qualcomm	(R1-083204)

The document was presented by Dragan Vujcic from LGE.

Discussion (Question / Comment):
Decision: Document is noted. Final LS is agreed in R1-083365.

R1-083248	Discussion on the SI transmission	LGE	(R1-082910)

The document was presented by Joon-Kui Ahn from LGE and shows evaluation results on the payload size for SI-1 and discusses the possible approaches for the SI-1 payload size setting. Required number of retransmissions of SI-x (x>1) and the current RAN2 assumption on the HARQ process for BCCH reception are also discussed.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083033	Remaining issues on SIB transmission	Huawei	

The document was presented by Ms (…) from Huawei

Discussion (Question / Comment):
Decision: Document is noted.

R1-083258	SIB1 and SI-x TBS vs Number of Transmissions	Motorola	(R1-083212)

The document was presented by Robert Love from Motorola and proposes a maximum TBS for SIB1 and SI-x and gives tables for different SI-x TBS and the corresponding number of transmissions required for 1% BLER based on 1TX x 2RX downlink antenna deployment and the ETU 30km/h channel.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083213	DCI Format 1C and 1.4, 3, 5, and 10 MHz link performance	Motorola	

Document has not been formally reviewed as it's the background information to R1-083258.

R1-083257	Draft LS Response to LS on information about new PDCCH Format 1C and LS on SI Scheduling	Motorola	(R1-083214)

The document was presented by Robert Love from Motorola.

Discussion (Question / Comment): LGE requested extra time for further checking of the draft LS. Typo shall be corrected in relation to ETWS spelling.
Decision: Document is noted and shall be revisited later on.

R1-083264	Separate frequency layer for CSG cells	Nokia, Nokia Siemens Networks	

The document was presented by Asbjørn Grøvlen from Nokia and proposes a solution for distinguishing the CSG cells in the frequency domain, requiring no changes to the existing physical layer specification in al1 as well as in higher layers.

Proposal: Do not modify the physical layer specifications and stay with the 504 PCIs as they are today. Separate the CSG and non-CSG cells in the frequency domain by offsetting the CSG cells by 100 kHz. Indicate RAN2 and RAN4 that the CSG and the non-CSG cells can be separated in frequency domain and thus the same PCI space can be used by both layers.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083081	Physical layer support for CSG	Nokia, Nokia Siemens Networks	

The document was presented by Asbjørn Grøvlen from Nokia and states that reserving a subset of the existing physical layer cell IDs for CSG should be sufficient given the CSG mobility functionality that will be supported for release 8

Discussion (Question / Comment):
Decision: Document is noted.

R1-083139	Extension of the cell-ID space	Nortel	

The document was presented by Hua Xu from Nortel and compares different options for extending the Physical layer cell Identity (PCI) for E-UTRA.

Discussion (Question / Comment): One company commented that the proposed scheme (Nortel's conclusion) has not been agreed by RAN1.
Decision: Document is noted.

R1-083160	Analysis of PCI extension schemes	Qualcomm Europe	

The document was presented by Juan Montojo from Qualcomm and proposes:

- Once UE finds timing through PSS, UE is to test two hypotheses of SSS location
    - This is similar to blind CP length detection operation in UE
        - Blind CP detection is anyway needed in any searcher implementation and its performance is very reliable
    - This is also similar to detecting FS1 from FS2 by using relative location of PSS/SSS
        - In FS1, PSS and SSS are next to each other
        - In FS2, PSS and SSS are separated by two OFDM symbols

Discussion (Question / Comment):
Decision: Document is noted.

R1-082830	Solutions to Issues on CSG-cell Identification	ZTE, CHTTL	

The document was presented by (…) from ZTE and concludes with the following statements:

- Fairly large identification space with the ability to extend to an even larger identification space without changing the air interface protocol, so the knowledge of potential maximum number of CSG-cells per macro-cell is not so critical at this stage;
- It has minimum impact to LTE Rel-8 because both SCH signalling and the cell identification philosophy for non-CSG-cell keeps unchanged. In addition, the cell-search and initial synchronization to CSG-cell when UE powers up in an CSG-cell is also not effected because in this case UE only needs to know cell-ID on SCH;
- It keeps the implementation complexity in control when identifying one CSG-cell from a large identification space;
- Compatible with CSG-cell that is either semi-statically or dynamically controlled by network;
- Applies to both FDD and TDD in the same way.

Discussion (Question / Comment):
Decision: Document is noted.

R1-082911	CSG Flag in Physical Cell ID	LGE	(R1-081888)

The document was presented by Seunghee Han from LGE and discusses options of PCI extension and reservation for CSG cells via technical analysis and simulation results. It concludes as follows;

- PCI reservation
    - The number of PCIs to be reserved for CSG cells is 45 and option C in chapter 4 (reservation to avoid *ambiguity* and *collision*) is preferable.
- PCI extension
    - The option 1 in chapter 3 (extension by swapping SS) is preferable.

Discussion (Question / Comment):
Decision: Document is noted.

As a conclusion of this topic, Mr. Chairman raised the question: does RAN1actually need to modify the Cell search or is the current Rel-8 implementation good as it is?

No agreement at this stage for introducing a new layer 1 solution. The topic shall be revisited in case of feedback from RAN2 that may come up during the week.

Friday 22nd

R1-083366	Evaluation of PCI collision for CSG	Qualcomm Europe	

The document was presented by Juan Montojo from Qualcomm and shows a study to analyze the PCI collision probability for different home eNB densities and different number of PCIs available for CSG cells.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083405	Draft LS on CSG cell identification	Qualcomm Europe, Nokia, Nokia Siemens Networks, Ericsson	

The document was presented by Juan Montojo from Qualcomm.

Discussion (Question / Comment): Supported by Samsung and Huawei as well.
Decision: Document is noted. RAN3 shall be in copy. Final LS is agreed in R1-083424

R1-082792	Effect of false positive UL grants	Philips, NXP	

The document was presented by Matthew Baker from Philips and highlights two main problems arising from falsely detected PDCCHs.

- **False activation of an UL SPS transmission**
    - Proposal: the UE to receive two PDCCHs in the same subframe before activating an SPS. Since the UE would typically try blind decoding all possible PDCCHs within a given search space, there is no practical difficulty in receiving sufficient PDCCHs. One message would need to have the SPS-C-RNTI encoded in the CRC. Without a correctly received second message (with either SPS-C-RNTI or C-RNTI) the SPS message would be rejected.
- **False detection of a dynamic UL grant**
    - Proposal: since most of the interference is generated by UEs with no data which send only a padding BSR in the full granted resources, it's proposed that any such transmissions should use a minimal resource and transport block size derived from the received grant.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083032	Remaining issues on PDCCH for semi-persistent scheduling	Huawei	

The document was presented by (…) from Huawei and provides considerations on:

Q1: Is the existing measurement report, triggered when the neighboring cell becomes offset better than the serving cell sufficient for ICIC in Rel-8?

- **Response:** it is not sufficient for ICIC that the UE transmits a single measurement report.

Q2: Can RAN1 indicate if a having triggers for both neighboring cell becomes offset better than the serving cell and when neighboring cell becomes offset worse than the serving cell would be sufficient for ICIC in Rel-8?

- **Response:** two triggers increase the load without significant benefit, as still cannot accurately follow the fluctuation of channel condition for the UE in the ICIC area. So introducing an event for neighboring cell becomes offset worse than the serving cell is NOT preferred for RAN1.

Finally, RAN2 has discussed a solution in which the UE starts periodic reporting based on event that neighboring cell becomes offset better than the serving cell (event-triggered periodic reporting), and the RRC measurement events are restricted based on information from MAC. This solution would cause significant complexity in RAN2 specifications, but could be introduced if deemed necessary by RAN1 analysis.

- **Response:** the event-triggered periodic reporting is necessary for ICIC and several methods should be considered for reducing the signalling overhead.

Discussion (Question / Comment):
Decision: Document is noted. This shall be revisited depending on feedback from RAN2 on LS in R1-082766 (from RAN1#53bis Warsaw's meeting).

Incoming LS received during the week

R1-083346	LS on considerations on transport block sizes for VoIP	RAN2, Ericsson	= R2-084764

The document was presented by Daniel Larsson from Ericsson. RAN1 is tasked to consider the TB sizes as proposed in its finalization of TBS tables for LTE release 8 specifications, and if possible to make appropriate changes to improve support for VoIP.

Discussion (Question / Comment):
Decision: Document is noted.

5. Maintenance of UTRA Release 99 – Release 8

FDD

R1-083071	25.212 CR0271 (Rel-7,F) Correction to the table name and the quoted name	HUAWEI	
R1-083072	25.212 CR0272 (Rel-8,A) Correction to the table name and the quoted name	HUAWEI	

The document was presented by Wang Zongjie from Huawei.

Discussion (Question / Comment): MCC to correct WI code. Enhanced Uplink feature seems more appropriate. Version of specification in R1-083072 shall be v8.2.0.
Decision: Documents are noted and both CRs are agreed.

R1-083022	25.213 CR0097 (Rel-7, F) Restricted Beta Factor Combinations for EUL	Ericsson	

The document was presented by Johan Bergman from Ericsson and clarifies that the highest E-DPDCH amplitude factors should only be used for SF2 in a 2xSF2+2xSF4 configuration when E-DPCCH boosting is applied.

Discussion (Question / Comment):
Decision: Document is noted. CR shall be revisited after off line discussion.

Friday 22nd

R1-083393	25.213 CR0097r1 (Rel-7, F) Restricted Beta Factor Combinations for EUL	Ericsson	(R1-083022)

Decision: Document is under email approval until 28/08.

R1-083023	Improved EUL power control at UE power limitation	Ericsson	

The document was presented by Johan Bergman from Ericsson and provides approaches for improved EUL power control at power limitation in Rel-8.

.**Discussion (Question / Comment):**

Decision: Document is noted. RAN1 agrees on having both solutions, configurable $\beta_{ed,k,min}$ and freeze OLPC target.

Draft an LS for RAN2 (for making $\beta_{ed,k,min}$ configurable) and RAN3 (for introducing the OLPC related NodeB signalling to the RNC) and discuss further whether draft CRs can be provided too.

R1-083073	Enhanced Pilot Reference for E-DPCCH Power Boosting	HUAWEI	

The document was presented by Wang Zongjie from Huawei and identifies problem of power boosting E-DPCCH based pilot reference processing. From simulation results, inconsecutive E-DCH transmission with E-DPCCH power boosting affects the channel estimation results so as to reduce the peak data rates. Thus it is proposed to study the scheme of E-DPCCH preamble and postamble which seems to be a potential approach to solve the problem.

Discussion (Question / Comment): Nokia commented that such implementation may have big impacts to UE.
Decision: Document is noted. Based on the discussion, RAN1 doesn't agree to this proposal.

TDD

R1-082854	25.221 CR0158 (Rel-5, F) Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	ZTE, RITT, CATT, TD-TECH, Spreadtrum Communications	

R1-082855	25.221 CR0159 (Rel-6, A) Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	ZTE, RITT, CATT, TD-TECH, Spreadtrum Communications	
R1-082856	25.221 CR0160 (Rel-7, A) Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	ZTE, RITT, CATT, TD-TECH, Spreadtrum Communications	
R1-082857	25.221 CR0161 (Rel-8, A) Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	ZTE, RITT, CATT, TD-TECH, Spreadtrum Communications	

The documents were presented by (…) from ZTE and provides a modification of the timing limitation so that the HS-PDSCH is always on the following subframe of the associated HS-SCCH. The change is not backward compatible under the protocol point of view. In realistic network, the 1.28Mcps TDD UE will implement the change from Rel-5, thus the resultant interoperability risk is minimized.

Discussion (Question / Comment): Mr. Chairman raised question on potential impact to RAN5, especially if test cases do exist.
Decision: Documents are noted and set of CRs is agreed.

R1-082947	25.221 CR0162 (Rel-7, F) Correction on the time slot format for LCR TDD MBSFN	CATT	
R1-082948	25.221 CR0163 (Rel-8, A) Correction on the time slot format for LCR TDD MBSFN	CATT	

The documents were presented by Ke Wang from CATT

Discussion (Question / Comment):
Decision: Documents are noted and CRs are agreed.

R1-082891	25.222 CR0151 (Rel-8, A) Clarification on E-HICH coding for 1.28Mcps TDD	TD Tech	

The document was presented by Ying Chen from TD Tech and provides descriptions regarding E-HICH coding.

Discussion (Question / Comment): CATT requested to explain the reason for this CR. Statement "element "0" in Hadamard C_{20} and C_4 should be replaced by "-1" to be replaced by "element "0" in Hadamard C_{20} and C_4 shall be replaced by "-1"
Decision: Document is noted and shall be revised in R1-083314. In addition, Rel-7 CR shall be prepared in R1-083315.

Friday 22nd

R1-083314	25.222 CR0151R1 (Rel-8, A) Clarification on E-HICH coding for 1.28Mcps TDD	TD Tech	(R1-082891)
R1-083315	25.222 CR0156 (Rel-7, F) Clarification on E-HICH coding for 1.28Mcps TDD	TD Tech	

Both documents were presented by Ying Chen from TD Tech.

Discussion (Question / Comment):
Decision: Documents are noted and CRs are agreed.

R1-082894	25.222 CR0152 (Rel-7, F) Clarification of E-UCCH Number indicator on E-AGCH for 1.28Mcps TDD	TD Tech	
R1-082895	25.222 CR0153 (Rel-8, A) Clarification of E-UCCH Number indicator on E-AGCH for 1.28Mcps TDD	TD Tech	

The documents were presented by Ying Chen from TD Tech and clarify the relationship between the E-UCCH number indicator and the real number of used E-UCCH.

Discussion (Question / Comment): CR form version shall be 9.4
Decision: Documents are noted and shall be revised in R1-083316 and R1-083317 resp.

Friday 22nd

R1-083316	25.222 CR0152R1 (Rel-7, F) Clarification of E-UCCH Number indicator on E-AGCH for 1.28Mcps TDD	TD Tech	(R1-082894)
R1-083317	25.222 CR0153R1 (Rel-8, A) Clarification of E-UCCH Number indicator on E-AGCH for 1.28Mcps TDD	TD Tech	(R1-082895)

Both documents were presented by Ying Chen from TD Tech.

Discussion (Question / Comment): MCC to correct version of specification in R1-083316 shall be v7.7.0.
Decision: Documents are noted and CRs are agreed.

R1-082949	25.222 CR0154 (Rel-8, A) Clarification of TRRI on E-AGCH for 1.28Mcps TDD EUL	CATT,TD-TECH,ZTE	

The document was presented by Ke Wang from CATT.

Discussion (Question / Comment): Corresponding Rel-7 CR was provided and approved at last plenary.
Decision: Document is noted and CR is agreed.

R1-082950	25.222 CR0155 (Rel-8, A) Correction of E-HICH coding for 1.28 Mcps TDD EUL	CATT,TD-TECH	

The document was presented by Ke Wang from CATT.

Discussion (Question / Comment): Corresponding Rel-7 CR was provided and approved at last plenary.
Decision: Document is noted and CR is agreed.

R1-082782	25.224 CR0187 (Rel-8, A) Use of Special Bursts for DTX on MBSFN FACH in 1.28 Mcps TDD	Spreadtrum Communications	

The document was presented by (…) from Spreadtrum.

Discussion (Question / Comment): Corresponding Rel-7 CR was provided and approved at last plenary.
Decision: Document is noted and CR is agreed.

R1-083260	25.224 CR0185R3 (Rel-7, F) HS-SCCH and HS-SICH power control clarification for 1.28Mcps TDD	TD Tech, ZTE	(R1-082889)
R1-083261	25.224 CR0186R2 (Rel-8, A) HS-SCCH and HS-SICH power control clarification for 1.28Mcps TDD	TD Tech, ZTE	(R1-082890)

The documents were presented by Ying Chen from TD Tech.

Discussion (Question / Comment): CR form version shall be 9.4
Decision: Documents are noted and CRs shall be revised in R1-083318 and R1-083319 resp.

Friday 22nd

R1-083318	25.224 CR0185R4 (Rel-7, F) HS-SCCH and HS-SICH power control clarification for 1.28Mcps TDD	TD Tech, ZTE	(R1-083260)
R1-083319	25.224 CR0186R4 (Rel-8, A) HS-SCCH and HS-SICH power control clarification for 1.28Mcps TDD	TD Tech, ZTE	(R1-083261)

Both documents were presented by Ying Chen from TD Tech.

Discussion (Question / Comment): MCC to correct version of specification in R1-083318 shall be v7.7.0.
Decision: Documents are noted and CRs are agreed.

R1-082892	25.224 CR0193 (Rel-8, A) EUL power control clarification for 1.28Mcps TDD	TD Tech	

The document was presented by Ying Chen from TD Tech.

Discussion (Question / Comment): Shadow CR of already approved in Rel-7.

Decision: Document is noted and CR is agreed.

R1-082893	25.224 CR0194 (Rel-8, A) EUL power control improvement for 1.28Mcps TDD	TD Tech	

The document was presented by Ying Chen from TD Tech.

Discussion (Question / Comment): Shadow CR of already approved in Rel-7. Correct typo in the category field. CR form version shall be 9.4
Decision: Document is noted and CR shall be revised in R1-083320.

Friday 22nd

R1-083320	25.224 CR0194R1 (Rel-8, A) EUL power control improvement for 1.28Mcps TDD	TD Tech	(R1-082893)

The document was presented by Ying Chen from TD Tech.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-082951	25224 CR0188 (Rel-8, A) Correction of E-PUCH power control for 1.28 Mcps TDD EUL	CATT	

The document was presented by Ke Wang from CATT.

Discussion (Question / Comment): Corresponding Rel-7 CR was provided and approved at last plenary.
Decision: Document is noted and CR is agreed.

R1-082954	25.224 CR0191 (Rel-7, F) Correction of UpPCHPOS bit number in subclause 5.2.7	CATT	
R1-082955	25.224 CR0192 (Rel-8, A) Correction of UpPCHPOS bit number in subclause 5.2.7	CATT	

The document were presented by Ke Wang from CATT

Discussion (Question / Comment):
Decision: Documents are noted and CRs are agreed.

R1-083282	25.224 CR0190R1 (Rel-8, A) Clarification of the E-AGCH monitoring for 1.28Mcps TDD EUL	CATT	(R1-082953)

The document was presented by Ke Wang from CATT.

Discussion (Question / Comment): Corresponding Rel-7 CR was provided and approved at last plenary.
Decision: Document is noted and CR is agreed.

Documents not treated.

R1-083289	25.224 CR0195 (Rel-7, F) Correction of the E-AGCH monitoring for 1.28Mcps TDD EUL	TD Tech	
R1-083290	25.224 CR0196 (Rel-8, A) Correction of the E-AGCH monitoring for 1.28Mcps TDD EUL	TD Tech	

6. Maintenance of Evolved UTRA and UTRAN

R1-083249	Summary of the e-mail discussion on Consequence analysis of Low/ Medium features in LTE Rel-8	NTT DOCOMO	

The document was presented by Sadayuki Abeta from NTT DoCoMo and captures the comments which impact on the network switching and provides an updated version the feature lists.

Discussion (Question / Comment): Mr. Chairman commented that features impacting only eNodeB should be ignored on priority basis.
Decision: Document is noted. This will be revisited by Thursday morning.

R1-083251	Group signalling for Low/ Medium features in LTE Rel-8	NTT DOCOMO	

R1-083263	The need of supporting open-loop SM in initial deployment of release-8	Nortel	(R1-083141)

The document wasn't formally presented by Anna Tee from Nortel.

Discussion (Question / Comment):
Decision: Document is noted.

Thursday 21st

R1-083250	Draft LS on Consequence analysis of Low/ Medium features in LTE Rel-8	NTT DOCOMO	

The document was presented by Sadayuki Abeta from NTT DoCoMo.

Discussion (Question / Comment):
Decision: Document is noted. The LS shall be revised in R1-083349. In addition, R1-083350 is allocated for the attached excel file listing all the features.

R1-083349	Draft LS on Consequence analysis of Low/ Medium features in LTE Rel-8	NTT DOCOMO	(R1-083250)

The document was presented by Sadayuki Abeta from NTT DoCoMo.

Discussion (Question / Comment):
Decision: Document is noted and final LS is agreed in R1-083364.

6.1 Corrections for TS 36.211

Note: The following contributions have been reviewed in common session (Friday 22nd) prior checking the outcomes of the ad-hoc session.

PRACH

R1-082978	Way Forward on the PRACH frequency offset	Panasonic, LG Electronics, Motorola, NTT DoCoMo, Samsung, Texas Instruments	

The document was presented by Daichi Imamura from Panasonic and proposes the following on the indication for PRACH frequency location:

- Alt. 1: "pucch-ResouceSize (N_RB^PUCCH)" parameter is reused for indicating the PRACH frequency location

Discussion (Question / Comment): Relevant CR is drafted in R1-082979.
Decision: Document is noted.

R1-083253	PRACH resource placement	Nokia Siemens Networks, Ericsson, Nokia, ZTE	(R1-083085)

The document was presented by (…) from NSN and proposes the following on the indication for PRACH frequency location:

- Alt. 2: PRACH is located between CQI and P-/D-ACK/NACK

Discussion (Question / Comment): Relevant CR is drafted in R1-082979.
Decision: Document is noted. Mr. Chairman decided to let revisit the topic after off line discussion.

R1-083325	36.211 CR0259 (Rel-8, F) Correcting Ncs value for PRACH preamble format 0-3	ZTE, Ericsson	(R1-082843) R1-083388

The document was presented by Zhisong Zuo from ZTE.

Discussion (Question / Comment): Question raised on CR number. Further checking confirmed that it's wrong.
Decision: Document is noted and CR is agreed as CR0071 in R1-083388.

RS

R1-083053	36.211 CR0063 (Rel-8, F) Correction of n_prs	Ericsson	

The document was presented by George Jöngren from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083374	36.211 CR0062 (rel-8, F) Clarifications for DMRS parameters	NEC Group	(R1-083008)

The document was presented by Yassin Awad from NEC.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

Other CRs

R1-083387	36.211 CR0065R1 (Rel-8, F) Clarification on reception of synchronization signals	Ericsson	

The document was presented by George Jöngren from Ericsson

Discussion (Question / Comment):
Decision: Document is noted and shall be revised in R1-083391.

R1-082969	36.211 CR0060 (Rel-8, F) Definition on the slot number for frame structure type 2	CATT, LGE	

The document was presented by (…) from CATT

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083054	36.211 CR0064 (Rel-8, F) Introducing missing parameters into 36.211	Ericsson	

The document was presented by Stefan Parkvall from Ericsson

Discussion (Question / Comment):
Decision: Document is noted and shall be revised in R1-083392.

MIMO

R1-083088	Correction to Precoding for Transmit Diversity	Nokia Siemens Networks, Nokia	

The document was presented by (…) from NSN

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed in R1-083402.

R1-083383	36.211 CR0058R1 (Rel-8, F) Control region in a cell with 4 Tx antennas	Samsung, Panasonic	(R1-082860)

The document was presented by (…) from Samsung.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083303	Clarification on number of OFDM symbols used for PDCCH	Huawei, Ericsson, TI	(R1-083035)

The document was presented by (…) from Huawei.

Discussion (Question / Comment): Clarification on MBSFN subframe is required.
LGE (Joon) mentioned a collision of information with R1-082912
Decision: Document is noted and CR is agreed after merging R1-083383 as CR0075 in R1-083404

SRS in UpPTS

R1-083401	Way Forward on the Maximum SRS Bandwidth for UpPTS	CATT, CMCC, Huawei, Motorola, RITT, ZTE	(R1-082961)

The document was presented by Ding Yu from CATT.

Discussion (Question / Comment): Relevant CR is drafted in R1-082962.
Decision: Document is noted. Way forward is agreed in principle of reconfigurable max SRS bandwidth in the UpPTS.

R1-082962	Draft CR for 36.211 (Rel-8, F) Maximum SRS Bandwidth for UpPTS	CATT, CMCC, Huawei, Motorola, RITT, ZTE	

R1-083407	Draft CR on SRS starting position in UpPTS	Nokia, Nokia Siemens Networks	

The document was presented by Xiangguang Che from Nokia.

Discussion (Question / Comment): Samsung suggested to postpone until the decision on the reconfiguration of max BW is taken (may not be needed)
Decision: Document is noted and CR is postponed until the decision is taken on the principle of reconfigurable max SRS bandwidth in the UpPTS.

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R1-083354	Summary of Ad-Hoc session on AI 6.1	Ad-Hoc chairman	

The document was presented by Sadayuki Abeta from NTT DoCoMo and summarizes the outcomes from the ad-hoc session.

Discussion (Question / Comment):
Decision: Document is noted and content is endorsed as follows:

Start of the Ad-Hoc session

PUCCH

Friday 22nd

R1-083007	36.211 CR0061 (Rel-8, F) Correction of the Npucch sequence upper limit for the formats 1/1a/1b	NEC Group	

The document was presented by Yassin Awad from NEC.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-082915	36.211 CR0052R2 (Rel-8, F) Correction of PUCCH index generation formula	LGE, Nokia, NSN, Panasonic, Ericsson, TI and Samsung	

Decision: Document is noted and CR is agreed.

R1-083118	36.211 CR0057R1 (Rel-8, F) on correction of n_cs(n_s) and OC/CS remapping for PUCCH formats 1/1a/1b and 2/2a/2b	Texas Instruments, Samsung, Panasonic, ZTE, LGE, Ericsson	

Discussion (Question / Comment): MCC to correct as CR is in rev.1
Decision: Document is noted and CR is agreed.

R1-083345	36211 CR0053 (Rel-8, F) on Orthogonal cover sequence for shortened PUCCH format 1a and 1b	Panasonic, LGE, NextWave Wireless	

Decision: Document is noted and CR is agreed.

R1-083335	36.211 CR0067 (Rel-8, F) ACK/NACK Scrambling scheme on PUCCH	Panasonic, Samsung, TI, NTT DoCoMo, LGE, Sharp, Mitsubishi, KDDI, Fujitsu	

Decision: Document is noted and CR is agreed.

SRS

R1-083334	36.211 CR0056R2 (Rel-8, F) Remaining issues on SRS hopping	Huawei, NTT DoCoMo, Nokia Siemens Networks, Nokia, Panasonic, ZTE, Ericsson, NEC	(R1-083086)

Decision: Document is noted. Cr shall be revisited if any problem. No problem found (Friday 22nd – therefore CR is still agreed)

PRACH

R1-082977	36.211 CR0051 (Rel-8, F) on PRACH configuration for frame structure type 1	Panasonic	Resubmission of R1-082661

Decision: Document is noted and CR is agreed.

RS

R1-083087	36.211 CR0048R1 (Rel-8, F) Frequency Shifting of UE-specific RS	Nokia Siemens Networks, Nokia, Sharp	(R1-082588)

Decision: Document is noted and CR is agreed.

PHICH

R1-082912	36.211 CR0049 (Rel-8, F) Correction of PHICH to RE mapping in extended CP subframe	LGE, NEC, Nortel, Samsung	

Friday 22nd

Decision: Document is noted and CR is agreed in principle, but change before section 6.9.3 shall be removed in order to get CR aligned with CR in R1-083088. CR shall be revised in R1-083406.

R1-082939	36.213 CR0048R1 (Rel-8, F) for mapping of cyclic shift value to PHICH modifier	LGE, Samsung	

Decision: Document is noted and CR is agreed.

Other CRs

R1-082913	36.211 CR0050 (Rel-8, F) Corrections to for handling remaining REs	LGE	

Decision: Document is noted and CR is agreed.

R1-083120	Draft CR on Refinement for REG Definition for n = 4	Texas Instruments, Ericsson, LG Electronics, Samsung, ZTE	

Decision: Document is noted and draft CR is agreed. Final CR as CR69 shall be prepared in R1-083358 (TI).

Friday 22nd

R1-083358	36.211 CR0069 (Rel-8, F) Refinement for REG Definition for n = 4	Texas Instruments, Ericsson, LG Electronics, Samsung, ZTE	(R1-083120)

The document was presented by (…) from TI

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

End of the Ad-Hoc session

The following set of contributions has not been treated.

R1-082793	Corrections to TS36.211	Philips, NXP	
R1-082830	Solutions to Issues on CSG-cell Identification	ZTE, CHTTL	
R1-082832	Maximum Sounding Bandwidth for Normal sub-frame	ZTE	
R1-082834	Joint coding of delta_shift and delta_offset for PUCCH 1/1a/1b	ZTE, CATT, Nokia, Nokia Siemens Networks	
R1-082838	Multi-bit HARQ-ACK on PUSCH for TDD	ZTE	
R1-082840	Suggestion on the ACK/NACK Resource allocation	ZTE	
R1-082861	4 bits ACK/NACK generation for TDD configuration 5	Samsung, CATT	
R1-082862	ACK/NACK PUCCH resource compression in TDD	Samsung	
R1-082911	CSG Flag in Physical Cell ID	LGE	(R1-081888)
R1-082960	DVRB mapping in DwPTS and Draft CR for 36.211	CATT, Samsung, Huawei	
R1-082979	36.211 DraftCR on PRACH frequency offset	Panasonic, LG Electronics, Motorola, NTT DoCoMo, Samsung, Texas Instruments	
R1-082980	Further considerations on the scrambling for ACK/NACK	Panasonic, NTT DoCoMo	
R1-083004	Number of antenna ports for PDSCH	NEC Group	
R1-083008	36.211 CR0062 (rel-8, F) Clarifications for DMRS parameters	NEC Group	
R1-083013	Correction to the definition of nbar_oc for extended CP	NEC Group, Samsung	
R1-083034	Correction on orthogonal cover index of DMRS for PUCCH with extended CP	Huawei	
R1-083036	correction for the table of large delay CDD	Huawei	
R1-083037	Corrections to 36.211	Huawei	
R1-083056	On the uplink-downlink radio frame timing in LTE FDD	Ericsson	
R1-083082	SRS BW configuration in UpPTS	Nokia, Nokia Siemens Networks	
R1-083083	Multiple ACKNAK Transmission on PUCCH for LTE TDD	Nokia, Nokia Siemens Networks	
R1-083084	Multiple ACKNAK Transmission on PUSCH for LTE TDD	Nokia, Nokia Siemens Networks	
R1-083142	On PDCCH mapping to physical resource elements	Nortel	
R1-083161	Initialization of Scrambling for PDSCH	Qualcomm Europe	
R1-083162	Clarification of PRACH Preamble format 4	Qualcomm Europe	

R1-083163	Clarification on RACH baseband signal generation	Qualcomm Europe	
R1-083165	Clarification on PUSCH DM-RS scrambling	Qualcomm Europe	
R1-083166	Resource remapping for PUCCH formats 2/2a/2b	Qualcomm Europe	
R1-083167	Clarification on PUCCH Resource Hopping	Qualcomm Europe	
R1-083168	Linkage Among UL Power Control Parameters	Qualcomm Europe	
R1-083235	Correction on scrambling of ACK/NAK bits for PUCCH format 2a/2b	Freescale	
R1-083276	Multi-Ack/NACK on PUSCH for TDD	Huawei	(R1-083038)
R1-083298	Definition of PRACH frequency offset	LG Electronics	(R1-083202)
R1-083312	Resolve the ambiguity between PHICH sequence index and symbol-quadruplet index	Huawei	(R1-083039)
R1-083348	Draft CR on dedicated reference signal mapping for PDCCH with 4 symbols	ZTE, Motorola, TI, Huawei	(R1-082835)
R1-083372	36.211 CR0070 (Rel-8, F) Correction for the definition of UE specific RS	Sharp, Icera	
R1-083374	36.211 CR0062 (rel-8, F) Clarifications for DMRS parameters	NEC Group	(R1-083008)
R1-083381	Clarification on UL VRB Allocation	Qualcomm Europe	(R1-083164)
R1-083391	36.211 CR0065R2 (Rel-8, F) Clarification on reception of synchronization signals	Ericsson	(R1-083387)
R1-083392	36.211 CR0064R1 (Rel-8, F) Introducing missing parameters into 36.211	Ericsson	(R1-083054)
R1-083400	36.211 CR0072 (Rel-8, F) Corrections to precoding for large delay CDD	Philips, NXP	
R1-083402	36.211 CR0074 (Rel-8, F) Correction to Precoding for Transmit Diversity	Nokia Siemens Networks, Nokia	(R1-083088)
R1-083403	Correction on scrambling of ACK/NAK bits for PUCCH format 2a/2b	Freescale	
R1-083404	36.211 CR0075 (Rel-8, F) Clarification on number of OFDM symbols used for PDCCH	Huawei, Ericsson, TI	
R1-083406	36.211 CR0049R1 (Rel-8, F) Correction of PHICH to RE mapping in extended CP subframe	LGE, NEC, Nortel, Samsung	(R1-082912)

6.2 Corrections for TS 36.212

R1-083353	Summary of Ad-Hoc session on AI 6.2	Ad-Hoc chairman	

The document was presented by Sadayuki Abeta from NTT DoCoMo

Discussion (Question / Comment):
Decision: Document is noted and is endorsed as follows:

Start of the Ad-Hoc session

DCI format 1C

R1-082918	Introduction of draft CRs for DCI format 1C	LGE, Motorola, Panasonic	

Decision: Document is noted.

R1-083301	Remaining issues on format 1C	Huawei, CHTTL	(R1-083042)

Decision: Document is noted.

R1-083207	DCI Format 1C with implicit RV and TBS	Motorola	

Decision: Document is noted.

Conclusions:

- Fix the starting point: No (agreement in Warsaw meeting)
- Limitation of RB allocation: No (agreement in Warsaw meeting)
- TBS size indicator: 5bit
  - No TBS size indication in SIB1
- RV: 0 bit
  - Tie SIB1 RV to SFN and sub-frame number
    - Different RV grantee in 80 ms
    - RV order is RV0, RV2, RV3, RV1
  - Tie SI-x RV to SFN and sub-frame number
  - Continue offline discussion on the exact function (same or not),

Draft LS to RAN2 (LGE) in R1-083326, no need to include the detail RV order

R1-083339	[Draft] LS on PDCCH DCI format 1C	LGE	(R1-083326)

The document was presented by Joon-Kui Ahn from LGE

Discussion (Question / Comment):
Decision: Document is noted and LS is agreed in R1-083416.

R1-082917	Draft CR for 36.211 regarding DCI format1C	LGE, Motorola, Panasonic	

Decision: Document is noted and CR is agreed. Final CR with number shall be prepared in R1-083341 (LGE)

R1-083341	36.211 CR0068 (Rel-8, F) DCI format1C	LGE, Motorola, Panasonic	(R1-082917)

The document was presented by Joon-Kui Ahn from LGE

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083321	CR for 36.212 regarding DCI format1C	LGE	

Decision: Document is noted and CR is agreed in principle, adding 0 is for $N_{\text{gap}} = N_{\text{gap},1}$ and 1 is for $N_{\text{gap}} = N_{\text{gap},2}$. Final CR with number shall be prepared in R1-083342 (LGE)

R1-083342	36.212 CR0044 (Rel-8, F) DCI format1C	LGE	(R1-083321)

The document was presented by Joon-Kui Ahn from LGE

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083322	CR for 36.212 regarding DCI format1C (Implicit RV)	LGE	

Decision: Document is noted

R1-082926	Draft CR for 36.213 regarding DCI format1C	LGE, Motorola, Panasonic	

Decision: Document is noted and agreed. Final CR with number shall be prepared in R1083344 (LGE)

R1-083360	36.213 CR0078R1 (Rel-8, F) DCI format1C	LGE, Motorola, Panasonic	(R1-083344)

The document was presented by Joon-Kui Ahn from LGE

Discussion (Question / Comment): There may be some collision with R1-083279
Decision: Document is noted and CR is agreed.

Other DCI formats

R1-082900	TS36.212 CR0024 (Rel-8, F) Further clarifications on confirmation field in DCI format 2	LG Electronics	

Decision: Document is noted.

R1-082794	Corrections to DCI formats	Philips, NXP	

Decision: Document is noted. The wording "confirmation" should be improved. Final CR with CR number in R1-083331 is agreed.

R1-083089	Definition of Bit Mapping for DCI Signalling	Nokia Siemens Networks, Nokia	

Decision: Document is noted. Draft the CR according to the comments in R1-083327

R1-083327	36.212 CR0041 (Rel-8, F) Definition of Bit Mapping for DCI Signalling	Nokia Siemens Networks, Nokia, LGE, NEC	(R1-083089)

The document was presented by Mieszko Chmiel from NSN

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083041	Clarification on resource allocation in DCI format 1/2/2A	Huawei, LGE	R1-083328

Decision: Document is noted and is agreed in principle, with some improvement in wording. Final CR with CR number shall be prepared in R1-083328. Remove the duplicated sentence in the CR to 36.213 agreed yesterday.

R1-083328	36.212 CR0042 (Rel-8, F) Clarification on resource allocation in DCI format 1/2/2A	Huawei, LGE	(R1-083041)

The document was presented by Ms (…) from Huawei

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed as revision 1 in R1-083418

R1-083090	Details of Using DCI Format 1A for Scheduling of Common Control Channels	Nokia Siemens Networks, Nokia	

Decision: Document is noted.

R1-083259	DCI Format 1A definition for Broadcast Control	Motorola	(R1-083206)

Decision: Document is noted.

R1-083209	Draft CR 36.212 on DCI Format 1A	Motorola	R1-083332

Decision: Document is noted and CR is agreed in principle, removing the second bullet. Also, the statement "The following fields are set to all zeros" shall be changed to "The following fields are reserved". Prepare the CR to 36.212 in R1-083332.

R1-083332	36.212 CR0043 (Rel-8, F) DCI Format 1A	Motorola	(R1-083209)

The document was presented by Robert Love from Motorola.

Discussion (Question / Comment):
Decision: Document is noted. CR is for email approval until Thursday 28th August.

R1-083172	Padding one bit to DCI format 1B when format 1A and format 1B have the same size	Qualcomm Europe	

Decision: Document is noted. Comment was raised by Samsung that this situation may not occur in practical operation. If a operator finds that operation, RAN1 will revisit.

R1-082865	36.212 CR0037 (Rel-8, F) Clarification of TPC commands signaled in DCI formats 3/3A	Samsung	

Decision: Document is noted. Change the "UE-specific parameter *n* corresponding to TPC command number *n(m)* is configured via higher layer signalling" to "Index TPC command for given UE is configured via higher layer signalling"

Draft the CR37 rev1 in R1-083333 (Samsung). Check the "name" in parameter lists and provide an update as CR37 rev2 in R1-083351.

R1-083351	36.212 CR0037R2 (Rel-8, F) Clarification of TPC commands signaled in DCI formats 3/3A	Samsung	(R1-083333)

The document was presented by (…) from Samsung.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083169	PDCCH Ambiguous Payload Size	Qualcomm Europe	

Decision: Document is noted. Continue the discussion offline, revisit on Friday (Strongly recommend to solve during this week)

Friday 22nd

R1-083378	Draft CR on PDCCH Ambiguous Payload Sizes	Qualcomm, LGE, NEC, Panasonic	

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted and CR0047 is agreed in R1-083421. Concerns on the numbers in the table can be raised until next plenary.

Control on PUSCH

R1-082867	36.212 CR0039 (Rel-8, F) Linking of control resources in PUSCH to data MCS	Samsung	

Decision: Document is noted

R1-082922	PUSCH control information offsets	LGE	

Decision: Document is noted

R1-082924	Draft CR for offset signaling of uplink control information MCS in TS36.212	LGE	

Decision: Document is noted and CR is agreed in principle. Changes are including in CR0039 rev1 in R1-083343.

R1-083343	36.212 CR0039R1 (Rel-8, F) Linking of control resources in PUSCH to data MCS	Samsung	(R1-082924)

The document was presented by Aris Papasakellariou from Samsung

Discussion (Question / Comment):

Decision: Document is noted and CR is agreed.

R1-082927	Draft CR for offset signalling of uplink control information MCS in TS36.213	LGE	

Decision: Document is noted and CR is agreed in principle. Remove the SPS and CQI-coding offset parts in 8.6.3 and table 8.6.3-2 and 8.6.3-3. Draft the CR with CR number in R1-083337 (LGE)

R1-083356	36.213 CR0077R1 (Rel-8, F) Offset signalling of UL Control information MCS	LGE	(R1-083337)

The document was presented by (…) from LGE

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083143	Signaling of offset parameter for computing control resources on PUSCH	Nortel	

Decision: Document is noted.

R1-082923	Definition of Code Rate in PUSCH control information MCS calculation	LGE, Ericsson	

Decision: Document is noted. LGE, Ericsson, Samsung support it while NSN, Nokia don't. Continue the discussion offline and revisit on Friday.

Friday 22nd: Keep the specifications unchanged.

R1-083217	CR for correction of the number of coded bits for control information on PUSCH	Motorola, NEC	

Decision: Document is noted and CR is agreed in principle. Modification are including in CR0039 rev1 in R1-083343.

R1-083218	CR for limiting the number of coded symbols for A/N and RI on PUSCH in case of a retransmission	Motorola	

Decision: Document is noted and CR is agreed in principle. Modification are including in CR0039 rev1 in R1-083343.

R1-083219	CR for avoiding error conditions in CQI/PMI/RI and Uplink data multplexing	Motorola	

Decision: Document is noted. Continue the discussion offline.

R1-083040	Correction of some definitions in section 5.2.2.6	Huawei	

Decision: Document is noted and CR is agreed in principle. Modification are including in CR0039 rev1 in R1-083343.

R1-083220	CR for RE provisioning for the control information in case of CQI-only transmission on PUSCH	Motorola	R1-083340

Decision: Document is noted. Draft the CR according to the comments in R1-083340 (Motorola).

R1-083340	CR for RE provisioning for the control information in case of CQI-only transmission on PUSCH	Motorola	(R1-083220)

The document was presented by Robert Love from Motorola.

Discussion (Question / Comment):

Decision: Document is noted and CR is agreed. Final CR0048 is agreed in R1-083423

MU-MIMO

R1-083302	Power offset signaling for MU-MIMO	Huawei, CHTTL	(R1-083044)

Decision: Document is noted.

R1-083336	Way forward on MU-MIMO	Huawei, Motorola	

Decision: Document is noted. Continue the discussion offline with other MIMO related issues in ad-hoc session (AI 6.3.1).

Other CRs

R1-082863	36.211 CR0059 (Rel-8, F) Rank scrambling in PUSCH	Samsung, LG Electronics, Nokia Siemens Networks, Nokia	

Decision: Document is noted and CR is agreed.

R1-082864	36.212 CR0036 (Rel-8, F) Rank scrambling in PUSCH	Samsung, LG Electronics, Nokia Siemens Networks, Nokia	

Decision: Document is noted and CR is agreed.

R1-082866	36.212 CR0038 (Rel-8, F) Clarification on UE transmit antenna selection mask	Samsung	

Decision: Document is noted and CR is agreed.

R1-082914	36.211 CR0054 (Rel-8, F) for mapping of ACK/NAK to binary bit values	LGE, Ericsson, TI	

Decision: Document is noted and CR is agreed.

R1-082925	36.212 CR0028 (Rel-8, F) for mapping of ACK/NAK to binary bit values	LGE, Ericsson, TI	

Decision: Document is noted and CR is agreed.

R1-083170	Miscellaneous corrections	Qualcomm Europe	

Decision: Document is noted. The final CR with CR number shall be made in R1-083352 (Qualcomm).

R1-083352	36.212 CR0045 (Rel-8, F) Miscellaneous corrections	Qualcomm Europe	(R1-083170)

The document was presented by Juan Montojo from Qualcomm

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

Other

R1-082921	Subframe bundling issue for CQI transmission in PUSCH	LGE	

Decision: Document is noted. Continue the discussion.

R1-083234	False Positive Issue in SPS Activation with Single PDCCH	Freescale	

Decision: Document is noted.

R1-082831	Single PDCCH Solution against False Positive CRC	ZTE, CHTTL	

Decision: Document is noted.

The following set of contributions has not been treated.

R1-082837	Format1C Resource Allocation	ZTE	
R1-082919	Draft CR for 36.212 regarding DCI format1C	LGE, Motorola, Panasonic	
R1-082920	Clarification of the bit values in DCI formats	LGE	
R1-083043	TPC for PUSCH and PUCCH on format3/3A	Huawei	
R1-083171	Correcting the parameter Q_ACK	Qualcomm Europe	
R1-083208	DCI Format 1C Overall Definition	Motorola	
R1-083305	Clarification on narrow BW referred in section 5.3.4	Huawei, Ericsson, TI	
R1-083326	[Draft] LS on PDCCH DCI format 1C	LGE	R1-083339
R1-083333	36.212 CR0037R1 (Rel-8, F) Clarification of TPC commands signaled in DCI formats 3/3A	Samsung	(R1-082865) R1-083351
R1-083339	[Draft] LS on PDCCH DCI format 1C	LGE	(R1-083326)
R1-083343	36.212 CR0039R1 (Rel-8, F) Linking of control resources in PUSCH to data MCS	Samsung	(R1-082924)
R1-083351	36.212 CR0037R2 (Rel-8, F) Clarification of TPC commands signaled in DCI formats 3/3A	Samsung	(R1-083333)
R1-083378	Draft CR on PDCCH Ambiguous Payload Sizes	Qualcomm, LGE, NEC, Panasonic	
R1-083411	MIMO session summary	Ad-Hoc chairman	
R1-083421	36.212 CR0047 (Rel-8, F) Corrections to DL DCI Formats In case of Ambiguous Payload Sizes	Qualcomm Europe, LGE, NEC, Panasonic	
R1-083423	36.212 CR0048 (Rel-8, F) CR for RE provisioning for the control information in case of CQI-only transmission on PUSCH	Motorola, LGE, Huawei	

6.3 Corrections for TS 36.213

MCS TBS

R1-082959	To reuse TBS table for punctured PRB	CATT	

The document was presented by (…) from CATT and proposes that TBS table is reused with a conversion between the number of PRBs assigned in DCI and the number of PRB used for indexing the TBS, where the same conversion algorithm should be adopted for both the recourse assignment in NB and TBS indexing in UE, providing the advantage that the similar spectral efficiency to normal PRB can be gotten for punctured PRB with a slightly additional process.

Discussion (Question / Comment):
Decision: Document is noted. Discussion off line shall continue to decide what should be specified.

R1-082986	36.213 CR0061 (Rel-8, F) Modulation order determination for uplink retransmissions	Panasonic	

The document was presented by Christian Wengerter from Panasonic.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083062	36.213 CR0064 (Rel-8, F) Adjusting TBS sizes to for VoIP	Ericsson	

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment):

Decision: Document is noted. The CR shall be revisited after off line discussion considering also RAN2 views.

Friday 22nd

R1-083367	36.213 CR0064R1 (Rel-8, F) Adjusting TBS sizes to for VoIP	Ericsson	(R1-083062)

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

RACH Power Control

R1-083175	Power setting of MSG3 of RACH procedure	Qualcomm Europe	

The document was presented by Juan Montojo from Qualcomm and proposes a method to power control the first PUSCH message (MSG3 of the RACH procedure) relative to the power of the successful PRACH transmission and the TPC in the random access response.

Discussion (Question / Comment):
Decision: Document is noted. How the TPC bits for PRACH are to be processed requires further discussion.

Resource allocation

R1-082927	Draft CR for offset pecifying of uplink control information MCS in TS36.213	LGE	

The document was presented by (…) from LGE.

Discussion (Question / Comment): There is a linked CR to 36.212 in R1-082924. Nortel mentioned a related contribution under AI 6.2 in R1-083142.
Decision: Document is noted. Mr. Chairman postponed the discussion for the session on AI 6.2.

R1-082928	Correction to the downlink resource allocation	LGE, NEC, ALU, Motorola, Samsung	

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed in principle. Final CR number shall be CR0067 in Tdoc R1-083279.

R1-083183	DL resource allocation for small system bandwidths	Qualcomm Europe	

The document was presented by Wanshi Chen from Qualcomm and provides some additional justification of removing the 1-bit resource allocation header in DCI formats 1, 2/2A for small system bandwidths.

Discussion (Question / Comment): LGE suggested including this CR into CR to 36.212 (R1-083041) and thus avoid redundancy of information.
Decision: Document is noted and agreed in principle. Mr. Chairman postponed the discussion for the session on AI 6.2 to decide where this should be implemented and whether this should be included in R1-083279.

R1-083181	Clarifying PUSCH resource allocation	Qualcomm Europe	

The document was presented by Wanshi Chen from Qualcomm and clarifies the definition of PUCCH control region, and proposes to adopt explicit computation of in-use PUCCH control region based on PCFICH. In addition, efficient PUSCH transmission is defined such that any PUSCH assignment is always an integer multiple of RB pairs, regarding of the location of the PUSCH assignment.

Discussion (Question / Comment):
Decision: Document is noted and shall be revisited on Friday (see whether it needs a bit more of clarification or improvement)

Friday 22nd

R1-083281	36.213 CR0068 (Rel-8, F) Removal of special handling of PUSCH mapping	Ericsson, Qualcomm, Nokia, Nokia Siemens Networks, Motorola, Samsung, NEC , Panasonic, Huawei, LGE	

The document was presented by (…) from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted and is under email approval until 28/08.

DL Power control

R1-082785	Issue with the value range of P_A	SHARP	

The document was presented by (…) from Sharp and highlights the issue of the current specified range of values for power setting parameters described in 36.213 (not sufficient for practical power control, nor does it maintain equal power between OFDM symbols for certain cases). The companion CR is proposed in R1-082786.

Discussion (Question / Comment):
Decision: Document is noted. This shall be revisited after off line discussion.

R1-082786	[draft] 36.213 CR00xx (Rel-8, F) Corrections of definition of value indexed by PA	SHARP	

R1-083144	P_A Setting for DL RS power boosting for 4-tx system	Nortel	

The document was presented by Hua Xu from Nortel and provides an analysis of RS power boosting for 4-tx system based on the latest interpretation of PDSCH-to-RS ratio. It concludes that RS power boosting feature for 4-tx system must be maintained and suggests adding one more value of -9 dB to the ratio in addition to those agreed in TS 36.213.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083100	Way forward on DRS EPRE	Nokia Siemens Networks, Nokia	

The document was presented by Mieszko Chmiel from NSN and proposes to agree the following principles for DRS EPRE:

- Not introducing any power offset signalling for EPRE_DRS into the specifications.
- Specifying that the UE can assume that E_DRS = E_A (when DRS is present).

Discussion (Question / Comment):
Decision: Document is noted.

R1-083262	Draft CR 36.213 on DRS EPRE	Motorola, Texas Instruments	(R1-083247)

The document was presented by Jeff Zhuang from Motorola and specifies/corrects the PDSCH-to-RS EPRE ratio when user-specific reference signals are present.

Discussion (Question / Comment): New columns in table 5.2-1 should require values to be filled in.
Decision: Document is noted. This shall be revisited after off line discussion to check the need for signaling ratio for 16QAM/64QAM.

R1-083177	Power offsets in UE-specific RS operation	Qualcomm Europe	

The document was presented by Sandip Sarkar from Qualcomm and specifies the range of the allowed ratios for the traffic and refernce symbols when operating with the DRS.

Discussion (Question / Comment):
Decision: Document is noted.

UL Power control

R1-083060	36.213 CR0063 (Rel-8, F) Correcting the range and representation of delta_TF_PUCCH	Ericsson	

The document was presented by Daniel Larsson from Ericsson and reflects the values for delta_TF_PUCCH as greed in principle in R1-082581 at the RAN#53.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083046	Delta value for PUCCH power control	Huawei	

The document was presented by (…) from Huawei and defines the *Delta* value for PUCCH power control formula including the following proposals:

- *Delta* value should be defined as the summation of basic value, selected in Table 2 and 2-bit signalled value, proposed to be {-2, 0 , 1, 2}dB.
- The relationship between *Delta* value and CQI payload size seems irregular, so it is more suitable to define the basic value in a look-up table.
- Velocity indeed affects *Delta* value.

Discussion (Question / Comment): Sharp commented that simulations results as shown in this contribution were only related to CQI. Relationship between *Delta* value and ACK/NACK has not been considered.
Decision: Document is noted. The proposals shall be revisited considering further simulation results that are expected to become available by the end of the week.

R1-083271	36.213 CR0053R1 (Rel-8, F) Correction of the equation for PUCCH power control	Samsung	(R1-082870)

The document was presented by (…) from Samsung

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed in principle and shall be considered in the revision of CR0063.

R1-082872	36.213 CR0054 (Rel-8, F) Clarification of RNTI for PUSCH/PUCCH power control with DCI formats 3/3A	Samsung	

The document was presented by (…) from Samsung and clarifies that the TPC commands for PUSCH and PUCCH are signalled in the PDCCH of DCI formats 3/3A with TPC-PUSCH-RNTI and TPC-PUCCH-RNTI, respectively

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083043	TPC for PUSCH and PUCCH on format3/3A	Huawei	

The document (originally under AI6.2) was presented by (…) from Huawei and proposes the following:

- Format 3/3A is bundled to only one TPC-RNTI, whatever for PUSCH or PUCCH.
- Distinguish TPC from format 3/3A for PUSCH and that for PUCCH according to the corresponding UE logic for each subframe

Discussion (Question / Comment):
Decision: Document is noted.

R1-082873	36.213 CR0039r1 (Rel-8, F) Clarification on uplink power control	Samsung	

The document was presented by (…) from Samsung.

Discussion (Question / Comment): Small formatting issue must be corrected (done on line by Mr. Chairman)
Decision: Document is noted and CR is agreed. Final CR0039R2 is agreed in R1-083284.

R1-082933	Correction to the uplink power control	LGE, Samsung, Philips	

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment): Includes Correction on Calculation of ΔTF(i) for UL-PC from Samsung (R1-082879)
Decision: Document is noted and CR is agreed with removal of "2" in the N_RE formula. Final CR0069 shall be made available in R1-083283.

R1-082932	Clarification of uplink power control command index	LGE	

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment): Many typos must be corrected
Decision: Document is noted. Final CR0070 shall be made available in R1-083285

R1-083098	Definition of Bit Mapping for DCI Signalling	Nokia Siemens Networks, Nokia	

The document was presented by Mieszko Chmiel from NSN.

Discussion (Question / Comment):
Decision: Document is noted. This shall be considered when preparing CR0070.

R1-082968	36.213 CR0059 (Rel-8, D) PUSCH Power Control	CATT	

The document was presented by (…) from CATT

Discussion (Question / Comment): Category F is more appropriate as the CR moves some text
Decision: Document is noted and shall be revised in R1-083286.

R1-082990	UL Power related topics	Panasonic	

The document was presented by Hidetoshi Suzuki from Panasonic and discusses the maximum transmission power and the power after the backoff, that includes the following statements:

- To have the capability to restrict the maximum transmission power by RRC less than the power set by the UE capability.
- To discuss the behavior on TPC command and power headroom on the maximum transmission power
- The power after the backoff is reset to the value without ramping value.

Discussion (Question / Comment):
Decision: Document is noted. RAN1 agrees on first bullet. This shall be included in LS R1-083269.

R1-083005	Clarification on PUSCH TPC commands	NEC Group, LGE	

The document was presented by (…) from NEC ans specify that the PUSCH TPC command detected in DCI format 0 overrides the TPC command detected in DCI format 3/3A in the same subframe.

Discussion (Question / Comment):
Decision: Document is noted. This should be aligned with already agreed CR0054. CR0071 shall be made available in R1-083287 (providing there are no conflicts with CR0054).

TDD ACK/NAK on PUSCH

R1-083276	Multi-Ack/NACK on PUSCH for TDD	Huawei	(R1-083038)

The document was presented by (…) from Huawei and provides simulation results for "multiplexing" ACK/NAK transmission on PUSCH and propose to:

- Adopt Reed-Muller coding while maximum payload size is 4.
    - There is two options：Reed-Muller coding is only applicable to ¾bits ACK/NAK or, Reed-Muller coding is applicable to ½/3/4bits ACK/NAK. These two options are both OK for us.
- Use 1 bit RRC signalling to inform UE whether (64, O) or (32, O)

- Use (64, O) when data BLER requirement is 20~50%
- Use (32, O) when data BLER is 10%
- Punctured resource location is same as FDD

Discussion (Question / Comment):
Decision: Document is noted. RAN1 agrees on last bullet "Punctured resource location is same as FDD"

R1-083066	Transmission ACK/NAK on PUSCH for LTE TDD	Ericsson	

The document was presented by David Astely from Ericsson and proposes to:

- For ACK/NAK bundling
  - Scramble the encoded ACK/NAK bits with a code that depends on which is the last received DL subframe within the bundling window.
- For ACK/NAK multiplexing
  - Encode up to four bits of ACK/NAK information from multiple DL subframes by using 1 or 2 bit ACK/NAK feedback together with scrambling code selection

Discussion (Question / Comment):
Decision: Document is noted.

R1-083091	PUSCH Error Case Handling for ACK/NACK Bundling in LTE TDD	Nokia, Nokia Siemens Networks	

The document was presented by Xiangguang Che from Nokia and proposes that:

- 1 or 2 bits are included in UL grant to handle the error cases on PUSCH.
- Downlink Assignment Index is used to indicate the total number of DL assignments in a bundling window in the case that persistent allocation having no UL grant available.

Discussion (Question / Comment):
Decision: Document is noted. The topic shall be revisited on Friday (off line discussions)

R1-082838	Multi-bit HARQ-ACK on PUSCH for TDD	ZTE	

The document was presented by (…) from ZTE and addresses the multi-bit A/N reported scheme on PUSCH. The paper proposes to use (32,O) block code for encoding multi-bit HARQ-ACK and the coded information are mapping close to RS which corresponding to the method1 for channel coding and method 2 for channel interleaver.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083084	Multiple ACKNAK Transmission on PUSCH for LTE TDD	Nokia, Nokia Siemens Networks	6.1	Discussion/Decision	

The document was presented by Xiangguang Che from Nokia and provides some consideration on multiple ACK/NACK transmission in PUSCH. It concludes to use a 0.5dB step for offset values from 8 to 13dB. Then table for offset signalling is proposed.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083221	CR for A/N transmission in TDD	Motorola	

The document was presented by Robert Love from Motorola and is a CR to provide NACK detection on PUSCH for TDD A/N bundling.

Discussion (Question / Comment):
Decision: Document is noted. RAN1 agrees on transmitting NACK for both cases. CR0073 shall be prepared in R1-083294

TDD ACK/NAK on PUCCH

R1-083291	Way forward on TDD PUCCH multi-bit ACK/NACK transmission	TI, Huawei, CATT, Ericsson, Nokia, NSN, ZTE	

The document was presented by Zukang Shen from TI.

Discussion (Question / Comment):
Decision: Document is noted. Mr. Chairman decided to agree on the way forward and let more time to work out the remaining details (FFS) and if possible, to draft the related CR (R1-083295).

TDD UL ACK/NAK PUCCH index mapping

R1-083231	Uplink ACK/NACK resource reduction scheme for TDD	Motorola	

The document was presented by Rapeepat Ratasuk from Motorola and provides some recommendations regarding ACK/NACK PUCCH resource reduction for TDD, as follows:

- For DL/UL configurations 2, 4, and 5, ACK/NACK PUCCH resource reduction by higher layer configuration is allowed.
- Modulo with cyclic shift [**Error! Reference source not found.**] is used as the ACK/NACK PUCCH resource reduction method.
- A reduction factor {1, ½, 1/3, ¼} of M×N is proposed.

Discussion (Question / Comment):
Decision: Document is noted.

R1-082862	ACK/NACK PUCCH resource compression in TDD	Samsung	6.1	Discussion/Decision	

The document was presented by (…) from Samsung and proposes a procedure for ACK/NACK resource compression in TDD, same as basic block-interleaved mapping when N_{ACK} is large enough that no ACK/NACK compression is needed.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083048	Draft CR on UL AN mapping for TDD	Huawei, Samsung, CATT	

The document was presented by (…) from Huawei

Discussion (Question / Comment):
Decision: Document is noted. Mr. Chairman decided to let the discussion continue and revisit on Friday if proposal or CR is available (R1-083296).

TDD Misc

R1-083092	36.213 CR0046R1 (Rel-8, F) Correction of the description of PUCCH power control for TDD	Nokia, Nokia Siemens Networks	(R1-082603)

The document wasn't formally presented by Xiangguang Che from Nokia as few recent comments from others companies have been received.

Discussion (Question / Comment):
Decision: Document shall be revised in R1-083297.

R1-082963	On collision between SRS and PRACH in UpPTS	CATT, Huawei	

The document was presented by (…) from CATT and provides a solution to avoid the collision between SRS and PRACH in UpPTS.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083121	Way forward on UE specific SRS configuration	Texas Instruments, Samsung, CATT, RITT, ZTE, Qualcomm, CMCC, Huawei	

The document was presented by Zukang Shen from TI

Discussion (Question / Comment):
Decision: Document is noted. Revisit on Friday if agreement can be reached.

R1-083122	Draft CR on UE Specific SRS Configuration	Texas Instruments, Huawei, Samsung, CATT, ZTE, RITT	

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R1-083375 (revised way forward from R1-083121) and R1-083376 (CR) are under email approval until 28/08.

R1-082958	UL SRI Parameters Configuration	CATT, RITT	

The document was presented by (…) from CATT and deals with issues on the transmission format of scheduling request indicator (SRI), including SRI Transmission period and subframe offsets.

<u>Proposal 1:</u> There are two options on SRI Transmission period:

- Option 1: SR transmission period is the same for all users in one cell and it can be specified by SIB [4].
- Option 2: SR transmission period is various for different users, e.g. using the set of {5ms, 10ms, 20ms, OFF} and 2-bits for specifying, and it can be specified by dedicated RRC.

  Where OFF denotes the period of infinite. Considering achieving more scheduling flexibility and less scheduling resource, the option 2 is preferred.

<u>Proposal 2:</u> In order to guarantee the transmission of SR in both FDD and TDD modes, all available UL subframes shall be allocated for SR needs.

<u>Proposal 3:</u> Joint-coding can be applied to option 2 (proposal 1) to reduce indication overhead.

Discussion (Question / Comment):
Decision: Document is noted. The topic shall be revisited on Friday with the following as baseline:

- Prepare LS in R1-083299 to RAN2 and confirm the 4 values of option 2 in proposal 1.
- From proposal 2, this is already possible by the eNB scheduler.
- Proposal 3 can be agreed.
- Prepare a CR for 36213 in R1-083300.

<u>Timing</u>

R1-082936	Introduction of timing definitions	LGE, Panasonic, Ericsson	

The document was presented by Joon-Kui Ahn from LGE and provides clarifications on topics listed herebelow and introduces the relevant CRs (see following contributions).

- Range of the N_{TA} value
- TA command in random access response

- TA command in DL-SCH MAC header
- L1 timing related to the random access procedure
- Terminology for TA command

Discussion (Question / Comment):
Decision: Document is noted.

R1-082916	Correction to the downlink/uplink timing in TS36.211	LGE, Panasonic, Ericsson	

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed. Final CR0066 shall be prepared in R1-083304

R1-082934	Correction to the downlink/uplink timing in TS36.213	LGE, Panasonic, Ericsson	

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed. Final CR0074 shall be prepared in R1-083306

R1-082935	Correction to the time alignment command	LGE, Panasonic, Ericsson	

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed. Final CR0075 shall be prepared in R1-083307. In addition, prepare LS to RAN2 on all the timing related agreements in R1-083308

R1-083056	On the uplink-downlink radio frame timing in LTE FDD	Ericsson	

The document was presented by Lars Lindbom from Ericsson

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed and shall be included in R1-083304.

R1-082993	Measurement gap and TA value	Panasonic	

The document was presented by Hidetoshi Suzuki from Panasonic and proposes:

- No dependency to the TA value. As the number of DL measurement gap subframes is always 6, UL measurement gap subframes are always 7.
- The judgement to drop UL measurement gap is subframe level decision. Therefore, whether to drop SRS depends on whether to drop the subframe.

Discussion (Question / Comment):
Decision: Document is noted. CR0076 shall be prepared for TS36.213 (if needed) in R1-083309

- No dependency of the measurement gap to the Timing Alignment value.
- Drop SRS if the subframe is part of the UL measurement gap

PDCCH

R1-082869	36.213 CR0043R2 (Rel-8, F) Clarification on tree structure of CCE aggregations	Samsung, Ericsson	(R1-082645)

The document was presented by (…) from Samsung and proposes a revision of the equations defining the CCEs in a search space such that all the PDCCH candidates follow the tree structure of CCE aggregations.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-082871	Further restriction of RB allocation in format 1C	Samsung	

The document was presented by (…) from Samsung and proposes to restrict the RB-length allowed in DCI format 1C to 18 for further optimization in addition to the currently agreed constraint of start VRBs.

Discussion (Question / Comment):
Decision: Document is noted

The following set of contributions has not been treated.

R1-082783	Impact of the PMI/RI Report Drop on the PUCCH CQI Report	SHARP	(R1-082314)
R1-082784	[draft] 36.213 CR00xx (Rel-8, F) Corrections to Unspecified UE behaviour for Rank Information, PMI, CQI Reports Drops on PUCCH	SHARP	
R1-082790	Draft CR on PDCCH search space	ASUSTeK	
R1-082796	Configuration of CQI modes	Philips, NXP	
R1-082799	Correction to precoding description	Philips, NXP	
R1-082800	Reception of DCI formats	Philips, NXP	
R1-082805	Procedures for collisions between periodic and aperiodic CQI/PMI/RI reports and Draft CR to 36.213	InterDigital Communications LLC	
R1-082806	Procedures for resolving collisions between SR and periodic CQI reports and Draft CRs to 36.213, 36.212 and 36.211	InterDigital Communications LLC	
R1-082808	Support to co-existence of different UL/DL allocations for LTE TDD	Alcatel Shanghai Bell, Alcatel-Lucent	
R1-082809	Adaptive pecifying of UL ACK/NACK feedback method in LTE TDD	Alcatel Shanghai Bell, Alcatel-Lucent	
R1-082810	Clarification on HARQ-ACK resource index	Alcatel-Lucent	
R1-082836	Remaining Issues with RI multiplexing on PUCCH	ZTE	
R1-082842	On UE-specific CQI-reporting	ZTE	
R1-082849	Futher discussions on report format for overload indicator	ZTE CHTTL	
R1-082850	Two-threshold RSRP trigger mechanism	ZTE	Resubmission of R1-082379
R1-082878	36.213 CR0057 (Rel-8, F) Correction of open-loop SM Equation in 36.213	Samsung	
R1-082879	36.213 CR0058 (Rel-8, F) Correction on Calculation of ΔTF(i) for UL-PC	Samsung	
R1-082909	Consideration on TTI Bundling for LTE TDD	Spreadtrum Communications	
R1-082929	Correction to UL DM RS cyclic shift to PHICH index mapping	LGE	
R1-082930	Correction to the precoder index assignment for open loop spatial multiplexing	LGE	
R1-082931	Clarification of uplink index in TDD mode	LGE	
R1-082937	Efficient Utilization of Unused PUCCH RB	LGE	
R1-082938	Necessity of Shortened SR	LGE	
R1-082964	DRAFT CR for 36.213 (Rel-8, F) On collision between SRS and PRACH in UpPTS	CATT, Huawei	
R1-082965	Physical Layer Parameters for CQI reporting in TDD	CATT，TI	

R1-082966	CQI reporting period for TDD	CATT，TI	
R1-082967	DRAFT CR for 36.213 (Rel-8, F) PDCCH search space	CATT	
R1-082968	36.213 CR0059 (Rel-8, D) PUSCH Power Control	CATT	
R1-082981	Restriction of RI offset for CQI on PUCCH in TS 36.213	Panasonic	Resubmission of R1-082407
R1-082984	CQI reporting with TTI bundling or A/N repetition	Panasonic	
R1-082987	RAN1/2 specification alignment on HARQ operation	Panasonic	
R1-082988	Treatment of CQI-only in HARQ procedure	Panasonic	
R1-082989	RNTI assignment	Panasonic	(R1-082414)
R1-082991	Persistent scheduling and MIMO mode	Panasonic	(R1-082416)
R1-082992	PUSCH control information offset for CQI only	Panasonic	
R1-082994	Text proposal for the ACK/NACK repetition and Implicit mapping	Panasonic	(R1-082402)
R1-083009	Simultaneous Reception of Persistent and Dynamic scheduling	NEC Group	
R1-083010	Clarification of the DCI formats that can be simultaneously received in each transmission mode	NEC Group	
R1-083045	Corrections to 36.213	Huawei	
R1-083058	36.213 CR0047R1 (Rel-8, F) Removal of CR0009	Ericsson	
R1-083059	36.213 CR0062 (Rel-8, F) Introducing missing parameters into 36.213	Ericsson	
R1-083063	36.213 CR0065 (Rel-8, F) Clarification on PUSCH hopping type 1	Ericsson	
R1-083094	PUCCH resource allocation for repeated ACK/NACK	Nokia Siemens Networks, Nokia	
R1-083095	On the removal of code rate limitations for PDCCH blind decoding	Nokia, Nokia Siemens Networks	(R1-082599)
R1-083097	Overload Indicator (OI) Configuration and Reporting Criteria	Nokia Siemens Networks, Nokia	(R1-082600)
R1-083101	NDI handling	Nokia, Nokia Siemens Networks	
R1-083104	Further Simulation Results of User Grouping Methods for Downlink Inter-cell interference coordination	CHTTL	
R1-083123	Way forward on support of ACK/NAK repetition	Texas Instruments, LGE, Samsung, ZTE	
R1-083124	Multiple ACK/NAK Transmission in TDD	Texas Instruments	
R1-083125	Performance of Multi-bit ACK/NAK Transmission in TDD	Texas Instruments	
R1-083126	Concurrent Transmission of Multi-bit ACK/NAK and CQI in TDD UL	Texas Instruments	
R1-083127	Concurrent Transmission of Multiple ACK/NAK and SRI in TDD UL	Texas Instruments	
R1-083128	TDD System Evaluation of Multi-Bit ACK/NAK and ACK/NAK Bundling	Texas Instruments	
R1-083129	Draft CR on Reference for CQI/PMI Reporting Offset	Texas Instruments	
R1-083132	On remaining issues of PUCCH CQI reports	Texas Instruments	
R1-083146	Discussion on sub-band CQI measurement	Nortel	
R1-083173	Way Forward on UL ACK Repetition	Qualcomm Europe, Ericsson	

R1-083174	Confirmation of various UL transmission configurations	Qualcomm Europe	
R1-083176	UL ACK/NAK assignment procedure	Qualcomm Europe	
R1-083178	SRS resource allocation when UpPTS consists of 2 symbols	Qualcomm Europe	
R1-083179	PMI reporting for DL transmissions configured for antenna port 5	Qualcomm Europe	
R1-083182	Clarifying PUSCH hopping procedure	Qualcomm Europe	
R1-083184	Issues in DL Peak Rate Related TBS Design	Qualcomm Europe	
R1-083185	DRS in the DVRB case	Qualcomm Europe	
R1-083201	Dropping of RI/PMI Report on PUCCH	Icera Semiconductor	
R1-083210	Draft CR 36.213 Maximum PDCCH Coding Rate Threshold (0.75 → 0.84)	Motorola	
R1-083216	Subband Size and #Subband CQI in S vs. System Bandwidth in 36.213	Motorola	
R1-083230	Multiple ACK/NACK transmission for TDD	Motorola	
R1-083240	Removal of interpretation of NDI information in 36.213	Qualcomm Europe	
R1-083242	Clarification of spatial differential CQI index	LG Electronics	
R1-083256	On multiple ACK/NAK multiplexing on PUCCH for LTE TDD	Ericsson	(R1-083065)
R1-083277	Draft LS on timing adjustments	LGE, Panasonic	

6.3.1 Ad-hoc session on MIMO

R1-083411	MIMO session summary	Ad-Hoc chairman	

The document was presented by Juho Lee from Samsung.

Discussion (Question / Comment):
Decision: Document is noted and endorsed as follows:

MU-MIMO

R1-082798	CQI definition for MU-MIMO	Philips, NXP	

Decision: Document is noted.

R1-082874	CQI Reporting for MU-MIMO in LTE	Samsung	

Decision: Document is noted.

R1-082875	Finalization of MU-MIMO in LTE	Samsung	

Decision: Document is noted.

R1-082940	Remaining Details on MU-MIMO transmission Mode	LGE	

Decision: Document is noted.

R1-083064	Remaining Details on Control Signaling for the MU-MIMO Transmission Mode	Ericsson	

Decision: Document is noted.

R1-083147	On Power Level for MU-MIMO	Nortel	

Decision: Document is noted.

R1-083093	Finalizing Multi-User MIMO for LTE Rel. 8	Nokia, Nokia Siemens Networks	(R1-082606)

Decision: Document is noted.

R1-083006	Views on remaining details on MU-MIMO for LTE Rel. 8	NEC Group	

Decision: Document is noted.

R1-083047	Consideration on DCI format for downlink MU-MIMO	Huawei, CATT	

Decision: Document is noted.

R1-083148	Proposed changes to PDSCH transmission modes	Nortel	

Decision: Document is noted.

< From AI 6.2 >

R1-083215	Signaling Considerations for MU-MIMO Transmission Mode	Motorola	

Decision: Document is noted.

R1-083302	Power offset signaling for MU-MIMO	Huawei, CHTTL	(R1-083044)

Decision: Document is noted.

R1-083336	Way forward on MU-MIMO	Huawei, Motorola	

Decision: Document is noted.

Conclusion from the above set of contributions on:

DL control signaling for MU-MIMO:

- MU-MIMO DCI format: format 1B (with potential modification/reinterpretation)
- Indication of TX power share in the MU-MIMO DCI format
    - Format 1D: Explicit signaling without increasing the number of bits from format 1B
        - 1 bit power share indication
            - 1 bit for 2TX: distributed flag of format 1B is reused to indicate two power offset values
            - 1 bit for 4TX: distributed flag of format 1B is reused to indicate two power offset values
            - Values:
                - 0 for -3dB w.r.t. the single user TX power offset signaled by higher layer
                - 1 for the same as the single user TX power offset signaled by higher layer
        - All other fields are identical to format 1B

CR for 36.212 to be prepared in R1-083419 (Ericsson)

R1-083419	36.212 CR0046 (Rel-8, F) Correction on downlink multi-user MIMO	Ericsson	

The document was presented by George Jöngren from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

Number of UEs scheduled in a RB: no limitation is specified

UL feedback for MU-MIMO:

- Wideband precoding only for MU-MIMO support
  - Aperiodic PUSCH: mode 3-1
  - Periodic PUCCH: mode 1-1, 2-1

CR for 36.213 to be prepared in R1-083420 (Ericsson)

R1-083420	36.213 CR0086 (Rel-8, F) Correction on downlink multi-user MIMO	Ericsson	

The document was presented by George Jöngren from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

CRs for SU-MIMO

R1-083099	Correction to Precoder Cycling for Open-loop Spatial Multiplexing	Nokia Siemens Networks, Nokia	

Decision: Document is noted and CR is agreed in principle with modifying "1,2,… 4" to "1,2,3,4". CR with CR number shall be prepared in R1-083373 (NSN).

R1-083373	36.213 CR0080 Correction to precoding cycling for open loop spatial multiplexing	Nokia Siemens Networks, Nokia, LGE, Samsung	

The document was presented by Mieszko Chmiel from NSN

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

CQI in MIMO

R1-082985	36.213 CR0060 (Rel-8, F) RB restriction and modulation order for CQI-only transmission on PUSCH	Panasonic	

The document was presented by Alexander Golitschek from Panasonic.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-082868	36.213 CR0051 (Rel-8, F) Completion of the table specifying the number of bits for the periodic feedback	Samsung	

Decision: Document is noted and CR is agreed

R1-082982	Periodic CQI reports and SFN wrap-around	Panasonic	

The document was presented by Alexander Golitschek from Panasonic.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083270	Update on Physical Layer Parameters for CQI Reporting	Texas Instruments	(R1-083131)

Decision: Document is noted. TI shall provide input for the related email discussion.

R1-083211	Draft CR 36.213 PUCCH reporting	Motorola, TI	

Decision: Document is noted. Draft the CR with CR number to capture "Closed-loop Rank=1, precoding : Modes 1-1, 2-1" and "Single-antenna port, port 0: Modes 1-0, 2-0" in R1-083386.

Friday 22nd

R1-083386	Draft CR 36.213 PUCCH reporting	Motorola, TI	(R1-083211)

The document was presented by Robert Love from Motorola.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed as CR0087 in R1-083425.

R1-083357	36.213 CR0079 (Rel-8, F) CQI reporting for antenna port 5	Ericsson, Texas Instruments, NTT DoCoMo, Nokia, Nokia Siemens Networks, CATT	

The document was presented by George Jöngren from Ericsson.

Discussion (Question / Comment): No progress so far. Samsung requested to present counter proposal in R1-083414.
Decision: Document is noted.

R1-083414	36.213 CR0085 (Rel-8, F) CQI report for transmission mode 7	Samsung, Qualcomm, LGE, Nortel	

The document was presented by Charlie Zhang from Samsung.

Discussion (Question / Comment):
Decision: Document is noted. Decide over email reflector until Thursday 04/09 (moderator: Qualcomm) whether to approve R1-083357 or R1-083414.

R1-082983	Correction of subscripts in TS 36.213 section 7.2.2	Panasonic, NEC, Philips	Resubmission of R1-082418

The document was presented by Alexander Golitschek from Panasonic.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083180	Clarifying UE-selected subband CQI report on PUCCH	Qualcomm Europe	

Decision: Document is noted. It's agreed for including N_j corrections and correction on Table 7.2.2-2 in R1-082983. CR with CR number shall be prepared in R1-083379 (Qualcomm).

R1-083379	36.213 CR0081 (Rel-8, F) Clarifying UE-selected subband CQI report on PUCCH	Qualcomm Europe	

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083003	Bandwidth part sizes for UE selected CQI reports on the PUCCH	NEC Group	

Decision: Document is noted.

R1-083145	CQI/PMI reporting on PUSCH	Nortel	

Decision: Document is noted.

CQI

R1-083288	36.213 CR0072 (Rel-8, F) Reference for CQI/PMI Reporting Offset	Texas Instruments, NEC, Ericsson, Huawei, NTT DoCoMo, LGE	(R1-083129)

The document was presented by Runhua Chen from TI and is a CR adding the reference for CQI/PMI reporting offset and modifying RI multiplicities to ensure strict periodic reporting for wideband CQI/PMI on PUCCH.

Discussion (Question / Comment): Panasonic provides a few comments that may help providing a better understanding.
Decision: Document is noted and shall be revised in R1-083310.

Friday 22nd

R1-083310	36.213 CR0072R1 (Rel-8, F) Reference for CQI/PMI Reporting Offset	Texas Instruments, NEC, Ericsson, Huawei, NTT DoCoMo, LGE	(R1-083288)

The document was presented by Runhua Chen from TI.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-082876	36.213 CR0055 (Rel-8, F) Clarification on mapping of Differential CQI fields	Samsung	

The document was presented by Charlie Zhang from Samsung and proposes the mapping of differentail CQI field to offset levels.

Discussion (Question / Comment): Corrections of table references are needed.
Decision: Document is noted and shall be revised in R1-083311

Friday 22nd

R1-083311	36.213 CR0055R1 (Rel-8, F) Clarification on mapping of Differential CQI fields	Samsung	(R1-082876)

The document was presented by Charlie Zhang from Samsung.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-082795	CQI reference measurement period	Philips, NXP, Ericsson, Panasonic	

The document was presented by Matthew Baker from Philips and defines the time duration and frequency span of the resource to which CQI reports correspond. The PMI definition is also clarified to relate to the maximum aggregate transport block size which can be transmitted.

Discussion (Question / Comment):
Decision: Document is noted and the CR is agreed. If the description can be further improved, a revision or new CR will be provided.

R1-082797	CQI corrections	Philips	

The document was presented by Matthew Baker from Philips and defines CQI reporting for PDSCH transmission modes 6 and 7.

Discussion (Question / Comment): Samsung highlighted different views in R1-082877. Motorola also had a contribution in R1-083130.
Decision: Document is noted

R1-082877	36.213 CR0056 (Rel-8, F) CQI report for transmission mode 5,6,7 and clarification of value y in CQI report	Samsung	

The document was presented by Charlie Zhang from Samsung and specifies CQI report for transmission mode 5, 6,7 and value y.

Discussion (Question / Comment): Philips requested clarification on the antenna port being used.
Decision: Document is noted.

R1-083130	Draft CR on miscellaneous update in 36.213	Texas Instruments, Motorola, CATT	

The document was presented by Runhua Chen from TI and:

- Clarifies that CQI is calculated assuming transmission of one codeword for RI=1 and two codewords for RI>1 and is independent of how many codewords the serving eNodeB schedules.
- Reflects the most recent decision on CQI due to the removal of antenna selection and setting set S = entire system bandwidth.
- Clarifies UE behaviour for PUSCH 3-0 reporting mode.
- Clarifies PUSCH reporting modes for MU-MIMO, Rank=1 precoding, and Single Antenna port: port 5 transmission modes.
- Modifies Table 7.2.1-2 to reflect that it gives only subband size (k) for PMI as well as CQI reporting

Discussion (Question / Comment):
Decision: Document is noted.

Conclusion: Philips's proposal seems having contests from the others. Thus, Mr. Chairman requested proponents to discuss further off line and if any, to revisit the outcomes by the end of the week.

Friday 22nd

R1-083359	Draft CR on miscellaneous update in 36.213	Texas Instruments, Motorola, CATT	(R1-083130)

Decision: Document is noted and is under email approval until 28/08.

6.4 Corrections for TS 36.214

R1-083199	25.215 CR0192 (Rel-8, F) Modification of RSRP definition	Nokia Siemens Networks, Nokia	

The document (originally under AI 5) was presented by Karri Ranta-aho from NSN and is a CR that aligns the TS25.215 RSRP definition to that one of the TS36.214.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-082970	25.225 CR0089 (Rel-8, B) E-UTRA measurements for UTRA TDD – E-UTRA interworking	CATT	

The document was presented by Ke Wang from CATT. As Multi-RAT terminals supporting E-UTRAN need to be able to perform measurements on E-UTRAN while in UTRAN, these measurements shall be defined for TDD. It's noted that E-UTRAN measurements have already been defined for FDD.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1-083140	Handover based on RSRQ measurements	Nortel	

The document was presented by Anna Tee from Nortel and recommends that the UE should measure and report the RSRQ value corresponding to groups of N consecutive RBs, as configured by the eNodeB; clarification of parameter N is also discussed.

Discussion (Question / Comment): Question from Nokia if there are any simulation results showing potential gain of the proposed scheme. Nokia also commented that this was definitely a new measurement.
Decision: Document is noted. This topic shall be discussed in RAN4.

R1-083149	RSRP measurement of neighbour cell	Nortel	

The document was presented by Anna Tee from Nortel.

Discussion (Question / Comment):
Decision: Document is noted. This topic shall be discussed in RAN4.

R1-082850	Two-threshold RSRP trigger mechanism	ZTE	

The document was presented by (…) from ZTE and is a resubmission of R1-082379 that includes simulation results with two-threshold RSRP Trigger Mechanism. It shows that the number of RSRP reporting will be highly reduced compared to the single threshold, while keeping the throughput almost the same.

Discussion (Question / Comment): Hysteresis is already defined in 36.331.
Decision: Document is noted and is related to discussion on ICIC triggers under AI 4.

6.5 Corrections for TS 36.306

R1-083068	Draft CR Correcting the maximum number of bits received during one TTI	Ericsson	

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed from RAN1 perspective.

R1-083184	Issues in DL Peak Rate Related TBS Design	Qualcomm Europe	

The document (originally under AI 6.3) was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted. Mr Chairman requested to improve wording on the “may” sentence. This shall be revised in R1-083274 (Qualcomm).

R1-083067	Draft LS TBS table and UL TTI bundling adjustments	Ericsson	

The document was presented by Daniel Larsson from Ericsson and gathers the decision from Warsaw meeting (see R1-082719 and R1-082720 for more information)

Discussion (Question / Comment): Reference to R1-083067 in attachment shall be removed.
Decision: Document is noted and has been further revised and agreed in R1-083273.

R1-083273	LS on TBS table and UL TTI bundling adjustments	RAN1, Ericsson	

7. HS-PDSCH Serving Cell Change Enhancements

R1-082818	UE Reconfiguration Timing in Enhanced Serving Cell Change	Qualcomm Europe, Huawei	

The document was presented by Sharad Sambhwani from Qualcomm and discusses UE reconfiguration timing when receiving HS-SCCH orders in the enhanced serving cell change procedure. Proposal is that UE's reconfiguration time in the enhanced serving cell change procedure be reduced to 20 msec.

Discussion (Question / Comment): Few companies raised concern about this proposal.
Decision: Document is noted. Current agreement is to stick to 40ms value.

R1-083280	25.212 CR0270R1 (Rel-8, B) Introduction of HS-PDSCH Serving Cell Change Enhancements	Ericsson, Qualcomm	(R1-083024)

The document was presented by Johan Bergman from Ericsson and is a CR for introducing UE reception of HS-SCCH orders from one non-serving cell.

Discussion (Question / Comment): Reference to 25.331 shall be made in reference list section.
Decision: Document is noted and shall be revised in R1-083329. Feedback from discussions in RAN2 shall then be available.

Friday 22nd

R1-083329	25.212 CR0270R2 (Rel-8, B) Introduction of HS-PDSCH Serving Cell Change Enhancements	Ericsson, Motorola, NXP, Philips, Qualcomm Europe, Samsung	(R1-083280)

The document was presented by Johan Bergman from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted. Although feedback from RAN2 still needed, CR is agreed as the current baseline for further work in RAN1.

R1-083275	25.214 CR0498r2 (Rel-8, B) Introduction of HS-PDSCH Serving Cell Change Enhancements	Ericsson, NXP, Philips, Qualcomm Europe, Samsung	(R1-083025)

The document was presented by Johan Bergman from Ericsson and is a CR for introducing UE reception of HS-SCCH orders from one non-serving cell.

Discussion (Question / Comment): 40ms timing (from agreement on R1-082818) shall be taken into account.
Decision: Document is noted and shall be revised in R1-083330. Feedback from discussions in RAN2 shall then be available.

R1-083330	25.214 CR0498R3 (Rel-8, B) Introduction of HS-PDSCH Serving Cell Change Enhancements	Ericsson, Motorola, NXP, Philips, Qualcomm Europe, Samsung	(R1-083275)

The document was presented by Johan Bergman from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted. Although feedback from RAN2 still needed, CR is agreed as the current baseline for further work in RAN1.

The following set of contributions has not been treated.

R1-082819	25.212 CR0269 (Rel-8, B) Definition of HS-SCCH Order used in HS-PDSCH Serving Cell Change Enhancements	Qualcomm Europe	
R1-082880	Proposed update for CR to 25.214	Samsung, Qualcomm	
R1-083268	25.214 CR0500R1 (Rel-8, F) Clarification of HS-SCCH order in HS-PDSCH Serving Cell Change Enhancements	Philips, NXP, Qualcomm	(R1-082820)

8. Dual-Cell HSDPA Operation on Adjacent Carriers

Agreed CRs (in principle @RAN#53bis)

R1-083026	25.211 CR0257 (Rel-8,B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson	
R1-083027	25.212 CR0267 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson	
R1-083028	25.213 CR0095 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson	
R1-083029	25.214 CR0497 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson	

The documents were presented by Johan Bergman from Ericsson

Discussion (Question / Comment): Only CR numbers have been added. Remaining issues are to be discussed based on R1-083030.
Decision: Documents are noted.

Friday 22nd

R1-083395	25.211 CR0257r1 (Rel-8,B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson, Huawei, Nokia, Nokia Siemens Networks, Philips, Qualcomm Europe, Samsung	(R1-083026)
R1-083396	25.212 CR0267r1 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson, Huawei, Nokia, Nokia Siemens Networks, Philips, Qualcomm Europe, Samsung	(R1-083027)
R1-083397	25.213 CR0095r1 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson, Huawei, Nokia, Nokia Siemens Networks, Philips, Qualcomm Europe, Samsung	(R1-083028)
R1-083398	25.214 CR0497r1 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson, Huawei, Nokia, Nokia Siemens Networks, Philips, Qualcomm Europe, Samsung	(R1-083029) R1-083399

Decision: Documents are noted and CRs are agreed as RAN1 baseline for further work.

R1-083399	25.214 CR0497r2 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson, Huawei, Nokia, Nokia Siemens Networks, Philips, Qualcomm Europe	(R1-083398)

The document was presented by Johan Bergman from Ericsson as an alternative for TS36.214.

Discussion (Question / Comment):
Decision: Documents are noted and CR is under email approval till 01/09. If agreed, revision 2 would replace R1-083398.

General

R1-083030	Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers	Ericsson	

The document was presented by Johan Bergman from Ericsson and describes Ericsson's view on the remaining open issues in TS25.213 & TS25.214.

Discussion (Question / Comment):
Decision: Document is noted.

R1-082791	UTRAN Rel-8 FDD WG1 work items and UE capabilities	Motorola	

The document was presented by Jean-Aicard Fabien from Motorola and proposes the following recommendations:

- if Enhanced uplink in Cell FACH is mandatory for Rel-8, RAN2 implements the mechanism for non field tested feature deployments,

- HS-DSCH cell serving enhancement work item be optional and that the procedure HS-DSCH cell serving enhancement be implemented solely for radio link configuration with F-DPCH, HSDPA channels and HSUPA channels, i.e. not with DPDCH simultaneously.
- DC-HS-DSCH operation work item be optional and that DC-HS-DSCH operation be implemented without simultaneous DPDCH operation and the DC-HSDPA UE categories are selected using the MIMO model i.e. allowing different categories for the two higher order modulation schemes.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083200	Discussion on the dual cell HSDPA operation on adjacent carriers	Nokia, Nokia Siemens Networks	

The document was presented by Arto Lehti from Nokia and addresses open issues including:

- UE categories
- Simultaneous support of DCH and dual cell HSDPA
- Interaction with CPC
- Number of HS-SCCHs
- Active set definition and mobility measurements

Discussion (Question / Comment):
Decision: Document is noted.

Conclusion:

- Combination of DC-HSDPA with CPC
    - Same as for single carrier, only one common DRX mode for both carriers
- Discuss UE categories further at the next meeting

HS-SCCH

R1-082801	Analysis of HS-SCCH code monitoring requirements for Dual-Cell HSDPA	Philips, NXP	

The document was presented by Matthew Baker from Philips and provides an analysis showing that there is an increase in the blocking probability as the number of monitored HS-SCCHs per carrier is reduced. The paper proposes, when adding a second carrier, to choose between:

- An increase in UE complexity required to monitor additional control channels on a second carrier (to keep blocking probability at its current value).
- Keeping the UE complexity for HS-SCCH decoding the same as for Rel7 and reducing the number of control channels monitored per carrier (at the expense of some increase in blocking probability).

Discussion (Question / Comment):
Decision: Document is noted.

R1-082821	Sensitivity of DC-HSDPA System performance to total number of HS-SCCH monitiored	Qualcomm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and shows that there are significant drawbacks of using HS-SCCH to accompany HS-PDSCH across carriers. In the light of this observation, it is recommended that the sets of HS-SCCHs configured at the Node-B for each carrier be separate and that the requirement for the UE to monitor 4 HS-SCCHs per carrier be kept unchanged so as to avoid potential scheduling inflexibilities introduced on account of HS-SCCH blocking.

Discussion (Question / Comment):
Decision: Document is noted.

R1-082802	HS-SCCH code monitoring requirements for Dual-Cell HSDPA	Philips, NXP	

The document was presented by Matthew Baker from Philips and shows limited effect of maintaining the total number of monitored HS-SCCH codes at 4 for dual-cell operation. Proposal to reduce the blocking probability is to use Part 1 of the HS-SCCH to indicate dynamically the identity of the associated HS-DSCH carrier by using one bit from the CCS field.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083077	Analysis of HS-SCCH design for DC-HSDPA	HUAWEI	

The document was presented by (…) from Huawei and proposes that the HS-SCCH in one carrier is only restricted to indicate the data transmission of HS-PDSCH on the corresponding carrier in DC operation.

Discussion (Question / Comment):
Decision: Document is noted.

Based on the above set of contribution, still there is an issue on the number of monitored HS-SCCH codes per carrier.

Proposed conclusion:

- HS-SCCH is mapped on the same carrier as the data transmission of the HS-PDSCHs it controls
- UE monitors a maximum of in total 6 HS-SCCH (with a maximum of 4 HS-SCCH per carrier, as agreed earlier), plus one HS-SCCH on the anchor carrier for enhanced serving cell change

HS-DPCCH

R1-083075	Analysis of HS-DPCCH Design for DC-HSDPA	HUAWEI	

The document was presented by Wang Zongjie from Huawei and proposes:

- For the purpose of reducing the impact of CM value, in case a CQI reporting periodicity greater than one subframe is configured, that a subframe offset could be applied to the CQI reporting pattern for one of the cells.
- If CQI need to be transmitted in every subframe, that a combined coding for ACK/NACK or CQI as in MIMO mode is applied

Discussion (Question / Comment):
Decision: Document is noted.

R1-083243	Discussion on HS-DPCCH Code Design for DC-HSDPA	HUAWEI	

The document was presented by Wang Zongjie from Huawei and proposes:

- When only one DPDCH channel does exist, preferred choice is transmitting the 2nd HS-DPCCH on channelization code Cch,256,1 on the Q branch
- Alternatively, transmitting the 2nd HS-DPCCH on channelization code Cch,256,32 on the Q branch could also be considered to reduce the impact of frequency offset

Discussion (Question / Comment): Typo in table 2 has been reported (256,64I shall be read as 256,64Q)
Decision: Document is noted.

Conclusion:

RAN1 agrees on HS-DPCCH$_1$ (256,64Q) and HS-DPCCH$_2$ (256,32Q) if N_max_DPDCH=1 is agreed to be supported. Discuss possibility for the UE to indicate support of N_max_DPDCH=1, e.g. as separate category.

In addition, DL DCH can from RAN1 perspective be supported in combination with DC-HSDPA with no impact on RAN1 specifications, but the final decision may be taken in RAN2.

R1-082822	HS-DPCCH design for CQI feedback cycle > 1	Qualcomm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and provides system performance evaluation considering a few design options for HS-DPCCH when CQI Feedback Cycle = 2. The paper concludes with two proposals:

- For CQI Feedback Cycle > 1, introduce CQI time offset between the CQIs of the dual carriers. The time offset depends on the repetition factor N_cqi_transmit.
- For CQI Feedback Cycle > 1, transmit the CQI corresponding to the secondary serving cell on the legacy HS-DPCCH (HS-DPCCH$_1$).

Discussion (Question / Comment):
Decision: Document is noted.

R1-083292	CQI transmission supporting dual-cell HSDPA	Samsung	(R1-082881)

The document was presented by Youngbum Kim from Samsung and investigates methods of transmitting CQIs to mitigate the decrease of the uplink channel coverage. The paper proposes:

- In case when CQI feedback cycle > 1, a time offset can be used except the case that the UE enters DTX operation
- If the UE is configured to transmit CQI1 and CQI2 simultaneously, drop either CQI1 or CQI2 when the two CQIs are very different.
- For the power limited UE, apply unequal power scaling, i.e. to reduce one of the CQI transmit power firstly.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083338	HS-DPCCH handling for DC-HSDPA at UE power limitation	Ericsson	

The document was presented by Johan Bergman from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083313	Introducing Dynamic Carrier Switching in DC-HSDPA	Qualcomm Europe	(R1-082823)

The document was presented by Sharad Sambhwani from Qualcomm and proposes to:

- Introduce a new procedure "Dynamic Carrier Switching" as described in Section 2. This mode of operation does not rely on HS-DPCCH$_2$. Instead, ACK/NACK as well as CQI information is sent on a single HS-DPCCH, thereby reverting to single carrier performance on the uplink
- Instead of using an HS-SCCH order to activate/de-activate the secondary serving cell, reinterpret this HS-SCCH order for the purpose of activating/de-activating dynamic carrier switching.
- Transmission of CQI information corresponding to the second carrier is chosen on either side of the CQI corresponding to the anchor carrier depending on the E-DCH burst timing.

Discussion (Question / Comment):
Decision: Document is noted.

Conclusion for extra off line discussion, in particular to decide whether (some of) below proposals can be considered:

- Proposal1a: Fixed offset in CQI reporting when CQI reporting cycle>1
  - To improve CQI detection in "UE power limited" situations
- Proposal1b: Unequal scaling (scale CQI first) when CQI reporting cycle=1
  - To improve CQI detection in "UE power limited" situations
- Proposal2: Time multiplex ACK/NACK reporting, by reporting ACK/NACK on HS-DPCCH$_1$ when only 1 ACK/NACK is to be transmitted

- To improve ACK/NACK detection in "UE power limited" situations

R1-083293	Discussion on activation/deactivation of dual-cell HSDPA	Samsung	(R1-082882)

The document was presented by Ms Youn Heo from Samsung and investigates how to utilize the secondary serving HS-DSCH cell more efficiently. The followings are proposed to support the activation/deactivation of the secondary serving HS-DSCH cell.

- The HS-SCCH order information mapping is modified as method 1 or method2.
- UE transmits NACK as an acknowledgement of HS-SCCH order for the secondary serving HS-DSCH cell activation if UE is in power limited situation.

Discussion (Question / Comment):
Decision: Document is noted.

New CRs

R1-082828	25.214 CR0499 (Rel-8, B) Modification due to DC-HSDPA	Qualcomm Europe	

The document was presented by Arjun Bharadwaj from Qualcomm.

Discussion (Question / Comment): *(off line notice from MCC)* that this CR isn't in rev 1 as indicated on coversheet. Same comment to R1-082825/R1-082826/R1-082827.
Decision: Document is noted. Discuss the additional modification when revising the baseline CRs

R1-082829	25.215 CR0191 (Rel-8, B) Modification due to DC-HSDPA	Qualcomm Europe	

The document was presented by Arjun Bharadwaj from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted. From RAN1 perspective, there is no need to modify measurements.

R1-082825	25.211 CR0258 (Rel-8, B) Modification due to DC-HSDPA	Qualcomm Europe	
R1-082826	25.212 CR0268 (Rel-8, B) Modification due to DC-HSDPA	Qualcomm Europe	
R1-082827	25.213 CR0096 (Rel-8, B) Modification due to DC-HSDPA	Qualcomm Europe	

Already discussed in RAN2

R1-082824	DC-HSDPA and CPC: Outstanding Issues	Qualcomm Europe	
R1-083074	Discussion on CPC feature for DC-HSDPA	HUAWEI	

R1-083076	Discussion on supplementary carrier control	HUAWEI	

The document was presented by (…) from Huawei and proposes:

- Proposal 1: The transmission of the HS-SCCH order for dual carrier activation and deactivation is restricted to the anchor carrier.
- Proposal 2: Disable the $HS\text{-}DPCCH_2$ when dual carrier is deactivated.
- Proposal 3: Introduce a new parameter *DC_Deactivation_Timer* for CPC in dual cell operation for the purpose of dual carrier deactivation.

Discussion (Question / Comment): Proposal 2 has been already discussed in RAN2, therefore Mr. Chairman requested to focus on proposals 1 & 3 only
Decision: Document is noted. Proposal 1 was already not agreed both in RAN1 and RAN2. No agreement to proposal 3 either.

Others

R1-083117	HARQ Processes in DC-HSDPA	InterDigital Communications LLC	

The document was presented by Eldad Zeira from Interdigital and investigates the potential performance gains of using a cell-independent HARQ for dual-cell operation, compared to a cell-dependent HARQ. It shows significant gains (up to about 0.9 dB) depending on the multipath channel and speed (the gain increasing with the speed).

Question rose: Agree on whether HARQ should be cell-independent or cell-dependent?

Discussion (Question / Comment): This contribution was presented to RAN2 as well but RAN2 requested RAN1 to look at it.
Decision: Document is noted. No agreement to change the current RAN2 working assumption for Rel-8

R1-083078	Discussion on single stream with multi RV versions mode in DC-HSDPA operation	HUAWEI	

The document was presented by Wang Zongjie from Huawei and proposes to enlarge cell coverage and enhance stability of radio link with a new scheme that only one PDU (i.e. single stream mode) is transmitted with multi Redundancy Versions on both two carriers is proposed.

Discussion (Question / Comment): Mr Chairman suggested that this could be studied further. Channel coding, signaling… might be significantly impacted by such scenario.
Decision: Document is noted. Continue discussion whether this can be considered for a later release.

9. Enhanced CELL_FACH state in 1.28 Mcps TDD (UL/DL)

NO CONTRIBUTIONS

10. Continuous Connectivity for packet data users for 1.28Mcps TDD

R1-082858	Consideration on the downlink VOIP solution for 1.28Mcps TDD	ZTE	

Decision: Document was not formally presented as proponent requested further discussion.

R1-082956	Consideration about VoIP downlink transmission for 1.28Mcps TDD	CATT	

Decision: Document was not formally presented as proponent requested further discussion.

R1-082897	Consideration on DTX for Continuous Connectivity	ZTE	

The document was presented by (…) from ZTE and proposes CPC to support improvements, such as a DTX scheme, for reusing the channel code resource of the UE in the silent period.

Discussion (Question / Comment):
Decision: Document is noted. The channel coder resource for the silent period shall be reused; details are FFS.

11. MIMO for 1.28Mcps TDD

R1-082859	UL sounding based on different midamble code	ZTE	

The document was presented by Ms (…) from ZTE and introduces the Sounding scheme which can solve the problem of the uplink channel measurement in the TDD system. The Midamble code is taken as the Sounding signal to achieve the UL channel state information of the dual antenna of a terminal.

Discussion (Question / Comment):
Decision: Document is noted.

R1-082901	Uplink Channel Estimation for LCR TDD MIMO System	TD Tech	

The document was presented by Ying Chen from TD Tech and proposes an uplink channel estimation method in which stand alone midamble shifts are transmitted corresponds to the HS-SICH in the previous timeslot. Node B can perform the uplink channel estimation according to the HS-SICH and the corresponding stand alone midamble shifts.

Discussion (Question / Comment):
Decision: Document is noted. Discussion shall continue w.r.t both previous contributions.

R1-082902	Link Level Simulation Results for MIMO HS-SCCH Structure in 1.28Mcps TDD	TD Tech	

The document was presented by Ying Chen from TD Tech and analyzes the performance of MIMO HS-SCCH with 51 bits compared with the Rel-7 HS-SCCH in 1.28Mcps TDD system by the link level simulation. The paper concludes that the performance of the proposed MIMO HS-SCCH is degraded little but the proposed structure maintains flexibility of resource allocation.

Discussion (Question / Comment):
Decision: Document is noted. Provide simulation results for velocities other than 50km/h.

R1-083238	HS-SCCH structure for 1.28Mcps TDD MIMO	TD Tech	

The document was presented by Ying Chen from TD Tech and proposes a modification of the HS-SCCH structure for 1.28Mcps TDD MIMO system based on the Rel-7 HS-SCCH structure in order to indicate the stream switching signaling and resource allocation to UE.

Discussion (Question / Comment): CATT suggested looking at R1-082957 to help for further work.
Decision: Document is noted. TD Tech will provide more simulation results at next meeting.

R1-082957	HS-SCCH structure supporting MIMO for 1.28Mcps TDD	CATT	

The document was presented by Ke Wang from CATT and addresses the control signalling design and coding scheme for dual stream of TDD MIMO. From the results, the different signalling lengths for single and dual stream need the blind detection at UE, and the same signalling lengths will decrease the UE complexity but deteriorate the single stream HS-SCCH performance a little.

Discussion (Question / Comment):
Decision: Document is noted. Continue discussion on HS-SCCH structure proposals at next meeting.

R1-082903	Flexible time slot allocation in LCR TDD MIMO system	TD Tech	

The document wasn't formally presented by Ying Chen from TD Tech.

Discussion (Question / Comment): TD Tech informed that this proposal has been already discussed off line but no agreement has been reached.
Decision: Document is noted.

12. Study Item on LTE-Advanced

Coordinated multipoint transmission & reception

R1-083050	Inter-eNB and Intra-eNB Schemes of CoMP for LTE-Advanced	Huawei	

The document was presented by Ms Xia Yuan from Huawei and analyses both intra-eNB coordination and inter-eNB coordination schemes, and suggests that the intra-eNB coordination scheme be the focus of Coordinated multiple point transmission and reception (CoMP), and the flexibility of inter-eNB coordination scheme be constrained by X2 interface limitations.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083192	Network MIMO for Downlink Transmission in LTE-Advanced	Qualcomm Europe	

The document was presented by Yan Li from Qualcomm and addresses Network MIMO setup, where multiple cells (possibly belonging to different eNodeBs) cooperate in transmission of data to multiple users. Two approaches are discussed for Network MIMO schemes:

- Joint signal processing/ packet sharing
- Scheduling/beam-forming

Discussion (Question / Comment):
Decision: Document is noted.

R1-082886	Inter-Cell Interference Mitigation Through Limited Coordination	Samsung	

The document was presented by Charlie Zhang from Samsung and provides a unified framework to analyze inter-cell interference cancellation together with multi-cell MIMO. The paper concludes that techniques like Collision Avoidance Beam-forming and PMI coordination based on CQI improvement or interference level offer good gains over uncoordinated system.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083229	Multiple Point Coordination and Its Classification	Motorola	

The document was presented by Jeff Zhuang from Motorola and describes several different types of multi-point coordination that include Interference Control (IC) and *constructive transmission*. In addition to IC, it is recommended to study additional mechanisms to support constructive transmissions schemes for both SU-MIMO and MU-MIMO mode.

Discussion (Question / Comment):
Decision: Document is noted.

R1-082812	DL Collaborative MIMO for LTE-A	Alcatel Shanghai Bell, Alcatel-Lucent	

The document was presented by Ms Jin Liu from Alcatel Shanghai Bell and proposes to support the collaborative MIMO (Co-MIMO) technique in LTE-A as an enhanced MIMO option to mitigate inter-cell interference as well as improve the sector throughput. The Co-MIMO performs a joint MIMO transmission between multiple coordinated BSs and multiple MSs and has two basic features:

- Each MS can be jointly served by multiple BSs over the same radio resource
- Each BS can serve multiple MSs over the same radio resource

Discussion (Question / Comment):
Decision: Document is noted.

Relay Nodes

R1-082777	Comments on Relay Nodes for LTE-Advanced Systems	KDDI	

The document was presented by Satoshi Konishi from KDDI and provides the following comments on Relay Nodes from one operator.

- Necessity of
  - Evaluation of performance gain per function and finding effectiveness per function
  - Performance evaluation at IP-level
  - Conscious about cost
- Seems better to select up to 2 hops, although further studies are encouraged

Discussion (Question / Comment): Question was raised on which function KDDI is having in mind
Decision: Document is noted.

R1-082975	Application Scenarios for LTE-Advanced Relay	CMCC, Vodafone, Huawei	

The document was presented by Xiaodong Xu from CMCC and focuses on the potential application scenarios for a relay assisted system. The paper shows preliminary view on preferred relay types and the pros and cons of L1/L2/L3 relays for each of the considered application scenarios (see Table 1 in R1-082975).

Discussion (Question / Comment):
Decision: Document is noted.

R1-082899	Legacy support of LTE-Advanced Relay Nodes	Infineon Technologies	

The document was presented by Hyung-Nam Choi from Infineon and deals with the possible deployment scenarios of Relay nodes with focus on their legacy support of LTE eNodeBs and UEs. As outcome of the discussion, it is proposed to agree on the deployment scenario(s) to be considered as baseline for further discussion on the candidate Relaying attributes/functionalities.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083223	Classification of Relays	Motorola	

The document was presented by Jeff Zhuang from Motorola. This paper defines some terminology to classify relays and proposes potential focus areas for the Relay study item in LTE-A. It is proposed that Decode and forward and full-service relays with in-band backhaul are studied for LTE-A.

Discussion (Question / Comment):
Decision: Document is noted.

R1-082853	Discussion on various scenarios of Relay	ZTE	

The document was presented by (…) from ZTE and suggests:

- Using L2 Relay in the scenario of capacity increase.
- Using L3 Relay in the scenario of coverage extension

Discussion (Question / Comment):
Decision: Document is noted.

R1-083158	Some further consideration for DL transparent relay in LTE-A	Nortel	

The document was presented by Hua Xu from Nortel and deals with the support of LTE-A downlink transparent relay.

- eNB could schedule those UE need relay help to use dedicated RS (??)

- Both Relay Node and eNB could transmit using dedicated RS during re-transmission
- eNB transmits both common RS and dedicated RS while Relay Node only transmits dedicated RS

Discussion (Question / Comment):
Decision: Document is noted.

Mobility enhancements

R1-083197	Important Aspects of Mobility Procedures	Qualcomm Europe	

The document was presented by Juan Montojo from Qualcomm and recalls that the most important goal of the studies for mobility enhancements should be to provide efficient and effective support of Real Time Service applications in term of

- Robustness ⇔ minimal outage probability
- Handover latency ⇔ reduced interruption times
- Serving cell association
- Throughput maximizing handover

Discussion (Question / Comment):
Decision: Document is noted.

Further enhanced MBMS

R1-082815	Discussion on Technologies for Further Enhanced MBMS	Alcatel Shanghai Bell, Alcatel-Lucent	

The document was presented by Ms Jin Liu from Alcatel Shanghai Bell and brings forth several key technologies for further enhanced MBMS, which are aggregated into four aspects as follows:

- Open-loop SM and enhanced MBSFN
- Enhanced single cell transmission
- MBMS transmission cooperative with Relay
- Network coding in multicast retransmission

Discussion (Question / Comment):
Decision: Document is noted.

Evaluation Methodology

R1-082778	Proposal of evaluation methodology for LTE-Advanced systems with relay nodes	KDDI	

The document was presented by Satoshi Konishi from KDDI and proposes a model of dropping Relay Nodes for simulations.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083079	On required number of evaluation for LTE-Advanced	CMCC	

The document was presented by Xiaodong Xu from CMCC and proposes that the LTE-Advanced should be optimized to meet all the requirements of IMT-Advanced in four environments and scenarios defined in ITU-R WP5D IMT.TECH and with the methodology defined in IMT.EVAL

Discussion (Question / Comment): The contribution was well supported by Ericsson as LTE-Advanced requirements should meet or even be better than ITU-R requirements.
Decision: Document is noted.

R1-083080	Some consideration for indoor scenario	CMCC	

The document was presented by Xiaodong Xu from CMCC and is a proposal for Indoor scenario as LTE-Advanced is required to cover such environment.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083014	Evaluation Model for LTE-Advanced	NTT DoCoMo	

The document was presented by Motohiro Tanno from NTT DoCoMo and is a proposal for an Indoor channel model.

Discussion (Question / Comment): Motorola raised question about traffic model that is not covered by this proposal.
Decision: Document is noted.

R1-083154	LTE-Advanced evaluation scenarios	Nortel	

The document was presented by Anna Tee from Nortel and proposes three network models to evaluate femto related DL performance for a co-channel deployment of femto and macro. The paper concludes that, in contrast to the indoor hotspot scenario in IMT.EVAL, Scenario 1 is more applicable to LTE technology, i.e., Home eNodeB, as there is likely to be interference from the nearby macro cells in the actual deployment.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083102	LTE-A Simulation Methodology and Assumptions	Nokia, Nokia Siemens Networks	

The document was presented by Asbjørn Grøvlen from Nokia and draws some recommendations:

- Traffic model for LTE-Advanced evaluations:Simple Finite buffer traffic model with dynamic creation and termination of calls during a simulation.
- In addition to the ITU-R proposed scenarios, consider a limited set of special cases with irregular eNode-B (or Home eNode-B) locations in e.g. indoor and micro cells
- Consider an additional common indoor scenario with remote radio elements under one eNode-B (among others, such a scenario can be used for study of local area intra eNode-B collaborative MIMO schemes).
- Allow LTE-Advanced simulations to be conducted at lower bandwidth than 100 MHz, as this is expected to save simulation time and complexity of simulations

Discussion (Question / Comment): The contribution is a follow-up on previous contribution from the Warsaw meeting in R1-082610.
Decision: Document is noted.

R1-083070	Refined Antenna Model for LTE Advanced Evaluations	Ericsson	

The document was presented by Ylva Jading from Ericsson and proposes a simple modification of the current 3GPP antenna model allowing more accurate evaluation of ‘multi-cell’ functions. This is done through introduction of a parameterized vertical gain diagram (down-tilting), similar to the existing horizontal diagram.

Discussion (Question / Comment):
Decision: Document is noted.

R1-083135	On Uplink Evaluation Methodology for LTE – Advanced	Texas Instruments	

The document was presented by Zukang Shen from TI and focuses on simulation assumptions for LTE – Advanced. System simulation assumptions that could be adopted to enable independent evaluations of technologies proposed for LTE-A, and to enable subsequent calibration of final results include dynamic multi – site frequency selective scheduling, link adaptation, mobility through fast fading, traffic models, inaccuracies in CQI and channel estimation, and the handover.

Discussion (Question / Comment): Supported by ZTE as good starting point.
Decision: Document is noted.

R1-083187	Text proposal for evaluation methodology for mobility studies	Qualcomm Europe	

The document was presented by Juan Montojo from Qualcomm and drafts a text proposal for the evaluation methodology for mobility studies in LTE-A, including proposed traffic models for system performance evaluations and metrics.

Discussion (Question / Comment): Mr. Chairman made a general comment that Text proposal shall require agreement before be included in.
Decision: Document is noted.

Support of Wider Bandwidth

R1-082999	Support of the UL/DL asymmetric carrier aggregation	Panasonic	

The document was presented by Akihiko Nishio from Panasonic and discusses the support of asymmetric carrier aggregation in LTE-A system to handle asymmetric DL/UL traffic effectively. The paper also states that it is preferable to signal the "*PUCCH-resource-size*" explicitly in release 8 at least in FDD system to ensure the extensibility of the LTE spec.

Discussion (Question / Comment):
Decision: Document is noted.

Conclusion on LTE-A session

Continue discussion on evaluation methodology over email reflector; aiming at the inclusion of a Text Proposal in the TR at next meeting.

Draft a Text Proposal with the outcomes of the LTE-Advanced session in R1-083363.

Friday 22nd

R1-083363	Update of LTE-A TR	NTT DOCOMO	

The document was presented by Sadayuki Abeta from NTT DoCoMo and proposes a text proposal to be included in TR36.xyz "Further Advancements for E-UTRA Physical Layer Aspects" in order to capture the agreements at RAN1#54.

Discussion (Question / Comment): Reflect the current level of discussions so far.
Alcatel-Lucent suggested some clarification on joint processing/transmission section.
RITT requested the removing of the sentence "signalling may either reflect the same information as shared between cells within the same eNodeB or a restricted subset thereof".
Panasonic requested notifying that Uplink coordinated multi-point reception is expected to have very limited impact on the RAN1 specifications (section 8.2)
Philips suggested some clarification on relaying functionalities in section 9.
Decision: Document is noted and is agreed as R1-083410.

Below set of contributions has not been treated.

R1-082775	Basic structure of relaying under multi-antenna eNB	Mitsubishi Electric	
R1-082776	Uplink Multiple Access for LTE-Advanced	Mitsubishi Electric	
R1-082779	Proposal of inter cell interference coordination scheme	Hitachi, Ltd.	
R1-082780	Proposal of resource management cooperation	Hitachi, Ltd.	
R1-082781	Overhead Reduction for Dynamic Switching of MIMO Modes	Hitachi, Ltd.	
R1-082787	Uplink Multiple Access Scheme for LTE-Advanced	SHARP	
R1-082788	Relay Considerations for LTE - Advanced	SHARP	

R1-082789	Issues on Architecture Alternatives for LTE-Advanced	SHARP	
R1-082803	MU-MIMO for LTE-Advanced	Philips, NXP	
R1-082804	Interference Management for LTE-Advanced	Philips, NXP	
R1-082807	CM Analysis for UL Transmission for LTE-A	InterDigital Communications LLC	
R1-082811	Multi-cell MIMO with distributed inter-cell interference supression for LTE-A uplink	Alcatel Shanghai Bell, Alcatel-Lucent	
R1-082813	M2M Communication	Alcatel-Lucent	
R1-082814	Achieving LTE-Advanced performance targets with MIMO	Alcatel-Lucent	
R1-082816	Discussion on LTE-A MBMS	Alcatel Shanghai Bell, Alcatel-Lucent	
R1-082817	STBC-II Scheme with Non-Paired Symbols for LTE-Advanced Uplink Transmit Diversity	Alcatel Shanghai Bell, Alcatel-Lucent	
R1-082844	Discussion on Multi-user BF for LTE-A	ZTE	
R1-082845	Performance evaluation on some UL SU-MIMO schemes	ZTE	
R1-082846	Spectrum efficiency for wider bandwidth	ZTE	
R1-082847	One Consideration for CoMP in LTE-A	ZTE	
R1-082848	General Control channel design for LTE-A	ZTE	
R1-082851	Considerations on the Usage of the 450MHz～470MHz/ 698MHz～862MHz Bands	ZTE	
R1-082852	Some comments on carrier aggregation in LTE-A	ZTE	
R1-082883	Superposition of Unicast and Broadcast	Samsung	
R1-082884	Discussions on 8-Tx Diversity Schemes in LTE-A Downlink	Samsung	
R1-082885	Discussions on L3 Relay for LTE-A	Samsung	
R1-082887	Codebook based Precoding for 8 Tx Transmission in LTE-A	Samsung	
R1-082888	Carrier aggregation in LTE-A DL	Samsung	
R1-082896	Coordinated multi-cell transmission for LTE-Advanced downlink	ETRI	
R1-082904	On the TDM framing between Home cell and macro cell signals	Spreadtrum Communications	
R1-082906	On the extension to asymmetric transmissions for LTE-advanced	Spreadtrum Communications	
R1-082908	On synchronization signals in Advanced E-UTRA	Spreadtrum Communications	
R1-082941	Consideration on DL-MIMO in LTE-Advanced	LGE	
R1-082942	Network MIMO in LTE-Advanced	LGE	
R1-082943	Uplink MIMO Transmission for LTE-Advanced	LGE	
R1-082944	Consideration on Relaying Frame Structure Design in LTE-A FDD Mode	LGE	
R1-082945	Uplink multiple access schemes for LTE-A	LGE	
R1-082946	Carrier aggregation and control signaling for LTE-A	LGE	
R1-082971	A Technique to Enhance the Cell Edge performance	CATT, RITT	
R1-082972	Enhanced Beamforming Technique for LTE-A	CATT	

R1-082973	Uplink Non-codebook-based Precoding	CATT	
R1-082974	Proposal of multiple sites coordination for LTE-A TDD	CATT	
R1-082976	Combined fixed and adaptive soft-frequency reuse for inter-cell interference coordination	Mitsubishi Electric	
R1-082995	Transport block mapping and PDCCH signaling for carrier aggregation	Panasonic	
R1-082996	Preliminary evaluation on non-contiguous resource allocation and transmission for LTE-Advanced uplink	Panasonic	
R1-082997	Transmit diversity scheme for LTE-Adv uplink	Panasonic	
R1-082998	Precoding consideration on LTE-Adv uplink	Panasonic	
R1-083000	Discussion of the LTE-Advanced only band	Panasonic	
R1-083001	Text proposal of Relaying functionality for TR on LTE-Advanced	Panasonic	
R1-083002	Discussion on the TD Relay and FD relay for FDD system	Panasonic	
R1-083011	Uplink Access Scheme for LTE-Advanced in BW=<20MHz	NEC Group	
R1-083012	Uplink Access Scheme for LTE-Advanced in BW>20MHz	NEC Group	
R1-083015	Updated Views on Support of Wider Bandwidth in LTE-Advanced	NTT DoCoMo	
R1-083016	Views on UL Hybrid Radio Access Scheme in LTE-Advanced	NTT DoCoMo	
R1-083017	Views on UL MIMO Schemes in LTE-Advanced	NTT DoCoMo	
R1-083018	Views on Coordinated Multipoint Transmission/Reception in LTE-Advanced	NTT DoCoMo	
R1-083019	Inter-cell Radio Resource Management for Heterogeneous Network	NTT DoCoMo	
R1-083020	Downlink spectrum utilization in LTE-Advanced	Huawei	
R1-083021	UL 4 TX antennas transmit diversity for LTE-Advanced	Huawei	
R1-083049	Consideration on CoMP for LTE-Advanced	Huawei	
R1-083069	LTE-Advanced – Coordinated Multipoint transmission/reception	Ericsson	
R1-083103	Autonomous component carrier selection for LTE-Advanced	Nokia Siemens Networks, Nokia	
R1-083106	Simulation Requirements to Support Spectrum Aggregation for LTE-Advanced	CHTTL	
R1-083109	Proposal for detailing the Skeleton of LTE Advanced TR	Alcatel-Lucent	
R1-083110	MIMO and CQI-Techniques for LTE-Advanced	Alcatel-Lucent	
R1-083111	System Simulation Evaluation for Link from eNode-B to RN	Fujitsu	
R1-083112	System Simulation Methodology – IR-HARQ Combining	Fujitsu	
R1-083113	DL System Level Performance Comparison between 2GHz and 3.5GHz for Advanced E-UTRA	Fujitsu	
R1-083114	On sub-carrier spacing	Fujitsu	
R1-083115	Discussion on DL coordinated multipoint transmission	Fujitsu	
R1-083116	PAPR of UL access schemes	Fujitsu	
R1-083133	Impact of Higher Carrier Frequencies onto the Uplink of LTE – A	Texas Instruments	
R1-083134	On Uplink Macro-diversity for LTE – Advanced	Texas Instruments	

R1-083136	Further analysis on UL SU-MIMO for E-UTRA	Texas Instruments	
R1-083137	Aspects of Cooperative MIMO for Advanced E-UTRA	Texas Instruments	
R1-083150	Consideration on Transmit diversity for PUSCH in LTE-A	Nortel	
R1-083151	Differential codebook feedback scheme for LTE-A	Nortel	
R1-083152	DL CL-MIMO optimization for nomadic UE	Nortel	
R1-083153	LTE-A downlink 8x8 MIMO performance evaluaiton	Nortel	
R1-083155	On different relay schemes for LTE-A	Nortel	
R1-083156	Opportunistic space time multiple access for LTE-Advanced	Nortel	
R1-083157	RS design consideration for high-order MIMO in LTE-A	Nortel	
R1-083159	Transmit diversity for PUCCH in LTE-A	Nortel	
R1-083188	Text proposal for evaluation methodology for heterogeneous deployments	Qualcomm Europe	
R1-083189	Advantages of synchronous network operation	Qualcomm Europe	
R1-083190	New interference scenarios in LTE-A	Qualcomm Europe	
R1-083191	Operation of relays in LTE-A	Qualcomm Europe	
R1-083193	Carrier aggregation operation in LTE-A	Qualcomm Europe	
R1-083194	Studies of different waveforms for the UL of LTE-A	Qualcomm Europe	
R1-083195	Range expansion for efficient support of heterogeneous networks	Qualcomm Europe	
R1-083196	Serving cell association in heterogeneous networks	Qualcomm Europe	
R1-083198	Uplink transmit diversity schemes with low cubic metric for LTE-Advanced	Mitsubishi Electric	
R1-083205	Application of L2 Relay in an Interference Limited Environment for LTE-A	InterDigital Communications LLC	
R1-083224	Common Reference Symbol Mapping/Signaling for 8 Transmit Antennas	Motorola	
R1-083225	Spectrum Aggregation Scenarios for LTE-Advanced	Motorola	
R1-083226	Approaches to Assess Uplink Transmission Enhancement for LTE-Advanced	Motorola	
R1-083227	Uplink Multiple Antenna Schemes for LTE-Advanced	Motorola	
R1-083228	Downlink Multiple Antenna Schemes for LTE-Advanced	Motorola	
R1-083232	Carrier Aggregation for LTE-A e-NodeB issues	Motorola	
R1-083233	Video Services over LTE-A	Motorola	
R1-083236	DL Coordinated Beam Switching for Interference management in LTE-A	Huawei	
R1-083239	ICIC with Multi-site MIMO	Mitsubishi Electric	
R1-083241	Joint SM with TAS for LTE-A uplink	Alcatel Shanghai Bell, Alcatel-Lucent	
R1-083244	Feedback and Precoding Techniques for MU-MIMO	NXP, Philips	
R1-083245	On the terminal capabilities of IMT-Advanced	Spreadtrum Communications	
R1-083246	Exploiting the potentials of TDD schemes for IMT-Advanced	Spreadtrum Communications	
R1-083324	Consideration on Uplink Multiple Access for LTE-Advanced	ZTE	(R1-082833)

13. Closing of the meeting

RAN1 Chairman, Mr. Dirk Gerstenberger expressed his appreciation to Samsung for hosting the meeting and organizing social events during the week and to the delegates for their hard working effort.

The meeting was closed at 17:00.

Annex A: List of participants at RAN1 #54

Please see excel file attached to this report

Annex B: TSG RAN WG1 meetings in 2008/2009

TITLE	TYPE	DATES	LOCATION	CTRY
3GPPRAN1#54bis	WG	29/09 – 3 Oct 2008	Prague	CZ
3GPPRAN1#55	WG	10 – 14 Nov 2008	Prague	CZ
TITLE	TYPE	DATES	LOCATION	CTRY
3GPPRAN1#55bis	WG	12 – 16 Jan 2009	Ljubljana	SV
3GPPRAN1#56	WG	09 – 13 Feb 2009	Athens	GR
3GPPRAN1#56bis	WG	23 – 27 March 2009	TBD	KR
3GPPRAN1#57	WG	04 – 08 May 2009	TBD	US
3GPPRAN1#57bis	WG	29/06 – 3 July 2009	TBD	US
3GPPRAN1#58	WG	24 – 28 Aug 2009	TBD	China
3GPPRAN1#58bis	WG	12 – 16 Oct 2009	Miyazaki	JP
3GPPRAN1#59	WG	9 – 13 Nov 2009	TBD	KR

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#54

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
25.211	256	2	Rel-8	Introduction of the Enhanced Uplink for CELL_FACH state	B	8.1.0	R1-083441	RANimp-UplinkEnhState
25.211	257	1	Rel-8	Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers	B	8.1.0	R1-083395	RANimp-DCHSDPA
25.212	267	1	Rel-8	Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers	B	8.2.0	R1-083396	RANimp-DCHSDPA
25.212	270	2	Rel-8	Introduction of HS-PDSCH Serving Cell Change Enhancements	B	8.2.0	R1-083329	RANimp-HSDSCH
25.212	271	-	Rel-7	Correction to the table name and the quoted name	F	7.8.0	R1-083071	EDCH-Phys
25.212	272	-	Rel-8	Correction to the table name and the quoted name	A	8.2.0	R1-083072	EDCH-Phys
25.212	490	1	Rel-8	Introduction of the Enhanced Uplink for CELL_FACH state	B	8.2.0	R1-083442	RANimp-UplinkEnhState
25.213	95	1	Rel-8	Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers	B	8.1.0	R1-083397	RANimp-DCHSDPA
25.213	97	2	Rel-7	Restricted Beta Factor Combinations for EUL	F	7.5.0	R1-083436	RANimp-16QamUplink
25.213	98	-	Rel-8	Restricted Beta Factor Combinations for EUL	A	8.1.0	R1-083437	RANimp-16QamUplink
25.214	497	1	Rel-8	Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers	B	8.2.0	R1-083398	RANimp-DCHSDPA
25.214	498	3	Rel-8	Introduction of HS-PDSCH Serving Cell Change Enhancements	B	8.2.0	R1-083330	RANimp-HSDSCH
25.215	192	-	Rel-8	Modification of RSRP definition	F	8.1.0	R1-083199	LTE-Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
25.221	158	-	Rel-5	Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	F	5.6.0	R1-082854	HSDPA-Phys
25.221	159	-	Rel-6	Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	A	6.5.0	R1-082855	HSDPA-Phys
25.221	160	-	Rel-7	Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	A	7.7.0	R1-082856	HSDPA-Phys
25.221	161	-	Rel-8	Modification of the timing requirement between HS-SCCH and HS-PDSCH for 1.28Mcps TDD	A	8.1.0	R1-082857	HSDPA-Phys
25.221	162	-	Rel-7	Correction on the time slot format for LCR TDD MBSFN	F	7.7.0	R1-082947	MBMSE-RANPhysLCRTDD
25.221	163	-	Rel-8	Correction on the time slot format for LCR TDD MBSFN	A	8.1.0	R1-082948	MBMSE-RANPhysLCRTDD
25.222	151	1	Rel-8	Clarification on E-HICH coding for 1.28Mcps TDD	A	8.1.0	R1-083314	LCRTDD-EDCH-Phys
25.222	152	1	Rel-7	Clarification of E-UCCH Number indicator on E-AGCH for 1.28Mcps TDD	F	7.7.0	R1-083316	LCRTDD-EDCH-Phys
25.222	153	1	Rel-8	Clarification of E-UCCH Number indicator on E-AGCH for 1.28Mcps TDD	A	8.1.0	R1-083317	LCRTDD-EDCH-Phys
25.222	154	-	Rel-8	Clarification of TRRI on E-AGCH for 1.28Mcps TDD EUL	A	8.1.0	R1-082949	LCRTDD-EDCH-Phys
25.222	155	-	Rel-8	Correction of E-HICH coding for 1.28 Mcps TDD EUL	A	8.1.0	R1-082950	LCRTDD-EDCH-Phys
25.222	156	-	Rel-7	Clarification on E-HICH coding for 1.28Mcps TDD	F	7.7.0	R1-083315	LCRTDD-EDCH-Phys
25.224	185	4	Rel-7	HS-SCCH and HS-SICH power control clarification for 1.28Mcps TDD	F	7.7.0	R1-083318	LCRTDD-EDCH-Phys
25.224	186	4	Rel-8	HS-SCCH and HS-SICH power control clarification for 1.28Mcps TDD	A	8.0.0	R1-083319	LCRTDD-EDCH-Phys
25.224	187	-	Rel-8	Use of Special Bursts for DTX on MBSFN FACH in 1.28 Mcps TDD	A	8.0.0	R1-082782	TEI7

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
25.224	188	-	Rel-8	Correction of E-PUCH power control for 1.28 Mcps TDD EUL	A	8.0.0	R1-082951	LCRTDD-EDCH-Phys
25.224	190	1	Rel-8	Clarification of the E-AGCH monitoring for 1.28Mcps TDD EUL	A	8.0.0	R1-083282	LCRTDD-EDCH-Phys
25.224	191	-	Rel-7	Correction of UpPCHPOS bit number in subclause 5.2.7	F	7.7.0	R1-092954	LCRTDD-EDCH-Phys
25.224	192	-	Rel-8	Correction of UpPCHPOS bit number in subclause 5.2.7	A	8.0.0	R1-092955	LCRTDD-EDCH-Phys
25.224	193	-	Rel-8	EUL power control clarification for 1.28Mcps TDD	A	8.0.0	R1-082892	LCRTDD-EDCH-Phys
25.224	194	1	Rel-8	EUL power control improvement for 1.28Mcps TDD	A	8.0.0	R1-083320	LCRTDD-EDCH-Phys
25.225	89	-	Rel-8	E-UTRA measurements for UTRA TDD – E-UTRA interworking	F	8.0.0	R1-082970	LTE-Phys
36.211	48	1	Rel-8	Frequency Shifting of UE-specific RS	F	8.3.0	R1-083087	LTE-Phys
36.211	49	1	Rel-8	Correction of PHICH to RE mapping in extended CP subframe	F	8.3.0	R1-083406	LTE-Phys
36.211	50	-	Rel-8	Corrections to for handling remaining Res	F	8.3.0	R1-082913	LTE-Phys
36.211	51	-	Rel-8	PRACH configuration for frame structure type 1	F	8.3.0	R1-082977	LTE-Phys
36.211	52	2	Rel-8	Correction of PUCCH index generation formula	F	8.3.0	R1-082915	LTE-Phys
36.211	53	-	Rel-8	Orthogonal cover sequence for shortened PUCCH format 1a and 1b	F	8.3.0	R1-083345	LTE-Phys
36.211	54	-	Rel-8	Correction of mapping of ACK/NAK to binary bit values	F	8.3.0	R1-082914	LTE-Phys
36.211	56	2	Rel-8	Remaining issues on SRS hopping	F	8.3.0	R1-083334	LTE-Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.211	57	1	Rel-8	Correction of n_cs(n_s) and OC/CS remapping for PUCCH formats 1/1a/1b and 2/2a/2b	F	8.3.0	R1-083118	LTE-Phys
36.211	59	-	Rel-8	Corrections to Rank information scrambling in Uplink Shared Channel	F	8.3.0	R1-082863	LTE-Phys
36.211	60	-	Rel-8	Definition on the slot number for frame structure type 2	F	8.3.0	R1-082969	LTE-Phys
36.211	61	-	Rel-8	Correction of the Npucch sequence upper limit for the formats 1/1a/1b	F	8.3.0	R1-083007	LTE-Phys
36.211	62	1	Rel-8	Clarifications for DMRS parameters	F	8.3.0	R1-083374	LTE-Phys
36.211	63	-	Rel-8	Correction of n_prs	F	8.3.0	R1-083053	LTE-Phys
36.211	64	1	Rel-8	Introducing missing L1 parameters to 36.211	F	8.3.0	R1-083392	LTE-Phys
36.211	65	3	Rel-8	Clarification on reception of synchronizaiton signals	F	8.3.0	R1-083460	LTE-Phys
36.211	66	-	Rel-8	Correction to the downlink/uplink timing	F	8.3.0	R1-083304	LTE-Phys
36.211	67	-	Rel-8	ACK/NACK Scrambling scheme on PUCCH	F	8.3.0	R1-083335	LTE-Phys
36.211	68	-	Rel-8	DCI format1C	F	8.3.0	R1-083341	LTE-Phys
36.211	69	-	Rel-8	Refinement for REG Definition for n = 4	F	8.3.0	R1-083358	LTE-Phys
36.211	71	-	Rel-8	Correcting Ncs value for PRACH preamble format 0-3	F	8.3.0	R1-083388	LTE-Phys
36.211	73	-	Rel-8	Correction of the half duplex timing advance offset value	F	8.3.0	R1-083380	LTE-Phys
36.211	74	-	Rel-8	Correction to Precoding for Transmit Diversity	F	8.3.0	R1-083402	LTE-Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.211	75	-	Rel-8	Clarification on number of OFDM symbols used for PDCCH	F	8.3.0	R1-083404	LTE-Phys
36.211	77	-	Rel-8	Number of antenna ports for PDSCH	F	8.3.0	R1-083428	LTE-Phys
36.211	78	-	Rel-8	Correction to Type 2 PUSCH predetermined hopping for Nsb=1 operation	F	8.3.0	R1-083434	LTE-Phys
36.211	79	-	Rel-8	PRACH frequency location	F	8.3.0	R1-083443	LTE-Phys
36.212	28	-	Rel-8	Correction of mapping of ACK/NAK to binary bit values	F	8.3.0	R1-082925	LTE-Phys
36.212	33	2	Rel-8	Corrections to DCI formats	F	8.3.0	R1-083331	LTE-Phys
36.212	35	1	Rel-8	Format 1B confirmation flag	F	8.3.0	R1-083444	LTE-Phys
36.212	36	-	Rel-8	Corrections to Rank information scrambling in Uplink Shared Channel	F	8.3.0	R1-082864	LTE-Phys
36.212	37	2	Rel-8	Clarification of TPC commands signaled in DCI formats 3/3A	F	8.3.0	R1-083351	LTE-Phys
36.212	38	-	Rel-8	Clarification on UE transmit antenna selection mask	F	8.3.0	R1-082866	LTE-Phys
36.212	39	1	Rel-8	Linking of control resources in PUSCH to data MCS	F	8.3.0	R1-083343	LTE-Phys
36.212	41	-	Rel-8	Definition of Bit Mapping for DCI signalling	F	8.3.0	R1-083327	LTE-Phys
36.212	42	1	Rel-8	Clarification on resource allocation in DCI format 1/2/2A	F	8.3.0	R1-083418	LTE-Phys
36.212	43	-	Rel-8	DCI Format 1A changes needed for scheduling Broadcast Control	F	8.3.0	R1-083457	LTE-Phys
36.212	44	-	Rel-8	DCI format1C	F	8.3.0	R1-083342	LTE-Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.212	45	-	Rel-8	Miscellaneous corrections	F	8.3.0	R1-083352	LTE-Phys
36.212	46	-	Rel-8	Correction on downlink multi-user MIMO	F	8.3.0	R1-083419	LTE-Phys
36.212	47	-	Rel-8	Corrections to DL DCI Formats In case of Ambiguous Payload Sizes	F	8.3.0	R1-083421	LTE-Phys
36.212	48	-	Rel-8	CR for RE provisioning for the control information in case of CQI-only transmission on PUSCH	F	8.3.0	R1-083423	LTE-Phys
36.212	91	2	Rel-8	Coding and multiplexing of multiple ACK/NACK in PUSCH	F	8.3.0	R1-083461	LTE-Phys
36.213	39	2	Rel-8	Clarification on uplink power control	F	8.3.0	R1-083284	LTE-Phys
36.213	43	2	Rel-8	Clarification on tree structure of CCE aggregations	F	8.3.0	R1-082869	LTE-Phys
36.213	46	2	Rel-8	Correction of the description of PUCCH power control for TDD	F	8.3.0	R1-083297	LTE-Phys
36.213	47	1	Rel-8	Removal of CR0009	F	8.3.0	R1-083058	LTE-Phys
36.213	48	1	Rel-8	Correction of mapping of cyclic shift value to PHICH modifier	F	8.3.0	R1-082939	LTE-Phys
36.213	51	-	Rel-8	Completion of the table specifying the number of bits for the periodic feedback	F	8.3.0	R1-082868	LTE-Phys
36.213	54	-	Rel-8	Clarification of RNTI for PUSCH/PUCCH power control with DCI formats 3/3A	F	8.3.0	R1-082872	LTE-Phys
36.213	55	1	Rel-8	Clarification on mapping of Differential CQI fields	F	8.3.0	R1-083311	LTE-Phys
36.213	59	1	Rel-8	PUSCH Power Control	D	8.3.0	R1-083286	LTE-Phys
36.213	60	-	Rel-8	RB restriction and modulation order for CQI-only transmission on PUSCH	F	8.3.0	R1-082985	LTE-Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.213	61	-	Rel-8	Modulation order determination for uplink retransmissions	F	8.3.0	R1-082986	LTE-Phys
36.213	62	2	Rel-8	Introducing missing L1 parameters into 36.213	F	8.3.0	R1-083427	LTE-Phys
36.213	63	2	Rel-8	Correcting the range and representation of delta_TF_PUCCH	F	8.3.0	R1-083430	LTE-Phys
36.213	64	1	Rel-8	Adjusting TBS sizes to for VoIP	F	8.3.0	R1-083367	LTE-Phys
36.213	67	-	Rel-8	Correction to the downlink resource allocation	F	8.3.0	R1-083279	LTE-Phys
36.213	68	-	Rel-8	Removal of special handling for PUSCH mapping in PUCCH region	F	8.3.0	R1-083281	LTE-Phys
36.213	69	-	Rel-8	Correction to the formulas for uplink power control	F	8.3.0	R1-083283	LTE-Phys
36.213	70	1	Rel-8	Definition of Bit Mapping for DCI Signalling	F	8.3.0	R1-083448	LTE-Phys
36.213	71	-	Rel-8	Clarification on PUSCH TPC commands	F	8.3.0	R1-083287	LTE-Phys
36.213	72	1	Rel-8	Reference for CQI/PMI Reporting Offset	F	8.3.0	R1-083310	LTE-Phys
36.213	74	-	Rel-8	Correction to the downlink/uplink timing	F	8.3.0	R1-083306	LTE-Phys
36.213	75	-	Rel-8	Correction to the time alignment command	F	8.3.0	R1-083307	LTE-Phys
36.213	77	1	Rel-8	Correction of offset signalling of UL Control information MCS	F	8.3.0	R1-083356	LTE-Phys
36.213	78	2	Rel-8	DCI format1C	F	8.3.0	R1-083445	LTE-Phys
36.213	80	-	Rel-8	Correction to Precoder Cycling for Open-loop Spatial Multiplexing	F	8.3.0	R1-083373	LTE-Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.213	81	1	Rel-8	Clarifying Periodic CQI Reporting using PUCCH	F	8.3.0	R1-083426	LTE-Phys
36.213	84	1	Rel-8	CQI reference measurement period	F	8.3.0	R1-083438	LTE-Phys
36.213	86	-	Rel-8	Correction on downlink multi-user MIMO	F	8.3.0	R1-083420	LTE-Phys
36.213	87	-	Rel-8	PUCCH Reporting	F	8.3.0	R1-083425	LTE-Phys
36.213	88	1	Rel-8	Handling of Uplink Grant in Random Access Response	F	8.3.0	R1-083439	LTE-Phys
36.213	89	-	Rel-8	Correction to UL Hopping operation	F	8.3.0	R1-083435	LTE-Phys
36.213	90	-	Rel-8	DRS EPRE	F	8.3.0	R1-083446	LTE-Phys
36.213	92	-	Rel-8	Uplink ACK/NACK mapping for TDD	F	8.3.0	R1-083449	LTE-Phys
36.213	93	-	Rel-8	UL SRI Parameters Configuration	F	8.3.0	R1-083451	LTE-Phys
36.213	94	-	Rel-8	Miscellaneous updates for 36.213	F	8.3.0	R1-083453	LTE-Phys
36.213	95	-	Rel-8	Clarifying Requirement for Max PDSCH Coding Rate	F	8.3.0	R1-083455	LTE-Phys
36.213	96	-	Rel-8	UE Specific SRS Configuration	F	8.3.0	R1-083456	LTE-Phys
36.213	97	-	Rel-8	DCI Format 1A changes needed for scheduling Broadcast Control	F	8.3.0	R1-083458	LTE-Phys
36.213	98	-	Rel-8	Processing of TPC bits in the random access response	F	8.3.0	R1-083462	LTE-Phys
36.213	100	1	Rel-8	Support of multi-bit ACK/NAK transmission in TDD	F	8.3.0	R1-083466	LTE-Phys

Annex D: List of Outgoing LSs from RAN1#54

R1	Response to (lc LS)	To	Cc	Title	Contact	Ref'd /Attachd Tdoc	Release	WI
R1-083273		R2	R4	LS on TBS table and UL TTI bundling adjustments	Ericsson	R1-082719, R1-082720, R1-083068	Rel-8	LTE-Phys
R1-083272	R1-082773 (R2-083785)	R2	R3	LS on additional RSRP trigger for ICIC	Ericsson		Rel-8	LTE
R1-083364		R2, R5	R4	LS on Consequence analysis of Low/ Medium features in LTE Rel-8	NTT DoCoMo	R1-083350	Rel-8	LTE
R1-083365		R2	R4	LS on PRACH preamble power offset	LGE		Rel-8	LTE
R1-083424		R2, R4	R3	LS on CSG cell identification	Qualcomm	R1-083366	Rel-8	LTE
R1-083416		R2		LS on PDCCH DCI format 1C	LGE		Rel-8	LTE-L23
R1-083431	R1-082772 (R2-083779)	R2		LS Reply to Uplink grant format in Random Access Response	Qualcomm	R1-083439	Rel-8	LTE-L23
R1-083432	R1-082281 (R2-082893) R1-082278 (R2-082885)	R2		LS Response to LS on information about new PDCCH Format 1C and LS on SI Scheduling	Motorola, Qualcomm		Rel-8	LTE-L23
R1-083440		R2, R3		LS on Improved EUL power control at UE power limitation	Ericsson	R1-083023	Rel-8	TEI8

R1-083450		R2		LS on UL SRI Parameters Configuration	CATT		Rel-8	LTE-Phys
R1-083452		R2, R4		LS on timing adjustment	LGE, Panasonic	R1-083304, R1-083307	Rel-8	LTE
R1-083454		R2	R4	LS on measurement gap	Panasonic	R1-082993	Rel-8	LTE
R1-083429		R2	R4	LS reply on considerations on transport block sizes for VoIP	Ericsson	R1-083367	Rel-8	LTE-Phys
R1-083465		R2	R4	LS on support of TDD ACK/NACK multiplexing in Rel-8	Texas Instruments		Rel-8	LTE

Annex E: List of Tdocs at RAN1 #54

Please see excel file attached to this report

Annex F: List of actions

1. Outgoing LS.

LTE 54/2

R1-083267	DRAFT LS Reply to Uplink grant format in Random Access Response	Qualcomm	

LS is for email approval until 28/08.

Done: Final LS is agreed in R1-083431 (referring to Mr. Chairman's email dated August 29th)

LTE 54/3

R1-083257	Draft LS Response to LS on information about new PDCCH Format 1C and LS on SI Scheduling	Motorola	(R1-083214)

LS is for email approval. Deadline must be checked with Mr. Chairman.

Done: Final LS is agreed in R1-083432 (referring to Mr. Chairman's email dated August 29th)

HSPA 54/2

R1-083394	Draft LS on Improved EUL power control at UE power limitation	Ericsson	

LS is for email approval. Deadline must be checked with Mr. Chairman.

Done: Final LS is agreed in R1-083440 (referring to Mr. Chairman's email dated September 1st)

LTE 54/25

R1-083299	Draft LS on UL SRI Parameters Configuration	CATT	R1-083450

LS is for email approval until 28/08.

Done: Final LS is agreed in R1-083450 (referring to Mr. Chairman's email dated August 29th)

LTE 54/29

R1-083308	[Draft] LS on timing adjustment	LGE	R1-083452

LS is for email approval until 28/08.

Done: Final LS is agreed in R1-083452 (referring to Mr. Chairman's email dated August 29th)

LTE 54/33

R1-083309	[Draft] LS on measurement gap	Panasonic	(R1-082993) R1-083454

LS is for email approval until 28/08.

Done: Final LS is agreed in R1-083454 (referring to Mr. Chairman's email dated September 4th)

2. CR approval

LTE 54/1

R1-083266	Handling of Uplink Grant in Random Access Response	Qualcomm	

CR is under email approval until 28/08.

Done: CR0088R1 in R1-083439 is agreed (referring to Mr. Chairman's email dated September 3rd)

HSPA 54/1

R1-083393	25.213 CR0097r1 (Rel-7, F) Restricted Beta Factor Combinations for EUL	Ericsson	(R1-083022)

CR is under email approval until 28/08.

Done: CR0097R2 in R1-083436 including the Rel8 shadow CR0098 in R1-083437 are agreed (referring to Mr. Chairman's email dated September 1st)

LTE 54/7

R1-083406	36.211 CR0049R1 (Rel-8, F) Correction of PHICH to RE mapping in extended CP subframe	LGE, NEC, Nortel, Samsung	(R1-082912)

CR is under email approval until 28/08.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/4

R1-083255	Draft CR on PRACH resource placement	Ericsson, Nokia, Nokia Siemens Networks, ZTE	
R1-083202	Definition of PRACH frequency position	LG Electronics	R2-083298

CR on PRACH frequency position is under email approval until 28/08.

Done: CR0079 in R1-083443 is agreed (referring to Mr. Chairman's email dated September 1st)

LTE 54/5

R1-083391	36.211 CR0065R2 (Rel-8, F) Clarification on reception of synchronization signals	Ericsson	(R1-083387)

CR is under email approval until 28/08.

Done: CR0065R3 in R1-083460 is agreed (referring to Mr. Chairman's email dated September 5th)

LTE 54/6

R1-083392	36.211 CR0064R1 (Rel-8, F) Introducing missing parameters into 36.211	Ericsson	(R1-083054)

CR is under email approval until 28/08.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/8

R1-083332	36.212 CR0043 (Rel-8, F) DCI Format 1A	Motorola	(R1-083209)

CR is for email approval until Thursday 28th August.

Done: CR0043 in R1-083457 (TS 36.212) and CR0097 in R1-083458 are agreed (referring to Mr. Chairman's email dated September 2nd)

LTE 54/9

R1-083357	36.213 CR0079 (Rel-8, F) CQI reporting for antenna port 5	Ericsson, Texas Instruments, NTT DoCoMo, Nokia, Nokia Siemens Networks, CATT	
R1-083414	36.213 CR0085 (Rel-8, F) CQI report for transmission mode 7	Samsung, Qualcomm, LGE, Nortel	

Decide over email reflector until Thursday 04/09 (moderator: Qualcomm) whether to approve R1-083357 or R1-083414.

Decision: No agreement. Discussion shall continue to find a common ground until the next meeting.

LTE 54/39

R1-082795	CQI reference measurement period	Philips, NXP, Ericsson, Panasonic	

CR was agreed but may be further improved.

Done: CR0084R1 in R1-083438 superseding R1-082795 is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/10

R1-083359	Draft CR on miscellaneous update in 36.213	Texas Instruments, Motorola, CATT	(R1-083130)

CR is for email approval until Thursday 28th August.

Done: CR0094 in R1-083453 is agreed (referring to Mr. Chairman's email dated September 1st)

LTE 54/14

R1-083175	Power setting of MSG3 of RACH procedure	Qualcomm Europe	

Discussion shall continue.

Done: CR0098 in R1-083462 is agreed (referring to Mr. Chairman's email dated September 4th)

LTE 54/12

R1-083279	36.213 CR0067 (Rel-8, F) Correction to the downlink resource allocation	LGE, NEC, Alcatel Lucent, Motorola, Samsung	(R1-082928)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated September 1st)

In addition, CR0078 rev 2 in R1-083445 on DCI format 1C supersedes the already agreed rev 1 in R1-083360 and consequently, is also agreed (referring to Mr. Chairman's email dated September 1st).

LTE 54/13

R1-083281	36.213 CR0068 (Rel-8, F) Removal of special handling of PUSCH mapping	Ericsson, Qualcomm, Nokia, Nokia Siemens Networks, Motorola, Samsung, NEC , Panasonic, Huawei, LGE	

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/15

R1-082785	Issue with the value range of P_A	SHARP	

CR is for email approval until Thursday 28th August.

Done: CR is not agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/16

R1-083382	Draft CR 36.213 on DRS EPRE	Motorola, Texas Instruments	(R1-083262)

CR is for email approval until Thursday 28th August.

Done: CR0090 in R1-083446 is agreed (referring to Mr. Chairman's email dated September 1st)

LTE 54/17

R1-083283	36.213 CR0069 (Rel-8, F) Correction to the uplink power control	LGE, Samsung, Philips	(R1-082933)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/18

R1-083285	36.213 CR0070 (Rel-8, F) Definition of Bit Mapping for DCI signalling	Nokia Siemens Networks, Nokia, LGE, NEC	(R1-082932)

CR is for email approval until Thursday 28th August.

Done: CR0070R1 in R1-083448 is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/19

R1-083286	36.213 CR0059R1 (Rel-8, D) PUSCH Power Control	CATT	(R1-082968)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/20

R1-083287	36.213 CR0071 (Rel-8, F) Clarification on PUSCH TPC commands	NEC Group, LGE	(R1-083005)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/21

R1-083091	PUSCH Error Case Handling for ACK/NACK Bundling in LTE TDD	Nokia, Nokia Siemens Networks	

Linked to LTE 54/37

LTE 54/22

R1-083294	36.213 CR0073 (Rel-8, F) A/N transmission in TDD	Motorola	(R1-083221)

CR is for email approval until Thursday 28th August.

Done: CR is not agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/23

R1-083295	36.213 Draft CR (Rel-8, F) Support of multi-bit ACK/NAK transmission in TDD	TI, CMCC	

CR is for email approval until Thursday 28th August.

Done: CR0100R1 in R1-083466 is agreed (referring to Mr. Chairman's email dated September 5th)

LTE 54/24

R1-083296	36.213 Draft CR (Rel-8, F) Uplink ACK/NACK mapping for TDD	Huawei,CATT, CMCC, Nokia,Nokia Siemens Network, Texas Instruments	R1-083449

CR is for email approval until Thursday 28th August.

Done: CR0092 in R1-083449 is agreed (referring to Mr. Chairman's email dated September 2nd)

LTE 54/27

R1-083297	36.213 CR0046R2 (Rel-8, F) Correction of the description of PUCCH power control for TDD	Nokia, Nokia Siemens Networks	(R1-083092)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/28

R1-083375	Way forward on UE specific SRS configuration	Texas Instruments, Samsung, CATT, RITT, ZTE, Qualcomm, CMCC, Huawei	(R1-083121)
R1-083376	Draft CR on UE Specific SRS Configuration	Texas Instruments, Huawei, Samsung, CATT, ZTE, RITT	

Way forward and CR are for email approval until Thursday 28th August.

Done: CR0096 in R1-083456 is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/26

R1-083300	36.213 Draft CR (Rel-8, F) UL SRI Parameters Configuration	CATT, RITT, Texas Instruments, Nokia, Nokia Siemens Networks	R1-083451

CR is for email approval until Thursday 28th August.

Done: CR0093 in R1-083451 is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/31

R1-083304	36.211 CR0066 (Rel-8, F) Correction to the downlink/uplink timing	LGE, Panasonic, Ericsson	(R1-082916)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/30

R1-083306	36.213 CR0074 (Rel-8, F) Correction to the downlink/uplink timing	LGE, Panasonic, Ericsson	(R1-082934)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/32

R1-083307	36.213 CR0075 (Rel-8, F) Correction to the time alignment command	LGE, Panasonic, Ericsson	(R1-082935)

CR is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/34

R1-083274	36.213 Draft CR Clarifying Requirement for Max PDSCH Coding Rate	Qualcomm	

CR is for email approval until Thursday 28th August.

Done: CR0095 in R1-083455 is agreed (referring to Mr. Chairman's email dated August 29th)

HSPA 54/3

R1-083399	25.214 CR0497r2 (Rel-8, B) "Introduction of Dual-Cell HSDPA Operation on Adjacent Carriers"	Ericsson, Huawei, Nokia, Nokia Siemens Networks, Philips, Qualcomm Europe	(R1-083398)

CR is for email approval until Monday 1st September.

Done: CR is not agreed (referring to Mr. Chairman's email dated September 1st)

LTE 54/35

R1-083369	Draft Reply LS on considerations on transport block sizes for VoIP	Ericsson	

LS is for email approval until 28/08.

Done: Final LS is agreed in R1-083429 (referring to Mr. Chairman's email dated August 28th)

LTE 54/36

R1-083377	Draft LS on support of TDD ACK/NACK multiplexing in Rel-8	Texas Instruments	

LS is for email approval until 04/09.

Done: Final LS is agreed in R1-083465 (referring to Mr. Chairman's email dated September 5th)

LTE 54/37

R1-083417	Way Forward on TDD ACK/NACK on PUSCH	Ericsson, Huawei, CATT, CMCC, LGE, Motorola, Nokia, Nokia Siemens Networks, Qualcomm, Samsung,Texas Instruments, ZTE	

Done: Way forward is agreed and CR0091R2 for 36.212 is agreed in R1-083461 (referring to Mr. Chairman's email dated August 29th)

LTE 54/38

R1-083426	36.213 CR0081R1 (Rel-8, F) Clarifying UE-selected subband CQI report on PUCCH	Qualcomm Europe	

New CR superseding the agreed CR in R1-083379 is for email approval until Thursday 28th August.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/40

R1-083368	36.213 CR0063R1 (Rel-8, F) Correcting the range and representation of delta_TF_PUCCH	Ericsson	(R1-083060)

CR is for email approval until 28/08.

Done: CR0063R2 is agreed in R1-083430 (referring to Mr. Chairman's email dated August 28th)

LTE 54/41

R1-083361	36.213 draft CR for Correction to UL Hopping operation	Huawei	

CR is for email approval until 28/08.

Done: CR0078 (TS 36.211) in R1-083434 and CR0089 (TS 36.213) in R1-083435 are agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/42

R1-083059	36.213 CR0062 (Rel-8, F) Introducing missing parameters into 36.213	Ericsson	

CR is for email approval until 28/08.

Done: CR0062R2 is agreed in R1-083427 (referring to Mr. Chairman's email dated September 1st)

LTE 54/43

R1-083058	36.213 CR0047R1 (Rel-8, F) Removal of CR0009	Ericsson	

CR is for email approval until 28/08.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/44

R1-083380	36.211 CR0073 (Rel-8, F0 Correction of the half duplex timing advance offset	Ericsson	

CR is for email approval until 28/08.

Done: CR is agreed (referring to Mr. Chairman's email dated August 29th)

LTE 54/46

R1-082736	36.212 CR0035 (Rel-8, F) PDCCH format 1B	Qualcomm Europe	

CR is for email approval until 28/08.

Done: CR0035R1 is agreed in R1-083444 (referring to Mr. Chairman's email dated August 29th)

LTE 54/47

R1-083004	Number of antenna ports for PDSCH	NEC Group	

CR is for email approval until 28/08.

Done: CR0077 (TS 36.211) is agreed in R1-083428 (referring to Mr. Chairman's email dated August 29th)

3. Text proposal for TS and TR

None

Appendix C

3GPP_TSG_RAN_WG1 Archives
August 2008, Week 2

3GPP_TSG_RAN_WG1@LIST.ETSI.ORG

Options: Use Proportional Font
Show Text Part by Default
Show All Mail Headers

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

Subject:	Panasonic contributions for RAN1#54 - batch 2
From:	"HOSHINO, Masayuki" <hoshino.masayuki@JP.PANASONIC.COM>
Reply To:	HOSHINO, Masayuki
Date:	Wed, 13 Aug 2008 00:58:30 +0900
Content-Type:	multipart/mixed
Parts/Attachments:	text/plain (1021 bytes) , R1-082988.zip (77 kB) , R1-082992.zip (11 kB) , R1-082995.zip (25 kB) , R1-082997.zip (68 kB) , R1-082998.zip (81 kB) , R1-082999.zip (58 kB) , R1-083000.zip (24 kB) , R1-083001.zip (89 kB) , R1-083002.zip (54 kB) , R1-082989.zip (24 kB)

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Dear all,

Please find attached Panasonic contributions (batch 2) for RAN1#54.

R1-082988       Treatment of CQI-only in HARQ procedure Panasonic       6.3
R1-082989       RNTI assignment Panasonic       6.3
R1-082992       PUSCH control information offset for CQI only   Panasonic
6.3
R1-082995       Transport block mapping and PDCCH signaling for carrier
aggregation     Panasonic       12
R1-082997       Transmit diversity scheme for LTE-Adv uplink    Panasonic
12
R1-082998       Precoding consideration on LTE-Adv uplink       Panasonic
12
R1-082999       Support of the UL/DL asymmetric carrier aggregation
Panasonic       12
R1-083000       Discussion of the LTE-Advanced only band        Panasonic
12
R1-083001       Text proposal of Relaying functionality for TR on LTE-
Advanced        Panasonic       12
R1-083002       Discussion on the TD Relay and FD relay for FDD system
Panasonic       12

Regards,
Hoshino

--
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<Updated since Feb 13, 2007>
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ATOM RSS1 RSS2

Appendix D

3GPP TSG RAN WG1 Meeting #56bis **R1-091131**
Seoul, South Korea, 23 – 27 March, 2009

Agenda item	**3**
Title:	**Final Report of 3GPP TSG RAN WG1 #56 v1.0.0 (Athens, Greece, 09 – 13 February, 2009)**
Document for:	**Approval**
Source:	**MCC Support**

A GLOBAL INITIATIVE

Fact Summary

Meeting:	**3GPP TSG RAN WG1 #56**
Dates:	**9th through 13th February, 2009**
Venue:	**Hotel Athenaeum InterContinental in Athens, GREECE**
Host:	**European Friends of 3GPP**
Attendees:	**166 delegates**
Documents:	**554 (including some withdrawn and post-meeting artefacts)**

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Table of contents

Executive summary

3GPP TSG WG RAN1 #56 meeting took place at Hotel Athenaeum InterContinental in Athens, GREECE.

The meeting started at 9:10 on Monday 9th February and finished at 17:00 on Friday 13th February 2009.

The week was scheduled as follows:

- Monday: Common session on Agenda items 1, 2, 3, 4, 6, 6.1 and 6.2.
- Tuesday: Parallel sessions. On one hand, session dedicated to corrections to TS36.213 (AI 6.3) and to TS36.214 (AI 6.4) chaired by Sadayuki Abeta and on the other hand, session on Agenda items 5,7 and 9 chaired by Dirk Gerstenberger.
- Wednesday morning: Farewell speech from François Courau (RAN Chairman). Common session on Agenda items 12.2 and 12.4 (DL RS structure).
- Wednesday afternoon: Common session on Agenda item 12.2 chaired by Dirk Gerstenberger.
- Thursday morning: Parallel sessions on Agenda items 12.5 (Relaying) chaired by Dirk Gerstenberger and Agenda items 12.3 and 12.4 (MIMO) chaired by Juho Lee
- Friday morning: Common session on Agenda items 10 and 11.
- Friday afternoon: Revisions

The list of action points that required RAN1 close follow-up is listed in Annex F (end of document).

The number of contribution documents for this meeting was 554, and those documents were categorized as followed.

Agenda Item	Input Document	Discussed Document
Liaison statement handling	24	19
Maintenance of UTRA R99 – Rel-8	48	47
Maintenance of Evolved UTRA Rel-8	119	98
Continuous Connectivity for Packet Data users for 1.28Mcps TDD	1	1
MIMO for 1.28Mcps TDD	-	-
UTRA Multi-Carrier Evolution	19	14
Positioning support for LTE	9	9
Study Item on E-UTRAN Mobility Evaluation & Enhancement	14	10
Study Item on LTE-A	15	6
Study Item on LTE-A: Bandwidth extension	57	-
Study Item on LTE-A: COMP	62	18
Study Item on LTE-A: UL MIMO extension up to 4x4	50	13
Study Item on LTE-A: DL MIMO extension up to 8x8	42	17
Study Item on LTE-A: Relaying	80	24
Study Item on LTE-A: Other	14	-

Note: The amount of documents includes those discussed during the email discussion session post meeting.

The following document are missing. The corresponding contributions have not been handed over by companies.

R1 090637	8 TX D vers ty Schemes for LTE A Down nk	ZTE	
R1 090684	HARQ contro and Macro D vers ty for LTE ADV	Panason c	
R1 090840	Draft CR to the PUCCH power contro parameter	LG E ectron cs	
R1 090864	RS n support of DL CoMP and h gher order MIMO	Qua comm Europe	
R1 090896	DL Contro S gna ng Des gn Cons der ng Comp ementary Ce Dep oyment n LTE Advanced	NTT DOCOMO	
R1 090901	DL RS Structure to Support CoMP n LTE Advanced	NTT DOCOMO	
R1 090903	V ews on Re ay for LTE Advanced	NTT DOCOMO	
R1 090954	Mob e re ay node	Fuj tsu	
R1 090981	On mu t stream beamform ng	Er csson	
R1 090983	Support h gher order MIMO n LTE A	Norte	(R1 090750)
R1 091057	36.211 Draft CR on correct on for type 2 PUSCH hopp ng	Motoro a	
R1 091088	Way forward on channe dependent precod ng for UL SU MIMO	Texas Instruments, Er csson	

1. Opening of the meeting

Mr. Dirk Gerstenberger (RAN1 Chairman) welcomed the participants to the 56th RAN WG1 meeting and opened the meeting at 09:10.

Robert Love from Motorola welcomed the delegates on behalf of European Friends of 3GPP and informed them about logistic issues during the week.

1.1 Call for IPR

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 090550	Draft Agenda for RAN1#56 meet ng	RAN1 Cha rman	

Dirk Gerstenberger (Chairman) proposed the agenda for the meeting.

Discussion (Question / Comment):
Decision: The agenda was approved.

3. Approval of the minutes from previous meeting

R1 090988	F na report of RAN1#55b s meet ng	MCC Support	(R1 090551)

The document was presented by Patrick Mérias and draws the minutes from last meeting.

Discussion (Question / Comment): ATT informed that they would like to add some comments from the Ljubljana's meeting.
Decision: The document was approved according the ATT's comments are correctly reported. Final agreed report is in R1-091069.

Post meeting Nortel's comment: "Regarding ATT's comments on the conclusion of discussions on R1-090446 and R1-090467, the simulation results in R1-071043 (RAN1 #48) was performed for various MIMO schemes that were not the same as the large delay CDD precoding transmission scheme as agreed in R1-080579 (RAN1 #51bis). Also, R1-071194 is a way forward for precoding codebook and is concerning closed-loop MIMO transmission scheme. This way forward had not taken into account the large delay CDD precoding scheme which was defined in R1-080579 one year later. In addition, the simulation in R1-071043 was performed for 21 cells instead of the typical 19x3 cells used for LTE evaluation."

4. Liaison statement handling

4.1 Incoming LS

R1 090552	Rep y LS on Common Test Env ronment (TS 36.508)	RAN2, NTT DoCoMo	= R2 090834

The document was presented by Sadayuki Abeta from NTT DoCoMo.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 090553	LS on Updated RNTI va ue ranges	RAN2, Er csson	= R2 090843

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090808	Separat on the P RNTI from the SI RNTI	Huawe	

The document was presented by Ms Xia Xiaomei from Huawei and draws the following conclusions:

- The false alarm rate caused is neglected
- No serious effect of false alarm is found

So it is suggested to keep the current specifications on RNTI values.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090904	On cons derat on of opt m z ng the P RNTI va ue	Er csson	

The document was presented by Daniel Larsson from Ericsson and proposes to provide RAN2 with the LS reply in R1-090912, indicating that it is not beneficial to change the P-RNTI value.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090912	Draft LS rep y on Updated RNTI va ue ranges	Er csson	

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment): Comment from Panasonic is that it is better to add "as essential correction" and to clarify that RAN1 specifications are frozen.
Decision: Document is noted and is agreed with addition of "as essential correction". In addition, the sentence "RAN1 notes that the RAN1 specifications are frozen." shall be added. Revision in R1-090989.

Monday 9th evening

R1 090989	LS rep y on Updated RNTI va ue ranges	RAN1, Er csson	(R1 090912)

Decision: Document is noted and final LS is agreed.

R1 090554	LS on ACK for exp c t up nk SPS re ease	RAN2, RIM	= R2 090849

The document was presented by Sam Cai from RIM and requests RAN1's opinion on the feasibility of transmitting HARQ ACK for an explicit uplink SPS release indication and whether it can be supported for REL-8.

Discussion (Question / Comment): Mr Chairman noted a number of contributions under AI6.3 covering this topic.
Decision: Document is noted. It shall be revisited under AI 6.3 together with the related documents listed hereafter.

R1 090574	ACK for UL SPS Re ease	Research In Mot on, L m ted	

Decision: Document is noted.

R1 090674	Acknow edgement of Sem Pers stent Up nk Exp c t Re ease	Panason c	
R1 090711	Acknow edgement for exp c t up nk SPS re ease	Nok a, Nok a S emens Networks	
R1 090712	Rep y LS on ACK for exp c t up nk SPS re ease	Nok a, Nok a S emens Networks	
R1 090982	On ACK transm ss on for UL SPS Re ease	Qua comm Europe	

Conclusion: RAN1 decided to keep current specification as it is. Inform RAN2 via LS in R1-091017 (Nokia)

Tuesday 10th evening

R1 091038	Rep y LS on ACK for exp c t up nk SPS re ease	RAN1, Nok a	(R1 091017)

Decision: Document is noted and final LS is agreed in R1-091038.

R1 090555	LS on co s on between measurement gap and HARQ feedback	RAN2, CATT	= R2 090855

The document was presented by Ms Ying Peng from CATT and asks RAN1 to answer RAN2's questions and consider the current MAC behaviour when discussing the interactions between MAC and the physical layer and, to the extent possible, accommodate the necessary adjustments in physical layer specification.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090933	[DRAFT] LS on ACK/NACK repet t on transm ss on w th n measurement gap	CATT	

The document was presented by Ms Ying Peng from CATT and informs RAN2 of the RAN1 conclusion on ACK/NACK repetition transmission where the initial HARQ feedback is indicated to physical layer by MAC but one or more of the ACK/NACK repetition would collide with the measurement gap:

- A UE shall not transmit the repeated ACK/NACKs which fall in measurement gap.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090576	Draft Response LS on co s on between measurement gap and HARQ feedback	Texas Instruments	

The document was presented by Zukang Shen from TI and states RAN1 assumption that measurement gap is known by PHY such that any repeated ACK/NAK transmission can be dropped if colliding with a measurement gap. This contribution is the proposed answer to RAN2.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090580	One rema n ng ssue on ACK/NAK repet t on	Texas Instruments	

The document was presented by Zukang Shen from TI and suggests to discuss the following three options to resolve the remaining issue for ACK/NAK repetition.

- ***Option 1: Keep the specification as it is.*** This option potentially leads to uncertain UE behavior, regarding the ACK/NAK transmission in subframe n+2, corresponding to the PDSCH received in subframe n-3.

- ***Option 2: UE shall transmit the ACK/NAK in subframe n+2, corresponding to the PDSCH received in subframe n-3.*** If a UE is scheduled for PDSCH transmission in a consecutive number of DL subframes, then for PDSCH other than the first one, ACK/NAK repetition is effectively disabled.

- ***Option 3: UE shall not transmit the ACK/NAK in subframe n+2, corresponding to the PDSCH received in subframe n-3.*** ACK/NAK for some PDSCH cannot be transmitted at all, even if such transmission is possible.

Discussion (Question / Comment): .
Decision: Document is noted. Mr Chairman suggested to let the discussion continue off line and draft an answer in R1-090995 by the end of the day.

Proposal: Define in MAC that UE should not transmit HARQ signalling or parts thereof that overlap with the measurement gap.

Tuesday 10th

R1 090995	[Draft] LS rep y on co s on between measurement gap and HARQ feedback	Er csson, Texas Instruments	

Decision: Document is noted and final LS is agreed in R1-091023.

R1 090558	ACK/NACK repet t on factors (Response to LS R1 084649 on " LS on support of ACK/NACK repet t on n Re 8")	RAN4, Huawe	= R4 090419

The document was presented by Thomas Sälzer from Huawei and states that PUCCH ACK/NAK repetition factors already specified by RAN1 are good enough to compensate the PUCCH coverage limitation, and there is no need for consideration of any additional PUCCH ACK/NAK repetition factors.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 090556	LS to WP5D (v a TSG RAN): PARAMETERS OF IMT RADIO INTERFACE TECHNOLOGIES FOLLOWING WRC 07	RAN4, Fuj tsu	= R4 090008

The document was presented by Jianming Wu from Fujitsu.

Discussion (Question / Comment): For information.
Decision: Document is noted.

R1 090557	RSRP and RSRQ Def n t ons w th Rece ver D vers ty	RAN4, Er csson	= R4 090413

The document was presented by Daniel Larsson from Ericsson and requests to update the definitions of RSRP and RSRQ with respect to the use of the receiver diversity in the relevant specifications (TS 36.214 and TS 25.215) as suggested.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090965	25.215 CR0194R1 (Re 8, F) RSRP and RSRQ Measurement Def n t ons	Er csson	

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed.

R1 090910	36.214 CR0009 (Re 8, F) RSRP and RSRQ Def n t ons w th Rece ver D vers ty	Er csson	

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed.

Mr Chairman suggested that similar CR must be prepared to cover TDD. Refer to AI 5 under E-UTRA Measurements.

4.2 LS received in the course of the week

R1 091071	Response LS to LS on TDD/MBSFN subframe nformat on about nter frequency ne ghbour ce s	RAN4, Samsung	= R4 090948

The document was presented by … from Samsung and provides RAN4's conclusion hat it is beneficial to provide the TDD/MBSFN inter-frequency neighbour-cell subframe configuration as well as the TDD/MBSFN intra-frequency neighbour-cell subframe configuration by the network to the UE by RRC signalling. Furthermore, RAN4 believes that the TDD/MBSFN subframe information should be signalled for the inter-frequency neighbour-cells and the information should be on per frequency layer basis.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 091072	Rep y LS to R5 085542 = R2 090883 on enhanc ng rad o bearer parameters n 34.108 for Improved Layer 2 UL (FDD)	RAN2, Er csson	= R2 091598

The document was presented by Daniel Larsson from Ericsson and asks RAN5 to remove the redundant combination of UM RLC with MAC-i/is and correct the maximum RLC payload size to 12040 bits.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 091083	LS on setup/re ease of phys ca ayer conf gurat on	RAN2, Er csson	= R2 091802

The document was presented by Daniel Larsson from Ericsson and proposes the code points "OFF" be removed for following parameters cqi-pmi-ConfigIndex (317), sr-ConfigIndex (155), srs-SubframeConfig (FDD/TDD 15/14), ri-ConfigIndex (966).

Discussion (Question / Comment): Alcatel-Lucent doesn't believe a CR is needed. Mr Chairman commented that it's better to have values reserved for other purposes rather than keeping values that address obsolete functions. Panasonic commented that this LS proposes the change on CQI, SR and SRS. CQI and SR are covered by R1-091097. SRS aspect is covered by R1-090675.
Decision: Document is noted. RAN1 agreed in principle the proposal and CR0231 of TS36.213 shall be prepared in R1-091097.

R1 091097	36.213 CR0231 (Re 8, F) Remova of 'Off' va ues for per od c report ng n L1	Er csson, Panason c	

Decision: Document is noted. Although TI has no issue with removing value in the tables, they requested for more time to review the whole text. CR is for email approval until 19/02.

5. Maintenance of UTRA Release 99 – Release 8

CPC

R1 090962	25.211 CR0262 (Re 7, F) C ar f cat on of ACK transm ss on n response to HS SCCH order	Er csson	

The document was presented by Johan Bergman from Ericsson.

Discussion (Question / Comment): Comment from Philips (reference to subclause 6A.1.1 in 25.214) to be captured.
Decision: Document is noted.

R1 090963	25.211 CR0263 (Re 8, A) C ar f cat on of ACK transm ss on n response to HS SCCH order	Er csson	

Decision: Document is noted. Revisions in R1-091010 (Rel-7) and R1-091011 (Rel-8).

Tuesday 10th

R1 091010	25.211 CR0262R1 (Re 7, F) C ar f cat on of ACK transm ss on n response to HS SCCH order	Er csson	(R1 090962)
R1 091011	25.211 CR0263R1 (Re 8, A) C ar f cat on of ACK transm ss on n response to HS SCCH order	Er csson	(R1 090963)

Decision: Documents are noted and CR are agreed.

R1 090885	25.214 CR0539 (Re 8, F) Correct on to the descr pt on of UE behav our when hav ng rece ved an HS SCCH order	Huawe	

The document was presented by Yang Bo from Huawei and Variable HS_SCCH_LESS_STATUS is replaced with the variable HS-SCCH_less_mode in 6A.1.1.

Discussion (Question / Comment): .
Decision: Document is noted. The topic might need some off line discussion. It has been further merged into R1-091051 (CR0534R2)

R1 090567	25.214 CR0536 (Re 7, F) C ar f cat on of E DCH retransm ss on and DTX "Inact v ty Thresho d	Qua comm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and clarifies that the UE shall not transmit the uplink DPCCH in a slot when conditions 1, 2, 4 and 5 as mentioned in section 6C.2 are satisfied and there is no initial E-DCH transmission or E-DCH re-transmissions performed.

Discussion (Question / Comment): Ericsson suggested some wording improvement (supported by Qualcomm).
Decision: Document is noted.

R1 090568	25.214 CR0537 (Re 8, A) C ar f cat on of E DCH retransm ss on and DTX "Inact v ty Thresho d	Qua comm Europe	

Decision: Document is noted. RAN1 confirms that the interpretation of the text in 25.214 is correct. Discuss offline whether the CR is needed.

Friday 13th : No CR required. It is noted that E-DCH refers to both initial transmissions and re-transmissions.

R1 090884	Issue on HS SCCH ess operat on	Huawe	

The document was presented by Yang Bo from Huawei and addresses the case of HS-SCCH orders for activation/deactivation of HS-SCCH-less operation received and demodulated by the Rel-7 UEs, but where UE behaviour is unspecified.

Discussion (Question / Comment): Further checking off line is required whether such case is relevant.
Decision: Document is noted. Revisit after offline discussion whether the CR is needed.

Friday 13th : No CR required.

HSDPA MIMO

R1 090830	25.211 CR0260 (Re 7, F) "C ar f cat ons to the S CPICH usage w th MIMO"	Nok a Corporat on, Nok a S emens Networks	

The document was presented by Karri Ranta-aho from NSN and proposes:

- Clarifying that when the cell is in MIMO mode and S-CPICH is used from antenna 2 then antenna 1 pattern is to be used for the S-CPICH.
- Clarifying that when the cell is in MIMO mode and S-CPICH is used from antenna 2 then the primary scrambling code is to be used for the S-CPICH
- Clarifying that when the cell is in MIMO mode and S-CPICH is used from antenna 2 then the S-CPICH is broadcast over the entire cell

Discussion (Question / Comment): NSN commented that there were still some on going discussions.
Decision: Document is noted.

R1 090831	25.211 CR0261 (Re 8, A) "C ar f cat ons to the S CPICH usage w th MIMO"	Nok a Corporat on, Nok a S emens Networks	

Decision: Document is noted. Continue discussion offline to finalize the wording, revisions in R1-091013 (Rel-7) and R1-091014 (Rel-8).

Tuesday 10th

R1 091013	25.211 CR0260R1 (Re 7, F) "C ar f cat ons to the S CPICH usage w th MIMO"	Nok a Corporat on, Nok a S emens Networks	(R1 090830)
R1 091014	25.211 CR0261R1 (Re 8, A) "C ar f cat ons to the S CPICH usage w th MIMO"	Nok a Corporat on, Nok a S emens Networks	(R1 090831)

Decision: Documents are noted and CR are agreed.

R1 090767	25.214 CR0538 (Re 8, F) C ar f cat on of the source of N/M rat o	A cate Lucent	

The document was presented by Chris Scarisbrick from Alcatel-Lucent and states that TS 25.214 is not entirely consistent with the NodeB calculation of N/M ratio in MIMO. Unclear text at 6A.1 implies NodeB gets N and M from higher layers.

Discussion (Question / Comment): .
Decision: Document is noted. RAN1 confirms that the interpretation of the text in 25.214 is correct. Discuss offline whether the CR is needed.

Tuesday 10th

R1 091054	25.214 CR0538R1 (Re 8, A) C ar f cat on of the source of parameters to HS DSCH phys ca ayer	A cate Lucent	(R1 090767)
R1 091055	25.214 CR0540 (Re 7, F) C ar f cat on of the source of parameters to HS DSCH phys ca ayer	A cate Lucent	

Decision: Documents are noted and CR are agreed.

EUL 16QAM

R1 090832	25.212 CR0273 (Re 7, F) "Correct on to the punctur ng m t a owed when UL 4PAM modu at on s a owed"	Nok a Corporat on, Nok a S emens Networks	

The document was presented by Antti Hiltunen from Nokia and corrects the rules given for the puncturing (if $PL_{non\text{-}max} > PL_{mod,switch}$ some data rates below switch point to 4PAM are not allowed by the puncturing restrictions). The CR proposes adding a rule to apply puncturing in the 2×SF4+2×SF2 region when 4PAM is allowed.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090833	25.212 CR0274 (Re 8, A) "Correct on to the punctur ng m t a owed when UL 4PAM modu at on s a owed"	Nok a Corporat on, Nok a S emens Networks	

Decision: Document is noted. Both CRs are agreed. Current version of Rel-8 CR must be corrected before submission to plenary (MCC)

Friday 13th

R1 091103	25.212 CR0273R1 (Re 7, F) "Correct on to the punctur ng m t a owed when UL 4PAM modu at on s a owed"	Nok a Corporat on, Nok a S emens Networks, Motoro a, Er csson, Qua comm Europe	
R1 091104	25.212 CR0274R1 (Re 8, A) "Correct on to the punctur ng m t a owed when UL 4PAM modu at on s a owed"	Nok a Corporat on, Nok a S emens Networks, Motoro a, Er csson, Qua comm Europe	

Decision: Documents were presented for better wording. CRs are agreed and supersede R1-090832 & R1-090833.

<u>DC-HSDPA</u>

R1 090964	25.214 CR0534R1 (Re 8, F) Correct ons of HS SCCH orders for DC HSDPA	Er csson	

The document was presented by Johan Bergman from Ericsson and specifies that:

- any transient behavior related the the HS-SCCH order should take place during the 12 slots after the end of the order.
- HS-SCCH orders for DC-HSDPA and HS-SCCH orders for HS-SCCH-less operation should be acknowledged
- HS-SCCH orders from the serving cell as well as from the secondary serving cell should be acknowledged.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed in principle. If the issue from R1-090885 should be included, a revision of the CR shall be be revised later on.

Tuesday 10th

R1 091051	25.214 CR0534R2 (Re 8, F) Correct ons of HS SCCH orders for DC HSDPA	Er csson, Huawe	(R1 090964)

The document was presented by Johan Bergman from Ericsson. This revision includes that the condition "HS_SCCH_LESS_STATUS is TRUE" is replaced with "HS-SCCH_less_mode=1" at one instance.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed.

<u>EUL Coverage</u>

R1 090834	[Re 9] TTI repet t on for mproved performance n arge ce s	Nok a Corporat on, Nok a S emens Networks	

The document was presented by Antti Hiltunen from Nokia and highlights the motivation for improving the coverage of the 2msec TTI and provides some simulation results in response to RAN#42 comment that some elaboration on the technical merits of such a feature would be useful. The paper concludes that the main benefits are that CPC use could be extended to most of the cell, thus improving capacity and battery life, radio link reconfigurations with associated overhead and risk of call loss can be avoided and the scheduler only needs to manage a 2msec TTI most of the time.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090883	L nk Eva uat on of EUL Coverage	Qua comm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and shows the results of a study on UE performance with max transmit power limit. The paper provides a comparison of the baseline 2ms TTI, 10ms TTI, and the 2ms TTI with MAC segmentation and concludes that the performance of 2ms TTI due to the Release 8 EUL coverage enhancements is very similar to 10ms TTI, hence that further optimization such as repetition of 2ms TTI or autonomous switching to 10ms TTI may not be necessary, if the Release 8 EUL coverage enhancements are implemented.

Discussion (Question / Comment): Ericsson raised a question mark on the BLER = 1% target figure. Further study is required to check Qualcomm's observations and simulation results.
Decision: Document is noted.

Hard to conclude at this stage. Mr Chairman suggested to let discussion continue off line in order to provide relevant companies more time to verify/understand the results. It shall be revisited by the end of the week.

Friday 13th : Consider also Rel-8 IL2.

MBSFN

R1 090990	T CPICH sequences for IMB	Qua comm Europe	(R1 090569)

The document was presented by Sharad Sambhwani from Qualcomm and address the design of 256-chip TDM pilot sequences (T-CPICH) for MBSFN IMB

Discussion (Question / Comment): Ericsson asked how sensitive was these simulation results affected by different channel MSE? Qualcomm agreed that they should extend the study to other channels.
IPWireless didn't agree with the blue line as shown in figure 2 (CE MSE comparison as a function of Geometry).
Decision: Document is noted.

R1 090957	Further TDM p ot sequences for MBSFN IMB	IPW re ess	

The document was presented by Nick Anderson from IPWireless and provides a revised set of sequences for the IMB T-CPICH, based on the comments raised at RAN1#55bis including:

- The NDF metric definition
- PAPR properties
- Sensitivity to variation in P-CPICH power

With focus on the use of 16-QAM sequences and for a P-CPICH Ec/Ior design point of 10%.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 091012	T CPICH sequence compar sons	IPW re ess	

The document was presented by Nick Anderson from IPWireless and provides IPWireless own analysis of the MSE performance of the sequences in R1-090957 for comparison against that reported in R1-090569.

Discussion (Question / Comment): .
Decision: Document is noted.

Mr Chairman suggested to take a look at how this could hang up in the specification (R1-090958).

R1 090958	25.221 CR0178 (Re 8, F) Spec f cat on of T CPICH sequences for MBSFN IMB	IPW re ess	

The document was presented by Nick Anderson from IPWireless.

Discussion (Question / Comment): .
Decision: Document is noted. The topic shall be revisited by Friday to check if any progress. IPWireless expressed their willingness to leave the meeting with a set of sequences that can get further approval at next plenary.

Friday 13th : R1-090958 is agreed.

R1 090960	25.213 CR0100R1 (Re 7, F) Correct on to DTX b t nsert on for MBSFN 16 QAM	IPW re ess	
R1 090961	25.213 CR0101R1 (Re 8, A) Correct on to DTX b t nsert on for MBSFN 16 QAM	IPW re ess	

Decision: Documents are noted.

R1 091000	On DTX nd cat on b ts and 16QAM	Er csson	

The document was presented by Lars Lindbom from Ericsson and proposes that DTX bits on I and Q branches are replaced by dummy bit 1 except when

- all bits are DTX bits
- $(i_1, i_2) = ("\mathrm{DTX}", 0)$ and/ or $(q_1, q_2) = ("\mathrm{DTX}", 0)$

In these cases, the amplitude on I and/or Q branches shall be set to zero, i.e. no transmissions.

Discussion (Question / Comment): .
Decision: Document is noted. The topic shall be revisited by Friday after off line discussion.

Friday 13th

R1 091106	25.213 CR0101R2 (Re 8, F) Correct on to DTX b t nsert on for MBSFN 16 QAM	Er csson, IPW re ess, Huawe	(R1 090961)

Decision: Document is noted and CR is agreed.

R1 090959	25.223 CR0058 (Re 8, F) Spec f cat on of scramb ng codes and code groups for MBSFN IMB	IPW re ess	

The document was presented by Nick Anderson from IPWireless and proposes a definition of the applicable scrambling codes and code groups, as follows:

8 cell IDs exist for MBSFN IMB and only primary scrambling codes are used. The scrambling codes are such that each is a member of a different scrambling code group. Scrambling code indexes n={0, 128, 256, 384, 512, 640, 768, 896} are defined which correspond to the first primary scrambling code from each of the first 8 scrambling code groups.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed.

TDD

R1 090973	25.222 CR0170 (Re 5, D) on ed tor a correct on	TD Tech	
R1 090974	25.222 CR0171 (Re 6, D) on ed tor a correct on	TD Tech	
R1 090975	25.222 CR0172 (Re 7, D) on ed tor a correct on	TD Tech	
R1 090976	25.222 CR0173 (Re 8, D) on ed tor a correct on	TD Tech	

These documents were presented by Ms… from TD Tech.

Discussion (Question / Comment): CATT raised a question mark on CRs category in relation with frozen releases. These editorial changes shall be considered as exceptional cases.
Decision: Documents are noted and CRs are agreed.

R1 090893	25.221 CR0176 (Re 7, D) on ed tor a correct on	TD Tech	
R1 090894	25.221 CR0177 (Re 8, D) on ed tor a correct on	TD Tech	

These documents were presented by Ms… from TD Tech.

Discussion (Question / Comment): These editorial changes shall be considered as exceptional cases.

Decision: Documents are noted and CRs are agreed.

R1 090667	25.224 CR0208 (Re 7, F) on E DCH power contro c ar f cat on for 1.28Mcps TDD	TD Tech	

The document was presented by … from TD Tech and proposes the following add-on:

"When receipt of TPC commands on E-AGCH or on E-HICH is in different sub-frames, UE shall treat the sum of both TPC commands as effective adjustment. When receipt of TPC commands on E-AGCH and on E-HICH is in the same sub-frame, UE shall treat one single TPC command if they are identical and the sum of them if they are different."

Discussion (Question / Comment): If conflicting commands are sent, reasonable behaviour shall be "do nothing".
Decision: Document is noted.

R1 090668	25.224 CR0209 (Re 8, A) on E DCH power contro c ar f cat on for 1.28Mcps TDD	TD Tech	

Decision: Document is noted. This shall be revisited once decision is made whether to introduce multi-level power control or just to define UE behaviour in case of inconsistent TPC commands.

Friday 13th

R1 091086	25.224 CR0208R1 (Re 7, F) on E DCH power contro c ar f cat on for 1.28Mcps TDD	TD Tech	(R1 090667)
R1 091087	25.224 CR0209R1 (Re 8, A) on E DCH power contro c ar f cat on for 1.28Mcps TDD	TD Tech	(R1 090668)

Decision: Documents are noted and CRs are for email approval until 19/02.

E-UTRA Measurements

R1 091046	25.225 CR0091R1 (Re 8,F) RSRP and RSRQ measurement def n t ons	CATT	

The document was presented by Ke Wang from CATT.

Discussion (Question / Comment): Typo error noticed in the definition of RSRP ("indivisual" to be replaced by "individual").
Decision: Document is noted. Revision 2 shall be prepared in R1-091053

R1 091053	25.225 CR0091R2 (Re 8,F) RSRP and RSRQ measurement def n t ons	CATT	(R1 091046)

Decision: Document is noted and CR is agreed.

6. Maintenance of Evolved UTRA Release 8

6.1 Corrections for TS 36.211

R1 090675	Draft CR on A gnment of SRS conf gurat on	Panason c	

The document was presented by Hidetoshi Suzuki from Panasonic and is a CR, in case RAN2 agrees to disable SRS configuration at IE parent level, in order to get RAN1 specification aligned with this change.

Discussion (Question / Comment): .
Decision: Document is noted. This shall be revisited, if needed once RAN2 discussion/decision is known. As RAN2 sents LS as R1-091083, R1-090675 is agreed on Friday 13th . As it's identified that this CR is still "draft", it's proposed to revise it in R1-0901115 for email approval.

R1 090842	Draft CR on c ar fy ng SRS transm ss on	Qua comm Europe	

The document was presented by Wanshi Chen from Qualcomm and proposes to:

- Add a limitation to m_{SRS, b} such that it is no larger than N_RB^UL
- Add an explicit range of applicable values of b for n_b and F_b(n_SRS)

Discussion (Question / Comment): .
Decision: Document is noted. This shall be revisited after offline discussion on generic error case handling. It shall be also good to check if not already included in RRC. It's noted on Friday 13th that this draft CR was merged into another CR.

R1 090713	36.211 CR0127 (Re 8, F) Correct ons to SRS	Nok a, Nok a S emens Networks	

The document was presented by … from Nokia and proposes that:

- The physical length of SRS sequence is defined as $M_{\mathrm{sc},b}^{\mathrm{RS}} = m_{\mathrm{SRS},b} N_{\mathrm{sc}}^{\mathrm{RB}} / 2$ only when $b = B_{SRS}$.
- For UpPTS, the reconfiguration of $m_{SRS,0}$ is enabled/disabled to be reconfigured by cell specific parameter *srsMaxUpPts* given by higher layer instead of by both cell specific parameter *srsMaxUpPts* and the variable b which is not signalled anywhere.
- The subscript b of $m_{\mathrm{SRS},b}$ in the table 5.5.3.2-1 is corrected.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090931	36.211 CR0117R1 (Re 8, F) Correct on to SRS n UpPTS	CATT, Samsung	

The document was presented by Ms Ying Peng from CATT and proposes:

- SRS sequence length is determined by UE-specific SRS signal bandwidth configuration B_{SRS}.
- Clearer statement for cell-specific SRS bandwidth reconfiguration in UpPTS

Discussion (Question / Comment): .
Decision: Document is noted. Discuss offline and check if there're any impact on RRC. Provide a joint CR.

R1 090996	M sce aneous correct ons to SRS	Nok a Corporat on, Nok a S emens Networks	

The document was presented by Xiangguang Che from Nokia and raises the following reasons for change:

- t_RA^1 is defined in RACH section has special meaning associated with RACH configuration index, it is not clear how SRS transmission determine the its value.
- It is not clear whether SRS sounding is UE or cell specific configuration.

Discussion (Question / Comment): W r.t second bullet, Mr Chairman asked whether RRC specifications were clear enough in order to avoid adding such clarification into RAN1 specs.
Decision: Document is noted. If such clarification are needed (after off line discussion), this shall be merged with previous CR.

Friday 13th

R1 091044	36.211 CR0127R1 (Re 8, F) Correct ons to SRS	Nok a, Nok a S emens Networks, CATT, Samsung, Qua comm Europe	(R1 090713)

Decision: Document is noted and revised CR0127R2 is agreed in R1-091113.

R1 090577	Draft CR on C ar f cat on on DRS mapp ng	Texas Instruments	

The document was presented by Zukang Shen from TI and specifies that DRS is not transmitted on resource elements where PBCH or synchronization signals are transmitted.

Discussion (Question / Comment): .
Decision: Document is noted. Revision shall be prepared in R1-091002. Revise also Nokia's from last meeting in R1-091003.

Friday 13th : CRs are not needed.

R1 090624	Draft CR 36.211 (Re 8, F) A few C ar f cat ons for transm ss ons n TDD	ZTE	

The document was presented by Zhisong Zuo from ZTE and provide a clarification of PRB definition for DwPTS. In addition, it also specifies that no PUSCH is in UpPTS.

Discussion (Question / Comment): Ericsson is fine with the principle of the CR but would like to improve the wording.
Decision: Document is noted. Off line discussion shall take place for further improvement of the CR. Revision in R1-091004.

Friday 13th

R1 091004	Draft CR 36.211 (Re 8, F) A few C ar f cat ons for transm ss ons n TDD	ZTE	(R1 090624)

Decision: Document is noted and formal CR is for email approval until 19/02 in R1-091114.

R1 090994	36.211 CR0128R1 (Re 8, F) C ar f cat on of PDSCH Mapp ng to Resource E ements	Nok a S emens Networks, Nok a	(R1 090714)

The document was presented by Mieszko Chmiel from NSN and addresses section 6.6.4 clarifying that the UE shall assume that the REs skipped in the PBCH mapping are not used for PDSCH transmission. It is also clarified in section 6.3.5 that PDSCH is not mapped to OFDM symbols used for PDCCH, while the mention of PCFICH/PHICH REs are removed as redundant and possibly causing confusion as there may be some other REs in the PDCCH OFDM symbols that are not occupied by PDCCH/PCFICH/PHICH.

Discussion (Question / Comment): Intention of the CR is agreed but few companies (Qualcomm, Samsung) requested further off line discussion.
Decision: Document is noted. Revision in R1-091006.

Tuesday 10th evening

R1 091006	36.211 CR0128R2 (Re 8, F) C ar f cat on of PDSCH Mapp ng to Resource E ements	Nok a S emens Networks, Nok a	(R1 090994)

Decision: Document is noted and CR is agreed.

R1 090778	36.211 CR0129 (Re 8, D) A gnment w th correct parameter names w th ASN1	LG E ectron cs	

The document was presented by Dragan Vujcic from LGE and proposes that parameters are aligned with correct parameter name from ASN1.

Discussion (Question / Comment): Could be nice to limit the changes . CR category shall be kept as a correction CR.
Decision: Document is noted. Revision in R1-091007, according to final RRC text when available by the end of the week.

Friday 13th

R1 091007	36.211 CR0129R1 (Re 8, D) A gnment w th correct parameter names w th ASN1	LG E ectron cs	(R1 090778)

Decision: Document is noted. R1-091007 supersedes the CR0115R1 agreed at RAN1#55b in R1-090438. CR is agreed.

R1 090809	Correct on on Type 2 PUSCH hopp ng	Huawe	

The document was presented by Ms Fan Xiaoan from Huawei and proposes a minimal fix to make type 2 Nsb > 1 hopping functional for Rel-8. The draft CR is also attached to the contribution.

Discussion (Question / Comment): As this was a late submission, Mr Chairman suggested to let more time to review it in a proper way.
Decision: Document is noted. It shall be revisited together with R1-090845.

R1 090839	Interference Random zat on Method for PUCCH	ITRI, CHTTL	

The document was presented by Richard Li from ITRI and suggests to use system time information to derive virtual resource indices.

Discussion (Question / Comment): Several companies (Ericsson, Qualcomm) requested simulation results (not available at that meeting) before going further.
Decision: Document is noted. Proposal is not agreed.

R1 090843	Draft CR on c ar fy ng the number of b ts n a PHICH b ock	Qua comm Europe	

The document was presented by Wanshi Chen from Qualcomm and notes that current specification has no definition of the size of the block of bits, denoted by Mbit, transmitted on PHICH. It proposes Mbit=3.

Discussion (Question / Comment): As this is correctly stated in TS 36.212, RAN1 should avoid repeating uneccessary clarifications.
Decision: Document is noted. No change to current specification.

R1 090998	Correct on to PUCCH format 1 mapp ng to phys ca resources	Motoro a	

The document was presented by Ravikiran Nory from Motorola and proposes to capture for PUCCH format 1 a similar resource mapping as for PUCCH format 1a or 1b (in case of simultaneous transmission of sounding reference signal, 36.211 states that one SC-FDMA symbol on PUCCH has to be punctured).

Discussion (Question / Comment): .
Decision: Document is noted. Discuss offline whether a clarification is needed, in line with previous decisions.

Tuesday 10th evening

R1 091056	36.211 CR0130 (Re 8, F) Correct on to PUCCH format 1 mapp ng to phys ca resources	Motoro a	(R1 090998)

Decision: Document is noted and CR is agreed.

6.2 Corrections for TS 36.212

R1 090999	36.212 CR0085R1 (Re 8, F) Genera C ar f cat ons and Correct ons	Samsung	(R1 090603)

The document was presented by Aris Papasakellariou from Samsung and addresses the following topics:

- The parameter N_{gap} is undefined at its first reference point.
- Removal of brackets [x], indication of appropriate reference, removal of term "subclause" and consistent use of term "section".
- The values (ACK/NACK) of HARQ-ACK are used, instead of HARQ-ACK. Correct use of HARQ-ACK and ACK/NACK terminology is required.

Discussion (Question / Comment): Mainly editorial changes. Mr Chairman suggested to consider such clean-up CR for Rel-9.
Decision: Document is noted.

R1 090625	36.212 CR0086 (Re 8, F) C ar f cat on of down nk contro nformat on	ZTE	

The document was presented by … from ZTE and proposes to:

- Clarify that NDI interpretation should refer to 36.321
- Clarify that the definition of RV bits should refer to 36.213
- Clarify that the definition of HARQ process bits should refer to 36.213

Discussion (Question / Comment): ZTE indicated that similar CR against TS 36.213 does exist in R1-090626. Nokia commented that current status of the spec. was stable enough. Mr Chairman agreed that such CR doesn't correct anything "broken" in RAN1 specs.
Decision: Document is noted.

R1 090626	36.213 CR0213 (Re 8, F) C ar f cat on of redundancy vers on and HARQ process	ZTE	

Decision: Document is noted. Both CRs are not agreed.

R1 090695	36.212 CR0084 (Re 8, F) Correct on for the tab e of turbo code nterna nter eaver parameters	SHARP	(R1 090443)

The document was presented by … from Sharp and proposes that:

- The letter *I* is changed to *n* in the headers of the numbering columns in Table 5.1.3-3.
- K_i in the headers of Table 5.1.3-3 is corrected to K.

Discussion (Question / Comment): Qualcomm commented that there's a bit of ambiguity between the CR title and the real change. Probably not required.
Decision: Document is noted. The specification stays as it is.

R1 090969	Draft CR on C ar f cat on on ACK/NAK transm ss on n 36.212	Texas Instruments	

The document was presented by Zukang Shen from TI and proposes to make the HARQ-ACK information bits transmitted by PHY transparent to the HARQ acknowledgement bits received from MAC. The mapping between these two is specified in a companion 36.213 CR in R1-090970.

Discussion (Question / Comment): .
Decision: Document is noted. Revisit after offline discussion, together with R1-090997.

R1 090997	C ar f cat on on channe cod ng for UCI HARQ ACK	LGE	

The document was presented by Joon Kui Ahn from LGE and proposes:

- To replace "codeword" with "transport block" in section 5.2.2.6.
- To add HARQ-ACK contents for channel coding in section 5.2.3.1, emphasising certain bit to corresponding transmission block.
- To clarify that HARQ ACK bits generation in case of TDD ACK/NACK bundling or multiplexing is defined in TS36.213.

Discussion (Question / Comment): .
Decision: Document is noted.

Tuesday 10th evening

R1 091024	36.212 CR0092R1 (Re 8, F) C ar f cat on on channe cod ng for UCI HARQ ACK	ZTE, Er csson, Samsung, Texas Instruments, LGE	(R1 090997)

Decision: Document is noted and CR is agreed.

6.3 Corrections for TS 36.213

Transmission modes

R1 090911	Introduct on of "DL UE transm ss on mode X"	Er csson	

Decision: Document is noted and CR is agreed in principle. Revise the CR0185 (agreed at RAN1#55bis in R1-090466) to CR0185 rev3 in R1-091018.

Friday 13th

R1 091018	36.213 CR0185R3 (Re 8, F) Correct ons to transm ss on modes	Ph ps, Er csson	(R1 090911)

The document was presented by Matthew Baker from Philips.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed with the condition that no different wording be provided on email reflector by 19/02.

R1 090579	Draft CR on C ar f cat on on PDSCH recept on n transm ss on mode 7	Texas Instruments	

Decision: Document is noted.

The document was presented by … from

Discussion (Question / Comment): .
Decision: Document is noted.

CQI

R1 090909	A gnment of CQI parameter names w th RRC	Er csson	

Decision: Document is noted. Revised CR according to comments from LGE in R1-091019.

Friday 13th : Daniel Larsson from Ericsson presented R1-091019 **Decision:** Document is noted and CR is agreed

R1 090643	36.213 CR0209R1 (Re 8, F) Correct on to rho_A def n t on for CQI ca cu at on	NEC Group, Samsung, Ph ps	

Decision: Document is noted. Agreement to remove "DL UE". The revision (original CR agreed at RAN1#55bis in R1-090519) in R1-091020 is agreed.

R1 090645	36.213 CR0215 (Re 8, F) Contrad ct ng statements on determ nat on of CQI subband s ze	NEC Group	

Decision: Document is noted and CR is agreed.

R1 090680	Draft CR on the defau t va ue of RI	Panason c		

Decision: Document is noted. Revisit after offline discussion.

Friday 13th : Hidetoshi Suzuki from Panasonic presented R1-091043 **Decision:** Document is noted and CR is agreed.

R1 090810	36.213 Correct on of CQI t m ng	Huawe	

Chen Shi from Huawei presented R1-090810. **Decision:** Document is noted. Revisit after offline discussion on the definition "k_1".

Tuesday 10th evening

R1 091052	36.213 Correct on of CQI t m ng	Huawe	(R1 090810)

Decision: Document is noted. Off line discussion still needed. Revisit on Friday.

Friday 13th : Chen Shi from Huawei presented R1-091094 **Decision:** Document is noted and CR is agreed.

R1 090811	36.213 CR0208R1 (Re 8, F) Correct on to CQI/PMI/RI report ng f e d	Huawe , Qua comm Europe, Texas Instruments, Motoro a, LGE, Ph ps	

Chen Shi from Huawei presented R1-090811. **Decision:** Document is noted. Remove "DL UE" and revise CR as CR208 R2 in R1-091021, ~~including the CR in R1-09810, if agreed.~~

Friday 13th : Chen Shi from Huawei presented R1-091021 **Decision:** Document is noted and CR is agreed.

R1 090978	36.213 Draft CR(Re 8, F)CQI/PMI/RI report ng nstances when NP=1ms n TDD mode	CATT, CMCC, RITT, LGE, Huawe	(R1 090935)

Decision: Document is noted.

<u>HARQ handling</u>

R1 090580	One rema n ng ssue on ACK/NAK repet t on	Texas Instruments	

The document was presented in common session under AI4.

Decision: As a conclusion, the option3 is agreed. The corresponding CR shall be prepared in R1-091039.

Friday 13th : Zukang Shen from TI presented R1-091039 **Decision:** Document is noted and CR is agreed.

R1 090925	C ar f cat on of network schedu ng and UE behav or as HARQ ACK repet t on conf gured	CMCC	

Decision: Document is noted.

R1 090578	Draft CR on Avo d ng co s on between ACK/NAK repet t on and measurement gaps	Texas Instruments	
R1 090934	36.213 Draft CR(Re 8, F)Correct on on up nk transm ss ons w th n measurement gap	CATT	

The above 2 contributions were not presented as the topic has been covered under AI4. Document are noted.

R1 091022	36.213 CR0199R2 Correct on to the ACK/NACK bund ng n case of transm ss on mode 3 and 4	LG E ectron cs, Texas Instruments	(R1 090650)

Decision: Document is noted and CR is agreed.

R1 090970	Draft CR on C ar f cat on on ACK/NAK transm ss on n 36.213	Texas Instruments	

Not treated as already covered by R1-091022.

R1 090716	36.213 CR0217 (Re 8, F) Comp et on of UL DL conf gurat on 5 of frame struture type 2	Nok a, Nok a S emens Networks	
R1 090717	36.213 CR0218 (Re 8, F) C ar f cat on on TDD AN feedback modes	Nok a, Nok a S emens Networks	

Decision: Both documents are just noted as CRs have been merged into R1-091047.

R1 091047	36.213 CR0219R1 (Re 8, F) M sce aneous correct ons on TDD ACKNACK	Nok a, Nok a S emens Networks, ZTE, Texas Instruments	(R1 090718)

Decision: Document is noted. Revisit after offline discussion and prepare a revised CR in R1-91025. In addition, inform RAN2 with LS in R1-091029.

Tuesday 10th evening

R1 091029	[Draft] LS on TDD HARQ ACK feedback mode	Nok a	

Decision: Document is noted and final LS agreed in R1-091037.

Friday 13th : Xiangguang Che from Nokia presented R1-091025 **Decision:** Document is noted and CR is agreed.

TA

R1 090676	TA command c ar f cat on as the resu t of RAN4 dec s on	Panason c	

Decision: Document is noted. As a conclusion, it is noted that interpretation 1 is a common understanding in RAN1. Panasonic shall check RAN4 understanding. Later on in the day, Panasonic reported that RAN4 has common view (interpretation 1).

R1 090677	Draft CR on the c ar f cat on of up nk t m ng adjustments	Panason c	

Decision: Document is noted. Revisit after checking RAN4 status, revision in R1-091026.

Friday 13th : Hidetoshi Suzuki from Panasonic presented R1-091026 **Decision:** Document is noted and CR is for email approval (requested by Motorola).

R1 090850	Draft CR on c ar fy ng transm ss on t m ng adjustments upon rece v ng a TA command	Qua comm Europe	

Decision: Document is noted. Continue offline discussion. CR not needed.

R1 091001	On UE transm t t m ng	Er csson	

Decision: Document is noted.

SRS

R1 090605	36.213 CR0212 (Re 8, F) C ar f cat on on a pha parameter n SRS power contro	Samsung	

Decision: Document is noted and CR is agreed in principle, it shall be merged into CR0196 in R1-091027.

Tuesday 10th evening

R1 091027	36.213 CR0196R2 (Re 8, F) A gnment of RAN1/RAN4 spec f cat on on UE max mum output power	Samsung, LG E ectron cs, Er csson, Panason c, NTT DOCOMO, Nok a S emens Network, Nok a	

Decision: Document is noted and CR is agreed.

R1 090679	Draft CR on the remova of one shot SRS and remova of SRS w th message 3	Panason c	

Decision: Document is noted. Remove section 8.2.1 sounding definition and remove SRS transmission with message 3. Prepare CR in R1-091028 accordingly.

Tuesday 10th evening

R1 091028	36.213 CR0225 (Re 8, F) Remova of SRS w th message 3	Panason c, Motoro a	(R1 090679)

Decision: Document is noted and CR is agreed.

R1 090715	36.213 CR0216 (Re 8, F) Correct ons to SRS	Nok a, Nok a S emens Networks	

Decision: Document is noted.

R1 090932	36.213 CR0222 (Re 8, F) Correct on to SRS procedure n UpPTS	CATT, Samsung	

Decision: Document is noted.

Friday 13th : Xiangguang Che from Nokia indicated that agreement on R1-090715 was reached after off line discussion.
Decision: CR0216 is agreed.

SPS

R1 090678	UE behav our on SPS re ease	Panason c	

Decision: Document is noted. The contents are captured in current MAC specifications.

R1 090719	Draft CR on correct on of ACK/NACK transm ss on for down nk and up nk SPS re ease	Nok a, Nok a S emens Networks	

Not treated as already covered.

Hopping

R1 090644	36.213 CR0214 (Re 8, F) Correct on of ncorrect reference n Sect on 8.4.1 Type 1 PUSCH hopp ng	NEC Group	

Decision: Document is noted. Refer both section 8.1 and 8.4 and revise in R1-091036.

Tuesday 10th evening

R1 091036	36.213 CR0214R1 (Re 8, F) Correct on to type 1 and type 2 PUSCH hopp ng	Qua comm Europe, Samsung, NEC Group	(R1 090644)

Decision: Document is noted and CR is agreed.

R1 090720	36.213 CR0220 (Re 8, F)Correct on to Type 1 PUSCH hopp ng	Nok a S emens Networks, Nok a	

Decision: Document is noted.

R1 091060	36.211 CR0131 (Re 8, F) Type 2 PUSCH hopp ng correct on	Huawe , CATT, CMCC	

Decision: Document is noted.

R1 091061	36.211 Draft CR on correct on for type 2 PUSCH hopp ng	Qua comm Europe, Samsung, Motoro a	(R1 090845)

Decision: Document is noted and is also supported by NEC, LGE. Draft CR is agreed and final CR as CR0132 shall be prepared in R1-091035.

Tuesday 10th evening

R1 091035	36.211 CR0132 (Re 8, F) Correct on to type 2 PUSCH hopp ng	Qua comm Europe, Samsung, Motoro a	(R1 091061)

Decision: Document is noted and CR is agreed.

R1 091062	36.213 Draft CR on correct on for type 2 PUSCH hopp ng	Qua comm Europe, Samsung	

Decision: Document is noted and CR is agreed in principle. To be merged into R1-091036 (CR0214R1).

Miscellaneous

R1 090604	36.213 CR0211 (Re 8, F) Remov ng RL mon tor ng start and stop	Samsung	

Decision: Document is noted. Revise the CR including the correction of reference number "[9] -> [10]". Final CR as CR0211 rev 1 shall be prepared in R1-091030.

Tuesday 10th evening

R1 091030	36.213 CR0211R1 (Re 8, F) Remov ng RL mon tor ng start and stop	Samsung	

Decision: Document is noted and CR is agreed.

R1 091016	UE behav our around message 2 and message 3	Panason c, LGE, Motoro a	(R1 090985)

Decision: Document is noted.

Friday 13th : Hidetoshi Suzuki from Panasonic presented R1-090985 **Decision:** Document is noted and it is noted that UE behaviour of PUCCH/PUSCH/SRS around PRACH transmission is unspecified.

R1 090812	36.213 PRACH retransm ss on t m ng	Huawe , Panason c, Qua comm Europe	

Decision: Document is noted and CR is agreed in principle. Rewording is needed and revised CR shall be prepared in R1-091031.

Friday 13th : Further revised in R1-091111. Arnaud Meylan from Huawei presented R1-091111 **Decision:** Document is noted and CR is for email approval until 19/02 for final wording.

R1 090803	36.213 CR0221 (Re 8, F) Redundancy Vers on mapp ng funct on for DCI 1C	Motoro a, Nok a, Nok a S emens Networks	

Decision: Document is noted. CR number is missing. Prepare final CR as CR0221 in R1-091032.

Friday 13th : Further revised in R1-091063. **Decision:** Document is noted and CR is agreed.

R1 091050	Draft CR on error hand ng of PDSCH and PUSCH ass gnments	Qua comm Europe, Huawe	(R1 090846)

Decision: Document is noted. Prepare final CR as CR0227 in R1-091033

Friday 13th : Decision: Document is noted and CR in R1-091033 is agreed.

R1 090848	Draft CR on c ar fy ng PHICH ndex mapp ng	Qua comm Europe	

Decision: Document is noted. Prepare final CR as CR0228 in R1-091034

Friday 13th : Decision: Document is noted and CR in R1-091034 is agreed.

R1 090849	Draft CR on c ar fy ng DL type 2 resource a ocat on	Qua comm Europe	

Decision: Document is noted.

R1 090955	Indent fy Ce Edge Users by Us ng Max mum RSRP Tr gger Thresho d n ICIC Operat on	CHTTL, ITRI	

Decision: Document is noted.

R1 091015	36.213 CR0223 (Re 8, F) Scramb ng of PUSCH correspond ng to Random access response grant	Nok a S emens Networks, Nok a, Er csson, Samsung, LGE, Huawe	

Decision: Document is noted and CR is agreed.

Below set of documents has not been presented.

R1 090844	On CQI report ng for open oop spat a mu t p ex ng	Qua comm Europe	
R1 090847	Draft CR on error hand ng of PDSCH ass gnment	Qua comm Europe, Huawe	
R1 090908	C ar f cat ons of TDD ACK/NACK mu t p ex ng	Er csson	

6.4 Corrections for TS 36.214

R1 090766	Draft CR on UE measurement	Norte	

Decision: Document is noted. Topic shall be in Rel-9.

R1 090930	DL L nk Budget n Mu t antenna conf gurat ons.	NTT DOCOMO	

Decision: Document is noted. Waiting for RAN4 feedback.

7. Continuous Connectivity for packet data users for 1.28Mcps TDD

R1 090892	25.221 CR0175R1 (Re 8,B) on ntroduct on CPC for 1.28Mcps TDD	TD Tech, CATT, ZTE	(R1 090527)

The document was presented by Dongdong Shen from TD Tech and introduces changes supporting the CPC functionality for LCRTDD, as follows:

- New Burst Format types for HS-PDSCH are added. Whether data field is QPSK or 16QAM modulated, QPSK modulation is used for SS and TPC symbols.
- One additional type of HS-SCCH enabling semi-persistent resource scheduling is defined.
- The timing association between HS-SCCH and the first instance of HS-PDSCH in case of semi-persistent grant are clarified.
- The mandatory requirement for HS-DSCH associated with a DPCH is removed.
- Signatures for scheduled traffic is expanded to support acknowledge and TPC/SS command combination for transmissions over uplink semi-persistent resource.
- The acknowledgement indicators for the E-PUCH semi-persistent scheduling operation can be transmitted on the same E-HICH carrying indicators for scheduled traffic or the E-HICH carrying indicators for non-scheduled traffic.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed. This CR supersedes the previous revision agreed in RAN1#55b (R1-090527)

8 MIMO for 1.28Mcps TDD

NO CONTRIBUTIONS

9 Discussion on UTRA Multi-Carrier Evolution

General

R1 090835	UE mp ementat on comp ex ty ssues on UTRA Mu t Carr er Evo ut on	Nok a Corporat on, Nok a S emens Networks	

The document was presented by Arto Lehti from Nokia and stresses that, if all proposed extensions are implemented, HSPA related UE implementation complexity would roughly double. In worst case turbo decoder complexity would actually triple. The paper recommends that:

- The most beneficial configurations on both performance and complexity point of view should be identified and standardized.
- UE categories should be available to keep implementation complexity and power consumption in reasonable level to facilitate handset implementation.
- Implementation complexity wise inter-band dual cell is seen as best option for enhancing multicarrier HSDPA in Release 9.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090837	On mu t carr er HSPA evo ut on	Nok a Corporat on, Nok a S emens Networks	

The document was not available and is withdrawn by Nokia.

MC-HSDPA with 3-4 carriers

R1 090991	System S mu at on Resu ts for Mu t p e Carr er (3, 4) HSDPA Operat on	Qua comm Europe	(R1 090570)

The document was presented by Sharad Sambhwani from Qualcomm and deals with the performance gains of MC-HSDPA for both full-buffer and bursty traffic under the assumptions agreed in R1-090505 for both the 3 and 4 adjacent carrier cases. The paper concludes:

- For full buffer traffic, the following system performance benefit due to multi-carrier aggregation was observed:
  - For the 3-carrier case, the average sector throughput gain varies from 16% to ~4% as the number of users per sector per carrier is varied from 1 to 16.
  - For the 4-carrier case, the average sector throughput gain varies from 14% to ~4% as the number of users per sector per carrier is varied from 1 to 16.
- For bursty traffic, a significant system performance benefit was observed:
  - Greater than 3x gain in number of users supportable per sector per carrier at a given average burst rate (6.5 Mbps for the 3-carrier case and 8 Mbps for the 4-carrier case).
  - At 5 users per sector per carrier, an increase in average burst rate of >70% for the 3-carrier case and >80% for the 4-carrier case.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090891	System S mu at on Resu ts for MC HSDPA Operat on over 3 Carr ers	Huawe	

The document was presented by Yang Bo from Huawei and contains full buffer traffic system evaluation results for MC-HSDPA operation over 3 carriers. Performance gains are increasing with number of carriers, especially with a small number of users.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 090980	System s mu at on resu ts for MC HSDPA operat on over 3 and 4 carr ers	Er csson	(R1 090966)

The document was presented by Johan Bergman from Ericsson and contains system simulation results for Bursty traffic and Full buffer traffic scenarios in 3-or-4 carrier networks where the UEs are capable of receiving 1, 2, 3 or 4 carriers.

The paper shows performance gains for MC-HSDPA operation over 3 and 4 carriers, e.g for typical bursty traffic, N-fold MC-HSDPA gives roughly N times the average user throughput as N single carriers throughout the sector area.

It's also shown that the performance is not very sensitive to a change of the CQI feedback cycle from 1 TTI to 2 TTI, implying that CQI reporting based on time multiplexing of the CQI values for the 3-4 carriers may be a reasonable way forward since it comes without significant performance degradation.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090887	Cons derat ons on Mu t (3, 4) Carr er HSDPA Operat on	Huawe	

The document was presented by Yang Bo from Huawei and provides considerations on the following issues:

- The design of HS-DPCCH channel;
- Scheduling mode
- Activation and deactivation of supplementary carriers;
- The CPC feature;
- Mobility management and measurement.

Discussion (Question / Comment): .
Decision: Document is noted.

<u>Inter-band MC-HSDPA</u>

R1 090992	System S mu at on Resu ts for Inter Band Mu t Carr er HSDPA Operat on	Qua comm Europe	(R1 090572)

The document was presented by Sharad Sambhwani from Qualcomm and shows system simulation performance results for inter-band MC-HSDPA (2 and 4 carriers) operation in PA3 and VA30 channels.

- For full buffer traffic, the following system performance benefit due to multi-carrier aggregation across 2 frequency bands was observed:
  - For the 2-carrier case (1+1) compared to 2xSC-HSDPA:
    - In PA3, the average sector throughput gain varies from 26% to ~10% as the number of users per sector per carrier is varied from 1 to 16.
    - In VA30, the average sector throughput gain varies from 11% to 9% as the number of users per sector per carrier is varied from 1 to 16.
  - For the 4-carrier case (2+2) compared to 4xSC-HSDPA:
    - In PA3, the average sector throughput gain varies from 46% to 16% as the number of users per sector per carrier is varied from 1 to 16.
    - In VA30, the average sector throughput gain varies from 18% to 8% as the number of users per sector per carrier is varied from 1 to 16.
  - For the 4-carrier case (2+2) compared to 2xDC-HSDPA:
    - In PA3, the average sector throughput gain varies from 12% to 8% as the number of users per sector per carrier is varied from 1 to 16.

- For bursty traffic, a significant system performance benefit was observed for MC-HSDPA:
  - 2x to 3.5x gain in number of users supportable per sector per carrier at a given average burst rate (3 Mbps for the 2-carrier case and 2.5 Mbps for the 4-carrier case when comparing with the SC-HSDPA case and 7.5 Mbps for the 4-carrier case when comparing with the 2xDC-HSDPA case).
  - At 20 users per sector, we observe an increase in average burst rate of
    - 100% for the 2-carrier (1+1) case over 2x SC-HSDPA and
    - 300% for the 4-carrier (2+2) case over 4xSC-HSDPA.
    - 85% for the 4-carrier (2+2) case over 2xDC-HSDPA.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090888	System S mu at on Resu ts for DC HSDPA Operat on over Inter band Carr ers	Huawe	

The document was presented by Yang Bo from Huawei and contains system simulation results for DC-HSDPA operation over inter-band carriers with Full buffer traffic. The conclusion states that the performance gains of inter-band DC-HSDPA operation with full buffer traffic are even slightly better than that of intra-band operation.

Discussion (Question / Comment): .
Decision: Document is noted.

<u>DC-HSDPA+MIMO</u>

R1 090571	System S mu at on Resu ts for Dua Carr er HSDPA and DL MIMO Operat on	Qua comm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and shows system simulation performance results for simultaneous operation of DC-HSDPA and MIMO in a single frequency band. The paper concludes as follows:

- For full buffer traffic,
  - Full buffer sector throughputs for DC-HSDPA+MIMO are about 19% better than baseline DC-HSDPA.
- For bursty traffic, with focus on the “burst rate”, as it is an important indicator of user experience.
  - For a given number of users, the average burst rates with DC-HSDPA+MIMO are 15-18% better than baseline DC-HSDPA.
  - At a burst rate of 11 Mbps, DC-HSDPA+MIMO supports 100% more users than DC-HSDPA.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 090890	System S mu at on Resu ts for DC HSDPA+MIMO Operat on	Huawe	

The document was not available and withdrawn by Huawei.

R1 090987	System s mu at on resu ts for DC HSDPA MIMO operat on	Er csson	(R1 090967)

The document was presented by Johan Bergman from Ericsson and contains simulation results for Full buffer traffic with 2D and 3D antennas patterns. The paper shows performance gains for e.g, for the 3D scenario with 1 UE per sector, the throughput is increased from ~13 Mbps to ~18 Mbps when going from SIMO with Type 3 receiver to MIMO with Type 3i receiver.

Discussion (Question / Comment): NSN raised question on the different type 3 receiver, what are the differences we are getting rid of ? Cross stream interference was answered by Ericsson.
Decision: Document is noted.

<u>DC-HSUPA</u>

R1 090993	System S mu at on Resu ts for Dua Carr er HSUPA Operat on	Qua comm Europe	(R1 090573)

The document was presented by Sharad Sambhwani from Qualcomm and shows Qualcomm's view of the benefit of DC-HSUPA (adjacent carriers) in a single frequency band for both the bursty traffic source and full buffer source models.

For the bursty traffic source model:

- TU6 3km/hr, ISD = 500m 3-d Antenna, 20dB penetration loss
- TU6 3km/hr, 1732m ISD, 2-d Antenna, 10dB penetration loss
- burst rate gain (70-80%) with the same number of users per sector with respect to the 2xHSUPA case.

For the full buffer source model:

- PA3 channel, ISD 500m, 3-d Antenna, 20dB penetration loss
- PA3 channel, 1732m ISD, 2-d Antenna, 10dB penetration loss
- non-trivial gains of the order of 65% to 81% due to DC-HSUPA over the 2xHSUPA case in partially loaded scenarios.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090836	DC HSUPA s mu at on resu ts	Nok a Corporat on, Nok a S emens Networks	

The document was presented by Arto Lehti from Nokia and concludes that Dual carrier transmission can increase user burst rate significantly when the number of users in the system is low and cell size is small. The gains are diminishing as the number of users and cell size increase. On the other hand the achieved burst rates cannot be doubled by allowing dual carrier transmission due to additional DPCCH overhead required.

Discussion (Question / Comment):
Decision: Document is noted.

R1 090968	System s mu at on resu ts for DC HSUPA operat on	Er csson	

The document was presented by Johan Bergman from Ericsson and contains the same system simulation results for DC-HSUPA operation with Full buffer traffic as shown in Ljublana. Some details on the simulation assumptions have been added.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 090886	Cons derat ons on DC HSUPA Operat on	Huawe	

The document was presented by Yang Bo from Huawei and proposes the following working assumptions:

- The two carriers are adjacent carriers.
- To consider the downlink channels design associated E-DCH and evaluate its performance in DC-HSUPA such as: E-AGCH, E-HICH/RGCH, F-DPCH.
- To consider the enhancement of mobility procedure in DC-HSUPA such as active set extension, measurement improvement.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

Conclusion: Mr Chairman suggested drafting a summary document gathering benefits of the feature, feasibility and complexity aspects.

Friday 13th

R1 091082	RAN1 f nd ngs of the UTRA Mu t Carr er Evo ut on study	Er csson, A cate Lucent, Huawe , Inf neon, Nok a, Nok a S emens Networks, Qua comm Europe, Samsung	

The document was presented by Johan Bergman from Ericsson.

Discussion (Question / Comment): No comment.
Decision: Document is agreed.

10 Positioning Support for LTE

R1 090765	LTE ne ghbor ce hearab ty	Norte	

The document was presented by Ms Anna Tee from Nortel and addresses the issue of neighbour cell hearability. It is proposed to add signals for hearability improvement following a similar structure as the signal structure in Release 8 standard, i.e., cell-specific RS and synchronization signals.

This approach minimizes additional receiver complexity in the support of TDOA estimation and hopping of the resource blocks that carry the proposed TDOA-RS and TDOA-sync across the frequency domain can exploit frequency diversity, and maximize the hearability in various channel conditions as experienced by different UEs.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090768	Performance of DL OTDOA w th Ded cated LCS RS	A cate Lucent	

The document was presented by Fang-Chen Cheng from Alcatel-Lucent and provides evaluation methodology and performance results for the DL OTDOA. The paper concludes that DL OTDOA without the improved hearability (as described in R1-090053) will not provide the desired accuracy in the location estimation to meet some target requirement, such as US FCC mandate for Emergency call. The performance results show that the DL OTDOA is a good complement to the AGPS/AGNSS solution for LTE positioning service in dense urban environment, where the coverage of satellite is limited.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090791	On the Hearab ty Issue for OTDOA based Pos t on ng Support for LTE Re 9	Motoro a	

The document was presented by … from Motorola and proposes a framework as follows:

- Link-level study: Evaluate the performance of OTDOA methods with existing Rel-8 mechanisms such as common reference signals, P/S-SCH, etc to understand baseline performance. The time-difference-of-arrival (mean error and standard deviation) should be investigated for the PRS designs for a pair of eNBs with a certain receive power difference modeling different near-far scenarios.

- System-level study: Actual position estimation methods are evaluated with UEs reporting OTDOA measurements in true network environments. A UE could be dropped at random at different possible positions in the simulations and the CDF of positioning accuracy may be used as a performance metric. Certain standard triangulation / trilateration methods can be assumed in the evaluations. The network simulation scenarios defined in TR36.814 can be used for system evaluation (e.g., case 1 and 3).

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090838	Study Assumpt ons for LTE Pos t on ng Support	Nok a Corporat on, Nok a S emens Networks	

The document was presented by Arto Lehti from Nokia and proposes the study assumptions and simulation parameters to be used in evaluation of time difference of arrival based positioning method for LTE. In addition the problematics of the detection of the neighbour cell before any measurement can be done are also discussed.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090851	Further pos t on ng eva uat ons	Qua comm Europe	

The document was presented by … from Qualcomm and provides simulation results showing the gains in positioning performance with the E-IPDL hearability enhancement method in both synchronous and asynchronous networks. The performance improves both in terms of success rate and positioning accuracy. The paper also notes the following:

- The basic OTDOA mechanism shows a poor success rate of position fixes
- E-IPDL provides 100% success position fixes in synchronous network operation
- E-IPDL considerably improves the success rate of position fixes for asynchronous network operation
- E-IPDL improves the positioning accuracy compared to the performance attained with successful fixes using OTDOA
- E-IPDL is realizable in a fully backard compatible manner with very low overhead (~1%).

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090852	PHY ayer spec f cat on mpact of pos t on ng mprovements	Qua comm Europe	

The above contribution was not presented. Just noted as it outlines the foreseen physical layer specification impact to support an efficient OTDOA positioning in LTE Release-9 (scheme described in previous contribution).

R1 090853	Eva uat on parameters for pos t on ng stud es	Qua comm Europe	

The document was presented by … from Qualcomm and proposes a set of parameters for evaluation of downlink positioning methods for LTE. These parameters have either been used extensively in UTRAN positioning studies or for E-UTRAN system studies or both.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090918	On OTDOA pos t on ng for LTE	Er csson	

The document was presented by Daniel Larsson from Ericsson and proposes that the positioning method should be OTDOA based, using RS measurement and further to reserve some subframes for positioning. It is also proposed for further studies, to investigate if sufficient positioning accuracy could be achieved with the use of existing RS, together with SINR improvements methods. If not, additional RS patterns could be studied.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090936	UE Pos t on ng Based on AoA+TA for LTE Re 9	CATT	

The document was presented by Ding Yu from CATT and deals with an UE positioning based on AoA+TA as potential candidate for LTE-TDD UE Positioning in Rel-9. It is shown field test results in the currently operating LCR TDD network of Guang Zhou city, China, namely:

- the positioning accuracy of 50m in LOS and 150m in N-LOS can be obtained in urban Macro cells

Discussion (Question / Comment): .
Decision: Document is noted.

<u>Conclusion:</u>

UE OTDOA DL Measurement

- Based on RS
    - FFS whether modified RS (or sync signals) for positioning are needed
- In designated subframes with low interference (e.g. MBSFN subframes)
    - FFS density in time and frequency

Mr Chairman suggested some email discussion to happen until next meeting improving on simulation assumptions. Evaluations should also consider synchronized and non synchronized cells

UE AoA+TA Measurement is FFS (requested by CATT and CMCC)

11 Study Item on E-UTRAN Mobility Evaluation & Enhancement

SI Description in RP-081137. "E-UTRAN Mobility Evaluation and Enhancement"

R1 090721	E UTRAN mob ty enhancement SI d scuss on	Nok a, Nok a S emens Networks	

The document was presented by Asbjørn Grøvlen from Nokia and suggests the following steps regarding study item on E-UTRAN Mobility Evaluation and Enhancement:

- Agree on baseline simulation assumptions for Rel'8 mobility performance in common scenarios
- Evaluate the baseline performance of LTE Rel-8 mobility procedures, taking into account what is already possible within Rel'8
- Evaluate also LTE mobility enhancements already studied in RAN4 but not considered essential for Rel-8
- If a need for enhancement is confirmed, identify the specific areas of the mobility procedure that can be enhanced to meet the needs.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 091042	E UTRAN mob ty eva uat on mode s and assumpt ons	Norte	(R1 090764)

The document was presented by Ms Yi Song from Nortel and proposes a set of simulation parameters for E-UTRAN mobility evaluation based on previous contributions discussed at RAN1#55b (R1-090445 & R1-090528). In addition, it is proposed to include Manhattan deployment model in TR36.814 (Text proposal is attached).

Discussion (Question / Comment): Several concerns on the proposed figures for the "Number of HARQ and ARQ transmissions" before being captured in TR.
Decision: Document is noted.

R1 090854	Further eva uat ons of mob ty performance n LTE	Qua comm Europe	
R1 090857	Poss b e so ut ons to mprove mob ty perforamance	Qua comm Europe	

Decision: Documents are noted.

R1 091096	Cons derat ons on Mob ty Enhancements for Re ease 9	Er csson	(R1 090913)

The document was presented by Daniel Larsson from Ericsson and provides simulation results proving that the handover procedure works well. Simulation results and tests from a live network in a typical urban environment do not reveal any shortcomings in the HO procedure.

Discussion (Question / Comment): Qualcomm commented that Ericsson's results do not invalidate their own results.
Decision: Document is noted.

R1 091099	Ske eton TR for mob ty enhancements	Qua comm Europe	(R1 090855)

The document was presented by Rajat Prakash from Qualcomm.

Discussion (Question / Comment): .
Decision: Document is noted. The proposed skeleton is agreed in principle.

R1 091100	TP for TR on mob ty stud es	Qua comm Europe	(R1 090856)

The document was presented by Rajat Prakash from Qualcomm and is intended to capture findings produced in the context of the study item "E-UTRAN Mobility Evaluation and Enhancement".

Discussion (Question / Comment): There's a concern on the unsuccessful handover procedure in case of RLF, that shall be driven by RAN2 rather than RAN1.
Decision: Document is noted. As email discussion shall be continued, R1-091100 is for email approval until February 26th.

R1 091101	[DRAFT] LS on mob ty eva uat on	Qua comm Europe	

The document was presented by Rajat Prakash from Qualcomm and requests RAN4 to comment on the simulation assumptions in R1-091100. In particular, RAN1 requests RAN4 to clarify whether significant difference exists between TDD and FDD configurations, and between non-DRX UE and a UE with a typical VoIP DRX configuration.

Discussion (Question / Comment): .
Decision: Document is noted. For email approval until February 26th.

12 Study Item on LTE-Advanced

R1 090929	TR 36.814 v0.3.2	NTT DOCOMO	

The document was presented by Sadayuki Abeta from NTT DoCoMo and includes the agreements from last meeting, namely:

- channel model (R1-090498)
- antenna model (R1-090531)
- UL transmission scheme and MAC-PHY interface (wider bandwidth) (R1-09544)

Discussion (Question / Comment): .
Decision: Document is noted and endorsed as v0.4.0 in R1-091009.

R1 091005	LTE Advanced RAN1 work p an for ITU subm ss on	RAN1 Cha rman	

The document was presented by Dirk Gerstenberger from Ericsson and highlights the deadlines for ITU submission, namely:

- ”Complete Technology”, including technology description after RAN#44 (June 2009)
- ”Final submission”, including self evaluation after RAN#45 (September 2009)

The contribution shows RAN1 involvement in the ITU submission process based on the following milestones:

- TR 36.814 presented for information (v1.0.0) at March plenary meeting
- TR 36.814 presented for approval (v9.0.0) at June plenary meeting

Discussion (Question / Comment): Mr Chairman encouraged discussions to continue between meetings, via the email reflector.
Decision: Document is noted.

12.1 Bandwidth extension

The set of contributions attached to this Agenda Item has not been treated.

12.2 Coordinated Multipoint Transmission/Reception (COMP)

R1 090875	L nk ana yses for RS structure n support of h gher order MIMO	Qua comm Europe	

The document (under AI 12.4) was presented by Juan Montojo/Alex … from Qualcomm and introduces a CQI-RS design that is backward-compatible and has very low overhead, and demonstrated that such a design approaches genie-aided performance in terms of interference suppression when the strongest cell punctures its traffic Res that overlap with CQI-RS of a weaker cell.

The paper also discussed a number of principles towards precoded DRS design, with particular emphasisis on the importance of orthogonal DRS design principle based on a link level analysis.

We recommend RAN1 to consider these principles for the design and specification of CQI-RS and DM-RS (DRS) in LTE-Advanced.

Two forms of RS should be allowed: demodulation RS (DM-RS) for PDSCH demodulation and CQI-RS, for PMI/CQI/RI reporting when needed. In this document, we present some further considerations on reference signal design.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090586	Jo nt Process ng Down nk COMP Reference S gna Support	Texas Instruments	

The document was presented by Eko Onggosanusi from TI and addresses two types of combining approaches (coherent and non-coherent) at the UE for DL COMP RS.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090619	DL RS Des gns for H gher Order MIMO	Samsung	

The document (under AI 12.4) was presented by … from Samsung and discusses the DL RS design for 8-Tx transmissions in backward-compatible time-frequency resources, where, for simplicity, it is assumed that all the RBs in a component carrier in a subframe are backward-compatible. The paper provides the following DL RS design recommendations:

- CQI and DM RS in PDSCH region.
- Considerations on CQI RS
  - Non-precoded CQI RS allocated in a time-sparse (and maybe frequency-sparse) manner.
  - In the RBs with CQI RS, Rel-8 transmission is still allowed with appropriate MCS accounting for the performance loss due to not using CQI RS Res for data transmission.
  - For CQI RS, assign small number of RS Res per antenna port, e.g., 2 RS Res, while for DM RS, allow for a slightly larger number of RS Res. Pilot patterns would be allocated so as to facilitate the inter-cell interference management by cell-specific frequency shifting, and to enable power boosting by pulling the unused power in the RS Res for the other antenna ports. CDM-ed CQI RS can also be considered.
- Considerations on DM RS
  - Precoded DM RS for low-rank transmissions (1,2,3,4).
  - For high rank transmissions (5,6,7,8), provide PMI in a DL grant, as well as allocating four sets of DM RS Res in the PDSCH region.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090916	Cons derat ons on RS Des gn for LTE Advanced	Er csson	

The document (under AI 12.4) was presented by George Jöngren from Ericsson and outlines guidelines for the design of reference signals for LTE-Advanced targeting the need to establish a more concrete framework for the further work. It is proposed to agree on:

- Sparse cell specific measurement RS and a denser precoded UE specific RS as a baseline framework for the RS design.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090787	Issues on DL RS Des gn for LTE A	LG E ectron cs	

The document (under AI 12.4) was presented by … from LGE and discusses high-level issues on DL-RS design for 8Tx support. Following table shows a summary of the outcomes:

	Alternatives	**Preferred Alternative(s) and Reasons**
LTE/LTE-A Mutiplexing	■ Alt1. TDM (LTE / LTE-A subframe) ■ Alt2. FDM (Mixed subframe only) ■ Alt3. TDM/FDM (supporting both)	Alt1 or Alt3 seems to be appropriate since the existence of LTE-A subframe may provide higher system performance by optimizing a subframe for LTE-A UE. For Alt3, by employing mixed subframe additionally the system may have more freedom for scheduling.

DL-RS	Demodulation RS	■ Alt1. Precoded RS ■ Alt2. Non-precoded RS	Both alternatives can be employed according to MIMO transmission mode. For instance, Alt1 is proper to closed-loop MIMO mode and Alt2 is more appropriate to open-MIMO transmission.
	Measurement RS	■ Alt1. MRS in PDCCH ■ Alt2. MRS in PDSCH ■ Alt3. MRS w/ Virtual antenna switching	We may more focus on Alt2 and Alt3 approaches since Alt1 seem to be problematic in terms of UE implementation complexity and potential scheduling restriction.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090796	RS Des gn for Support ng H gher Order SU/MU MIMO and CoMP	Motoro a	

The document was presented by Jeff Zhuang from Motorola and discusses RS design to support higher order SU- and MU-MIMO and CoMP (joint transmission and coordinated beamforming). The paper concludes that DRS-based demodulation seems to be suitable for LTE-A enhanced MU-MIMO and CoMP operations. DRS-based SU/MU-MIMO and CoMP operation can be complimented by a low-density CRS for CQI and spatial information related measurement.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090826	Common RS for DL h gh order MIMO	Huawe	

The document (under AI 12.4) was presented by Mattias Wennström from Huawei and addresses RS issues for eNB with eight antenna ports. It is proposed:

- The RS for port 4-7 shall not be transmitted in the resource block used for PBCH, or resource elements used for PCFICH, PDCCH, PHICH or synchronization channels.
- The RS for port 4-7 shall be separated into demodulation RS (DM-RS) and measurement RS (CQI-RS).
- The required density of the CQI-RS for port 4-7 in both time and frequency direction shall be further studied with the aim to reduce RS overhead for port 4-7.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090754	Performance eva uat on of DRS des gn for mu t ayer transm ss on	Norte	

The document was presented by Hua Xu from Nortel and shows simulation results for evaluating different aspects of DRS for multi-layer transmission, including CDM-based DRS and FDM-based DRS and different DRS patterns. Following observations are made:

- FDM-based DRS could provide better or similar performance as CDM-based DRS. The performance of CDM-based DRS could deteriorate if UE mobility is high or the channel is very dispersive in frequency, as the orthogonality between different codes on DRS could be broken.
- For FDM-based DRS, three-column DRS patterns (FDM 2 and FDM 3) shown in Figures 2 and 3 show similar performance as two column DRS pattern (FDM 1) shown in Figure 1 when UE mobility is low to medium. However, for high mobility UE, three-column DRS provide better performance than two-column DRS. Three-column DRS in Figure 2 (FDM 2) could have collision issue if common RS ports 2 and 3 are presented while three-column DRS in Figure 3 (FDM 3) doesn't have such issue.

Although some further investigation may be needed to compare other DRS patterns, it seems that FDM-based DRS pattern illustrated in Figures 3 (FDM 3) would provide favourable overall performance and have less possibility to collide with other existing RS ports, and therefore should be considered as two ports DRS for two-layer beamforming transmissions.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090706	DL Reference S gna Des gn for 8x8 MIMO n LTE Advanced	Fuj tsu	

The document (under AI 12.4) was presented by Jianming Wu from Fujitsu and introduces a design of the reference signal (common and dedicated RS) with 8×8 antenna configuration in consideration of backward compatibility to the existing LTE system with 4×4 antenna configuration.

- Designed RS is capable of realizing the channel quality measurement and data coherent demodulation/detection.
- To enable the channel quality measurement, the simultaneous transmission between CRS and data signal on the same channel resource relying on superposition manner is allowed.
- To enable data coherent demodulation and detection, a DRS relying on CDM manner is used.
- Simulation results demonstrated that the SNR for CRS is enough to support the channel quality measurement, only slightly sacrificing the performance in existing LTE system.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 091066	Wayforward on DL RS for LTE A	Er csson, Huawe , LGE, Motoro a, Nok a, Nok a S emens Networks, Norte , Panason c, Ph ps, Qua comm Europe, Samsung, Texas Instruments	

The document was presented by Stefan Parkvall from Ericsson and is a proposal for a way forward as follows:

- Define two types of RS
  - RS targeting PDSCH demodulation
  - RS targeting CSI generation (for CQI/PMI/RI/etc reporting when needed)
- RS targeting PDSCH demodulation (for LTE-A operation) are
  - UE specific
    - Transmitted only in scheduled RBs and the corresponding layers
      - Different layers can target the same or different Ues
    - Design principle is an extension of the concept of Rel-8 UE-specific RS (used for beamforming) to multiple layers
      - Details on UE-specific RS pattern, location, etc are FFS
  - RSs on different layers are mutually orthogonal
  - RS and data are subject to the same precoding operation
  - Complementary use of Rel-8 CRS by the UE is not precluded
- RS targeting CSI generation (for LTE-A operation) are
  - Cell specific
  - Sparse in frequency and time

Discussion (Question / Comment): Way forward is also supported by ZTE, Alcatel-Lucent and CeWIT.
Fujitsu requested to leave the bullet "RSs on different layers are mutually orthogonal" for FFS as they've had no chance to present their view in R1-090949.
Decision: Document is noted.

Mr Chairman decided to look at it…

R1 090949	An Eff c ent Reference S gna Des gn n LTE Advanced	Fuj tsu	

The document was presented by Jianming Wu from Fujitsu and considers a reference signal design with partially overlapped RSs to diminish the channel resource burden. In the new proposed RS structure, some part of RSs are orthogonally located, whereas some part of RSs are fully overlapped. The paper concludes that this RS design may reduce the large amount of Res by factor of quarter, only with somewhat negligible performance impact (as shown by the link level simulation). In addition, the newly designed RS structure can be applied for both common RS and dedicated RS.

Discussion (Question / Comment): .
Decision: Document is noted. Although not convinced, Fujitsu agreed proceeding with the way forward as in R1-091066 as suggested by Mr Chairman.

Friday 13th

R1 091085	Text Proposa on DL reference s gna s	Er csson	

Decision: Document is noted. In the sentence "Complementary use of Rel-8 cell-specific reference signals by the UE is FFS", replace FFS by "not precluded". TP shall be is revised in R1-091108. Before ending of the meeting, TP in R1-091108 is agreed.

Wednesday 11th afternoon

DL joint processing: General

R1 090696	Cons derat ons on precod ng scheme for DL jo nt process ng CoMP	SHARP	(R1 090022)

The document was presented by … from Sharp and shows simulation results for the current candidates for DL joint processing CoMP precoding. It is observed that a very simple precoding scheme, e.g. MBSFN precoding is competitive enough for cell edge Ues enhancement.

Discussion (Question / Comment): MBSFN precoding efficiency was questioned.
Decision: Document is noted.

R1 090585	Jo nt Process ng Down nk COMP Precod ng Support	Texas Instruments	

The document was presented by Eko Onggosanusi from TI and deals with several issues on joint processing COMP in terms of precoding operation (precoding and computation of CQI/PMI/RI). Following assumptions are drawn:

- The codebook can be designed in a joint or disjoint manner across multiple transmission points. Overall, disjoint design is a special case of joint design and seems to be more flexible.
- CQI/PMI/RI computation and reporting can be done jointly or disjointly. Overall, the joint approach seems to be preferred. This system aspect needs to be decided first before other details on precoding can be finalized.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090942	Aspects of Jo nt Process ng for Down nk CoMP	CATT	

The document was presented by Ms Ying Peng from CATT and discuss several techniques for the single-layer downlink joint processing. The paper's conclusion proposes that, for single-layer joint processing, non-coherent transmission is used as the baseline assumption (cooperation scheme of coherent transmission requires further study). For FDD, UE feeds back channel state information to network. For TDD, network could acquire channel state information by uplink/downlink reciprocity to reduce the feedback overhead and increase the flexibility of transmission.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090749	D scuss on on Mu t p e s te transm ss on schemes for LTE A	Norte	

The document was presented by Mohammadhadi Baligh from Nortel and discusses some scenarios between different sites and related solutions. Cooperation is studied in three categories: open loop, closed loop and semi-closed loop. Parameters like backhaul overhead to share data and CSI, RS overhead, feedback overhead, complexity and sensitivity to timing error, distance and phase mismatch are addressed. Table 1 in the contribution shows details on the requirements on different algorithms and their expected gain.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090601	Down nk CoMP Transm ss on us ng DPC MIMO	H tach , Ltd.	

The document was presented by Yunjian Jia from Hitachi and considers the precoding structure for the super eNB (= multiple eNBs having full share of channel information and data) to implement DPC MIMO and compared DPC MIMO with the linear MIMO processing. Conclusion shows significant superiority of performance of DPC MIMO over linear processing.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090613	D scuss ons on COMP SU MIMO	Samsung	

The document was presented by … from Samsung and analyzes technologies in both classes of CoMP transmission schemes. Conclusion shows that CoMP operation will bring gains to average sector throughput as well as 5-% sector throughput. Joint transmission of data seems to be promising as long as the inter-cell data sharing will not cause too much burden on the backhaul.

Discussion (Question / Comment): .
Decision: Document is noted.

DL joint processing: Feedback

R1 090686	D scuss on on Informat on Exchange Aspects of DL CoMP	Panason c	

The document was presented by Hui Tong from Panasonic and focuses on the information exchange aspects of CoMP. The paper analyzes the information exchange requirements for different CoMP systems, e.g., joint processing and coordinated beamforming, and the cooperation between different types of nodes and shows that different CoMP systems have a very different nature of information exchange in backhaul.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090777	UE PMI feedback s gna ng for user pa r ng / coord nat on	A cate Lucent	

The document was presented by Christian Gerlach from Alcatel-Lucent and describes the benefits of UE feedback signalling enhanced by best-companion PMI (meaning that the Ues feed back information how the inter- or intra-cell interference level can be reduced to achieve best-case conditions) or worst-companion PMI (the Ues report the PMIs that create the highest intra- and inter-cell interference). Benefits exist for both coordinated multi-cell as well as for single-cell operation enabled by the same signalling mechanisms and therefore the paper proposes to create a general framework for such an enhanced UE PMI feedback signalling covering both networking aspects.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090783	Cons derat on on non channe dependant spat a mu t p ex ng for PUSCH	LG E ectron cs	

LGE decided to skip the presentation of their contribution.

R1 090866	Mu t p e Descr pt on Cod ng for Spat a Feedback Pay oad Reduct on	Qua comm Europe	

The document was presented by Alex… from Qualcomm and shows an approach to feedback design allowing performance gains without compromising on the "self-contained feedback" principle adopted in LTE Rel 8. The paper notes that the proposed modification of the LTE Rel-8 feedback design, while discussed in the CoMP context, also yields improved performance for intra-cell closed loop precoding transmissions, namely SU-MIMO and MU-MIMO.

Discussion (Question / Comment): .
Decision: Document is noted.

DL joint processing: Performance

R1 090701	Mu t ce co operat ve beamform ng: operat on and eva uat on, and TP for TR36.814	Ph ps	

The document was presented by Choo Chiau from Philips and concludes that cooperative transmission is potentially beneficial when applied between cells on the same physical site, as it does not imply a need for any inter-eNB communication. The throughput benefits of such co-operative transmission schemes are shown to worthwhile regardless of the details of the implementation scheme. Useful improvements in system throughput are shown to be achievable for a couple of rather different co-operation schemes, namely beamforming and MBSFN-like transmission.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090793	Coord nated Mu t Po nt Transm ss on Coord nated Beamform ng and Resu ts	Motoro a	(R1 090325)

The document was presented by Jeff Zhuang from Motorola and discusses scenarios for coordinated precoding / beamforming in Coordinated Multi-point (CoMP) downlink transmission. The conclusion shows that coordinated beamforming with improved feedback can deliver significant gain to cell-edge Ues (even though this is a preliminary study using a two-cell simulation scenario). However, accurate measurements at UE from multiple nodes, UE feedback and information exchange between eNBs could be challenging. The paper also notes that a CoMP allocation may require appropriate RS design. One approach is to use DRS for each stream for demodulation. If DRS for other Ues are made available, IC receiver can also help to make the coordinated precoding and user scheduling more robust to measurement and reporting errors.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090922	Down nk CoMP MU MIMO transm ss on Schemes	CMCC	

The document was presented by … from CMCC and draws the following conclusions based on simulation results of the downlink CoMP-MU-MIMO scheme in comparison with conventional non-cooperative system:

- CoMP-MU-MIMO is one of the candidate techniques for LTE-Advanced systems to increase both the average sector throughput and the cell edge user throughput. The CoMP-MU-MIMO area is not limited to the cell edge area.
- CoMP-MU-MIMO has better performance than CoMP-SU-MIMO.
- In the downlink CoMP transmission, to use whether CoMP-MU-MIMO or CoMP-SU-MIMO need further study.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090822	System Performance Eva uat on of Down nk CoMP	Huawe	

The document was presented by Ren Xiaotao from Huawei and shows system-level simulation of the performance of downlink CoMP joint transmission, namely:

- CoMP is beneficial to both cell-edge user throughput and cell average throughput. Over 25% gain for cell average throughput and over 67% gain cell edge throughput can be seen from the example of downlink CoMP scheme.
- UE and cell-average throughput are increased when all Ues in the cell coverage would employ CoMP transmission. The results show that 5%, 20% and 30% cell-edge Ues' throughput are increased by more than 65%, even 50% cell-edge Ues' throughput are increased by 58%. Therefore, CoMP range shouldn't be limited to the 5% cell edge users.

Discussion (Question / Comment): .
Decision: Document is noted.

Conclusion from Mr Chairman:

The different discussed contributions have shown promising results. RAN1 should use the five weeks timeframe until next meeting to progress further on COMP via email reflector.

The following set of contributions has not been treated.

R1 090587	Enab ng Coord nated Mu t Po nt Recept on	Texas Instruments	
R1 090596	Leakage based precod ng for CoMP n LTE A	M tsub sh E ectr c	
R1 090598	An ssue on mu t ce antenna a ocat on for jo nt approaches	H tach , Ltd.	
R1 090599	An ssue on overhead for Down nk jo nt process ng	H tach , Ltd.	
R1 090600	Frequency doma n enhancement of beam cyc c pattern for broadband transm ss on	H tach , Ltd.	
R1 090602	An Eff c ent DPC MIMO Scheme for Down nk CoMP n LTE A	H tach , Ltd.	
R1 090631	Up nk CoMP jo nt process ng schemes	ZTE	(R1 090414)
R1 090632	D scuss on of CQI RS des gn for LTE A CoMP	ZTE	
R1 090657	Dynam c Ce C uster ng for CoMP	LG E ectron cs	
R1 090658	Mu t ayered Rate Contro for Network MIMO n LTE Advanced	LG E ectron cs	
R1 090659	Mu t ayered Rate Contro for Up nk Network MIMO	LG E ectron cs	
R1 090685	V ews on ICI hand ng for CoMP	Panason c	
R1 090687	D scuss on on PUCCH coord nat on for UL CoMP	Panason c	
R1 090705	Eff c ent HARQ Protoco for SIC based DL CoMP	Fuj tsu	
R1 090725	Setup of CoMP cooperat on areas	Nok a S emens Networks, Nok a	
R1 090745	Ce C uster ng n CoMP Transm ss on/Recept on	Norte	
R1 090746	Power A ocat on Among eNBs n C osed Loop Down nk CoMP Transm ss on	Norte	
R1 090747	C osed Loop Spat a Mu t p ex ng n Down nk CoMP Transm ss on	Norte	
R1 090748	Performance eva uat ons of CoMP so ut ons	Norte	
R1 090770	Up nk coord nated mu t po nt recept on w th d str buted nter ce nterference suppress on for LTE A	A cate Lucent Shangha Be , A cate Lucent	
R1 090782	CoMP Conf gurat ons and UE/eNB Behav ors n LTE advanced	LG E ectron cs	
R1 090818	S gna ng Aspects and TP on DL CoMP for LTE Advanced	Huawe	
R1 090819	Up nk reference s gna for LTE A	Huawe	
R1 090820	Impacts of Down nk CoMP Transm ss on on Rad o Interface, Transm tter and Rece ver	Huawe	
R1 090821	So ut ons for down nk CoMP transm ss on For ssues on contro zone, CRS and DRS	Huawe , Qua comm Europe, RITT, CMCC	
R1 090823	D scuss on on T m ng Advance ssue n CoMP & Text Proposa	Huawe , RITT, Texas Instruments, CMCC	
R1 090865	CoMP Cooperat ve S enc ng Hotzone DL Performance	Qua comm Europe	
R1 090867	S gna ng for spat a coord nat on n DL CoMP	Qua comm Europe	
R1 090868	CoMP cooperat ve S enc ng Hotzone UL Performance	Qua comm Europe	
R1 091070	ComP ana ys s n presence of bursty traff c.	Qua comm Europe	(R1 090869)
R1 090882	Per ce precod ng methods for down nk jo nt process ng CoMP	ETRI	

R1 090900	Inter ce Rad o Resource Management for Heterogeneous Network	NTT DOCOMO	
R1 090914	Down nk CoMP	Er csson	
R1 090923	UL CoMP Scheme and System Leve Performance Eva uat on for LTE A	CMCC	
R1 090941	Ana ys s of CQI/PMI Feedback for Down nk CoMP	CATT	
R1 090950	Rece ved T m ng D fference n Down nk CoMP Transm ss on	Fuj tsu	
R1 090951	Pseudo Transm ss on T m ng Contro us ng Cyc c Sh ft for Down nk CoMP Jo nt Transm ss on	Fuj tsu	
R1 090956	A Hybr d Concept of ICIC and CoMP for LTE A: In t a Eva uat on	CHTTL, ITRI	
R1 091059	Systemat c Data Repet t on for Effect ve Ce edge Interference Management	CEW T	(R1 090971)
R1 091064	Wayforward of CoMP C uster ng & Act ve Set	LGE	
R1 091067	Down nk CoMP transm tt ng scheme based on beamform ng	ZTE	(R1 090633)

12.3 UL MIMO extension up to 4x4

R1 091105	Summary of MIMO sess on	Ad hoc cha rman	

The document was presented by Juho Lee from Samsung and summarizes the outcomes of the ad-hoc MIMO session.

Discussion (Question / Comment): .
Decision: Document is noted. The content is endorsed as follows:

<u>**SU-MIMO**</u>

R1 090589	Layer Mapp ng So ut on for Up nk SU MIMO	Texas Instruments	

Decision: Document is noted.

R1 090616	D scuss ons on UL SU MIMO for LTE Advanced	Samsung	

Decision: Document is noted.

R1 090661	Ana ys s of number of codewords for Up nk SU MIMO	LG E ectron cs	

Decision: Document is noted.

R1 090771	Jo nt Spat a Mu t p ex ng w th Transm t Antenna Sw tch ng for LTE Advanced Up nk SU MIMO	A cate Lucent Shangha Be , A cate Lucent	

Decision: Document is noted.

R1 090795	UL MIMO w th Antenna Ga n Imba ance	Motoro a	

Decision: Document is noted.

R1 090872	SU MIMO operat on for UL of LTE A	Qua comm Europe	

Decision: Document is noted.

R1 091093	UL S ng e user MIMO	Er csson	(R1 090915)

Decision: Document is noted.

R1 090881	Up nk SU MIMO w th s mp e ayer nter eav ng	ETRI	

Decision: Document is noted.

R1 090943	Non codebook based Precod ng for Up nk transm ss on	CATT, CMCC, RITT	

Decision: Document is noted.

R1 091075	Layer Mapp ng for UL SU MIMO	Texas Instruments	

Decision: Document is noted.

Overall structure proposed in R1-091075

- CW → layer → virtual antenna → antenna ports
  - CW to layer mapping
  - Layer to virtual antenna mapping: e.g., layer shifting
  - Virtual antenna to antenna port mapping: e.g., precoding in closed loop spatial multiplexing in Rel-8 LTE DL

Friday 13th

R1 091102	Layer Mapp ng for UL SU MIMO spat a mu t p ex ng	A cate Lucent, A cate Lucent Shangha Be , AT&T, CATT, CEW T, Er csson, ETRI, Huawe , LG E ectron cs, Motoro a, Nok a, Nok a S emens Networks, Norte , NTT DoCoMo, Panason c, Qua comm, Samsung, Texas Instruments	(R1 091075)

The document was presented by Eko from TI and is a proposed way forward on layer mapping for 2Tx and 4Tx UL SU-MIMO.

Discussion (Question / Comment): Should be captured in TR.
Decision: Document is noted and the way forward is agreed. A TP shall be prepared (Samsung) and is for email approval until 19/02.

The following set of contributions has not been treated.

R1 090563	D scuss on on antenna ca brat on n TDD	M tsub sh E ectr c	
R1 090564	Necess ty of check ng channe character st cs n TDD	M tsub sh E ectr c	
R1 090588	Further Ana ys s on Up nk SU MIMO for E UTRA	Texas Instruments	
R1 090590	Codebook Des gn for Up nk SU MIMO	Texas Instruments	
R1 090614	D scuss ons on UL 2Tx Transm t D vers ty Schemes n LTE A	Samsung	
R1 090615	UL PUSCH 4Tx Transm t D vers ty Schemes n LTE A	Samsung	
R1 090617	SRS Transm ss on Issues for LTE A	Samsung	
R1 090669	D scuss on on Up nk MU MIMO for LTE Advanced	Ch na Potev o Co., Ltd	
R1 090688	V ews on UL MIMO extens on up to 4x4	Panason c	
R1 090689	Precoded SRS for LTE Advanced	Panason c	
R1 090697	LTE A transm t d vers ty schemes for PUCCH format 1/1a/1b	SHARP	

R1 090726	S ng e stream precod ng for LTE Advanced UL	Nok a S emens Networks, Nok a	
R1 090727	UL S ng e User MIMO Schemes n LTE Advanced	Nok a S emens Networks, Nok a	
R1 090739	Compar son of up nk transm t d vers ty schemes for LTE Advanced	M tsub sh E ectr c	
R1 090741	Eva uat on of transm t d vers ty for PUCCH n LTE A	Norte	
R1 090742	D scuss on on Transm t d vers ty for PUSCH n LTE A	Norte	
R1 090752	C ustered DFT S OFDM Transm ss on from Mu t p e Transm t Antennas	Norte	
R1 090772	STBC II Scheme w th Non Pa red Symbo s for LTE Advanced Up nk Transm t D vers ty	A cate Lucent Shangha Be , A cate Lucent	
R1 090773	Jo nt Transm t D vers ty w th Antenna Grouped Component A ocat on for Nx DFT S OFDM	A cate Lucent Shangha Be , A cate Lucent	
R1 090783	Cons derat on on non channe dependant spat a mu t p ex ng for PUSCH	LG E ectron cs	
R1 090784	Performance eva uat on of PUSCH 2Tx transm t d vers ty schemes n LTE A	LG E ectron cs	
R1 090785	Performance eva uat on of PUSCH 4Tx transm t d vers ty schemes n LTE A	LG E ectron cs	
R1 090794	Mu t Antenna Up nk Transm ss on for LTE A	Motoro a	
R1 090805	Up nk SU MIMO Des gn Opt ons for LTE Advanced	Motoro a	
R1 090824	Performances of transm t d vers ty for PUSCH	Huawe	
R1 090825	Up nk TX d vers ty schemes for LTE Advanced	Huawe	
R1 090871	PUSCH transm t d vers ty	Qua comm Europe	
R1 090873	F ex b e Data and Reference S gna Mu t p ex ng for LTE Advanced Up nk	Qua comm Europe	
R1 090902	UL MIMO Transm ss on Schemes n LTE Advanced	NTT DOCOMO	
R1 090944	UL SU MIMO Antenna Ca brat on at UE	CATT, RITT	
R1 091048	PUCCH transm t d vers ty	Qua comm Europe	(R1 090870)
R1 091068	PUCCH TxD Schemes for LTE A	LG E ectron cs	(R1 090786)
R1 091089	V ews on TxD schemes for PUCCH	Panason c	(R1 090690)

12.4 DL MIMO extension up to 4x4

R1 091105	Summary of MIMO sess on	Ad hoc cha rman	

The document was presented by Juho Lee from Samsung and summarizes the outcomes of the ad-hoc MIMO session.

Discussion (Question / Comment): .
Decision: Document is noted. The content is endorsed as follows:

Generic overview

R1 090750	Support h gher order MIMO n LTE A	Norte	F

Decision: Document is noted.

R1 090874	V ews for DL MIMO operat on n LTE A	Qua comm Europe	

Decision: Document is noted.

R1 090917	DL MIMO	Er csson	

Decision: Document is noted.

Number of CWs

R1 090691	Codeword d scuss on for LTE A	Panason c	

Decision: Document is noted.

Agreement for LTE-A 8TX spatial multiplexing per component carrier:

- Max number of transport blocks: 2
- Number of MCS fields: one for each transport block
- ACK/NAK feedback: 1 AN bit per transport block for evaluation as a baseline
- Discussion on control signaling details should continue.

Points for further discussion:

- Codeword to layer mapping:
  - Possibility 1 (proposed in R1-090917)
    - Codeword to layer mappings such that each codeword is uniformly distributed over all r available layers while enabling the use of SIC receivers with r-1 stages of cancellations.
    - SIC operation utilizing the existing code block CRC might need consideration.
  - Possibility 2
    - Up to 4 layers: same as Rel-8 LTE
    - Above 4 layers: ?

Precoding

R1 091079	Codebook Des gn for 8 Tx Transm ss on n LTE A	Samsung	(R1 090618)

Decision: Document is noted.

R1 090635	SU MIMO precod ng w th m ted feedback n LTE A	ZTE	

Decision: Document is noted.

R1 090806	DL MIMO w th 8 Antenna Codebook for LTE Advanced	Motoro a	

Decision: Document is noted.

R1 090977	Precod ng opt ons for 8Tx antennas n LTE A DL	Marve	

Decision: Document is noted.

Agreement:

- Closed-loop precoding supported (agreed in R1#55bis meeting)

- Rely on precoded dedicated demodulation RS (decision on DL RS)
  - Revisit complementary use of existing CRS in relation to the DL RS discussion.

Friday 13th : A TP shall be prepared (Samsung) and is for email approval until 19/02.

In addition, following document as presented on Friday 13th provides outstanding inputs to let the discussion continue.

R1 091041	Text proposa for TR36.814 on M.I.M.O	 Late sess on…!!	

Decision: Document is noted.

The following set of contributions has not been treated.

R1 090561	Exp o t ng channe rec proc ty n TDD w th asymmetr c nterference	M tsub sh E ectr c	
R1 090562	Exp o t ng channe rec proc ty n TDD/MIMO w th asymmetr c nterference	M tsub sh E ectr c	
R1 090591	Common Reference Symbo Mapp ng/S gna ng for 8 Transm t Antenna	Texas Instruments	
R1 090592	Down nk Reference S gna Mu t p ex ng for 8Tx Transm ss on	Texas Instruments	
R1 090597	Interference Aware Channe Sound ng for FDD MIMO LTE A	M tsub sh E ectr c	
R1 090620	Superpos t on of Un cast and Broadcast	Samsung	
R1 090621	Impact of DL CQI RS nsert on on Re 8 PDSCH performance	Samsung	
R1 090634	Down nk Reference S gna des gn for LTE Advanced	ZTE	
R1 090636	Cons derat on on Mu t user beamform ng	ZTE	
R1 090649	MU MIMO: Demodu at on at the Mob e Stat on	NEC Group	
R1 090702	MU MIMO for LTE A: extens on to dua codeword operat on	Ph ps	
R1 090703	DL MIMO extens on for LTE A: nterference management aspects	Ph ps	
R1 090728	Further cons derat ons on DL reference symbo s for LTE Advanced	Nok a, Nok a S emens Networks	
R1 090729	Four vs. e ght antenna port transm t d vers ty for LTE Advanced	Nok a, Nok a S emens Networks	
R1 090743	D fferent a codebook feedback scheme for LTE A	Norte	
R1 090744	Further d scuss on on advanced MBSFN for LTE A	Norte	
R1 090751	D scuss on on RS des gns for h gh order MIMO n LTE A	Norte	
R1 090760	Enhanced CQI/PMI feedback mode to mprove c osed oop MIMO performance	Norte	
R1 090761	Opportun st c space t me mu t p e access for LTE Advanced	Norte	
R1 090788	Cons derat on on Down nk MU MIMO	LG E ectron cs	
R1 090926	"Best Compan on" report ng for mproved s ng e ce MU MIMO pa r ng	A cate Lucent	
R1 090927	CQI and CSI Feedback Compress on	A cate Lucent	

R1 090946	A Techn que to m t gate nter ce nterference	CATT, RITT	

12.5 Relaying

R1 090906	Text proposa for TR36.814 on backhau for re ays	Er csson, Nok a, Nok a S emens Networks	

The document was presented by Stefan Parkvall from Ericsson and captures a text proposal to handle the interference problem of eNodeB-relay-UE operation.

Discussion (Question / Comment): LGE raised a concern that such TP wasn't the only option and refrained to agree on it at this stage of the discussion. They asked for having the first sentence as follows "For inband relaying, the eNodeB-to-relay link **may** operates in the same frequency spectrum as the relay-to-UE link…"
Huawei commented that TP was a pretty good capture of what has been discussed over the email reflector.
Mr Chairman commented that LGE's proposal waiting until study of all technical possibilities get completed cannot be a practical way to progress on the topic.
Decision: Document is noted. TP is finally agreed as baseline.

R1 090905	Character zat on of re ay ng schemes	Er csson	

The document was presented by Stefan Parkvall from Ericsson. As the introduction of relaying schemes may, from an UE perspective, have an impact on one or both of

- user plane – the location in the protocol stack where user plane data is forwarded,
- control plane – the split of control plane functionality (e.g. handover and scheduling) seen by the UE between the eNodeB and the relay,

this paper proposes to send an LS and ask RAN2 and RAN3 to study these aspects and keep RAN1 informed about any progress affecting the work in RAN1, including the evaluation of LTE-Advanced performance.

Discussion (Question / Comment): .
Decision: Document is noted. Draft LS shall be prepared in R1-091084, considering also the discussion of AI 12.5.

Friday 13th

R1 091045	Text Proposa on Re ay ng	Er csson	

The document was presented by Stefan Parkvall from Ericsson and is a text proposal capturing the agreement in R1-091098 into TR36.814. TR should only capture agreements and all topics "FFS" away from the TR. The agreed TP is R1-091112.

R1 091084	DRAFT LS on re ay ng	Er csson	

Decision: Document is noted. The following changes shall be added "RAN1 has concluded to **at least** type 1 relay should be supported" and "it **shall be possible** for a type 1 relay node to appear differently than Rel-8". Final LS is agreed in R1-091110.

R1 091049	Preference for re ay operat on n LTE A	Qua comm Europe	(R1 090876)

The document was presented by Aamod Khandekar from Qualcomm and discusses both the physical layer and the upper layer impacts of the type of relay node chosen. As a conclusion, the following is proposed:

- A relay node should appear to a UE as a separate cell distinct from its serving eNB.
- In particular, a relay node should have its own Physical Cell ID and transmit its own synchronization channels and reference symbols.
- The UE should receive scheduling information and HARQ feedback directly from the relay node and send its control channels (SR/CQI/ACK) directly to the relay node.

- Use of TDD relaying over SDD relaying and UL band-swapping as an option for multiplexing relay transmissions on DL/UL resources.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090693	Re ay ng a ternat ves	Panason c	

The document was presented by Hidetoshi Suzuki from Panasonic and proposes the following is captured in the TR 36.814.

At least from release 8 UE perspective, if the relay is visible, the relay shall be seen as eNB. The actual functional split within the network i.e. the relay and eNB is further discussion with RAN2 and RAN3.

Discussion (Question / Comment): .
Decision: Document is noted.

Separation of access and backhaul link

R1 091078	Se f Interference Cons derat ons n Re ay Node	LG Norte , Norte	(R1 090565)

The revision was not available.

R1 090807	Summary of Des gn Cons derat ons for Support ng Re ays n TDD and FDD Modes	Motoro a	

The document was presented by Amitabha Ghosh from Motorola and considers Full-service (L3) relays for enhancing coverage and throughput in LTE-Advanced networks. The following statements are drawn as conclusion:

- Both FDD and TDD system configurations shall be supported.
- In-band relaying in TDD systems can be efficiently supporting using TDD relay operation.
- The conventional relay, with TDD relay operation, is suitable for FDD systems.
- A backwards-compatible frame structure using existing MBSFN signaling provides a feasible solution for relay support while minimizing the impact on UL HARQ processes.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 090575	L2 Re ay Interference M t gat on	Research In Mot on, L m ted	

The document was presented by Sam Cai from RIM and focuses on the L2 relay in an FDD system and suggests the following means for mitigating interference:

- Apply simple time division based transmission and reception scheme for L2 relays, either Mode 1 or Mode 2 as described in the contribution.
- Have the eNB allocate (fixed or semi-statically) PDSCH/PUSCH resources for the RNs to avoid interference that might be caused by the independent scheduling between the eNB and the RNs.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

Band swapping

R1 090664	Compar son of n band re ay ng methods n FDD mode	LG E ectron cs	

The document was presented by Byoung-Hoon Kim from LGE and discusses/compares in-band relying methods. It is concluded that UL band-only backhaul has the several attractions over the other backhauling methods as follows:

- It preserves the Common Refernce Signal density.

- It allows flexible resource allocation to the backhaul link.
- It renders higher resource utilization both in the backhaul link and the access link.
- It enables the RN to use synchronous HARQ with the period of 8 ms.

Discussion (Question / Comment): Qualcomm asked for clarifying the backhaul resource reuse in the relay cell. Ericsson commented that the benefit(s) of UL band-only backhaul were not clearly addressed by this contribution.
Decision: Document is noted.

R1 090789	Subframe Conf gurat on for Re ay Node Transm ss on and Recept on n LTE advanced FDD Mode	LG E ectron cs	

LGE decided to skip the presentation.

R1 090797	Mu t p ex ng Opt ons for Re ays n LTE A	Motoro a	

The document was presented by Robert Love from Motorola and discusses three different multiplexing options for inband Relay support and their advantages and disadvantages. Considering the co-channel interference and macro-cell efficiency issues, it is concluded that the conventional TDD Relay operation via MBSFN signaling with the eNB→RN transmission in DL band and RN→eNB in UL band is a constructive and a simple way of enabling Relay operation in LTE-A.

Discussion (Question / Comment): .
Decision: Document is noted.

<u>Subframe stealing</u>

R1 090665	UL subframe stea ng for n band re ay ng n TDD mode	LG E ectron cs	

The document was presented by … from LGE and introduces UL subframe stealing as a frame structure to support relaying function in LTE-A TDD mode. Following arguments are raised at the benefit of the UL subframe stealing versus the fake MBSFN subframe method.

- 20% more resource can be utilized in the backhaul link.
- the number of subframes allocated to the backhaul link can be adjusted flexibly.
- the CRS density is maintained both in the eNB and RN.
- UL ACK/NACK collision can be easily avoided.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 090827	Summary and proposa of re ay frame structure	Huawe	

The document was presented by Jin Wei from Huawei and provides a summary of the existing TDD relay frame structure designs and their pros/cons. The frame structures analyzed in this contibution includes:

- Straightforward MBSFN subframe
- Configurations pairing
- UL subframe stealing
- Adjusting the HARQ timing

With the constraint of backward compatibility, the proposed preferred solution is the HARQ timing combined with straightforward MBSFN approach.

Discussion (Question / Comment): .
Decision: Document is noted.

TDD-specific

R1 090673	D scuss on on the re ay frame structure des gn for nterference avo dance n LTE A TDD system	Ch na Potev o Co., Ltd	

The document was presented by Ms Yu Pan from Potevio and proposes an improved frame structure (BS/RS/MS frame structure with two hops) to avoid the uplink interference and improve the spectral utilization efficiency. It is also noted that the relay is allowed to overhear the data transmission out of its coverage area without interference to facilitate the cooperative communication.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

R1 090734	Cons derat ons on TDD Re ay	Nok a, Nok a S emens Networks	

The document was presented by Jari Lindholm from NSN and proposes to utilize MBSFN subframes together with UL/DL configuration pairing method to support relaying for TDD operations as well as for FDD to maximize backward compatibility, to minimize change of existing specifications but still not sacrificing the flexibility and/or performance of Relay and to maximize FDD/TDD commonality in relay deployment.

MBSFN configuration for relay cell with UL/DL configurations pairing allows

- Maximized backward compatibility
- No change of existing HARQ timing for both UL and DL
- Better HARQ performance in both backhaul and relay access link without least impact on UL and DL HARQ operations.
- Flexibility in allocation of DL subframes for the backhaul link, which increases backhaul capacity
- TDD configuration-5 and configuration-6 can work with UL/DL configurations pairing.

Discussion (Question / Comment): No comment.
Decision: Document is noted.

Backhaul L1 details

R1 090694	D scuss on on the requ rements of eNB RN nk	Panason c	

The document was presented by Ayako Iwata from Panasonic and addresses the following general requirements for RNs considered as essential prior to any detailed discussions for backhaul:

- Required throughput is determined by the cell throughput of the RN.
- Delay is determined by the supported traffic types of the RN. (e.g. VoIP)
- Radio channel qualities are determined by the deployment scenarios for RN
- Fluctuation of the eNB-RN interface is determined by the deployment scenarios for RNs.
- Isolation in case of inband relay is determined by resource allocations scenarios.
- Resource allocation scheme for the backhaul should be studied based on that fluctuation of eNB-RN interface traffic is large or small.
- SDM should be fully utilized to solve the limitation by time/frequency resource for backhaul.

Discussion (Question / Comment): .
Decision: Document is noted.

Improvements of access link

R1 090775	TDMA H ARQ Code for Layer 2 Re ay n LTE Advanced	A cate Lucent	

The document was presented by Fang-Chen Cheng from Alcatel-Lucent and introduces a new error coding protocol for L2-based RN enabled channels that shows significant gains in the spectral efficiency, as compared to the point-to-point channel and Multi-Hop relay channel, with the TDMA relay cooperative coding protocol.

In order to maximize the spectral efficiency for a given RN-enhanced link, the eNB requires CQI regarding both the eNB-UE channel and the RN-UE channel.

Discussion (Question / Comment): .
Decision: Document is noted.

Way(s) forward on Relaying operation

R1 091091	Way forward on Re ay ng operat on for LTE A	CEW T, Er csson, Huawe , Motoro a, Nok a, Nok a S emens Networks, Panason c, Ph ps, Qua comm Europe, Samsung, Texas Instruments	

The document was presented by Robert Love from Motorola and proposes:

- A relay node (RN) should appear to a UE as a separate cell distinct from the donor cell
  - RN should have its own Physical Cell ID and transmit its own synchronization channels, reference symbols, …
- In the context of single-cell operation the UE should receive scheduling information and HARQ feedback directly from the relay node and send its control channels (SR/CQI/ACK) to the relay node
- How RN appears to UEs
  - It should be possible to make a RN appear as a Rel-8 eNB to Rel-8 UEs (i.e. backwards compatible)
  - It should be possible to allow RN appear differently than Rel-8 eNB to LTE-A UEs for further performance enhancement.
- Advanced L1 relays and corresponding specification impact are FFS

Discussion (Question / Comment): Concerns raised for better definition/description of the type of relay in the first 3 bullets.
Decision: Document is noted. Following long debate, the way forward was amended as follows ("blue color") and agreed in R1-091098.

- Support of type 1 relay node
  - A type 1 relay node (type 1 RN) shall appear to a UE as a separate cell distinct from the donor cell
    - type 1 RN shall have its own Physical Cell ID (defined in LTE Rel-8) and transmit its own synchronization channels, reference symbols, …
  - In the context of single-cell operation the UE shall receive scheduling information and HARQ feedback directly from the type 1 relay node and send its control channels (SR/CQI/ACK) to the type 1 relay node
  - A type 1 RN shall appear as a Rel-8 eNB to Rel-8 UEs (i.e. backwards compatible)
  - How type 1 RN appears to LTE-A UEs
    - It shall be possible to allow a type 1 RN to appear differently than Rel-8 eNB to LTE-A UEs for further performance enhancement.
- Other types of relay nodes and corresponding specification impact are FFS

R1 091092	Way forward on Access backhau part t on ng of re ays	CEW T, Er csson, Huawe , Motoro a, Nok a, Nok a S emens Networks, Panason c, Qua comm Europe, Texas Instruments	

The document was presented Robert Love from Motorola and proposes:

- TDM access-backhaul
- Access split is as follows

- eNB →RN is in DL (regular or MBSFN subframe) resource of eNB (frequency/subframe)
    - In TDD, in addition, a special subframe could be used for eNB→RN transmission
- RN →eNB is in UL resource of eNB (frequency/subframe)
    - In TDD, in addition, a (eNB or RN) MBSFN or special subframe could be used for backhaul communication
- eNB →RN and RN →UE links are TDM (only one active at a time)
- RN → eNB and UE →RN links are TDM (only one active at a time)
    - Applicable for FDD and TDD systems

Discussion (Question / Comment): Concerns raised on the definition of a "special subframe". Mr Chairman proposed to look at LGE's way forward.
Decision: Document is noted.

R1 091090	Way forward on LTE A In band re ay ng	A cate Lucent, ZTE, CMCC, Fuj tsu, ITRI, M tsub sh E ectr c, LG E ectron cs, LG Norte	

The document was presented by Byoung-Hoon Kim from LGE and proposes:

- Support transparent and non-transparent relay as is in TR36.814 V0.4
- Cooperation between donor eNB and RN supported
- Simultaneous Tx and Rx of a relay on the same carrier band not allowed
    - eNB-to-RN Rx and RN-to-UE Tx are separated through
        - A1: Different subframes
        - A2: Different carriers (UL and DL)
        - A3: Different subframes or carriers (Combination of A1 and A2)
- Simultaneous Tx or Rx of a relay on both DL and UL carriers not precluded in FDD

Discussion (Question / Comment): LGE indicated that the WF was also supported by HTC.
Mr Chairman asked whether the proposed alternatives are a narrow-down selection or all RAN1 has on the table.
Philips commented that "Simultaneous Tx and Rx of a relay on the same carrier band not allowed" was a bit strong at this stage of the study.
Nokia highlighted that alternative A1 has to be supported anyway.
Decision: Document is noted.

Conclusion from Thursday 12th evening

RAN1 cannot expect any progress having 2 equally supported WF. Mr Chairman decided to let the discussion continue off line and expressed his wish to see a common proposal before the meeting ends.

Friday 13th

Nokia commented that there's an agreement for the FDD part. TDD should be left for FFS.

R1 091109	WF on Access Backhau part t on ng of Re ays	Nok a, Nok a S emens Networks	

The document was presented by Asbjørn Grøvlen from Nokia.

- Backhaul design supported for FDD
    - TDM access-backhaul
    - Access split is as follows
        - eNB → RN is in DL frequency
        - RN → eNB is in UL frequency
        - eNB → RN and RN → UE links are TDM (only one active at a time)
        - RN → eNB and UE → RN links are TDM (only one active at a time)
- Access-backhaul for TDD is FFS
- Support of backhaul using UL resources for eNB → RN communication FFS

- o Possibly allowing shifting of DL and UL resources to eNB →RN or RN →eNB links for DL/UL backhaul capacity enhancement

Discussion (Question / Comment): .
Decision: Document is noted. WF agreed to be included after completion of the email approval (19/02)

The following set of contributions has not been treated.

R1 090559	Bas c structure of re ay ng under mu t antenna eNB	M tsub sh E ectr c	
R1 090593	On the des gn of re ay node for LTE advanced	Texas Instruments	
R1 090622	Performance Eva uat on of Layer 3 re ays	Samsung	
R1 090623	L1 re ay des gn and operat ons	Samsung	
R1 090638	S mu at on methodo ogy d scuss on for re ay study	ZTE	
R1 090639	A down nk L2 re ay scenar o and ts s mu at on study	ZTE	
R1 090640	An up nk L2 re ay scenar o and ts s mu at on study	ZTE	
R1 090641	Contro s gna ng structures for re ay nk	ZTE	
R1 090642	Up nk asynchronous HARQ for re ay nk	ZTE	
R1 090662	Further c ar f cat on on L3 re ay node for LTE A	LG E ectron cs	
R1 090663	Hybr d of AF and DF n Layer 2 or 3 Re ay	LG E ectron cs	
R1 090666	Performance Eva uat on of re ay system	LG E ectron cs	
R1 090670	Re ays w th D fferent Schedu ng Methods	Ch na Potev o Co., Ltd	
R1 090671	Performance study of re ay cooperat ve way n LTE A system	Ch na Potev o Co., Ltd	
R1 090672	Coord nated Transm ss on n Transparent Re ay System	Ch na Potev o Co., Ltd	
R1 090692	Phys ca Ce ID and Schedu ng opt ons for LTE ADV	Panason c	
R1 090698	Interface between re ay peer nodes n LTE Advanced	SHARP	
R1 090699	Ana ys s of Re ay Arch tecture Opt ons	SHARP	
R1 090704	Comb nat on of re ay ng w th nter node cooperat ve transm ss on n t a eva uat on	Ph ps	
R1 090707	Re ay ng w th Channe Resource Reuse and SIC for LTE Advanced	Fuj tsu	
R1 090730	Impact of P ann ng on eNB Re ay L nk Mode	Nok a S emens Networks, Nok a	(R1 090241)
R1 090731	Effect of Re ay ng on Coverage	Nok a S emens Networks, Nok a	
R1 090732	Ce Edge Performance for Amp fy and Forward vs. Decode and Forward Re ays	Nok a S emens Networks, Nok a	(R1 090243)
R1 090753	Contro Channe and Data Channe Des gn for Re ay L nk n LTE Advanced	Norte	
R1 090755	D scuss on on the funct ona t es for LTE A Re ays	Norte	
R1 090756	Cons derat ons on nk budget for systems conta n ng re ays	Norte	
R1 090757	D scuss on on the ce ID for LTE Advanced system support ng re ay	Norte	
R1 090758	Re ay Channe Mode for LTE A Eva uat on Methodo ogy	Norte	
R1 090774	App cat ons of network cod ng n LTE A	A cate Lucent Shangha Be , A cate Lucent	
R1 090790	Cons derat on on Resource A ocat on for Re ay Backhau L nk	LG E ectron cs	

R1 090798	Frame Structure and S gna ng to Support Re ay Operat on	Motoro a	
R1 090799	Parameters Determ n ng Re ay based System Performance Ga n	Motoro a	
R1 090800	Re ay Backhau Down nk Qua ty n LTE	Motoro a	
R1 090801	Un form Random UE Locat ons for Re ays and Macro Ce s	Motoro a	
R1 090841	Text proposa for TR36.814 on backhau for re ays	LG E ectron cs	
R1 090877	Spec f cat on mpact of L3 re ays	Qua comm Europe	
R1 090880	Ana ys s of decode and forward re ay ng strateg es	ETRI	
R1 090921	Re ay Eva uat on Methodo og es for homogenous LTE Advanced	CMCC, Vodafone, Huawe	
R1 090928	Need for Interference Management w th Re ays	CEW T	
R1 090972	In t a Eva uat on of Re ay Performance	Qua comm Europe	(R1 090878)
R1 090986	Text proposa for TR36.814 on re ay	CMCC	
R1 091058	Impact of repeaters and decode and forward re ays on system performance	M tsub sh E ectr c	(R1 090740)
R1 091073	Cons derat ons on Shadow ng Fad ng of Re ay	Huawe	(R1 090828)
R1 091074	Performance eva uat on of L1 re ays	Huawe	(R1 090829)
R1 091076	Cost aspects of re ay dep oyments and mpact on eva uat on scenar os	Orange	(R1 090920)
R1 091077	Channe mode for Re ay to UE nk at short d stance	Nok a S emens Networks, Nok a	(R1 090733)
R1 091080	Cons derat on on Re ay channe mode for LTE A	CMCC	

12.6 Other

The set of contributions attached to this Agenda Item has not been treated.

13. Closing of the meeting

RAN1 Chairman, Mr. Dirk Gerstenberger expressed his appreciation to EF3 for hosting the meeting and to the delegates for their hard working effort.

The meeting was closed at 17:00.

Annex A: List of participants at RAN1 #56

Please see excel file attached to this report

Annex B: TSG RAN WG1 meetings in 2009

TITLE	TYPE	DATES	LOCATION	CTRY
3GPPRAN1#55bis	WG	12 – 16 Jan 2009	Ljubljana	SV
3GPPRAN1#56	WG	09 – 13 Feb 2009	Athens	GR
3GPPRAN1#56bis	WG	23 – 27 March 2009	Seoul	KR
3GPPRAN1#57	WG	04 – 08 May 2009	San Francisco	US
3GPPRAN1#57bis	WG	29/06 – 3 July 2009	Los Angeles	US
3GPPRAN1#58	WG	24 – 28 Aug 2009	Shenzhen	China
3GPPRAN1#58bis	WG	12 – 16 Oct 2009	Miyazaki	JP
3GPPRAN1#59	WG	9 – 13 Nov 2009	TBD	KR

MEETING TYPES

AH = Ad Hoc	CM = Cha rmen's meet ng
JM = Jo nt	OR = Ord nary
PM = Preparatory Meet ng	RG = Rapporteurs Group
RM = Reso ut on Meet ng	SG = Steer ng Group
ST = Startup Meet ng	TG = Task Group
WG = Work ng Group	XO = Extraord nary

Annex C: List of CRs agreed at RAN1#56

Spec	CR	Rev	Phase	Subject	Cat	Tdoc	Workitem
25.211	260	1	Rel-7	Clarifications to the S-CPICH usage with MIMO	F	R1-091013	MIMO
25.211	261	1	Rel-8	Clarifications to the S-CPICH usage with MIMO	A	R1-091014	MIMO
25.211	262	1	Rel-7	Clarification of ACK transmission in response to HS-SCCH order	F	R1-091010	RANimp-CPC
25.211	263	1	Rel-8	Clarification of ACK transmission in response to HS-SCCH order	A	R1-091011	RANimp-CPC
25.212	273	1	Rel-7	Correction to the puncturing limit allowed when UL 4PAM modulation is allowed	F	R1-091103	RANimp-16QamUplink
25.212	274	1	Rel-8	Correction to the puncturing limit allowed when UL 4PAM modulation is allowed	A	R1-091104	RANimp-16QamUplink
25.213	101	2	Rel-8	Correction to DTX bit insertion for MBSFN 16-QAM	F	R1-091106	MBMSE-RANPhysFDD
25.214	534	2	Rel-8	Corrections of HS-SCCH orders for DC-HSDPA	F	R1-091051	RANimp-DCHSDPA
25.214	538	1	Rel-8	Clarification of the source of parameters to HS-DSCH physical layer	A	R1-091054	MIMO
25.214	540	-	Rel-7	Clarification of the source of parameters to HS-DSCH physical layer	F	R1-091055	MIMO
25.215	194	1	Rel-8	RSRP and RSRQ Measurement Definitions	F	R1-090965	LTE-Phys
25.221	175	1	Rel-8	Introduction CPC for 1.28Mcps TDD	B	R1-090892	RANimp-LCRCPC
25.221	176	-	Rel-7	Editorial correction for annex CB & CC	D	R1-090893	TEI7
25.221	177	-	Rel-8	Editorial correction for annex CB & CC	D	R1-090894	TEI8
25.221	178	-	Rel-8	Specification of T-CPICH sequences for MBSFN IMB	F	R1-090958	MBSFN-DOB

Spec	CR	Rev	Phase	Subject	Cat	Tdoc	Workitem
25.222	170	-	Rel-5	Editorial correction for 1.28Mcps TDD	D	R1-090973	TEI5
25.222	171	-	Rel-6	Editorial correction for 1.28Mcps TDD	D	R1-090974	TEI6
25.222	172	-	Rel-7	Editorial correction for 1.28Mcps TDD	D	R1-090975	TEI7
25.222	173	-	Rel-8	Editorial correction for 1.28Mcps TDD	D	R1-090976	TEI8
25.223	58	-	Rel-8	Specification of scrambling codes and code groups for MBSFN IMB	F	R1-090959	MBSFN-DOB
25.224	208	2	Rel-7	E-DCH power control clarification for 1.28Mcps TDD	F	R1-091116	LCRTDD-EDCH-Phys
25.224	209	2	Rel-8	E-DCH power control clarification for 1.28Mcps TDD	A	R1-091117	LCRTDD-EDCH-Phys
25.225	91	2	Rel-8	RSRP and RSRQ Measurement Definitions	F	R1-091053	LTE-Phys
36.211	127	2	Rel-8	Corrections to SRS	F	R1-091113	LTE-Phys
36.211	128	2	Rel-8	Clarification of PDSCH Mapping to Resource Elements	F	R1-091006	LTE-Phys
36.211	129	1	Rel-8	Alignment with correct ASN1 parameter names	F	R1-091007	LTE-Phys
36.211	130	-	Rel-8	Correction to PUCCH format 1 mapping to physical resources	F	R1-091056	LTE-Phys
36.211	132	-	Rel-8	Correction to type-2 PUSCH hopping	F	R1-091035	LTE-Phys
36.211	134	-	Rel-8	Alignment of SRS configuration	F	R1-091115	LTE-Phys
36.212	92	1	Rel-8	Clarification on channel coding for UCI HARQ-ACK	F	R1-091024	LTE-Phys
36.213	185	4	Rel-8	Corrections to transmission modes	F	R1-091120	LTE-Phys
36.213	196	2	Rel-8	Alignment of RAN1/RAN4 specification on UE maximum output power	F	R1-091027	LTE-Phys
36.213	199	2	Rel-8	Correction to the ACK/NACK bundling in case of transmission mode 3 and 4	F	R1-091022	LTE-Phys

Spec	CR	Rev	Phase	Subject	Cat	Tdoc	Workitem
36.213	208	2	Rel-8	Correction to CQI/PMI/RI reporting field	F	R1-091021	LTE-Phys
36.213	209	2	Rel-8	Correction to rho_A definition for CQI calculation	F	R1-091020	LTE-Phys
36.213	211	1	Rel-8	Removing RL monitoring start and stop	F	R1-091030	LTE-Phys
36.213	214	1	Rel-8	Correction to type-1 and type-2 PUSCH hopping	F	R1-091036	LTE-Phys
36.213	215	-	Rel-8	Contradicting statements on determination of CQI subband size	F	R1-090645	LTE-Phys
36.213	216	-	Rel-8	Corrections to SRS	F	R1-090715	LTE-Phys
36.213	219	2	Rel-8	Miscellaneous corrections on TDD ACKNACK	F	R1-091025	LTE-Phys
36.213	221	1	Rel-8	CR for Redundancy Version mapping function for DCI 1C	F	R1-091063	LTE-Phys
36.213	223	-	Rel-8	Scrambling of PUSCH corresponding to Random Access Response Grant	F	R1-091015	LTE-Phys
36.213	225	-	Rel-8	Removal of SRS with message 3	F	R1-091028	LTE-Phys
36.213	226	3	Rel-8	PRACH retransmission timing	F	R1-091123	LTE-Phys
36.213	227	-	Rel-8	Clarifying error handling of PDSCH and PUSCH assignments	F	R1-091033	LTE-Phys
36.213	228	-	Rel-8	Clarify PHICH index mapping	F	R1-091034	LTE-Phys
36.213	229	-	Rel-8	Correction of CQI timing	F	R1-091094	LTE-Phys
36.213	230	-	Rel-8	Alignment of CQI parameter names with RRC	F	R1-091019	LTE-Phys
36.213	231	1	Rel-8	Removal of ‘Off’ values for periodic reporting in L1	F	R1-091118	LTE-Phys
36.213	232	-	Rel-8	Default value of RI	F	R1-091043	LTE-Phys
36.213	233	1	Rel-8	Clarification of uplink timing adjustments	F	R1-091119	LTE-Phys
36.213	234	-	Rel-8	Clarification on ACK/NAK repetition	F	R1-091039	LTE-Phys
36.214	9	-	Rel-8	RSRP and RSRQ Definitions with Receiver Diversity	F	R1-090910	LTE-Phys

Annex D: List of Outgoing LSs from RAN1#56

R1	Response to (lc LS)	To	Cc	Title	Contact	Ref'd /Attachd Tdoc	Release	WI
R1 090989	R2 090843 (R1 090553)	R2		LS rep y on Updated RNTI va ue ranges	Er csson		Re 8	LTE
R1 091023	R2 090855 (R1 090555)	R2		LS rep y on co s on between measurement gap and HARQ feedback	Er csson		Re 8	LTE
R1 091037		R2		LS on TDD HARQ ACK feedback mode	Nok a		Re 8	LTE
R1 091038	R2 090849 (R1 09554)	R2		Rep y LS on ACK for exp c t up nk SPS re ease	Nok a		Re 8	LTE
R1 091110		R2, R3		LS on re ay ng	Er csson		Re 10	LTE Advanced
R1 091127		R4, R2		LS on mob ty eva uat on	Qua comm	R1 091126	Re 9	E UTRAN Mob ty Eva uat on and Enhancement

Annex E: List of Tdocs at RAN1 #56

Please see excel file attached to this report

3GPP TSG RAN WG1 Meeting #56bis **R1-091131**
Seoul, South Korea, 23 – 27 March, 2009

Annex F: List of actions

1. Outgoing LS.

LTE 56/7

R1 091101	[DRAFT] LS on mob ty eva uat on	Qua comm Europe	

The LS is for email approval until 26/02

Done: Final LS is agreed in R1-091127 according to Mr Chairman's email dated February 26th

2. CR approval

HSPA 56/1

R1 091086	25.224 CR0208R1 (Re 7, F) on E DCH power contro c ar f cat on for 1.28Mcps TDD	TD Tech	(R1 090667)
R1 091087	25.224 CR0209R1 (Re 8, A) on E DCH power contro c ar f cat on for 1.28Mcps TDD	TD Tech	(R1 090668)

CRs are for email approval until 19/02.

Done: CRs are agreed as rev.2 in R1-091116 (resp. R1-091117) for Rel-7 (resp. Rel-8) according to Mr Chairman's email dated February 18th

LTE 56/1

R1 091097	36.213 CR0231 (Re 8, F) Remova of 'Off' va ues for per od c report ng n L1	Er csson, Panason c	

CR is for email approval until 19/02.

Done: CR is agreed as rev.1 in R1-091118 according to Mr Chairman's email dated February 19th

LTE 56/2

R1 091114	36.211 CR0133 (Re 8, F) A few C ar f cat ons for transm ss ons n TDD	ZTE	(R1 091004)

CR is for email approval until 19/02.

Done: CR is not agreed as not needed according to Mr Chairman's email dated February 20th. This does not preclude any further discussion as part of Release 9.

LTE 56/3

R1 091018	36.213 CR0185R3 (Re 8, F) Correct ons to transm ss on modes	Ph ps, Er csson	(R1 090911)

CR is agreed conditionally that no agreement is reached on a different wording until 19/02.

Done: CR is agreed as rev.4 in R1-091120 according to Mr Chairman's email dated February 20th. The main improvement deals with the text of transmission mode 7 in table 7.2.3-0, being is aligned with the transmission scheme description of RNTI for Mode 7 in table 7.1-5.

LTE 56/4

R1 091026	36.213 CR0233 (Re 8, F) on the c ar f cat on of up nk t m ng adjustments	Panason c	(R1 090677)

CR is for email approval until 19/02.

Done: CR is agreed as rev.1 in R1-091119 according to Mr Chairman's email dated February 20th.

LTE 56/5

R1 091111	36.213 CR0226R2 (Re 8, F) PRACH retransm ss on t m ng	Huawe	(R1 091095)

CR is for email approval until 19/02.

Done: CR is agreed as rev.1 in R1-091123 according to Mr Chairman's email dated February 20th.

LTE 56/8

R1 091115	36.211 CR0134 (Re 8, F) A gnment of SRS conf gurat on	Panason c	(R1 090675)

CR is for email approval until 19/02.

Done: CR is agreed in R1-091115 according to Mr Chairman's email dated February 19th

3. Text proposal for TS and TR

LTE 56/6

R1 091100	TP for TR on mob ty stud es	Qua comm Europe	(R1 090856)

The TP is for email approval until 26/02.

Done: TP is agreed in principle from RAN1 perspective in R1-091126 according to Mr Chairman's email dated February 26th . It is noted that RAN2/4 will come back with their feedback". TP is attached to the LS in R1-091127.

Please don't forget to attach it to the LS.

LTE-A 56/1

	Text proposa on UL SU MIMO	Samsung	

The TP is for email approval until 19/02.

Done: TP is agreed in R1-091122 according to Mr Chairman's email dated February 20th

LTE-A 56/2

	Text proposa on DL SU MIMO	Samsung	

The TP is for email approval until 19/02.

Done: TP is agreed in R1-091121 according to Mr Chairman's email dated February 20th

4. Miscellaneous

LTE-A 56/3

R1 091109	WF on Access Backhau part t on ng of Re ays	Nok a, Nok a S emens Networks	

The WF is for email approval until 19/02.

Done: WF is agreed in R1-091124 according to Mr Chairman's email dated February 20th and agreements shall be included in TR.

Appendix E

Available	Tdoc Number	Title	Source	Agenda Item	Type	Revised to (from)	Conclusion/Decision
Yes	R1-090550	Dra t Agenda or RAN1#56 meeting	RAN1 Chairman	2	Decision		Approved
Yes	R1-090551	Dra t report o RAN1#55bis meeting	MCC Support	3	Approval	R1-090988	Revised
Yes	R1-090552	Reply LS on Common est Environment (S 36 508)	RAN2 N DoCoMo	4	LS in	= R2-090834	Noted
Yes	R1-090553	LS on Updated RN value ranges	RAN2 Ericsson	4	LS in	= R2-090843	Noted
Yes	R1-090554	LS on ACK or explicit uplink SPS release	RAN2 R M	4	LS in	= R2-090849	Noted
Yes	R1-090555	LS on collision between measurement gap and HARQ eedback	RAN2 CA	4	LS in	= R2-090855	Noted
Yes	R1-090556	LS to WP5D (via SG-RAN) PARAME ERS OF M RAD O N ERFACE ECHNOLOG ES FOLLOW NG WRC-07	RAN4 Fujitsu	4	LS in	= R4-090008	Noted
Yes	R1-090557	RSRP and RSRQ De initions with Receiver Diversity	RAN4 Ericsson	4	LS in	= R4-090413	Noted
Yes	R1-090558	ACK/NACK repetition actors (Response to LS R1-084649 on " LS on support o ACK/NACK repetition in Rel-8")	RAN4 Huawei	4	LS in	= R4-090419	Noted
Yes	R1-090559	Basic structure o relaying under multi-antenna eNB	Mitsubishi Electric	12 5	Discussion		Not treated
No	R1-090560	Discussion on rame structure or relay	Mitsubishi Electric	12 5	Discussion		Withdrawn
Yes	R1-090561	Exploiting channel reciprocity in DD with asymmetric Inter erence	Mitsubishi Electric	12 4	Discussion		Not treated
Yes	R1-090562	Exploiting channel reciprocity in DD/M MO with asymmetric Inter erence	Mitsubishi Electric	12 4	Discussion		Not treated
Yes	R1-090563	Discussion on antenna calibration in DD	Mitsubishi Electric	12 3	Discussion		Not treated
Yes	R1-090564	Necessity o checking channel characteristics in DD	Mitsubishi Electric	12 3	Discussion		Not treated
Yes	R1-090565	Sel nter erence Considerations in Relay Node	LG-Nortel Nortel	12 5	Discussion	R1-091078	Revised
Yes	R1-090566	Requirements and con igurations o Relay Node in various environments	LG-Nortel Nortel	12 5	Discussion		Withdrawn
Yes	R1-090567	25 214 CR0536 (Rel-7 F) Clari ication o E-DCH retransmission and D X " nactivity hreshold	Qualcomm Europe	5	CR		Noted
Yes	R1-090568	25 214 CR0537 (Rel-8 A) Clari ication o E-DCH retransmission and D X " nactivity hreshold	Qualcomm Europe	5	CR		Noted
Yes	R1-090569	-CP CH sequences or MB	Qualcomm Europe	5	Discussion	R1-090990	Revised
Yes	R1-090570	System Simulation Results or Multiple Carrier (3 4) HSDPA Operation	Qualcomm Europe	9	Discussion	R1-090991	Revised
Yes	R1-090571	System Simulation Results or Dual Carrier HSDPA and DL M MO Operation	Qualcomm Europe	9	Discussion		Noted
Yes	R1-090572	System Simulation Results or nter-Band Multi-Carrier HSDPA Operation	Qualcomm Europe	9	Discussion	R1-090992	Revised
Yes	R1-090573	System Simulation Results or Dual Carrier HSUPA Operation	Qualcomm Europe	9	Discussion	R1-090993	Revised
Yes	R1-090574	ACK or UL SPS Release	Research n Motion Limited	4	CR		Noted
Yes	R1-090575	L2 Relay nter erence Mitigation	Research n Motion Limited	12 5	Discussion		Noted
Yes	R1-090576	Dra t Response LS on collision between measurement gap and HARQ eedback	exas nstruments	4	Dra t LS		Noted
Yes	R1-090577	Dra t CR on Clari ication on DRS mapping	exas nstruments	6 1	Dra t CR	R1-091002	Noted - Revised
Yes	R1-090578	Dra t CR on Avoiding collision between ACK/NAK repetition and measurement gaps	exas nstruments	6 3	Dra t CR		Noted
Yes	R1-090579	Dra t CR on Clari ication on PDSCH reception in transmission mode 7	exas nstruments	6 3	Dra t CR		Noted
Yes	R1-090580	One remaining issue on ACK/NAK repetition	exas nstruments	6 3	Discussion/Decision	R1-091039	Noted - Revised
Yes	R1-090581	Resolving CM and Cell D ssues Associated with Aggregated Carriers	exas nstruments	12 1	Discussion/Decision		Not treated
Yes	R1-090582	Extending PUCCH ormats 1/1a/1b and 2/2a/2b or the Case o Multiple Component Carriers	exas nstruments	12 1	Discussion/Decision		Not treated
Yes	R1-090583	RACH Procedure or Asymmetric Carrier Aggregation	exas nstruments	12 1	Discussion/Decision		Not treated
Yes	R1-090584	Downlink and Uplink Control to Support Carrier Aggregation	exas nstruments	12 1	Discussion/Decision		Not treated
Yes	R1-090585	Joint Processing Downlink COMP Precoding Support	exas nstruments	12 2	Discussion/Decision		Noted
Yes	R1-090586	Joint Processing Downlink COMP Re erence Signal Support	exas nstruments	12 2	Discussion/Decision		Noted

Yes	R1-090587	Enabling Coordinated Multi – Point Reception	exas nstruments	12 2	Discussion/Decision		Not treated
Yes	R1-090588	Further Analysis on Uplink SU-M MO or E-U RA	exas nstruments	12 3	Discussion/Decision		Not treated
Yes	R1-090589	Layer Mapping Solution or Uplink SU-M MO	exas nstruments	12 3	Discussion/Decision		Noted
Yes	R1-090590	Codebook Design or Uplink SU-M MO	exas nstruments	12 3	Discussion/Decision		Not treated
Yes	R1-090591	Common Re erence Symbol Mapping/Signaling or 8 ransmit Antenna	exas nstruments	12 4	Discussion/Decision		Not treated
Yes	R1-090592	Downlink Re erence Signal Multiplexing or 8 x ransmission	exas nstruments	12 4	Discussion/Decision		Not treated
Yes	R1-090593	On the design o relay node or L E-advanced	exas nstruments	12 5	Discussion/Decision		Not treated
Yes	R1-090594	Doppler mpact o Higher Carrier Frequencies on L E – A Uplink	exas nstruments	12 6	Discussion/Decision		Not treated
Yes	R1-090595	Link Simulation Assumptions or High Doppler Evaluation	exas nstruments Qualcomm Orange A & Phillips NEC Group	12 6	Discussion/Decision		Not treated
Yes	R1-090596	Leakage-based precoding or CoMP in L E-A	Mitsubishi Electric	12 2	Discussion		Not treated
Yes	R1-090597	nter erence-Aware Channel Sounding or FDD M MO L E-A	Mitsubishi Electric	12 4	Discussion		Not treated
Yes	R1-090598	An issue on multi-cell antenna allocation or joint approaches	Hitachi Ltd	12 2	Discussion		Not treated
Yes	R1-090599	An issue on overhead or Downlink joint processing	Hitachi Ltd	12 2	Discussion		Not treated
Yes	R1-090600	Frequency domain enhancement o beam cyclic pattern or broadband transmission	Hitachi Ltd	12 2	Discussion/Decision		Not treated
Yes	R1-090601	Downlink CoMP ransmission using DPC M MO	Hitachi Ltd	12 2	Discussion/Decision		Noted
Yes	R1-090602	An E icient DPC M MO Scheme or Downlink CoMP in L E-A	Hitachi Ltd	12 2	Discussion/Decision		Not treated
Yes	R1-090603	36 212 CR0085 (Rel-8 F) General Clari ications and Corrections	Samsung	6 2	CR	R1-090999	Revised
Yes	R1-090604	36 213 CR0211 (Rel-8 F) Removing RL monitoring start and stop	Samsung	6 3	CR	R1-091030	Noted - Revised
Yes	R1-090605	36 213 CR0212 (Rel-8 F) Clari ication on alpha parameter in SRS power control	Samsung	6 3	CR	R1-091027	Noted - Revised
Yes	R1-090606	DL RS or carrier aggregation with reduced PAPR	Samsung	12 1	Discussion/Decision		Not treated
Yes	R1-090607	PH CH mapping in Asymmetric Carrier aggregation	Samsung	12 1	Discussion/Decision		Not treated
Yes	R1-090608	nitial random access in asymmetric carrier aggregation	Samsung	12 1	Discussion/Decision		Not treated
Yes	R1-090609	PDCCH Structure or L E-A	Samsung	12 1	Discussion/Decision		Not treated
Yes	R1-090610	PH CH ransmission in L E-A	Samsung	12 1	Discussion/Decision		Not treated
Yes	R1-090611	Concurrent PUSCH and PUCCH ransmissions	Samsung	12 1	Discussion/Decision		Not treated
Yes	R1-090612	Control Signaling or Non-Contiguous UL Resource Allocations	Samsung	12 1	Discussion/Decision		Not treated
Yes	R1-090613	Discussions on COMP SU-M MO	Samsung	12 2	Discussion/Decision		Noted
Yes	R1-090614	Discussions on UL 2 x ransmit Diversity Schemes in L E-A	Samsung	12 3	Discussion/Decision		Not treated

Yes	R1-090615	UL PUSCH 4 x ransmit Diversity Schemes in L E-A	Samsung	12 3	Discussion/Decision		Not treated
Yes	R1-090616	Discussions on UL SU-M MO or L E-Advanced	Samsung	12 3	Discussion/Decision		Noted
Yes	R1-090617	SRS ransmission ssues or L E-A	Samsung	12 3	Discussion/Decision		Not treated
Yes	R1-090618	Codebook Design or 8 x ransmission in L E-A	Samsung	12 4	Discussion/Decision	R1-091079	Revised
Yes	R1-090619	DL RS Designs or Higher Order M MO	Samsung	12 4	Discussion/Decision		Noted
Yes	R1-090620	Superposition o Unicast and Broadcast	Samsung	12 4	Discussion/Decision		Not treated
Yes	R1-090621	mpact o DL CQ RS insertion on Rel-8 PDSCH per ormance	Samsung	12 4	Discussion/Decision		Not treated
Yes	R1-090622	Per ormance Evaluation o Layer 3 relays	Samsung	12 5	Discussion/Decision		Not treated
Yes	R1-090623	L1 relay design and operations	Samsung	12 5	Discussion/Decision		Not treated
Yes	R1-090624	Dra t CR 36 211 (Rel-8 F) A ew Clari ications or transmissions in DD	Z E	6 1	Dra t CR	R1-091004	Noted - Revised
Yes	R1-090625	36 212 CR0086 (Rel-8 F) Clari ication o downlink control in ormation	Z E	6 2	CR		Noted
Yes	R1-090626	36 213 CR0213 (Rel-8 F) Clari ication o redundancy version and HARQ process	Z E	6 3	CR		Noted
Yes	R1-090627	Dra t CR or S36 213 on UE procedure or reporting ACK/NACK	Z E	6 3	Dra t CR		Withdrawn
Yes	R1-090628	Downlink Control Structure or L E-A	Z E	12 1	Discussion/Decision		Not treated
Yes	R1-090629	Uplink Control Channel Design or L E-Advanced	Z E	12 1	Discussion/Decision	(R1-090078)	Not treated
Yes	R1-090630	PH CH scheme or L E-A	Z E	12 1	Discussion/Decision		Not treated
Yes	R1-090631	Uplink CoMP joint processing schemes	Z E	12 2	Discussion/Decision	(R1-090414)	Not treated
Yes	R1-090632	Discussion o CQ -RS design or L E-A CoMP	Z E	12 2	Discussion/Decision		Not treated
Yes	R1-090633	Downlink CoMP transmitting scheme based on beam orming	Z E	12 2	Discussion/Decision	(R1-090069) R1-091067	Revised
Yes	R1-090634	Downlink Re erence Signal design or L E-Advanced	Z E	12 4	Discussion/Decision		Not treated
Yes	R1-090635	SU-M MO precoding with limited eedback in L E-A	Z E	12 4	Discussion/Decision		Noted
Yes	R1-090636	Consideration on Multi-user beam orming	Z E	12 4	Discussion/Decision		Not treated
No	R1-090637	8- X Diversity Schemes or L E-A Downlink	Z E	12 4	Discussion		Missing
Yes	R1-090638	Simulation methodology discussion or relay study	Z E	12 5	Discussion/Decision		Not treated
Yes	R1-090639	A downlink L2 relay scenario and its simulation study	Z E	12 5	Discussion		Not treated
Yes	R1-090640	An uplink L2 relay scenario and its simulation study	Z E	12 5	Discussion		Not treated
Yes	R1-090641	Control signaling structures or relay link	Z E	12 5	Discussion		Not treated
Yes	R1-090642	Uplink asynchronous HARQ or relay link	Z E	12 5	Discussion		Not treated
Yes	R1-090643	36 213 CR0209R1 (Rel-8 F) Correction to rho A de inition or CQ calculation	NEC Group Samsung Philips	6 3	CR	R1-091020	Noted - Revised
Yes	R1-090644	36 213 CR0214 (Rel-8 F) Correction o incorrect re erence in Section 8 4 1 ype 1 PUSCH hopping	NEC Group	6 3	CR	R1-091036	Noted - Revised

Yes	R1-090645	36 213 CR0215 (Rel-8 F) Contradicting statements on determination o CQ subband size	NEC Group	6 3	CR		Agreed
Yes	R1-090646	On component carrier types and support or L E-A eatures	NEC Group	12 1	Discussion/Decision		Not treated
Yes	R1-090647	Downlink Control Structure or L E-Advanced System	NEC Group	12 1	Discussion/Decision		Not treated
Yes	R1-090648	DL/UL Resource Signalling or L E-Advanced System	NEC Group	12 1	Discussion/Decision		Not treated
Yes	R1-090649	MU-M MO Demodulation at the Mobile Station	NEC Group	12 4	Discussion/Decision		Not treated
Yes	R1-090650	36 213 CR0199R1 Correction to the ACK/NACK bundling in case o transmission mode 3 and 4	LG Electronics	6 3	CR	R1-091022	Revised
Yes	R1-090651	ssues on the CM increase due to the repeated DL RS pattern	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090652	HARQ mapping across aggregated component carriers	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090653	PDCCH structure or multiple component carriers	LG Electronics	12 1	Discussion	R1-091065	Revised
Yes	R1-090654	PUCCH piggybacking onto PUSCH in case o transmit power limitation	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090655	Uplink multiple channel transmission in case o UE transmit power limitation	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090656	Uplink control channel transmission or L E-Advanced	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090657	Dynamic Cell Clustering or CoMP	LG Electronics	12 2	Discussion/Decision		Not treated
Yes	R1-090658	Multi-layered Rate Control or Network M MO in L E-Advanced	LG Electronics	12 2	Discussion/Decision		Not treated
Yes	R1-090659	Multi-layered Rate Control or Uplink Network M MO	LG Electronics	12 2	Discussion/Decision		Not treated
No	R1-090660	Comparison o CoMP RS structures	LG Electronics	12 2	Discussion		Withdrawn
Yes	R1-090661	Analysis o number o codewords or Uplink SU-M MO	LG Electronics	12 3	Discussion		Noted
Yes	R1-090662	Further clari ication on L3 relay node or L E-A	LG Electronics	12 5	Discussion/Decision		Not treated
Yes	R1-090663	Hybrid o AF and DF in Layer-2 or -3 Relay	LG Electronics	12 5	Discussion/Decision		Not treated
Yes	R1-090664	Comparison o in-band relaying methods in FDD mode	LG Electronics	12 5	Discussion/Decision		Noted
Yes	R1-090665	UL sub rame stealing or in-band relaying in DD mode	LG Electronics	12 5	Discussion/Decision		Noted
Yes	R1-090666	Per ormance Evaluation o relay system	LG Electronics	12 5	Discussion		Not treated
Yes	R1-090667	25 224 CR0208 (Rel-7 F) on E-DCH power control clari ication or 1 28Mcps DD	D ech	5	CR	R1-091086	Noted - Revised
Yes	R1-090668	25 224 CR0209 (Rel-8 A) on E-DCH power control clari ication or 1 28Mcps DD	D ech	5	CR	R1-091087	Noted - Revised
Yes	R1-090669	Discussion on Uplink MU-M MO or L E-Advanced	China Potevio Co Ltd	12 3	Discussion		Not treated
Yes	R1-090670	Relays with Di erent Scheduling Methods	China Potevio Co Ltd	12 5	Discussion		Not treated
Yes	R1-090671	Per ormance study o relay cooperative way in L E-A system	China Potevio Co Ltd	12 5	Discussion		Not treated
Yes	R1-090672	Coordinated ransmission in ransparent Relay System	China Potevio Co Ltd	12 5	Discussion		Not treated
Yes	R1-090673	Discussion on the relay rame structure design or inter erence avoidance in L E-A DD system	China Potevio Co Ltd	12 5	Discussion		Noted
Yes	R1-090674	Acknowledgement o Semi-Persistent Uplink Explicit Release	Panasonic	4	Discussion		Not treated
Yes	R1-090675	Dra t CR on Alignment o SRS con iguration	Panasonic	6 1	Dra t CR	R1-091115	Agreed
Yes	R1-090676	A command clari ication as the result o RAN4 decision	Panasonic	6 3	Discussion/Decision		Noted
Yes	R1-090677	Dra t CR on the clari ication o uplink timing adjustments	Panasonic	6 3	Dra t CR	R1-091026	Noted - Revised

Yes	R1-090678	UE behaviour on SPS release	Panasonic	6 3	Discussion/Decision		Noted
Yes	R1-090679	Dra t CR on the removal o one shot SRS and removal o SRS with message 3	Panasonic	6 3	Dra t CR	R1-091028	Noted - Revised
Yes	R1-090680	Dra t CR on the de ault value o R	Panasonic	6 3	Dra t CR	R1-091043	Noted - Revised
Yes	R1-090681	UE behaviour around message 2 and message 3	Panasonic LGE Motorola	6 3	Discussion/Decision	R1-090985	Revised
Yes	R1-090682	PDCCH coding and mapping or carrier aggregation	Panasonic	12 1	Discussion/Decision		Not treated
Yes	R1-090683	PH CH Linkage or asymmetric carrier aggregation	Panasonic	12 1	Discussion/Decision		Not treated
No	R1-090684	HARQ control and Macro-Diversity or L E-ADV	Panasonic	12 2	Discussion/Decision		Missing
Yes	R1-090685	Views on C handling or CoMP	Panasonic	12 2	Discussion		Not treated
Yes	R1-090686	Discussion on n ormation Exchange Aspects o DL CoMP	Panasonic	12 2	Discussion		Noted
Yes	R1-090687	Discussion on PUCCH coordination or UL CoMP	Panasonic	12 2	Discussion		Not treated
Yes	R1-090688	Views on UL M MO extension up to 4x4	Panasonic	12 3	Discussion		Not treated
Yes	R1-090689	Precoded SRS or L E-Advanced	Panasonic	12 3	Discussion		Not treated
Yes	R1-090690	Views on xD schemes or PUCCH	Panasonic	12 3	Discussion	R1-091089	Revised
Yes	R1-090691	Codeword discussion or L E-A	Panasonic	12 4	Discussion		Noted
Yes	R1-090692	Physical Cell D and Scheduling options or L E-ADV	Panasonic	12 5	Discussion/Decision		Not treated
Yes	R1-090693	Relaying alternatives	Panasonic	12 5	Discussion/Decision		Noted
Yes	R1-090694	Discussion on the requirements o eNB-RN link	Panasonic	12 5	Discussion		Noted
Yes	R1-090695	36 212 CR0084 (Rel-8 F) Correction or the table o turbo code internal interleaver parameters	SHARP	6 2	CR	(R1-090443)	Noted
Yes	R1-090696	Considerations on precoding scheme or DL joint processing CoMP	SHARP	12 2	Discussion/Decision	(R1-090022)	Noted
Yes	R1-090697	L E-A transmit diversity schemes or PUCCH ormat 1/1a/1b	SHARP	12 3	Discussion/Decision		Not treated
Yes	R1-090698	nter ace between relay peer-nodes in L E-Advanced	SHARP	12 5	Discussion/Decision		Not treated
Yes	R1-090699	Analysis o Relay Architecture Options	SHARP	12 5	Discussion/Decision		Not treated
Yes	R1-090700	Resource allocation types and DC ormats or the L E-A UL	SHARP	12 6	Discussion/Decision	(R1-090021)	Not treated
Yes	R1-090701	Multi-cell co-operative beam orming operation and evaluation and P or R36 814	Philips	12 2	Discussion/Decision		Noted
Yes	R1-090702	MU-M MO or L E-A extension to dual codeword operation	Philips	12 4	Discussion/Decision		Not treated
Yes	R1-090703	DL M MO extension or L E-A inter erence management aspects	Philips	12 4	Discussion/Decision		Not treated
Yes	R1-090704	Combination o relaying with inter-node cooperative transmission – initial evaluation	Philips	12 5	Discussion/Decision		Not treated
Yes	R1-090705	E icient HARQ Protocol or S C based DL CoMP	Fujitsu	12 2	Discussion/Decision		Not treated
Yes	R1-090706	DL Re erence Signal Design or 8x8 M MO in L E-Advanced	Fujitsu	12 4	Discussion/Decision		Noted
Yes	R1-090707	Relaying with Channel Resource Reuse and S C or L E-Advanced	Fujitsu	12 5	Discussion/Decision		Not treated

Yes	R1-090708	DL System Level Per ormance Evaluation with 3-Dimensional Antenna Pattern or Advanced E-U RA	Fujitsu	12 6	Discussion		Not treated
Yes	R1-090709	Grouped and Encoded Packet based HARQ or L E-Advanced	Fujitsu	12 6	Discussion/Decision		Not treated
Yes	R1-090710	An E icient Hierarchical Modulation based DL Data ransmission or L E-Advanced	Fujitsu	12 6	Discussion/Decision		Not treated
Yes	R1-090711	Acknowledgement or explicit uplink SPS release	Nokia Nokia Siemens Networks	4	Discussion/Decision		Not treated
Yes	R1-090712	Reply LS on ACK or explicit uplink SPS release	Nokia Nokia Siemens Networks	4	Discussion/Decision		Not treated
Yes	R1-090713	36 211 CR0127 (Rel-8 F) Corrections to SRS	Nokia Nokia Siemens Networks	6 1	CR	R1-091044	Noted - Revised
Yes	R1-090714	36 211 CR0128 (Rel-8 F) Clari ication o PDSCH Mapping to Resource Elements	Nokia Siemens Networks Nokia	6 1	CR	R1-090994	Revised
Yes	R1-090715	36 213 CR0216 (Rel-8 F) Corrections to SRS	Nokia Nokia Siemens Networks	6 3	CR		Agreed
Yes	R1-090716	36 213 CR0217 (Rel-8 F) Completion o UL-DL con iguration 5 o rame struture type 2	Nokia Nokia Siemens Networks	6 3	CR		Noted
Yes	R1-090717	36 213 CR0218 (Rel-8 F) Clari ication on DD AN eedback modes	Nokia Nokia Siemens Networks	6 3	CR		Noted
Yes	R1-090718	36 213 CR0219 (Rel-8 F) Miscellaneous corrections on DD ACKNACK	Nokia Nokia Siemens Networks	6 3	CR	R1-091047	Revised
Yes	R1-090719	Dra t CR on correction o ACK/NACK transmission or downlink and uplink SPS release	Nokia Nokia Siemens Networks	6 3	Dra t CR		Not treated
Yes	R1-090720	36 213 CR0220 (Rel-8 F)Correction to ype 1 PUSCH hopping	Nokia Siemens Networks Nokia	6 3	CR		Noted
Yes	R1-090721	E-U RAN mobility enhancement S discussion	Nokia Nokia Siemens Networks	11	Discussion/Decision		Noted
Yes	R1-090722	DL control signaling to support extended bandwidth	Nokia Nokia Siemens Networks	12 1	Discussion/Decision		Not treated
Yes	R1-090723	Support o non-backward compatible component carriers	Nokia Nokia Siemens Networks	12 1	Discussion/Decision		Not treated
Yes	R1-090724	UL control signalling to support bandwidth extension in L E-Advanced	Nokia Siemens Networks Nokia	12 1	Discussion/Decision		Not treated
Yes	R1-090725	Setup o CoMP cooperation areas	Nokia Siemens Networks Nokia	12 2	Discussion/Decision		Not treated
Yes	R1-090726	Single-stream precoding or L E-Advanced UL	Nokia Siemens Networks Nokia	12 3	Discussion/Decision		Not treated
Yes	R1-090727	UL Single User M MO Schemes in L E-Advanced	Nokia Siemens Networks Nokia	12 3	Discussion/Decision		Not treated
Yes	R1-090728	Further considerations on DL re erence symbols or L E-Advanced	Nokia Nokia Siemens Networks	12 4	Discussion/Decision		Not treated
Yes	R1-090729	Four- vs eight-antenna port transmit diversity or L E-Advanced	Nokia Nokia Siemens Networks	12 4	Discussion/Decision		Not treated
Yes	R1-090730	mpact o Planning on eNB – Relay Link Model	Nokia Siemens Networks Nokia	12 5	Discussion/Decision	(R1-090241)	Not treated
Yes	R1-090731	E ect o Relaying on Coverage	Nokia Siemens Networks Nokia	12 5	Discussion		Not treated
Yes	R1-090732	Cell Edge Per ormance or Ampli y and Forward vs Decode and Forward Relays	Nokia Siemens Networks Nokia	12 5	Discussion/Decision	(R1-090243)	Not treated
Yes	R1-090733	Channel model or Relay to UE link at short distance	Nokia Siemens Networks Nokia	12 5	Discussion/Decision	R1-091077	Revised
Yes	R1-090734	Considerations on DD Relay	Nokia Nokia Siemens Networks	12 5	Discussion/Decision		Noted
Yes	R1-090735	Primary Component Carrier Selection Monitoring and Recovery	Nokia Siemens Networks Nokia	12 6	Discussion		Not treated
Yes	R1-090736	Use o Background nter erence Matrix or Autonomous Component Carrier Selection or L E-Advanced	Nokia Siemens Networks Nokia	12 6	Discussion	(R1-090235)	Not treated
Yes	R1-090737	nter eNB over-the-air communication (O AC) or L E-Advanced	Nokia Siemens Networks Nokia	12 6	Discussion	(R1-090236)	Not treated

Yes	R1-090738	PUSCH Power Control or L E-Advanced	Nokia Siemens Networks Nokia	12 6	Discussion		Not treated
Yes	R1-090739	Comparison o uplink transmit diversity schemes or L E-Advanced	Mitsubishi Electric	12 3	Discussion		Not treated
Yes	R1-090740	mpact o repeaters and decode-and- orward relays on system per ormance	Mitsubishi Electric	12 5	Discussion	R1-091058	Revised
Yes	R1-090741	Evaluation o transmit diversity or PUCCH in L E-A	Nortel	12 3	Discussion/Decision		Not treated
Yes	R1-090742	Discussion on ransmit diversity or PUSCH in L E-A	Nortel	12 3	Discussion/Decision		Not treated
Yes	R1-090743	Di erential codebook eedback scheme or L E-A	Nortel	12 4	Discussion/Decision		Not treated
Yes	R1-090744	Further discussion on advanced MBSFN or L E-A	Nortel	12 4	Discussion/Decision		Not treated
Yes	R1-090745	Cell Clustering in CoMP ransmission/Reception	Nortel	12 2	Discussion/Decision		Not treated
Yes	R1-090746	Power Allocation Among eNBs in Closed-Loop Downlink CoMP ransmission	Nortel	12 2	Discussion/Decision		Not treated
Yes	R1-090747	Closed-Loop Spatial Multiplexing in Downlink CoMP ransmission	Nortel	12 2	Discussion/Decision		Not treated
Yes	R1-090748	Per ormance evaluations o CoMP solutions	Nortel	12 2	Discussion/Decision		Not treated
Yes	R1-090749	Discussion on Multiple-site transmission schemes or L E-A	Nortel	12 2	Discussion/Decision		Noted
Yes	R1-090750	Support higher-order M MO in L E-A	Nortel	12 4	Discussion/Decision	R1-090983	Noted - Revised
Yes	R1-090751	Discussion on RS designs or high-order M MO in L E-A	Nortel	12 4	Discussion/Decision		Not treated
Yes	R1-090752	Clustered DF -S-OFDM ransmission rom Multiple ransmit Antennas	Nortel	12 3	Discussion/Decision		Not treated
Yes	R1-090753	Control Channel and Data Channel Design or Relay Link in L E-Advanced	Nortel	12 5	Discussion/Decision		Not treated
Yes	R1-090754	Per ormance evaluation o DRS design or multi-layer transmission	Nortel	12 4	Discussion/Decision		Noted
Yes	R1-090755	Discussion on the unctionalities or L E-A Relays	Nortel	12 5	Discussion/Decision		Not treated
Yes	R1-090756	Considerations on link budget or systems containing relays	Nortel	12 5	Discussion/Decision		Not treated
Yes	R1-090757	Discussion on the cell D or L E-Advanced system supporting relay	Nortel	12 5	Discussion/Decision		Not treated
Yes	R1-090758	Relay Channel Model or L E-A Evaluation Methodology	Nortel	12	Discussion/Decision		Not treated
Yes	R1-090759	Control channel design or the support o wider bandwidth or L E-Advanced	Nortel	12 1	Discussion/Decision		Not treated
Yes	R1-090760	Enhanced CQ /PM eedback mode to improve closed-loop M MO per ormance	Nortel	12 4	Discussion/Decision		Not treated
Yes	R1-090761	Opportunistic space time multiple access or L E-Advanced	Nortel	12 4	Discussion/Decision		Not treated
Yes	R1-090762	nitial random access or asymmetric carrier aggregation	Nortel	12 1	Discussion/Decision		Not treated
Yes	R1-090763	Femto deployment model or L E-A evaluation methodology	Motorola Nortel picoChip	12	Discussion/Decision	R1-091008	Revised
Yes	R1-090764	E-U RAN mobility evaluation models and assumptions	Nortel	11	Discussion/Decision	R1-091042	Revised

Yes	R1-090765	L E neighbor cell hearability	Nortel	10	Discussion/Decision		Noted
Yes	R1-090766	Dra t CR on UE measurement	Nortel	6 4	Dra t CR		Noted
Yes	R1-090767	25 214 CR0538 (Rel-8 F) Clari ication o the source o N/M ratio	Alcatel-Lucent	5	CR	R1-091054	Noted - Revised
Yes	R1-090768	Per ormance o DL O DOA with Dedicated LCS-RS	Alcatel-Lucent	10	Discussion/Decision		Noted
Yes	R1-090769	Support o wider bandwidth or Home eNodeB in L E-Advanced	Alcatel-Lucent Shanghai Bell Alcatel-Lucent	12 1	Discussion/Decision		Not treated
Yes	R1-090770	Uplink coordinated multi-point reception with distributed inter-cell inter erence suppression or L E-A	Alcatel-Lucent Shanghai Bell Alcatel-Lucent	12 2	Discussion/Decision		Not treated
Yes	R1-090771	Joint Spatial Multiplexing with ransmit Antenna Switching or L E-Advanced Uplink SU-M MO	Alcatel-Lucent Shanghai Bell Alcatel-Lucent	12 3	Discussion/Decision		Noted
Yes	R1-090772	S BC- Scheme with Non-Paired Symbols or L E-Advanced Uplink ransmit Diversity	Alcatel-Lucent Shanghai Bell Alcatel-Lucent	12 3	Discussion/Decision		Not treated
Yes	R1-090773	Joint ransmit Diversity with Antenna Grouped Component Allocation or Nx DF -S-OFDM	Alcatel-Lucent Shanghai Bell Alcatel-Lucent	12 3	Discussion/Decision		Not treated
Yes	R1-090774	Applications o network coding in L E-A	Alcatel-Lucent Shanghai Bell Alcatel-Lucent	12 5	Discussion/Decision		Not treated
Yes	R1-090775	DMA H-ARQ Code or Layer-2 Relay in L E-Advanced	Alcatel-Lucent	12 5	Discussion/Decision		Noted
Yes	R1-090776	Support o carrier aggregation or FDD	Alcatel-Lucent	12 1	Discussion		Not treated
Yes	R1-090777	UE PM eedback signalling or user pairing / coordination	Alcatel-Lucent	12 2	Discussion		Noted
Yes	R1-090778	36 211 CR0129 (Rel-8 D) Alignment with correct parameter names with ASN1	LG Electronics	6 1	CR	R1-091007	Noted - Revised
Yes	R1-090779	nitial Access Procedure in L E-Advanced	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090780	Resolving downlink carrier amiguity with RACH	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090781	Considerations on DL/UL ransmission in Asymmetric Carrier Aggregation	LG Electronics	12 1	Discussion		Not treated
Yes	R1-090782	CoMP Con igurations and UE/eNB Behaviors in L E-advanced	LG Electronics	12 2	Discussion		Not treated
Yes	R1-090783	Consideration on non channel-dependant spatial multiplexing or PUSCH	LG Electronics	12 3	Discussion		Not treated
Yes	R1-090784	Per ormance evaluation o PUSCH 2 x transmit diversity schemes in L E-A	LG Electronics	12 3	Discussion		Not treated
Yes	R1-090785	Per ormance evaluation o PUSCH 4 x transmit diversity schemes in L E-A	LG Electronics	12 3	Discussion		Not treated
Yes	R1-090786	PUCCH xD Schemes or L E-A	LG Electronics	12 3	Discussion/Decision	R1-091068	Revised
Yes	R1-090787	ssues on DL-RS Design or L E-A	LG Electronics	12 4	Discussion		Noted
Yes	R1-090788	Consideration on Downlink MU-M MO	LG Electronics	12 4	Discussion		Not treated
Yes	R1-090789	Sub rame Con iguration or Relay Node ransmission and Reception in L E-advanced FDD Mode	LG Electronics	12 5	Discussion/Decision		Not treated
Yes	R1-090790	Consideration on Resource Allocation or Relay Backhaul Link	LG Electronics	12 5	Discussion		Not treated
Yes	R1-090791	On the Hearability ssue or O DOA-based Positioning Support or L E Rel-9	Motorola	10	Discussion		Noted
Yes	R1-090792	Control Signalling Design or Supporting Carrier Aggregation	Motorola	12 1	Discussion		Not treated
Yes	R1-090793	Coordinated Multi-Point ransmission --- Coordinated Beam orming and Results	Motorola	12 2	Discussion	(R1-090325)	Noted
Yes	R1-090794	Multi-Antenna Uplink ransmission or L E-A	Motorola	12 3	Discussion		Not treated
Yes	R1-090795	UL-M MO with Antenna Gain mbalance	Motorola	12 3	Discussion		Noted
Yes	R1-090796	RS Design or Supporting Higher-Order SU/MU-M MO and CoMP	Motorola	12 4	Discussion		Noted
Yes	R1-090797	Multiplexing Options or Relays in L E-A	Motorola	12 5	Discussion		Noted
Yes	R1-090798	Frame Structure and Signaling to Support Relay Operation	Motorola	12 5	Discussion		Not treated
Yes	R1-090799	Parameters Determining Relay based System Per ormance Gain	Motorola	12 5	Discussion		Not treated
Yes	R1-090800	Relay Backhaul Downlink Quality in L E	Motorola	12 5	Discussion		Not treated
Yes	R1-090801	Uni orm Random UE Locations or Relays and Macro Cells	Motorola	12 5	Discussion		Not treated
Yes	R1-090802	DC or Supporting Uplink Non-contiguous Resource Allocations	Motorola	12 6	Discussion		Not treated

Yes	R1-090803	36 213 Dra t CR (Rel-8 F) Redundancy Version mapping unction or DC 1C	Motorola Nokia Nokia Siemens Networks	6 3	Dra t CR	R1-091032	Noted - Revised
Yes	R1-090804	L E-A Simulation Scenarios or U submission	Motorola	12	Discussion		Not treated
Yes	R1-090805	Uplink SU-M MO Design Options or L E Advanced	Motorola	12 3	Discussion		Not treated
Yes	R1-090806	DL M MO with 8 Antenna Codebook or L E-Advanced	Motorola	12 4	Discussion		Noted
Yes	R1-090807	Summary o Design Considerations or Supporting Relays in DD and FDD Modes	Motorola	12 5	Discussion		Noted
Yes	R1-090808	Separation the P-RN rom the S -RN	Huawei	4	Discussion/Decision		Noted
Yes	R1-090809	Correction on ype 2 PUSCH hopping	Huawei	6 1	Dra t CR		Noted
Yes	R1-090810	36 213 Correction o CQ timing	Huawei	6 3	Dra t CR	R1-091052	Noted - Revised
Yes	R1-090811	36 213 CR0208R1 (Rel-8 F) Correction to CQ /PM /R reporting ield	Huawei Qualcomm Europe exas nstruments Motorola LGE Philips	6 3	CR	R1-091021	Noted - Revised
Yes	R1-090812	36 213 PRACH retransmission timing	Huawei Panasonic Qualcomm Europe	6 3	Dra t CR	R1-091031	Noted - Revised
Yes	R1-090813	PUCCH design or carrier aggregation	Huawei	12 1	Discussion/Decision		Not treated
Yes	R1-090814	Component carrier structures	Huawei	12 1	Discussion/Decision		Not treated
Yes	R1-090815	PDCCH design or Carrier Aggregation	Huawei	12 1	Discussion		Not treated
Yes	R1-090816	he impact o CA on mobility in L E-A	Huawei	12 1	Discussion/Decision		Not treated
Yes	R1-090817	Consideration on carrier aggregation or emtocell scenario	Huawei	12 1	Discussion/Decision		Not treated
Yes	R1-090818	Signaling Aspects and P on DL CoMP or L E-Advanced	Huawei	12 2	Discussion/Decision		Not treated
Yes	R1-090819	Uplink re erence signal or L E-A	Huawei	12 2	Discussion		Not treated
Yes	R1-090820	mpacts o Downlink CoMP ransmission on Radio nter ace ransmitter and Receiver	Huawei	12 2	Discussion/Decision		Not treated
Yes	R1-090821	Solutions or downlink CoMP transmission - For issues on control zone CRS and DRS	Huawei Qualcomm Europe R CMCC	12 2	Discussion/Decision		Not treated
Yes	R1-090822	System Per ormance Evaluation o Downlink CoMP	Huawei	12 2	Discussion		Noted
Yes	R1-090823	Discussion on iming Advance issue in CoMP & ext Proposal	Huawei R exas nstruments CMCC	12 2	Discussion/Decision		Not treated
Yes	R1-090824	Per ormances o transmit diversity or PUSCH	Huawei	12 3	Discussion/Decision		Not treated
Yes	R1-090825	Uplink X diversity schemes or L E-Advanced	Huawei	12 3	Discussion/Decision		Not treated
Yes	R1-090826	Common RS or DL high-order M MO	Huawei	12 4	Discussion/Decision		Noted
Yes	R1-090827	Summary and proposal o relay rame structure	Huawei	12 5	Discussion/Decision		Noted
Yes	R1-090828	Considerations on Shadowing Fading o Relay	Huawei	12 5	Discussion/Decision	R1-091073	Revised
Yes	R1-090829	Per ormance evaluation o L1 relays	Huawei	12 5	Discussion	R1-091074	Revised
Yes	R1-090830	25 211 CR0260 (Rel-7 F) "Clari ications to the S-CP CH usage with M MO"	Nokia Corporation Nokia Siemens Networks	5	CR	R1-091013	Noted - Revised
Yes	R1-090831	25 211 CR0261 (Rel-8 A) "Clari ications to the S-CP CH usage with M MO"	Nokia Corporation Nokia Siemens Networks	5	CR	R1-091014	Noted - Revised
Yes	R1-090832	25 212 CR0273 (Rel-7 F) "Correction to the puncturing limit allowed when UL 4PAM modulation is allowed"	Nokia Corporation Nokia Siemens Networks	5	CR	R1-091103	Agreed

Yes	R1-090833	25 212 CR0274 (Rel-8 A) "Correction to the puncturing limit allowed when UL 4PAM modulation is allowed"	Nokia Corporation Nokia Siemens Networks	5	CR	R1-091104	Agreed
Yes	R1-090834	[Rel-9 repetition or improved per ormance in large cells	Nokia Corporation Nokia Siemens Networks	5	Discussion		Noted
Yes	R1-090835	UE implementation complexity issues on U RA Multi-Carrier Evolution	Nokia Corporation Nokia Siemens Networks	9	Discussion		Noted
Yes	R1-090836	DC-HSUPA simulation results	Nokia Corporation Nokia Siemens Networks	9	Discussion		Noted
No	R1-090837	On multicarrier HSPA evolution	Nokia Corporation Nokia Siemens Networks	9	Discussion		Withdrawn
Yes	R1-090838	Study Assumptions or L E Positioning Support	Nokia Corporation Nokia Siemens Networks	10	Discussion/Decision		Noted
Yes	R1-090839	nter erence Randomization Method or PUCCH	R CH L	6 1	Discussion/Decision		Noted
No	R1-090840	Dra t CR to the PUCCH power control parameter	LG Electronics	6 3	Dra t CR		Missing
Yes	R1-090841	ext proposal or R36 814 on backhaul or relays	LG Electronics	12 5	P		Not treated
Yes	R1-090842	Dra t CR on clari ying SRS transmission	Qualcomm Europe	6 1	Dra t CR		Noted
Yes	R1-090843	Dra t CR on clari ying the number o bits in a PH CH block	Qualcomm Europe	6 1	Dra t CR		Noted
Yes	R1-090844	On CQ reporting or open-loop spatial multiplexing	Qualcomm Europe	6 3	n ormation		Not treated
Yes	R1-090845	On type-2 PUSCH hopping	Qualcomm Europe	6 3	Discussion/Decision	R1-091061	Revised
Yes	R1-090846	Dra t CR on error handling o PUSCH assignments	Qualcomm Europe Huawei	6 3	Dra t CR	R1-091050	Revised
Yes	R1-090847	Dra t CR on error handling o PDSCH assignment	Qualcomm Europe Huawei	6 3	Dra t CR		Not treated
Yes	R1-090848	Dra t CR on clari ying PH CH index mapping	Qualcomm Europe	6 3	Dra t CR	R1-091034	Noted - Revised
Yes	R1-090849	Dra t CR on clari ying DL type-2 resource allocation	Qualcomm Europe	6 3	Dra t CR		Noted
Yes	R1-090850	Dra t CR on clari ying transmission timing adjustments upon receiving a A command	Qualcomm Europe	6 3	Dra t CR		Noted
Yes	R1-090851	Further positioning evaluations	Qualcomm Europe	10	Discussion/Decision		Noted
Yes	R1-090852	PHY layer speci ication impact o positioning improvements	Qualcomm Europe	10	Discussion		Noted
Yes	R1-090853	Evaluation parameters or positioning studies	Qualcomm Europe	10	Discussion/Decision		Noted
Yes	R1-090854	Further evaluations o mobility per ormance in L E	Qualcomm Europe	11	Discussion/Decision		Noted
Yes	R1-090855	Skeleton R or mobility enhancements	Qualcomm Europe	11	R	R1-091099	Revised
Yes	R1-090856	P or R on mobility studies	Qualcomm Europe	11	P	R1-091100	Revised
Yes	R1-090857	Possible solutions to improve mobility per oramance	Qualcomm Europe	11	Discussion/Decision		Noted
Yes	R1-090858	Re inement o hot spot and emto deployment parameters	Qualcomm Europe Mitsubishi Electric	12	P		Not treated
Yes	R1-090859	Measurements in support o various L E-A techniques	Qualcomm Europe	12	Discussion/Decision		Not treated
Yes	R1-090860	Notion o anchor carrier in L E-A	Qualcomm Europe	12 1	Discussion/Decision		Not treated
Yes	R1-090861	Carrier aggregation in heterogeneous networks	Qualcomm Europe	12 1	n ormation		Not treated
Yes	R1-090862	Multi-carrier control or L E-A	Qualcomm Europe	12 1	Discussion/Decision		Not treated
Yes	R1-090863	UL carrier aggregation per ormance with range expansion	Qualcomm Europe	12 1	n ormation		Not treated
No	R1-090864	RS in support o DL CoMP and higher order M MO	Qualcomm Europe	12 2	Discussion/Decision		Missing

Yes	R1-090865	CoMP Cooperative Silencing Hotzone DL Per ormance	Qualcomm Europe	12 2	Discussion/Decision		Not treated
Yes	R1-090866	Multiple Description Coding or Spatial Feedback Payload Reduction	Qualcomm Europe	12 2	Discussion/Decision		Noted
Yes	R1-090867	Signalling or spatial coordination in DL CoMP	Qualcomm Europe	12 2	Discussion/Decision		Not treated
Yes	R1-090868	CoMP cooperative Silencing Hotzone UL Per ormance	Qualcomm Europe	12 2	Discussion/Decision		Not treated
Yes	R1-090869	ComP analysis in presence o bursty tra ic	Qualcomm Europe	12 2	Discussion/Decision	R1-091070	Revised
Yes	R1-090870	PUCCH transmit diversity	Qualcomm Europe	12 3	Discussion/Decision	R1-091048	Revised
Yes	R1-090871	PUSCH transmit diversity	Qualcomm Europe	12 3	Discussion/Decision		Not treated
Yes	R1-090872	SU-M MO operation or UL o L E-A	Qualcomm Europe	12 3	Discussion/Decision		Noted
Yes	R1-090873	Flexible Data and Re erence Signal Multiplexing or L E-Advanced Uplink	Qualcomm Europe	12 3	Discussion/Decision		Not treated
Yes	R1-090874	Views or DL M MO operation in L E-A	Qualcomm Europe	12 4	Discussion/Decision		Noted
Yes	R1-090875	Link analyses or RS structure in support o higher order M MO	Qualcomm Europe	12 4	Discussion/Decision		Noted
Yes	R1-090876	Pre erence or relay operation in L E-A	Qualcomm Europe	12 5	Discussion/Decision	R1-091049	Revised
Yes	R1-090877	Speci ication impact o L3 relays	Qualcomm Europe	12 5	Discussion/Decision		Not treated
Yes	R1-090878	nitial Evaluation o Relay Per ormance	Qualcomm Europe	12 5	Discussion/Decision	R1-090972	Revised
Yes	R1-090879	nitial Uplink Access Procedure in L E-Advanced	Z E	12 6	Discussion/Decision	R1-090984	Revised
Yes	R1-090880	Analysis o decode and orward relaying strategies	E R	12 5	Discussion		Not treated
Yes	R1-090881	Uplink SU M MO with simple layer interleaving	E R	12 3	Discussion		Noted
Yes	R1-090882	Per-cell precoding methods or downlink joint processing CoMP	E R	12 2	Discussion		Not treated
Yes	R1-090883	Link Evaluation o EUL Coverage	Qualcomm Europe	5	Discussion		Noted
Yes	R1-090884	ssue on HS-SCCH-less operation	Huawei	5	Discussion/Decision		Noted
Yes	R1-090885	25 214 CR0539 (Rel-8 F) Correction to the description o UE behaviour when having received an HS-SCCH order	Huawei	5	CR		Noted
Yes	R1-090886	Considerations on DC-HSUPA Operation	Huawei	9	Discussion/Decision		Noted
Yes	R1-090887	Considerations on Multi (3 4) Carrier HSDPA Operation	Huawei	9	Discussion/Decision		Noted
Yes	R1-090888	System Simulation Results or DC-HSDPA Operation over nter-band Carriers	Huawei	9	Discussion		Noted
No	R1-090889	System Simulation Results or DC-HSUPA Operation	Huawei	9	Discussion		Withdrawn
No	R1-090890	System Simulation Results or DC-HSDPA+M MO Operation	Huawei	9	Discussion		Withdrawn
Yes	R1-090891	System Simulation Results or MC-HSDPA Operation over 3 Carriers	Huawei	9	Discussion		Noted
Yes	R1-090892	25 221 CR0175R1 (Rel-8 B) on introduction CPC or 1 28Mcps DD	D ech CA CMCC R Spreadtrum Communications Z E	7	CR	(R1-090527)	Agreed
Yes	R1-090893	25 221 CR0176 (Rel-7 D) Editorial correction or annex CB & CC	D ech	5	CR		Agreed
Yes	R1-090894	25 221 CR0177 (Rel-8 D) Editorial correction or annex CB & CC	D ech	5	CR		Agreed

Yes	R1-090895	Comparison o PDCCH ransmission and Coding Schemes or L E-Advanced	N DOCOMO	12 1	Discussion/Decision		Not treated
No	R1-090896	DL Control Signaling Design Considering Complementary Cell Deployment in L E-Advanced	N DOCOMO	12 1	Discussion/Decision		Missing
Yes	R1-090897	nitial Access Procedure or Asymmetric Wider Bandwidth in L E-Advanced	N DOCOMO	12 1	Discussion/Decision		Not treated
Yes	R1-090898	Views on Downlink Reception Bandwidth Considering Power Saving E ect in L E-Advanced	N DOCOMO	12 1	Discussion/Decision		Not treated
Yes	R1-090899	UL ransmission Bandwidth in L E-Advanced	N DOCOMO	12 1	Discussion/Decision		Not treated
Yes	R1-090900	nter-cell Radio Resource Management or Heterogeneous Network	N DOCOMO	12 2	Discussion/Decision		Not treated
No	R1-090901	DL RS Structure to Support CoMP in L E-Advanced	N DOCOMO	12 2	Discussion/Decision		Missing
Yes	R1-090902	UL M MO ransmission Schemes in L E-Advanced	N DOCOMO	12 3	Discussion/Decision		Not treated
No	R1-090903	Views on Relay or L E-Advanced	N DOCOMO	12 5	Discussion/Decision		Missing
Yes	R1-090904	On consideration o optimizing the P-RN value	Ericsson	4	Discussion/Decision		Noted
Yes	R1-090905	Characterization o relaying schemes	Ericsson	12 5	Discussion/Decision		Noted
Yes	R1-090906	ext proposal or R36 814 on backhaul or relays	Ericsson Nokia Nokia Siemens Networks	12 5	Discussion/Decision		Agreed
Yes	R1-090907	Characterization o control signaling or L E-Advanced	Ericsson	12 1	Discussion/Decision		Not treated
Yes	R1-090908	Clari ications o DD ACK/NACK multiplexing	Ericsson	6 3	Dra t CR		Not treated
Yes	R1-090909	Alignment o CQ parameter names with RRC	Ericsson	6 3	Dra t CR	R1-091019	Noted - Revised
Yes	R1-090910	36 214 CR0009 (Rel-8 F) RSRP and RSRQ De initions with Receiver Diversity	Ericsson	6 4	CR		Agreed
Yes	R1-090911	ntroduction o “DL UE transmission mode X”	Ericsson	6 3	Discussion/Decision	R1-091018	Noted - Revised
Yes	R1-090912	Dra t LS reply on Updated RN value ranges	Ericsson	4	LS out	R1-090989	Noted - Revised
Yes	R1-090913	Considerations on Mobility Enhancements or Release 9	Ericsson	11	Discussion/Decision	R1-091096	Revised
Yes	R1-090914	Downlink CoMP	Ericsson	12 2	Discussion/Decision		Not treated
Yes	R1-090915	UL Single user M MO	Ericsson	12 3	Discussion/Decision	R1-091093	Revised
Yes	R1-090916	Considerations on RS Design or L E-Advanced	Ericsson	12 4	Discussion/Decision		Noted
Yes	R1-090917	DL M MO	Ericsson	12 4	Discussion/Decision		Noted
Yes	R1-090918	On O DOA positioning or L E	Ericsson	10	Discussion/Decision		Noted
Yes	R1-090919	Per ormance prediction o turbo-S C receivers or system-level simulations	Orange Nokia Nokia Siemens Networks exas nstruments	12	Discussion/Decision		Not treated
Yes	R1-090920	Cost aspects o relay deployments and impact on evaluation scenarios	Orange	12 5	Discussion/Decision	R1-091076	Revised
Yes	R1-090921	Relay Evaluation Methodologies or homogenous L E-Advanced	CMCC Voda one Huawei	12 5	Discussion/Decision		Not treated

Yes	R1-090922	Downlink CoMP-MU-M MO transmission Schemes	CMCC	12 2	Discussion/Decision		Noted
Yes	R1-090923	UL CoMP Scheme and System Level Per ormance Evaluation or L E-A	CMCC	12 2	Discussion/Decision		Not treated
Yes	R1-090924	Resource Allocation and PDCCH Design ssues in Carrier Aggregation	CMCC	12 1	Discussion/Decision		Not treated
Yes	R1-090925	Clari ication o network scheduling and UE behavior as HARQ-ACK repetition con igured	CMCC	6 3	Discussion/Decision		Noted
Yes	R1-090926	"Best Companion" reporting or improved single-cell MU-M MO pairing	Alcatel-Lucent	12 4	Discussion		Not treated
Yes	R1-090927	CQ and CS Feedback Compression	Alcatel-Lucent	12 4	Discussion		Not treated
Yes	R1-090928	Need or nter erence Management with Relays	CEWi	12 5	Discussion		Not treated
Yes	R1-090929	R 36 814 v0 3 2	N DOCOMO	12	R	R1-091009	Noted - Revised
Yes	R1-090930	DL Link Budget in Multi-antenna con igurations	N DOCOMO	6 4	Discussion/Decision		Noted
Yes	R1-090931	36 211 CR0117R1 (Rel-8 F) Correction to SRS in UpP S	CA Samsung	6 1	CR		Noted
Yes	R1-090932	36 213 CR0222 (Rel-8 F) Correction to SRS procedure in UpP S	CA Samsung	6 3	CR		Noted
Yes	R1-090933	[DRAF LS on ACK/NACK repetition transmission within measurement gap	CA	4	Dra t LS		Noted
Yes	R1-090934	36 213 Dra t CR(Rel-8 F)Correction on uplink transmissions within measurement gap	CA	6 3	Dra t CR		Noted
Yes	R1-090935	36 213 Dra t CR(Rel-8 F)CQ /PM /R reporting instances when NP=1ms in DD mode	CA CMCC R	6 3	Dra t CR	R1-090978	Revised
Yes	R1-090936	UE Positioning Based on AoA+ A or L E Rel-9	CA	10	Discussion/Decision		Noted
Yes	R1-090937	Clari ication o the polarized antenna array channel model and typical parameters suggestion	CA	12	Discussion/Decision	R1-090979	Revised
Yes	R1-090938	DL Control Channel Scheme or L E-A	CA	12 1	Discussion/Decision		Not treated
Yes	R1-090939	UL Control Channel Scheme or L E-A	CA R	12 1	Discussion/Decision		Not treated
Yes	R1-090940	Physical cell D and PSCH con iguration or L E-A	CA	12 1	Discussion/Decision		Not treated
Yes	R1-090941	Analysis o CQ /PM Feedback or Downlink CoMP	CA	12 2	Discussion/Decision		Not treated
Yes	R1-090942	Aspects o Joint Processing or Downlink CoMP	CA	12 2	Discussion/Decision		Noted
Yes	R1-090943	Non-codebook-based Precoding or Uplink transmission	CA CMCC R	12 3	Discussion/Decision		Noted
Yes	R1-090944	UL SU-M MO Antenna Calibration at UE	CA R	12 3	Discussion/Decision		Not treated
Yes	R1-090945	Further Per ormance Evaluation or dual-stream Beam orming echnique	CA	12 4	Discussion/Decision		Not treated
Yes	R1-090946	A echnique to mitigate inter-cell inter erence	CA R	12 4	Discussion/Decision		Not treated
Yes	R1-090947	Hierarchical M MO scheme or L E-A MBMS	CA	12 6	Discussion/Decision		Not treated
No	R1-090948	Further consideration on carrier aggregation or L E-A	CA R	12 1	Discussion/Decision		Withdrawn
Yes	R1-090949	An E icient Re erence Signal Design in L E Advanced	Fujitsu	12 2	Discussion/Decision		Noted
Yes	R1-090950	Received iming Di erence in Downlink CoMP ransmission	Fujitsu	12 2	Discussion		Not treated

Yes	R1-090951	Pseudo ransmission iming Control using Cyclic Shi t or Downlink CoMP Joint ransmission	Fujitsu	12 2	Discussion/Decision		Not treated
Yes	R1-090952	Anchor component carrier and pre erred control signal structure	Fujitsu	12 1	Discussion		Not treated
Yes	R1-090953	Anchor component carrier or dle-mode L E-A UE	Fujitsu	12 6	Discussion		Not treated
No	R1-090954	Mobile relay node	Fujitsu	12 5	Discussion		Missing
Yes	R1-090955	ndenti y Cell Edge Users by Using Maximum RSRP rigger hreshold in C C Operation	CH L R	6 3	Discussion		Noted
Yes	R1-090956	A Hybrid Concept o C C and CoMP or L E-A nitial Evaluation	CH L R	12 2	Discussion		Not treated
Yes	R1-090957	Further DM pilot sequences or MBSFN MB	PWireless	5	Decision		Noted
Yes	R1-090958	25 221 CR0178 (Rel-8 F) Speci ication o -CP CH sequences or MBSFN MB	PWireless	5	CR		Agreed
Yes	R1-090959	25 223 CR0058 (Rel8 F) Speci ication o scrambling codes and code groups or MBSFN MB	PWireless	5	CR		Agreed
Yes	R1-090960	25 213 CR0100R1 (Rel-7 F) Correction to D X bit insertion or MBSFN 16-QAM	PWireless	5	CR		Noted
Yes	R1-090961	25 213 CR0101R1 (Rel-8 A) Correction to D X bit insertion or MBSFN 16-QAM	PWireless	5	CR	R1-091106	Noted - Revised
Yes	R1-090962	25 211 CR0262 (Rel-7 F) Clari ication o ACK transmission in response to HS-SCCH order	Ericsson	5	CR	R1-091010	Noted - Revised
Yes	R1-090963	25 211 CR0263 (Rel-8 A) Clari ication o ACK transmission in response to HS-SCCH order	Ericsson	5	CR	R1-091011	Noted - Revised
Yes	R1-090964	25 214 CR0534R1 (Rel-8 F) Corrections o HS-SCCH orders or DC-HSDPA	Ericsson	5	CR	R1-091051	Noted - Revised
Yes	R1-090965	25 215 CR0194R1 (Rel-8 F) RSRP and RSRQ Measurement De initions	Ericsson	5	CR		Agreed
Yes	R1-090966	System simulation results or MC-HSDPA operation over 3 and 4 carriers	Ericsson	9	Discussion	R1-090980	Revised
Yes	R1-090967	System simulation results or DC-HSDPA M MO operation	Ericsson	9	Discussion	R1-090987	Revised
Yes	R1-090968	System simulation results or DC-HSUPA operation	Ericsson	9	Discussion		Noted
Yes	R1-090969	Dra t CR on Clari ication on ACK/NAK transmission in 36 212	exas nstruments	6 2	Dra t CR		Noted
Yes	R1-090970	Dra t CR on Clari ication on ACK/NAK transmission in 36 213	exas nstruments	6 3	Dra t CR		Not treated
Yes	R1-090971	Systematic Data Repetition or E ective Cell edge nter erence Management	CEWi	12 2	Discussion	R1-091059	Revised
Yes	R1-090972	nitial Evaluation o Relay Per ormance	Qualcomm Europe	12 5	Discussion/Decision	(R1-090878)	Not treated
Yes	R1-090973	25 222 CR0170 (Rel-5 D) Editorial correction or 1 28Mcps DD	D ech	5	CR		Agreed
Yes	R1-090974	25 222 CR0171 (Rel-6 D) Editorial correction or 1 28Mcps DD	D ech	5	CR		Agreed
Yes	R1-090975	25 222 CR0172 (Rel-7 D) Editorial correction or 1 28Mcps DD	D ech	5	CR		Agreed
Yes	R1-090976	25 222 CR0173 (Rel-8 D) Editorial correction or 1 28Mcps DD	D ech	5	CR		Agreed
Yes	R1-090977	Precoding options or 8 x antennas in L E-A DL	Marvell	12 4	Discussion		Noted
Yes	R1-090978	36 213 Dra t CR(Rel-8 F)CQ /PM /R reporting instances when NP=1ms in DD mode	CA CMCC R LGE Huawei	6 3	Dra t CR	(R1-090935)	Noted
Yes	R1-090979	Clari ication o the polarized antenna array channel model and typical parameters suggestion	CA	12	Discussion/Decision	(R1-090937)	Not treated
Yes	R1-090980	System simulation results or MC-HSDPA operation over 3 and 4 carriers	Ericsson	9	Discussion	(R1-090966)	Noted
No	R1-090981	On multistream beam orming	Ericsson	12 4	Discussion/Decision		Missing
Yes	R1-090982	On ACK transmission or UL SPS Release	Qualcomm Europe	4	Discussion/Decision		Not treated
No	R1-090983	Support higher-order M MO in L E-A	Nortel	12 4	Discussion/Decision	(R1-090750)	Missing
Yes	R1-090984	nitial Uplink Access Procedure in L E-Advanced	Z E	12 1	Discussion/Decision	(R1-090879)	Not treated
Yes	R1-090985	UE behaviour around message 2 and message 3	Panasonic LGE Motorola	6 3	Discussion/Decision	(R1-090681) R1-091016	Revised
Yes	R1-090986	ext proposal or R36 814 on relay	CMCC	12 5	discussion/decision		Not treated

Yes	R1-090987	System simulation results or DC-HSDPA M MO operation	Ericsson	9	Discussion	(R1-090967)	Noted
Yes	R1-090988	Final report o RAN1#55bis meeting	MCC Support	3	Approval	(R1-090551) R1-091069	Noted - Revised
Yes	R1-090989	LS reply on Updated RN value ranges	RAN1 Ericsson	4	LS out	(R1-090912)	Agreed
Yes	R1-090990	-CP CH sequences or MB	Qualcomm Europe	5	Discussion	(R1-090569)	Noted
Yes	R1-090991	System Simulation Results or Multiple Carrier (3 4) HSDPA Operation	Qualcomm Europe	9	Discussion	(R1-090570)	Noted
Yes	R1-090992	System Simulation Results or nter-Band Multi-Carrier HSDPA Operation	Qualcomm Europe	9	Discussion	(R1-090572)	Noted
Yes	R1-090993	System Simulation Results or Dual Carrier HSUPA Operation	Qualcomm Europe	9	Discussion	(R1-090573)	Noted
Yes	R1-090994	36 211 CR0128R1 (Rel-8 F) Clari ication o PDSCH Mapping to Resource Elements	Nokia Siemens Networks Nokia	6 1	CR	(R1-090714) R1-091006	Noted - Revised
Yes	R1-090995	[Dra t LS reply on collision between measurement gap and HARQ eedback	Ericsson exas nstruments	4	LS out	R1-091023	Noted - Revised
Yes	R1-090996	Miscellaneous corrections to SRS	Nokia Corporation Nokia Siemens Networks	6 1	Dra t CR		Noted
Yes	R1-090997	Clari ication on channel coding or UC HARQ -ACK	LGE	6 2	Dra t CR	R1-091024	Noted - Revised
Yes	R1-090998	Correction to PUCCH ormat 1 mapping to physical resources	Motorola	6 1	Dra t CR	R1-091056	Noted - Revised
Yes	R1-090999	36 212 CR0085R1 (Rel-8 F) General Clari ications and Corrections	Samsung	6 2	CR	(R1-090603)	Noted
Yes	R1-091000	On D X indication bits and 16QAM	Ericsson	5	Discussion/Decision		Noted
Yes	R1-091001	On UE transmit timing	Ericsson	6 3	Discussion		Noted
No	R1-091002	void					
No	R1-091003	void					
Yes	R1-091004	Dra t CR 36 211 (Rel-8 F) A ew Clari ications or transmissions in DD	Z E	6 1	Dra t CR	(R1-090624) R1-091114	Noted - Revised
Yes	R1-091005	L E-Advanced RAN1 work plan or U submission	RAN1 Chairman	12	n ormation		Noted
Yes	R1-091006	36 211 CR0128R2 (Rel-8 F) Clari ication o PDSCH Mapping to Resource Elements	Nokia Siemens Networks Nokia Philips Qualcomm	6 1	CR	(R1-090994)	Agreed
Yes	R1-091007	36 211 CR0129R1 (Rel-8 D) Alignment with correct parameter names with ASN1	LG Electronics Ericsson Z E	6 1	CR	(R1-090778)	Agreed
Yes	R1-091008	Femto deployment model or L E-A evaluation methodology	Motorola Nortel picoChip	12	Discussion/Decision	(R1-090763)	Not treated
Yes	R1-091009	R 36 814 v0 4 0	N DOCOMO	12	R	(R1-090929)	Endorsed
Yes	R1-091010	25 211 CR0262R1 (Rel-7 F) Clari ication o ACK transmission in response to HS-SCCH order	Ericsson Motorola Philips	5	CR	(R1-090962)	Agreed
Yes	R1-091011	25 211 CR0263R1 (Rel-8 A) Clari ication o ACK transmission in response to HS-SCCH order	Ericsson Motorola Philips	5	CR	(R1-090963)	Agreed
Yes	R1-091012	-CP CH sequence comparisons	PWireless	5	n ormation		Noted
Yes	R1-091013	25 211 CR0260R1 (Rel-7 F) "Clari ications to the S-CP CH usage with M MO"	Nokia Corporation Nokia Siemens Networks Qualcomm Philips Ericsson	5	CR	(R1-090830)	Agreed
Yes	R1-091014	25 211 CR0261R1 (Rel-8 A) "Clari ications to the S-CP CH usage with M MO"	Nokia Corporation Nokia Siemens Networks Qualcomm Philips Ericsson	5	CR	(R1-090831)	Agreed
Yes	R1-091015	36 213 CR0223 (Rel-8 F) Scrambling o PUSCH corresponding to Random access response grant	Nokia Siemens Networks Nokia Ericsson Huawei LG Electronics Samsung	6 3	CR		Agreed
Yes	R1-091016	UE behaviour around message 2 and message 3	Panasonic LGE Motorola	6 3	Discussion/Decision	(R1-090985)	Noted
Yes	R1-091017	[Dra t Reply LS on ACK or explicit uplink SPS release	Nokia	6 3	LS out	R1-091038	Noted - Revised
Yes	R1-091018	36 213 CR0185R3 (Rel-8 F) Corrections to transmission modes	Philips Ericsson	6 3	Discussion/Decision	(R1-090911) R1-091120	Noted - Revised
Yes	R1-091019	36 213 CR0230 (Rel-8 F) Alignment o CQ parameter names with RRC	Ericsson LG Electronics	6 3	Dra t CR	(R1-090909)	Agreed
Yes	R1-091020	36 213 CR0209R2 (Rel-8 F) Correction to rho A de inition or CQ calculation	NEC Group Samsung Philips	6 3	CR	(R1-090643)	Agreed

Yes	R1-091021	36 213 CR0208R2 (Rel-8 F) Correction to CQ /PM /R reporting ield	Huawei Qualcomm Europe exas nstruments Motorola LGE Philips	6 3		(R1-090811)	Agreed
Yes	R1-091022	36 213 CR0199R2 (Rel-8 F) Correction to the ACK/NACK bundling in case o transmission mode 3 and 4	LG Electronics exas nstruments	6 3	CR	(R1-090650)	Agreed
Yes	R1-091023	LS reply on collision between measurement gap and HARQ eedback	RAN1 Ericsson	4	LS out	(R1-090995)	Agreed
Yes	R1-091024	36 212 CR0092R1 (Rel-8 F) Clari ication on channel coding or UC HARQ-ACK	Z E Ericsson Samsung exas nstruments LGE	6 2	CR	(R1-090997)	Agreed
Yes	R1-091025	36 213 CR0219R2 (Rel-8 F) Miscellaneous corrections on DD ACKNACK	Nokia Nokia Siemens Networks Z E exas nstruments	6 3	CR	(R1-091047)	Agreed
Yes	R1-091026	36 213 CR0233 (Rel-8 F) on the clari ication o uplink timing adjustments	Panasonic	6 3	CR	(R1-090677) R1-091119	Noted - Revised
Yes	R1-091027	36 213 CR0196R2 (Rel-8 F) Alignment o RAN1/RAN4 speci ication on UE maximum output power	Samsung LG Electronics Ericsson Panasonic N DOCOMO Nokia Siemens Network Nokia	6 3	CR	(R1-090605)	Agreed
Yes	R1-091028	36 213 CR0225 (Rel-8 F) Removal o SRS with message 3	Panasonic Motorola	6 3	CR	(R1-090679)	Agreed
Yes	R1-091029	[Dra t LS on DD HARQ-ACK eedback mode	Nokia	6 3	LS out	R1-091037	Noted - Revised
Yes	R1-091030	36 213 CR0211R1 (Rel-8 F) Removing RL monitoring start and stop	Samsung	6 3	CR	(R1-090604)	Agreed
Yes	R1-091031	36 213 CR0226 (Rel-8 F) PRACH retransmission timing	Huawei Panasonic Qualcomm Europe	6 3	CR	(R1-090812) R1-091095	Revised
Yes	R1-091032	36 213 CR0221 (Rel-8 F) Redundancy Version mapping unction or DC 1C	Motorola Nokia Nokia Siemens Networks	6 3	CR	(R1-090803) R1-091063	Revised
Yes	R1-091033	36 213 CR0227 (Rel-8 F) Clari ying error handling o PDSCH and PUSCH assignments	Qualcomm Europe Huawei	6 3	CR	(R1-091050)	Agreed
Yes	R1-091034	36 213 CR0228 (Rel-8 F) Clari y PH CH index mapping	Qualcomm Europe	6 3	CR	(R1-090848)	Agreed
Yes	R1-091035	36 211 CR0132 (Rel-8 F) Correction to type-2 PUSCH hopping	Qualcomm Europe Samsung Motorola	6 3	CR	(R1-091061)	Agreed
Yes	R1-091036	36 213 CR0214R1 (Rel-8 F) Correction to type-1 and type-2 PUSCH hopping	Qualcomm Europe Samsung NEC Group	6 3	CR	(R1-090644)	Agreed
Yes	R1-091037	LS on DD HARQ-ACK eedback mode	RAN1 Nokia	6 3	LS out	(R1-091029)	Agreed
Yes	R1-091038	Reply LS on ACK or explicit uplink SPS release	RAN1 Nokia	6 3	LS out	(R1-091017)	Agreed
Yes	R1-091039	36 213 CR0234 (Rel-8 F) Clari ication on ACK/NACK repetition	exas nstruments Panasonic Samsung Qualcomm Europe	6 3		(R1-090580)	Agreed
No	R1-091040	void					
Yes	R1-091041	ext proposal or R36 814 on M M O	Ad hoc chairman	12	P		Noted
Yes	R1-091042	E-U RAN mobility evaluation models and assumptions	Nortel	11	Discussion/Decision	(R1-090764)	Noted
Yes	R1-091043	36 213 CR0232 (Rel-8 F) De ault value o R	Panasonic	6 3	CR	(R1-090680)	Agreed
Yes	R1-091044	36 211 CR0127R1 (Rel-8 F) Corrections to SRS	Nokia Nokia Siemens Networks CA Samsung Qualcomm Europe	6 1	CR	(R1-090713) R1-091113	Revised
Yes	R1-091045	ext Proposal on Relaying	Ericsson	12 5	P	R1-091112	Noted - Revised
Yes	R1-091046	25 225 CR0091R1 (Rel-8 F) RSRP and RSRQ measurement de initions	CA	5	CR	R1-091053	Noted - Revised
Yes	R1-091047	36 213 CR0219R1 (Rel-8 F) Miscellaneous corrections on DD ACKNACK	Nokia Nokia Siemens Networks Z E exas nstruments	6 3	CR	(R1-090718) R1-091025	Noted - Revised
Yes	R1-091048	PUCCH transmit diversity	Qualcomm Europe	12 3	Discussion/Decision	(R1-090870)	Not treated
Yes	R1-091049	Pre erence or relay operation in L E-A	Qualcomm Europe	12 5	Discussion/Decision	(R1-090876)	Noted
Yes	R1-091050	Dra t CR on error handling o PDSCH and PUSCH assignments	Qualcomm Europe Huawei	6 3	Dra t CR	(R1-090846) R1-091033	Noted - Revised

Yes	R1-091051	25 214 CR0534R2 (Rel-8 F) Corrections o HS-SCCH orders or DC-HSDPA	Ericsson Huawei	5	CR	(R1-090964)	Agreed
Yes	R1-091052	36 213 Correction o CQ timing	Huawei	6 3	Dra t CR	(R1-090810) R1-091094	Noted - Revised
Yes	R1-091053	25 225 CR0091R2 (Rel-8 F) RSRP and RSRQ measurement de initions	CA	5	CR	(R1-091046)	Agreed
Yes	R1-091054	25 214 CR0538R1 (Rel-8 A) Clari ication o the source o parameters to HS-DSCH physical layer	Alcatel-Lucent	5	CR	(R1-090767)	Agreed
Yes	R1-091055	25 214 CR0540 (Rel-7 F) Clari ication o the source o parameters to HS-DSCH physical layer	Alcatel-Lucent	5	CR		Agreed
Yes	R1-091056	36 211 CR0130 (Rel-8 F) Correction to PUCCH ormat 1 mapping to physical resources	Motorola	6 1	CR	(R1-090998)	Agreed
No	R1-091057	36 211 Dra t CR on correction or type 2 PUSCH hopping	Motorola	6 1	Dra t CR		
Yes	R1-091058	mpact o repeaters and decode-and- orward relays on system per ormance	Mitsubishi Electric	12 5	Discussion	(R1-090740)	Not treated
Yes	R1-091059	Systematic Data Repetition or E ective Cell edge nter erence Management	CEWi	12 2	Discussion	(R1-090971)	Not treated
Yes	R1-091060	36 211 CR0131 (Rel8 F) ype 2 PUSCH hopping correction	Huawei CA CMCC	6 1	CR		Noted
Yes	R1-091061	36 211 Dra t CR on correction or type 2 PUSCH hopping	Qualcomm Europe Samsung Motorola	6 1	Dra t CR	(R1-090845) R1-091035	Noted - Revised
Yes	R1-091062	36 213 Dra t CR on correction or type 2 PUSCH hopping	Qualcomm Europe Samsung	6 3	Dra t CR		Noted
Yes	R1-091063	36 213 CR0221R1 (Rel-8 F) Redundancy Version mapping unction or DC 1C	Motorola Nokia Nokia Siemens Networks	6 3	CR	(R1-091032)	Agreed
Yes	R1-091064	Proposal or CoMP terminology alignment	LGE	12 2	Discussion/Decision		Not treated
Yes	R1-091065	PDCCH structure or multiple component carriers	LG Electronics	12 1	Discussion	(R1-090653)	Not treated
Yes	R1-091066	Way orward on DL RS or L E-A	Ericsson Huawei LGE Motorola Nokia Nokia Siemens Networks Nortel Panasonic Philips Qualcomm Europe Samsung exas nstruments	12 2	Decision		Noted
Yes	R1-091067	Downlink CoMP transmitting scheme based on beam orming	Z E	12 2	Discussion/Decision	(R1-090633)	Not treated
Yes	R1-091068	PUCCH xD Schemes or L E-A	LG Electronics	12 3	Discussion/Decision	(R1-090786)	Not treated
Yes	R1-091069	Final report o RAN1#55bis meeting	MCC Support	3	Approval	(R1-090988)	Approved
Yes	R1-091070	ComP analysis in presence o bursty tra ic	Qualcomm Europe	12 2	Discussion/Decision	(R1-090869)	Not treated
Yes	R1-091071	Response LS to LS on DD/MBSFN sub rame in ormation about inter- requency neighbour cells	RAN4 Samsung	4	LS in	= R4-090948	Noted
Yes	R1-091072	Reply LS to R5-085542 = R2-090883 on enhancing radio bearer parameters in 34 108 or mproved Layer 2 UL (FDD)	RAN2 Ericsson	4	LS in	= R2-091598	Noted
Yes	R1-091073	Considerations on Shadowing Fading o Relay	Huawei	12 5	Discussion/Decision	(R1-090828)	Not treated
Yes	R1-091074	Per ormance evaluation o L1 relays	Huawei	12 5	Discussion	(R1-090829)	Not treated
Yes	R1-091075	Layer Mapping or UL SU-M MO	exas nstruments	12 3	Discussion/Decision	R1-091102	Noted - Revised
Yes	R1-091076	Cost aspects o relay deployments and impact on evaluation scenarios	Orange	12 5	Discussion/Decision	(R1-090920)	Not treated
Yes	R1-091077	Channel model or Relay to UE link at short distance	Nokia Siemens Networks Nokia	12 5	Discussion/Decision	(R1-090733)	Not treated

Appendix F

3GPP_TSG_RAN_WG1 Archives

3GPP_TSG_RAN_WG1@LIST.ETSI.ORG

Subject: Motorola LTE-A contributions for RAN1#56 (batch #2)
From: Ratasuk Rapeepat-RRATASU1 <ratasuk@MOTOROLA.COM>
Reply-To: Ratasuk Rapeepat-RRATASU1 <ratasuk@MOTOROLA.COM>
Date: Tue, 3 Feb 2009 15:13:06 -0500
Content-Type: multipart/mixed
Parts/Attachments: text/plain (17 lines) , text/html (108 lines) , R1-090792.zip (108 lines) , R1-090804.zip (108 lines) , R1-090805.zip (108 lines) , R1-09806.zip (108 lines)

Reply

Dear All,

Attached please find Motorola RAN1#56 contributions (batch #2).

Regards,
Rapeepat

R1-090792	Control Signalling Design for Supporting Carrier Aggregation	Motorola	12.1
R1-090804	LTE-A: Simulation Scenarios for ITU submission	Motorola	12
R1-090805	Uplink SU-MIMO Design Options for LTE Advanced	Motorola	12.3
R1-090806	DL MIMO with 8 Antenna Codebook for LTE-Advanced	Motorola	12.4

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Appendix G

3GPP TSG RAN WG1 Meeting #55 **R1-084081**
Prague, CZ, 10 – 14 November, 2008

Agenda item	**3**
Title:	**Final Report of 3GPP TSG RAN WG1 #54b v1.0.0** **(Prague, Czech Republic, 29 September – 3 October, 2008)**
Document for:	**Approval**
Source:	**MCC Support**

A GLOBAL INITIATIVE

Fact Summary

Meeting:	**3GPP TSG RAN WG1 #54b**
Dates:	**29th September through 3rd October, 2008**
Venue:	**The Clarion Congress Hotel in Prague, CZECH REPUBLIC**
Host:	**European Friends of 3GPP**
Attendees:	**181 delegates**
Documents:	**609 (including some withdrawn and post-meeting artefacts)**

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Executive summary

3GPP TSG WG RAN1 #54bis meeting took place in Clarion Congress Hotel, Prague, CZECH REPUBLIC.

The meeting started at 9:10 on Monday 29th September and finished at 17:00 on Friday 3rd October 2008.

The week was scheduled as follows:

- Monday: Common session on Agenda items 1, 2, 3, 4, 6, 6.4 and 6.1.
- Tuesday: Common session dedicated to corrections to TS36.213 (Agenda item 6.3).
- Wednesday: Parallel sessions on Agenda items 5, 7, 9 and 10 chaired by Dirk Gerstenberger and Agenda items 6.2 and 6.1 chaired by Sadayuki Abeta.
- Thursday morning: Common session on Agenda item 11 for LTE-Advanced.
- Thursday afternoon: Parallel sessions; Continue discussions w r.t LTE-Advanced in main meeting room chaired by Dirk Gerstenberger. Dedicated HSPA session.
- Friday morning: Common session on Agenda items 6.1 and 6.3.
- Friday afternoon: Revisions

The list of action points that required RAN1 close follow-up is listed in Annex F (end of document).

The number of contribution documents for this meeting was 585, and those documents were categorized as followed.

Agenda item	Input Document	Discussed Document
Liaison statement handling		
Maintenance of UTRA R99 – Rel8		
Maintenance of Evolved UTRA and UTRAN		
Dual-Cell HSDPA Operation on Adjacent Carriers		
Enhanced CELL_FACH in 1.28Mcps TDD (UL/DL)		
Continuous Connectivity for Packet Data users for 1.28Mcps TDD		
MIMO for 1.28Mcps TDD		
Study Item on LTE-Advanced		

Note: The amount of documents includes those discussed during the email discussion session post meeting.

3GPP TSG RAN WG1 Meeting #55 **R1-084081**
Prague, CZ, 10 – 14 November, 2008

The following document are missing. The corresponding contributions have not been handed over by companies.

R1 084048	RSRQ Measurement Def n t on	Er csson, Panason c
R1 084071	Draft CR for Jo nt cod ng of de ta_sh ft and de ta_offset for PUCCH 1/1a/1b	ZTE

1. Opening of the meeting

Mr. Dirk Gerstenberger (RAN1 Chairman) welcomed the participants to the 54th RAN WG1 bis meeting and opened the meeting at 09:00.

Georg Wannemacher from T-Mobile welcomed the delegates on behalf of European Friends of 3GPP and informed them about logistic issues during the week.

1.1 Call for IPR

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 083470	Draft Agenda for RAN1#54b s meet ng	RAN1 Cha rman

Dirk Gerstenberger (Chairman) proposed the agenda for the meeting.

Discussion (Question / Comment):
Decision: The agenda was approved.

3. Approval of the minutes from previous meeting

R1 083471	F na report of RAN1#54 meet ng	MCC Support

The document was presented by Patrick Mérias.

Discussion (Question / Comment): Late comment received from Nortel clarifying that R1-083149 (RSRP measurement of neighbour cell) was not presented but submitted to RAN4 by Hua Xu. The other contribution on RSRQ measurements (R1-083140) was not treated by RAN4.

Mr Chairman recalled delegates that all new CRs shall be based on the latest version of the specs which have been made visible to 3GPP server.

Decision: The document is noted and approved.

4. Liaison statement handling

Incoming LS

R1 083482	LS on the add t on of CS vo ce over HSPA rad o bearer comb nat ons to TS 34.108	RAN5, Nok a	= R5 083690

The document was presented by Karri Ranta-aho from NSN.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083472	Rep y LS on CSG re ated mob ty (stage 2 text)	GERAN, Huawe	= GP 081307

The document was presented by Ms Zhao Meng from Huawei and deals with the level and likelihood of service interruptions if inbound mobility from GERAN to CSG cells would be supported.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083480	LS rep y on CSG ce dent f cat on	RAN4, Motoro a	= R4 082190

The document was presented by Sandeep Krishnamurthy from Motorola.

Discussion (Question / Comment): No further action required.
Decision: Document is noted.

R1 083481	LS rep y on CSG ce dent f cat on	RAN4, Motoro a	= R4 082191

The document was presented by Sandeep Krishnamurthy from Motorola.

Discussion (Question / Comment): No further action required.
Decision: Document is noted.

R1 083473	MAC hand ng for measurement gaps	RAN2, Qua comm	= R2 084900

The document was presented by Juan Montojo from Qualcomm. RAN2 asked RAN4 to confirm that the presented rule 3 is compatible with the measurement performance requirements defined by RAN4 when gaps are configured.

Discussion (Question / Comment): No action to RAN1.
Decision: Document is noted.

R1 083617	Draft LS on measurement gap for TDD	CATT, Nok a, NSN, Panason c	

The document was presented by Ding Yu from CATT and informs RAN2 of the RAN1 conclusion on the measurement gap for TDD, as follows:

- For TDD, if the number of DL-to-UL switching points is more than the number of UL-to-DL switching points within n subframes, eNB reserves n+1 subframes for the measurement gap; else eNB reserves n subframes for the measurement gap.

Discussion (Question / Comment):
Decision: Document is noted and shall be revisited later in the week. LS is agreed on Friday 3rd in R1-084055.

R1 083474	LS on scope and reference for parameter "sameRefS gna sInNe ghbour"	RAN2, Qua comm	= R2 084901

The document was presented by Juan Montojo from Qualcomm. RAN2 have found that the parameter "sameRefSignalsInNeighbour" is indicated as being applicable for TDD only, with a note indicating that this scope is attributed to a RAN1 specification. Therefore RAN2 requests assistance in determining how to handle the parameter.

Discussion (Question / Comment):

Decision: Document is noted.

R1 083501	Response to LS on scope and reference for parameter "sameRefS gna sInNe ghbour" (R1 083474)	Ph ps, NXP	

The document was presented by Matthew Baker from Philips and proposes the following reply:

RAN1 agrees with RAN2 that this parameter could be useful to the UE for RSRP measurement purposes, and that this benefit would apply to FDD as well as TDD, meaning that the scope limitation should be removed.

Discussion (Question / Comment): Further discussion with RAN2 colleagues may be required.
Decision: Document is noted. Tdoc R1-083904 is reserved for preparing draft LS response (Philips).

Friday 3rd

R1 083904	Response to LS on scope and reference for parameter "sameRefS gna sInNe ghbour" (R1 083474)	Ph ps, NXP	(R1 083501)

Decision: Document is noted. As some companies already provided comments not yet included in, this shall be readdressed at next meeting.

R1 083475	LS Response to Sem Pers stent Schedu ng Act vat on w th S ng e PDCCH	RAN2, Qua comm	= R2 084903

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083757	Issues on PDCCH w th 'v rtua CRC' n reduc ng fa se pos t ve SPS act vat on/mod f cat on	A cate Lucent	

The document was presented by Christian Gerlach from Alcatel Lucent as a discussion paper on previous LS. It reviews the problem of false SPS activation/modification and shows that the case of loss of talk spurt transmission does not seem to be that severe, because appropriate eNodeB actions will most probably circumvent the problem.

The paper also addresses the problem of produced interference by comparing small and large bandwidth scenarios.

The Drawbacks and Limitations of restricting Resource allocations are pointed out for all considered formats and thus it concludes that only option 2 of R1-082766 is seen feasible.

Discussion (Question / Comment): ZTE informs about their contribution in R1-083602 addressing this topic.
Decision: Document is noted.

R1 083783	On Resource A ocat on for SPS Act vat on w th S ng e PDCCH	Qua comm Europe	

The document was presented by Wanshi Chen from Qualcomm and investigates the option of *2 bits from Resource Allocation and 1 bit from MCS (set the MSB bit(s) to zero).* It shows that the impact of 2-bit reservation can be well controlled by signalling and resource indication value (RIV) interpretation of the RA field.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083602	DCI format for sem pers stent schedu ng	ZTE	

The document (originally under AI 6.2) was presented by Zhisong Zuo from ZTE and recommends the adoption of 3 bits from the combination of resource allocation and MCS.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083691	Rema n ng ssues on PDCCH for sem pers stent schedu ng	Huawe	

The document was presented by Ms Xia Xiaomei from Huawei and deals with the remaining issues on PDCCH for semi-persistent scheduling. The paper concludes that if other options than options 1 & 2 (as stated in the LS) can be considered, then an option 3 proposed bellow is preferred:

- the exact TBS is signalled via higher layer
- 1 bit in the MCS field indicates the modulation order, 0 for QPSK and 1 for 16QAM； at least 3 of the remaining 4 bits are reserved for virtual CRC bits
- no bits reserved for virtual CRC in the resource allocation

Discussion (Question / Comment): .
Decision: Document is noted.

Proposal from the above contributions:

- Reserve only 1 bit from MCS MSB (in addition to the 6-7 bits already reserved)
- No additional restriction needed from RAN1 perspective for Rel-8

LS response shall be prepared in R1-083907 (Qualcomm)

Friday 3rd

R1 083907	Draft LS Response to Sem Pers stent Schedu ng Act vat on w th S ng e PDCCH	Qua comm Europe, Panason c, A cate Lucent, Samsung, Nok a, NSN, Huawe	

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted and final LS is agreed in R1-084056.

R1 083718	M ss ng deta s for sem pers stent schedu ng	Nok a, Nok a S emens Networks	

The document (originally under AI 6.2) was presented by Lars Lindh from Nokia and proposes the following:

- Proposal 1: DL SPS release is sent on PDCCH using SPS C-RNTI and by setting the content of PDCCH (except the CRC) into a known code word which does not give a valid allocation. For Format 1A the following fields are set to zero: Distributed flag, Resource block assignment, MCS, HARQ process number, NDI, DAI (for TDD).
- Proposal 2: The DL SPS release sent on PDCCH should be acknowledged by the UE by sending normal ACK on PUCCH/PUSCH corresponding to the CCEs used for PDCCH.
- Proposal 3: When the UE receives a persistent (first) transmission without PDCCH, the RV is assumed to be RV=0.
- Proposal 4: UL SPS release is sent on PDCCH using SPS C-RNTI and by setting the content of PDCCH (except the CRC) into a known code word which does not give a valid allocation. For Format 0 the following fields are set to zero: Hopping flag, Resource block assignment,   MCS & RV, NDI, Cyclic shift for DM RS, UL index (for TDD), CQI request.
- Proposal 5: The UL SPS release sent on PDCCH should be acknowledged by the UE by sending ACK on PUCCH corresponding to the CCEs used for PDCCH. (Notice that normally UL grants sent on PDCCH are not acknowledged.

Discussion (Question / Comment):
Decision: Document is noted. Discussion should take place in RAN2.

R1 083476	LS on RAN2 dec s on to use Path oss parameter n the RACH preamb e group se ect on	RAN2, Texas Instruments	= R2 084910

The document was presented by Zukang Shen from TI.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083516	On Path oss usage for preamb e group se ect on	Texas Instruments	

The document was presented by Zukang Shen from TI and acknowledges the use of the Pathloss parameter as a radio-link metric in the preamble group selection decided in R1-083476. The paper further refines the condition criterion, taking into account the most recent RAN1 decisions on the power control of the message 3 of the Random Access procedure and provides an example of Pathloss threshold computation at the eNB.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083761	Comments on RACH preamb e groupe se ect on	LGE	

The document was presented by Dragan Vujcic from LGE and proposes the following:

- Proposal 1: The maximum/allowed UE power should be also considered for the preamble set selection
- Proposal 2: The use of preamble transmission power P_{PRACH} instead of pathloss based criterion
- Proposal 3: The power offsets/margins between target SNR of preamble and Msg 3 to be indicated to the UE.
- Proposal 4: Allow to configure more than 2 preamble sets

Discussion (Question / Comment): Panasonic do not support proposal 4 as part of Release 8.
Decision: Document is noted.

From the above set of contributions, reply LS shall be prepared in R1-083913 (LGE)

Friday 3rd

R1 083913	[Draft] Response LS on RAN2 dec s on to use Path oss parameter n the RACH preamb e group se ect on	LG E ectron cs, Texas Instruments, Nok a, Nok a S emens Networks …	

The document was presented by Dragan Vujcic from LGE.

Discussion (Question / Comment):
Decision: Document is noted and final LS is agreed in R1-084057.

R1 083477	LS PDCCH format 1C for DL data arr va	RAN2, CATT	= R2 084911

The document was presented by Ms. Ying Peng from CATT.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083902	Draft LS Rep y to PDCCH format 1C for DL data arr va	CATT	(R1 083616)

The document was presented by Ms. Ying Peng from CATT ansd informs RAN 2 about agreements, when considering the topic of PDCCH format 1C for DL data arrival, as introduced by the discussion paper in R1-083903.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083903	Enumerate random access resources w th n rad o frame and Draft CR for 36.211	CATT	(R1 083620)

The document was presented by Ms. Ying Peng from CATT and proposes to use 2bits or 4bits in PDCCH format 1C to indicate the available RA resources which are used for non-contention PRACH according to the system bandwidth. Correponding draft CR is attached.

Discussion (Question / Comment): Ericsson suggested to look at their contributions in R1-083735.
Decision: Document is noted.

R1 083660	PDCCH format for DL data arr va	Panason c	

The document was presented by (…) from Panasonic and addresses the issue on common search space when PDCCH format 1C is used for DL data arrival. Although RAN2 decided to use PDCCH format 1C for DL data arrival, the paper raises the question whether the common search space issue as pointed out herein should cause RAN1 to reconsider this decision.

Discussion (Question / Comment): Qualcomm supports DL data arrival using PDCCH format 1A.
Decision: Document is noted. LS to RAN2 in R1-083916 shall be prepared to inform about conclusion on R1-083660 (only DCI 1A) and PRACH resource indexing (Ericsson).

R1 083735	A gnment of ded cated preamb e ass gnment w th RAN2	Er csson	

The document was presented by Lars Lindbom from Ericsson. Based on RAN2 decisions to use DCI Format 1C for DL data arrival and to add means to share a dedicated preamble among several Ues, this contribution outlines the proposed changes to TS 36.211 (R1-083736) and TS 36.212 (R1-083738).

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083736	36.211 CR0083 (Cat F, Re 8): Index ng of PRACH resources w th n the rad o frame	Er csson	

The document was presented by Lars Lindbom from Ericsson and is the CR capturing previous proposal.

Discussion (Question / Comment): Wording in title shall be changed to avoid confusion: removal if "index" wording is preferred.
Decision: Document is noted.

Way forward: Agreement in principle on CR in R1-083736 according change in title (change PRACH Index to PRACH Resource Index). Revised CR shall be made in R1-083915.

Friday 3rd

R1 083915	36.211 CR0083R1 (Cat F, Re 8): Index ng of PRACH resources w th n the rad o frame	Er csson	(R1 083736)

Decision: Document is noted and CR is agreed.

R1 083916	Draft Rep y LS on PDCCH DL data arr va	Er csson, Panason c, CATT, ZTE	

The document was presented by Lars Lindbom from Ericsson and asks RAN2 to change their decision on using format 1C for PDCCH DL data arrival and use format 1A instead for that purpose. RAN1 kindly asks RAN2 to also take the information about the PRACH resource indexing into account in their future work to finalize the LTE specifications.

Discussion (Question / Comment):
Decision: Document is noted. Final LS is agreed in R1-084058.

R1 083478	RIP Report ng Range	RAN4, Nok a S emens Networks	= R4 082145

The document was presented by Mieszko Chmiel from NSN and informs RAN3 requesting them to take into account RAN4 RIP measurement reporting range agreements once defining the signalling for the overload indicator.

Discussion (Question / Comment): No action required to RAN1.
Decision: Document is noted.

R1 083479	LS on UE em ss on contro	RAN4, Ver zon W re ess	= R4 082178

The document was presented by Robert Love from Motorola on behalf of Verizon's delegate. While RAN4's analysis is not yet fully complete, RAN4 kindly requests RAN1 to note the following interim observations:

– Under certain uplink PRB grant configurations, such as allocations at high UE transmitter power levels (i.e. approaching +23dBm), or where PRB allocations – especially allocations comprising a limited number of PRB's – are made near the uplink band edges, the observed emission spectra may be excessive

- The issue of excess emission spectrum levels is compounded by practical LTE UE transmitter impairments such as I/Q imbalance and LO leakage
- That the band-edge PUCCH structure is noted as an example of a potentially problematic PRB transmission configuration as described above.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083661	D scuss on on the hand ng of UE em ss on contro ssue	Panason c	

The document was presented by Akihiko Nishio from Panasonic and proposes to handle UE emission control issues by only allowing large values for $N_{\mathrm{RB}}^{(2)}$ and $n_{\mathrm{PUCCH}}^{(2)}$. The paper proposes to keep current RAN1 specification unchanged and send LS to RAN4 about this consideration. Accordingly, it is proposed to send LS to RAN2 on the preferable ranges of $N_{\mathrm{RB}}^{(2)}$ and $n_{\mathrm{PUCCH}}^{(2)}$.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083886	PUCCH Frequency Locat on and CR	Motoro a	(R1 083836)

The document was presented by Robert Love from Motorola and proposes to allow asymmetric PUCCH PRB pair locations to address adjacent channel emission problems when there is insufficient guard band between an LTE carrier and another victim carrier. When PUCCH PRB pairs are shifted in frequency (explicitly or effectively) to solve the emission problem, an asymmetric PUCCH PRB pair allocation approach is preferred over the symmetric PUCCH PRB pair allocation approach because the former maximizes PUSCH peak data rate and maximizes PUCCH frequency diversity compared to the latter.

Discussion (Question / Comment): .
Decision: Document is noted. The topic shall be revisited at next meeting once RAN4 on going discussions become available and hopefully concludes on the issue.

LS from RAN4 (R1-083955) was received during the week (cf. end of the section)

R1 083483	Response LS on Connect on recovery by NAS	SA2, Vodafone	= S2 086378

The document was presented by Tim Frost from Vodafone.

Discussion (Question / Comment): Leading WG shall be RAN2.
Decision: Document is noted.

R1 083896	Term no ogy a gnment for Home Node B and Home eNode B	SA1, T Mob e	= S1 082397

The document was presented by Georg Wannemacher from T-Mobile and is a change request to the vocabulary document that introduces a number of definitions and acronyms concerning home Node_B and Home eNode_Bs.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083585	F na sat on of the Number of b ts on BCH	NTT DOCOMO, Panason c	

The document was presented by Sadayuki Abeta from NTT DoCoMo and proposes the following regarding PBCH:

- The number of bits on PBCH shall be finalised as 40bits, consisting of a 24-bit TBS and 16-bit CRC;
- The handling of reserved bits shall be clarified by RAN2, so that backward/ forward compatibility is ensured;
- Inform the RAN1 agreements to RAN2 (R1-083587)

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083587	Draft LS to RAN2 on transport b ock s ze on BCH	NTT DOCOMO, Panason c	

Decision: Document is noted. LS shall be prepared in R1-083919 (NTT DoCoMo)

Friday 3rd

R1 083919	Draft LS to RAN2 on transport b ock s ze on BCH	NTT DOCOMO, Panason c	(R1 083587)

The document was presented by Motohiro Tanno from NTT DoCoMo.

Discussion (Question / Comment): .
Decision: Document is noted. Final LS is agreed in R1-084063.

R1 083854	Draft LS on the requ red t m ng re at onsh p between the synchron zat on s gna and the down nk reference s gna	Norte	

The document was presented by Ms Anna Tee from Nortel and requests RAN4 to include in its work plan the specification of the minimum requirement on the timing relationship between the antenna ports for the synchronization signals and the downlink reference signal.

Discussion (Question / Comment): Nokia commented that RAN4 already has minimum requirement defined.
Decision: Document is noted. LS shall be revised in R1-083920

Friday 3rd

R1 083920	Draft LS on the requ red t m ng re at onsh p between the synchron zat on s gna and the down nk reference s gna	Norte	(R1 083854)

The document was presented by Ms Anna Tee from Nortel.

Discussion (Question / Comment): Concern raised on the sentence "RAN1 would like to obtain the confirmation from RAN4 that this requirement is applied to all transmit signals including synchronization signals"… Wording needs to be reviewed.
Decision: Document is noted. LS is for email approval until 10/10.

Below documents have not been reviewed.

R1 083758	DRAFT Response LS to Sem Pers stent Schedu ng Act vat on w th S ng e PDCCH	A cate Lucent	
R1 083782	Draft LS Response to Sem Pers stent Schedu ng Act vat on w th S ng e PDCCH	Qua comm Europe	

<u>Incoming LS received during the week</u>

Wednesday 1st

R1 083995	Rep y LS to RAN1 on L1 L3 nteract on	RAN2, Qua comm	= R2 085718

The document was presented by Sharad Sambhwani from Qualcomm and informs about RAN2 agreement that in CELL_FACH state and Idle mode, after receiving an indication from layer 1 that physical layer transmission stopped caused by an DL out-of-synchronisation, the UE shall consider this as a "Radio link failure" and shall release the E-DCH resource.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083996	Rep y LS to RAN WG1 on UE Reconf gurat on T m ng and HS SCCH Order	RAN2, Qua comm	= R2 085719

The document was presented by Sharad Sambhwani from Qualcomm and states:

1) If the Enhanced Serving Cell Change procedure is unsynchronized, the UE shall start listening to the full configured HS-SCCH set from the target cell within 40 ms of the reception of the HS-SCCH order. If the Enhanced Serving Cell Change procedure is synchronized, the UE shall start listening to the full configured HS-SCCH set from the target cell at the activation time indicated by the upper layers.
2) On successfully receiving HS-SCCH order from the target cell, the upper layers will be notified. No information bits are carried over the HS-SCCH order.
3) As part of the Enhanced Serving Cell Change procedure, on successfully receiving an HS-SCCH order from the target cell, the UE shall send an RRC message (example, RBR Complete) to acknowledge completion of the procedure within 50 msec of reception of the HS-SCCH order.

Discussion (Question / Comment): As requested in the LS, Mr Chairman asked whether bullet 1 has been incorporated in the CR on Correction to timing of HSDPA enhanced cell change. Philips answered that it was already in the revised CR in R1-083983.
Decision: Document is noted.

Friday 3rd

R1 083955	LS on UE em ss on contro	RAN4, Motoro a	= R4 082585

The document was presented by Robert Love from Motorola and highlights the issue of co-existence when allocating a high power transmission at the channel edge nearest a victim or protected band (in particular, when the PUCCH would be transmitting at maximum power and would be located at the channel edge). The paper intoduces three RF co-existence options to address the impact of the PUCCH channel edge.

Discussion (Question / Comment): RAN4 did not decide on any of the options. Discussion paper in R1-084035.
Decision: Document is noted.

R1 084035	UE em ss on contro	Motoro a	

The document was presented by Robert Love from Motorola.

Discussion (Question / Comment): Motorola proposed to agree on asymmetric guard band (option 2). Many companies were reluctant doing changes at this stage of the discussion.
Decision: Document is noted. LS shall be prepared in R1-084062.

Friday 3rd

R1 084062	[DRAFT] LS Response to LS on UE Em ss ons	Motoro a	

Decision: Document is noted and final LS is agreed in R1-08 4069.

5. Maintenance of UTRA Release 99 – Release 8

Enhanced F-DPCH

R1 083536	C ar f cat on of F DPCH TPC Comb n ng Ru e of ce s n the same RLS	Qua comm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and raises an F-DPCH TPC combining issue for the case when N_{OFF1} = 0 or 2 and the UTRAN Access point was part of a RLS whose size is greater than 1. A new figure is proposed in the Annex B of 25.214, that serves as an example of ensuring that the same TPC bits are derived for all radio links that belong to the same RLS.

Discussion (Question / Comment): Philips sees the change as useful and supports it. NSN commented that this wasn't a specification change but an informative annexe clarification.
Mr Chairman raised question whether there is a real need for such change, out of the mandatory part of the specification.
Decision: Document is noted.

R1 083537	25.214 CR0501 (Re 7, F) C ar f cat on of F DPCH TPC Comb n ng Ru e of ce s n the same RLS	Qua comm Europe	
R1 083538	25.214 CR0502 (Re 8, A) C ar f cat on of F DPCH TPC Comb n ng Ru e of ce s n the same RLS	Qua comm Europe	

The documents were presented by Sharad Sambhwani from Qualcomm.

Discussion (Question / Comment): Typos to be corrected
Decision: Documents are noted. CRs shall be revised in R1-083981 (Rel-7) and R1-083982 (Rel-8). ➔ Refer to annex F

HS serving cell change

R1 083508	25.214 CR0503 (Re 8, F) Correct on to t m ng of HSDPA enhanced ce change	Ph ps, NXP	

The document was presented by Matthew Baker from Philips and introduces UE reception of HS-SCCH orders from one non-serving cell.

Discussion (Question / Comment): Clarification required whether 40ms timing applied to the start or to the end of each subframe… "40ms are counted from the end of the subframe including the order" shall be added.
Samsung made a remark that specification version was wrong. V8.3.0 is the correct one.
Decision: Document is noted. CR shall be revised in R1-083983.

R1 083983	25.214 CR0503R1 (Re 8, B) "Introduct on of HS PDSCH Serv ng Ce Change Enhancements"	Ph ps, NXP, Qua comm Europe, Er csson	(R1 083508)

The document was presented by Matthew Baker from Philips.

Discussion (Question / Comment): RAN2 LS in R1-083996 is included in.
Decision: Document is noted and CR is agreed.

R1 083578	Interact on between HS DSCH serv ng ce change and CPC	Huawe	

The document was presented by Ms Majie from Huawei and deals with possible extra delay during the HS-DSCH serving cell change procedure when discontinuous downlink reception is activated. The paper proposes:

- UE could deactivate DRX after the transmission of MEASUREMENT REPORT 1D, then a timer could be started to make sure that DRX could be restored in the future.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083987	25.212 CR0270R3 (Re 8, B) "Introduct on of HS PDSCH Serv ng Ce Change Enhancements"	Er csson	

The document was presented by Johan Bergman from Ericsson. The CR deals with the introduction of UE reception of HS-SCCH orders from one non-serving cell aiming at the HS-PDSCH serving cell change performance enhancement.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

EUL Cell FACH

R1 083575	25.214 CR0504 (Re 8, F) "Correct ons n the phys ca random access procedure for Enhanced Up nk n CELL_FACH State and Id e mode"	Inf neon Techno og es	

The document was presented by Hyung-Nam Choi from Infeneon and provides the following corrections:

- The available set of subchannels corresponding to E-DCH resources are related to RACH subchannels.
- The parameter "Total number of E-DCH resources configured in the cell" is added to the list of parameters to be received from RRC before initiating the physical random access procedure.
- E-AICH is replaced with Extended Acquisition Indicator to be in line with terminology in TS 25.211.
- In step 9 UE starts transmitting DPCCH after receiving DPCCH/F-DPCH/E-DPCCH/E-DPDCH configuration from RRC.

Discussion (Question / Comment): A few companies raised concern with step 9 and how RRC signalling operates there.
Decision: Document is noted. Off line discussion should help clarifying step 9 issue and CR shall be revised in R1-083984.

R1 083984	25.214 CR0504R1 (Re 8, F) "Correct ons n the phys ca random access procedure for Enhanced Up nk n CELL_FACH State and Id e mode"	Inf neon Techno og es	(R1 083575)

R1 083773	25214 DraftCR Support of HS DPCCH for Enhanced up nk n CELL_FACH state	InterD g ta Commun cat ons LLC	

The document was presented by Eldad Zeira from InterDigital.

Discussion (Question / Comment): NSN supports it
Decision: Document is noted and draft CR is agreed. Formal CR shall be prepared in R1-083985.

R1 083890	25211 CR0259 (Re 8, F) Remova of a reference to E AICH	Nok a, NSN, A cate Lucent	(R1 083755)

The document was presented by Antti Hiltunen from Nokia and proposes to remove the references to E-AICH and to the section 5.3.3.7A.

Discussion (Question / Comment): CR should be based on the latest version of 25.211.
Decision: Document is noted. CR shall be revised in R1-083986. ➔ Refer to annex F

EUL Coverage

R1 083589	Range for M n mum reduced E DPDCH ga n factor	Er csson	

The document was presented by Johan Bergman from Ericsson and proposes the following parameter range for the minimum reduced E-DPDCH gain factor: **8/15 (default value), 11/15, 15/15, 21/15, 30/15, 42/15, 60/15, 84/15**

Discussion (Question / Comment): Agreed range should be communicated to RAN2 and RAN3. Corresponding RAN1 CR is in R1-083879.
Decision: Document is noted. RAN1 confirms the values for minimum reduced E-DPDCH gain factor and that they should be included by RAN2. RAN1 assumes also that default value is reflected in RRC spec.

R1 083879	25.214 CR0508R1 (Re 8, B) "Improved EUL power contro at UE power m tat on"	Er csson	(R1 083590)

Other FDD

R1 083576	25.214 CR0505 (Re 7,F) Correct on to the descr pt on of CPC procedures	Huawe	
R1 083577	25.214 CR0506 (Re 8,A) Correct on to the descr pt on of CPC procedures	Huawe	

The document was presented by Ms Majie from Huawei.

Discussion (Question / Comment): Rel-8 CR shall be based on the latest version of the spec.
Decision: Document is noted. Rel-7 CR is agreed and Rel-8 CR shall be revised in R1-083989. ➔ Refer to annex F

R1 083753	25.214CR0509 (Re 6, F), Typograph ca error correct on n a parameter name n HS PDSCH recept on	Nok a, NSN	

The document was presented by Antti Hiltunen from Nokia.

Discussion (Question / Comment): Ericsson raised concern whether having editorial change on Rel-6 was still relevant.
Decision: Document is noted. RAN1 agreed to move this change to Rel-8 in R1-083990. ➔ Refer to annex F

R1 083754	25.214CR0510 (Re 7, F), Correct on to E DPDCH ga n factor nterpo at on n compressed mode	Nok a, NSN	

The document was presented by Antti Hiltunen from Nokia and corrects typing error in the E-DPDCH gain factor interpolation formulas for the compressed mode; an amplitude ratio A is replaced incorrectly by a gain factor β.

Discussion (Question / Comment): Clarification of A*ed*, A*ed ref* definitions is needed. Rel-8 shadow CR shall also be prepared.
Decision: Document is noted and CR is agreed in principle. CR shall be revised in R1-083991 to include the definition of A*ed ref* . Shadow CR shall be prepared in R1-083992 (CR0514). ➔ Refer to annex F

LCR TDD

R1 083764	25.221 CR0165 (Re 7, F) FPACH correct on	TD Tech	
R1 083765	25.221 CR0166 (Re 8, A) FPACH correct on	TD Tech	

The documents were presented by Ke Wang from CATT on behalf of TD Tech.

Discussion (Question / Comment): WI code need to be further checked off line
Decision: Documents are noted and CR are agreed. WI code shall be TEI7 even for Rel-8 shadow CR. Specification version shall be corrected. To be fixed by MCC.

R1 083766	25.221 CR0167 (Re 7, F) Correct on of E PUCH TPC descr pt on for 1.28Mcps TDD	TD Tech	
R1 083767	25.221 CR0168 (Re 8, A) Correct on of E PUCH TPC descr pt on for 1.28Mcps TDD	TD Tech	

The documents were presented by Ke Wang from CATT on behalf of TD Tech.

Discussion (Question / Comment): Although CR numbers have been allocated, CR cover sheet does not reflect CR numbers. Specification version shall be corrected. To be fixed by MCC
Decision: Documents are noted and CR are agreed.

R1 083547	25.222 CR0158 (Re 7,F) C ar f cat on of E DCH RV ndex se ect on for 1.28Mcps TDD	CATT, ZTE	
R1 083548	25.222 CR0159 (Re 8,A) C ar f cat on of E DCH RV ndex se ect on for 1.28Mcps TDD	CATT, ZTE	

The document was presented by (…) from CATT.

Discussion (Question / Comment): .
Decision: Documents are noted and CR are agreed. Specification version shall be corrected. To be fixed by MCC

R1 083874	25.222 CR0160 (Re 7) Correct on of descr pt on about 64QAM for LCR TDD	ZTE	
R1 083875	25.222 CR0161 (Re 8) Correct on of descr pt on about 64QAM for LCR TDD	ZTE	

Rel-8 document was presented by (…) from ZTE.

Discussion (Question / Comment): ZTE informed about the withdrawal of Rel-7 CR in R1-083874.
CR shall be revised with correct specification version.
Decision: Document is noted. CR is agreed in principle and shall be revised according to comment in R1-083980. ➔ Refer to annex F

6. Maintenance of Evolved UTRA and UTRAN

R1 083618	Draft CR for 36.300 on Correct on of the descr pt on of FS2 and down nk reference s gna	CATT	

The document was presented by Ke Wang from CATT and proposes CR in order to make the 36.300 consistent with the description of FS2 and downlink reference signal as corrected in 36.211 version 8.4.0.

Discussion (Question / Comment): Mr Chairman requested explanation on the consequences if CR is not agreed. Is CR only text alignment or more?
Stage 2 specification should not be modified once stage 3 work has got started. It should be avoided to adjust stage 2 to stage 3, as long as there are no errors/contradictions.
Decision: Document is noted. Draft CR, if any correction needed, shall be revised in R1-083921. ➔ Refer to annex F

6.1 Corrections for TS 36.211

PUCCH

R1 083499	C ar f cat on on scramb ng of ACK/NAK b ts for PUCCH format 2a/2b	Freesca e	

The document was presented by Chen Ning from Freescale.

Discussion (Question / Comment):
Decision: Document is noted and draft CR is agreed in principle. Final CR shall be prepared in R1-083922. ➔ Refer to annex F

R1 083788	Draft CR on c ar f cat on of PUCCH resource hopp ng	Qua comm Europe	

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment): Ericsson made a comment that following values are already defined in RAN2 specs.

$$\Delta_{\text{shift}}^{\text{PUCCH}} \in \begin{cases} \{1,2,3\} & \text{for normal cyclic prefix} \\ \{1,2,3\} & \text{for extended cyclic prefix} \end{cases}$$

Samsung supports the CR as it's seen more as a clean-up than real modification.

Decision: Document is noted.

R1 083598	Jo nt cod ng of de ta_sh ft and de ta_offset for PUCCH 1/1a/1b	ZTE, Nok a, Nok a S emens Networks	

The document was presented by Zhisong Zuo from ZTE and discusses joint coding of parameter $\Delta_{\text{shift}}^{\text{PUCCH}}$ and $\delta_{\text{offset}}^{\text{PUCCH}}$.
Proposal for introduction into TS 36.211 is enclosed.

Discussion (Question / Comment): .
Decision: Document is noted. The topic shall be revisited after more offline discussion whether R1-083788 or R1-083598 should be agreed. ➔ Refer to annex F

R1 083644	About Shortened PUCCH format 1 and re ated UL transm ss on conf gurat ons	LGE, Panason c, ZTE, Huawe , ETRI	

The document was presented by Hak-Seong Kim from LGE and suggest that following proposal on UE procedures in UL transmission configurations be captured in the TS26.211 or 213.

Proposal: Introduce the shortened SR structure as shown in Figure 2 and properly capture the description of shortened PUCCH format 1 as describes in Table 1 of R1-083644.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083632	Draft CR for ntroduct on of shortened SR for TS36.211	LGE	

The document was presented by Hak-Seong Kim from LGE.

Discussion (Question / Comment): Relevant CR to 36.211 based on R1-083644 conclusion.
Decision: Document is noted.

R1 083643	Draft CR for ntroduct on of shortened SR for TX36.213	LGE	

The document was presented by Hak-Seong Kim from LGE.

Discussion (Question / Comment): Relevant CR to 36.213 based on R1-083644 conclusion.
Decision: Document is noted. Revisit formal CRs for 36.211/213 (R1-083925, R1-083926) and decide then whether to consider this as a correction. ➔ Refer to annex F

R1 083633	Draft CR for amb gu ty of negat ve modu o operat on	LGE	

The document was presented by Hak-Seong Kim from LGE and is a CR for ambiguity of negative modulo operation.

Discussion (Question / Comment): Samsung does not agreed with the statement on consequences if CR is not agreed.
Decision: Document is noted and draft CR is not agreed.

R1 083857	Draft CR on PUCCH mapp ng to phys ca resources	Norte	

The document was presented by Ms Anna Tee from Nortel.

Discussion (Question / Comment): Mr Chairman commented that proposed change can be considered as editorial change.
Decision: Document is noted and proposed improvement shall be included in a future CR related to this section of the specification.

<u>DM RS</u>

R1 083838	Draft CR 36.211 C ar f cat on on PUSCH DM RS Cyc c Sh ft Hopp ng	Motoro a	

The document was presented by (…) from Motorola and clarifies the PUSCH DM RS cyclic shift hopping. It is unclear that the pseudo-random sequence offset n_{PRS} is updated every slot.

Discussion (Question / Comment): Supported by LGE (R1-083635) and Qualcomm (R1-083787)
Decision: Document is noted. Final CR shall be prepared in R1-083927. Supporting companies could be added as co-sourcing companies in CR cover sheet. ➔ Refer to annex F

R1 083635	Draft CR for the correct ons to the PUSCH DM RS cyc c sh ft	LGE	
R1 083787	Draft CR on c ar fy ng PUSCH DM RS scramb ng	Qua comm Europe	

Decision: Documents are noted.

R1 083486	36.211 CR0080 (Re 8, F) Correct on to the def n t on of nbar_oc for extended CP	NEC, Samsung, Panason c	

The document was presented by Takahiro Sasaki from NEC and corrects the definition of $\bar{n}_{\mathrm{oc}}(n_{\mathrm{s}})$ in order to be aligned with the agreed way forward R1-080035 on PUCCH channelization.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1 083908	Correct on on orthogona cover ndex of DMRS for PUCCH w th extended CP.	Huawe , ZTE, CATT	(R1 083696)

The document was presented by (…) from CATT and corrects the formula of orthogonal cover index of DMRS for PUCCH with extended CP in section 5.5.2.2.1 to match with Table 5.5.2.2.1-2

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083714	Draft CR 36.211: Parameter va ues of ce spec f c UL DM RS cyc c sh fts	Nok a S emens Networks, Nok a	

The document was presented by Jari Lindholm from NSN and is a CR to include missing cell specific UL DM RS cyclic shift parameter values in the specification.

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083929.

R1 083636	Draft CR for the correct on to the up nk DM RS ass gnment	LGE, Panason c	Dec s on	

The document was presented by Joon-Kui Ahn from LGE and clarifies the $n_{\mathrm{DMRS}}^{(2)}$ assignment for the cases of non-adaptive PUSCH retransmission and persistent scheduled PUSCH (re)transmission.

Discussion (Question / Comment): Warning to MCC for making sure reference to table is correctly implemented.
Decision: Document is noted. Formal CR shall be prepared in R1-083930. ➔ Refer to annex F

PDCCH

R1 083817	Spec fy ng b ank subframes for eff c ent support of re ays	Qua comm Europe	D scuss on/Dec s on	

The document was presented by Juan Montojo from Qualcomm and proposes a definition of "blank subframes" in the Rel-8 specifications that would:

- Allow legacy UE operation with relays
- Prevent the need to define new PHY channels / signals for the support of relay nodes in LTE-A

Discussion (Question / Comment):
Decision: Document is noted. The topic shall be revisited later on to decide whether RAN1 wants to provide such blank subframes.

R1 083856	On PDCCH mapp ng random zat on	Norte	

The document was presented by Ms Anna Tee from Nortel. proposes a simple correction by exchanging the steps for quadruplet permutation and cyclic shifting, so as to randomize the PDCCH mapping to physical REs in adjacent cells.

Discussion (Question / Comment): NSN do not support this late change and is even not convinced of benefit and gain that it may bring. Same comment from NEC and Ericsson.
Decision: Document is noted. Proposal is not agreed.

RNTI

R1 083844	Draft CR 36.211 C ar fy the RNTI used n scramb ng sequence n t a zat on	Motoro a	

The document was presented by Robert Love from Motorola.

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083932. ➔ Refer to annex F

R1 083784	Draft CR on c ar fy ng n t a zat on of scramb ng for PDSCH	Qua comm Europe	

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted.

Alignment between RAN1/RAN2, other specifications and general corrections

R1 083737	36.211 CR0084 (Cat F, Re 8): A gnment of RAN1/RAN2 spec f cat on	Er csson	

The document was presented by Daniel Larsson from Ericsson and proposes alignment and/or introduction of missing RRC parameters in 36.211.

Discussion (Question / Comment): .
Decision: Document is noted. Other companies are requested to provide comments to Ericsson until Tuesday evening. CR has been included in CR0105 (R1-083994).

R1 083502	36.211 CR0081 (Re 8, F) Spec f cat on of reserved REs not used for RS	Ph ps, NXP	

The document was presented by Matthew Baker from Philips. As the usage of the REs reserved for the second antenna port in the downlink control channel region is not specified when only one antenna port is configured, this CR specifies that the above resource elements are not used for any physical channel.

Discussion (Question / Comment):
Decision: Document is noted. CR shall be revised in R1-083933 to reflect UE perspective. ➔ Refer to annex F

R1 083792	Draft CR on nkage Among UL Power Contro Parameters	Qua comm Europe	

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment): Panasonic made a comment that consequences if not agreed might need some clarification.
Decision: Document is noted. Formal CR shall be prepared in R1-083934. ➔ Refer to annex F

R1 083697	Correct ons to 36.211	Huawe , CATT	

The document was presented by Chen Shi from Huawei and proposes the following corrections:

– Modify the symbol about length of half-frames

– Change the variable range of $N_{cs}^{(1)}$

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083935. ➔ Refer to annex F

6.1.1 Ad Hoc session on AI 6.1

R1 084018	Summary of the ad hoc sess on on 6.1	NTT DOCOMO	

The document provides the outcomes of the add hoc session.

R1 083994	36.211 CR0084R2 (Cat F, Re 8): A gnment of RAN1/RAN2 spec f cat on	Er csson	(R1 083977)
R1 083993	36.213 CR0105R3 (Cat F, Re 8): A gnment of RAN1/RAN2 spec f cat on	Er csson	(R1 083976)

Decision: Document are noted. CR shall be revised in R1-084020 and R1-084021.

Friday 3rd

R1 084060	36.213 CR0105R6 (Cat F, Re 8): A gnment of RAN1/RAN2 spec f cat on	Er csson	(R1 084050)
R1 084061	36.211 CR0084R5 (Cat F, Re 8): A gnment of RAN1/RAN2 spec f cat on	Er csson	(R1 084051)

The documents were presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment):
Decision: Documents are noted and both CRs are agreed

RACH

R1 083555	36.211 CR0082 (Re 8, F) C ar f cat on of the random access preamb e transm ss on t m ng	Samsung, LGE, Panason c, Texas Instruments	

Decision: Document is noted.

R1 083572	C ar f cat on on preamb e transm ss on t m ng	ASUSTeK	

Decision: Document is noted. Prepare the CR as CR0082 rev1 including the correction in 3572 in R1-083999 (Samsung). Prepare the CR as CR0082 rev2 removing “zero correlation zone” from the title of table in R1-084014 (Samsung) ➔ Refer to annex F

R1 083855	Proposed correct on to PRACH frequency offset	Norte	

Decision: Document is noted.

R1 083881	Proposed CR for PRACH frequency offset	Norte	

Decision: Document is noted.

R1 083912	S gna nd cator for PRACH frequency pos ton	Huawe , CMCC, CATT	(R1 083693)

Decision: Document is noted.

R1 083979	CR on Rep ace "Cyc c sh ft" from the t t e of Tab e 5.7.2 2 and 5.7.2 3 w th zero corre at on zone parameter	Huawe , LGE	(R1 083694)

Decision: Document is noted. It’s agreed to remove the “Cyclic shift” from the title of Table 5.7.2-2 and 5.7.2-3, and to reflect the agreement in R1-083999.

R1 083998	Draft CR on c ar f cat on of PRACH Preamb e format 4	Qua comm Europe, ZTE, Huawe	(R1 083898)

Decision: Document is noted.

R1 083840	Draft CR 36.211 TDD PRACH format 4 offset	Motoro a	

Decision: Document is noted. Revisit after the discussion on PUCCH location (LS from RAN4)

MIMO

R1 083885	36.211 CR0072R1 (Re 8, F) Correct ons to precod ng for arge de ay CDD	Ph ps, NXP	(R1 083400)

Decision: Document is noted. Agreed in principle, the word “symbol” needs further checking. Revised CR as CR0072 rev2 in R1-084000. ➔ Refer to annex F

R1 083507	36.213 CR0083R1 (Re 8, F) Mov ng descr pt on of arge de ay CDD	Ph ps, NXP	

Decision: Document is noted. Revisit after the agreement on R1-084000 (CR to 36.211)

R1 083695	Correct on for the tab e of arge de ay CDD.	Huawe , CATT	

Decision: Document is noted. Agreed in principle, capture the agreement in CR0072 rev2 (R1-084000).

VRB

R1 083786	36.211 Draft CR on c ar fy ng UL VRB a ocat on	Qua comm Europe, Samsung, NEC	

Decision: Document is noted.

R1 083805	36.213 Draft CR on c ar fy ng UL VRB a ocat on	Qua comm Europe, Samsung, NEC	

Decision: Document is noted. Continue the offline discussion on these two CRs and revisit on Friday. ➔ Refer to annex F (LTE 54b/14)

R1 083843	Draft CR 36.211 C ar f cat on on PUSCH pre determ ned hopp ng pattern	Motoro a	

Decision: Document is noted. Agreed in principle, draft the CR in R1-084001. ➔ Refer to annex F

UE specific RS

R1 083599	Draft CR on ded cated reference s gna mapp ng for PDCCH w th 4 symbo s	ZTE	

Decision: Document is noted. Continue the discussion offline, revisit on Friday. ➔ Refer to annex F

R1 083494	36.211 CR0070R1 (Re 8, F) on Correct on for the def n t on of UE spec f c reference s gna s	SHARP	R1 083372

Decision: Document is noted and CR is agreed.

R1 083845	36.211 CR0085 (Re 8, F) C ar f cat on of the use of UE spec f c reference s gna s n the presence of PBCH, PSS, and SSS	NextWave W re ess, IPW re ess	

Decision: Document is noted.

R1 083791	Draft CR on c ar f cat on of co s on between UE spec f c RS and synchron zat on s gna s	Qua comm Europe	

Decision: Document is noted. Continue offline and decide which CR, R1-083485 or R1-083791 should be captured in the specification, revisit on Friday. ➔ Refer to annex F

SRS

R1 083715	Draft CR 36.211: SRS subframe conf gurat on	Nok a S emens Networks, Nok a	

Decision: Document is noted. Agreed in principle, need to revise some of the notations e.g. T_SRS, revised CR in R1-084022 (NSN) ➔ Refer to annex F

R1 083634	Draft CR for c ar f cat on of SRS sequence group and base sequence number	LGE	

Decision: Document is noted. Update CR according to the comment in R1-084011 (LGE) ➔ Refer to annex F

R1 083600	Rema n ng Issues of SRS Bandw dth conf gurat on n UpPTS	ZTE	

Decision: Document is noted.

R1 083619	Way forward on SRS n TDD	CATT,CMCC, Huawe , RITT, Nok a, NSN, ZTE	

Decision: Document is noted.

R1 083713	Draft CR 36.211: Rema n ng SRS deta s for TDD	Nok a, Nok a S emens Networks	

Decision: Document is noted. CR is agreed except on the sentence "The reconfiguration of $m_{SRS,0}^{\max}$ is enabled when $b_{hop}=1$ and is disabled when $b_{hop}=0$, where $b_{hop}\in\{0,1,2,3\}$ is given by higher layers" and equation on n_srs. CR shall be revised in R1-084023 (Nokia) ➔ Refer to annex F

R1 083997	36.213 Draft CR on sound ng procedure n TDD	CATT, CMCC, Huawe , RITT, Nok a, Nok a S emens Networks, ZTE	

Decision: Document is noted. Continue the offline discussion.

Friday 3rd

R1 084052	Rema n ng ssues on SRS of TDD	CATT, CMCC, Er csson, Huawe , Nok a, Nok a S emens Networks, RITT, ZTE, TI	(R1 084037)

The document was presented by Ding Yu from CATT.

- Signaling for Reconfiguration: supported by CATT, CMCC, Ericsson, Huawei, Nokia, NSN, RITT, ZTE, Samsung, TI, [Motorola?]
- Collision solving in UpPTS: supported by Samsung, CATT, CMCC, Huawei, Nokia, NSN, RITT, ZTE, TI , Ericsson, [Motorola?]
- SRS hopping counter for TDD: supported by CATT, CMCC, Ericsson, Huawei, Nokia, NSN, RITT, ZTE, Samsung, TI

Discussion (Question / Comment): Addition of too much testing complexity is an issue raised by Motorola.
Decision: Document is noted. Revision in R1-084070 is agreed and CRs shall be prepared for next meeting.

TDD misc

R1 083909	Draft CR TDD UE transm t antenna se ect on	CMCC, RITT, Huawe , CATT, ZTE	(R1 083893)

Decision: Document is noted. Prepare formal CR in R1-084024 (CMCC) ➔ Refer to annex F

R1 083623	Draft CR on c ar fy the up nk bandw dth n TDD	CATT	

Decision: Document is noted. Revisit on Friday, after checking RAN2 and RAN3 situation ➔ Refer to annex F

Others

R1 083917	C ar f cat on on the operat on for Norma and Extended CP	NTT DOCOMO, Inc, AT&T, T Mob e	

Decision: Document is noted. Agreed in principle, this shall be revisited on Friday if any impact on RAN1 ➔ Postposned to next meeting.

Below set of contributions has not been treated.

R1 083601	CR for ca cu at on of the number of SRS transm ss on for 2 ms per od n TDD	ZTE	
R1 083692	Start po nt of RA preamb e format 4	Huawe	
R1 083789	Draft CR on c ar f cat on of precod ng restr ct on for open oop spat a mut p ex ng	Qua comm Europe	
R1 083806	Draft CR on c ar f cat on of precod ng restr ct on for open oop spat a mut p ex ng	Qua comm Europe	
R1 084053	Spec fy ng b ank subframes for eff c ent support of re ays	Qua comm Europe	(R1 083817)
R1 083888	Draft CR for nc ud ng descr pt on of open oop SM to TS36.211	LGE	
R1 083911	Draft CR L m t ng the usage of up nk down nk conf gurat on 5	CMCC, RITT, Huawe , CATT, ZTE, Qua comm Europe	(R1 083596)
R1 083951	36.211 CR0090 (Re 8, F) Remov ng SRS procedure text from 36.211	Er csson	

6.2 Corrections for TS 36.212

6.2.1 Ad hoc session on AI 6.2

R1 084019	Summary of the ad hoc sess on on 6.2	NTT DOCOMO	

The document provides the outcomes of the add hoc session.

CQI/PMI/RI and Uplink data multiplexing

R1 083556	On CQI/PMI, RI and Up nk data mu t p ex ng	Samsung, CMCC, CATT	

Decision: Document is noted.

R1 083839	Draft CR 36.212 for avo d ng error cond t ons n CQI/PMI/RI and Up nk data mu tp ex ng	Motoro a, Qua comm	

Decision: Document is noted.

R1 083964	F na z ng the up nk contro nformat on mu t p ex ng n PUSCH	LG E ectron cs, A cate Lucent, Er csson, Nok a, Nok a S emens Networks, Panason c	

Decision: Document is noted.

Conclusion: Keep current specification

RV definition for BCCH

R1 083699	RV bund ng funct on on format 1C for SIB1 and SI x	Huawe	

Decision: Document is noted.

R1 083717	Imp c t RV Determ nat on for BCCH	Nok a S emens Networks, Nok a	

Decision: Document is noted. Draft LS in R1-084025 (NSN)

Friday 3rd

R1 084025	[Draft]]LS on RV Determ nat on for BCCH	Nok a S emens Networks, Nok a, Panason c	

The document was presented by Mieszko (…) from NSN.

Discussion (Question / Comment): .
Decision: Document is noted. Final LS is agreed in R1-084067.

Control information offset in PUSCH

R1 083640	Quant zat on error n contro nformat on offsets n PUSCH transm ss on	LGE	

Decision: Document is noted.

R1 083978	36.212 CR0052R1 (Cat F, Re 8): Correct ons to contro on PUSCH	Er csson	(R1 083739)

Decision: Document is noted.

R1 083969	36.212 CR0054 (Re 8, F) Correct on of offset s gna ng of up nk contro nformat on MCS	LGE, Er csson	

Decision: Document is noted. Revisit on Friday.

R1 083970	36.213 CR0122 (Re 8, F) Correct on of offset s gna ng of up nk contro nformat on MCS	LGE, Er csson	

Decision: Document is noted and CR is agreed in principle. Check the notation of parameter in the tables in RAN2 spec Formal approval together with R1-083969.

Friday 3rd

R1 084034	36.213 CR0122R1 (Re 8, F) Correct on of offset s gna ng of up nk contro nformat on MCS	LGE, Er csson	(R1 083970)

Decision: Document is noted and CR is agreed. Same conclusion to R1-083969.

Others

R1 083698	On Rank cod ng n PUCCH	Huawe	

Decision: Document is noted.

Miscellaneous corrections and clarifications

R1 083487	Correct on to DCI format 1A	NEC Group	

Decision: Document is noted. Correction is agreed in principle. Since this is a UE procedure, draft CR to 36.213 in R1-084003 (NEC). Draft CR is finally withdrawn.

Friday 3rd

R1 084032	Draft LS on defau t va ue of UL bandw dth	NEC Group	

Decision: Proposed LS is noted and agreed in R1-084068.

R1 083946	36.212 CR0050R1 (Re 8, F) C ar f cat on on 2 b t HARQ ACK and 2 b t RI	Samsung, LGE	(R1 083557)

Decision: Document is noted and CR is agreed.

R1 083638	Draft CR for un ty of codeword nd cat ons n TS36.212	LGE	

Decision: Document is noted.

R1 083719	Draft CR 36.212: M sce aneous Correct ons	Nok a S emens Networks, Nok a	

Decision: Document is noted. Prepare formal CR to 36.212 in R1-084004 (NSN) and CR to 36.213 in R1-084005 (NSN) to align the CW index in 36.212.

Friday 3rd

R1 084004	36.212 CR0055 (Re 8, F) M sce aneous Correct ons	Nok a S emens Networks, Nok a	(R1 083719)
R1 084005	36.213 CR0124 (Re 8, F) M sce aneous Correct ons	Nok a S emens Networks, Nok a	

Decision: Document are noted and CRs are agreed.

R1 083716	Draft CR 36.212: SRS symbo punctur ng	Nok a S emens Networks, Nok a	

Decision: Document is noted. Revised CR shall be prepared to capture Samsung's comment in R1-084006 (NSN)

Friday 3rd

R1 084006	36.212 CR0056 (Re 8, F) SRS symbo punctur ng	Nok a S emens Networks, Nok a	(R1 083716)

Decision: Document is noted and CR is agreed.

R1 083793	Draft CR on f x ng a typo regard ng Sect on reference n Sect on 5.3.3.1.2	Qua comm Europe	

Decision: Document is noted. Prepare the CR with NSN in R1-084006.

R1 083988	Draft CR on comp et on of 36.212 CR47 (R1 083421) for "new" DCI Formats	Qua comm Europe	(R1 083794)

Decision: Document is noted. Continue the offline, revisit on Friday

Friday 3rd

R1 084013	36.212 CR0058 (Re 8, F) Comp et on of 36.212 CR47 (R1 083421) for "new" DCI Formats	Qua comm Europe	(R1 083988)

Decision: Document is noted and CR is agreed.

R1 083795	Draft CR on c ar f cat on of PDCCH pars ng order	Qua comm Europe	

Decision: Document is noted. Revised CR shall be prepared including the comment on pulling etc. in R1-084007 (Qualcomm)

Friday 3rd

R1 084007	36.212 CR0057 (Re 8, F) C ar f cat on of PDCCH pars ng order	Qua comm Europe	(R1 083795)

Decision: Document is noted and CR is agreed.

R1 083899	36212 CR0053 (Re 8,D) Ed tor a correct ons to 36.212	NextWave W re ess, IPW re ess	

Decision: Document is noted and CR is agreed.

Following set of documents has not been treated.

R1 083505	36.212 CR0049 (Re 8, F) Correct ons to DCI formats	Ph ps, NXP	
R1 083586	Draft CR on Number of b ts on BCH	NTT DOCOMO, Panason c	
R1 083639	Draft CR for c ar f cat on on nput b ts of ACK/NACK and RI n TS36.212	LGE	
R1 083738	36.212 CR0051(Re 8, F) A gnment w th RAN2 dec s ons on ded cated RACH	Er csson	
R1 083740	Rema n ng ssues on transm ss on of ACK/NAK on PUSCH for LTE TDD	Er csson	

6.3 Corrections for TS 36.213

Alignment between RAN1/RAN2

R1 083667	RAN1/2 spec f cat on a gnment on HARQ operat on	Panason c, Qua comm Europe	

The document was presented by Alexander Golitschek edler von elbwart from Panasonic and proposes the following changes to TS 36.213 in order to align the HARQ operation between RAN1 and RAN2 specifications:

– DL HARQ operation (Section 7.1.7.2):

  - Adding description of delivering NDI, TBS and HARQ process ID to higher layers
- UL HARQ operation (Sections 8 and 8.3):
  - Removal of the NDI handling to determine new transmissions and retransmissions
  - Adding description of delivering NDI, TBS and RV to higher layers

Discussion (Question / Comment): Nokia supports the changes.
Decision: Document is noted. CR shall be prepared in R1-083936 according to the proposal.

Friday 3rd

R1 083936	36.213 CR0114 (Re 8, F) RAN1/2 spec f cat on a gnment on HARQ operat on	Panason c, Qua comm Europe	

Decision: Document is noted and CR is agreed.

R1 083743	36.213 CR0106 (Cat F, Re 8): A gnment of PHICH between RAN1 and RAN2	Er csson	

Daniel Larsson from Ericsson indicated that this was already captured in R1-083936.

R1 083729	NDI Hand ng	Nok a, Nok a S emens Networks	

Asbjørn Grøvlen from Nokia indicated that this was already captured in R1-083936.

R1 083928	36.213 CR0105R1 (Cat F, Re 8): A gnment of RAN1/RAN2 spec f cat on	Er csson	(R1 083742)

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment): Mr Chairman suggested to provide comments, if any
Decision: Document is noted and shall be revisited later in the day. Covered in revision under AI 6.1 in R1-083993.

R1 083518	Introduc ng other m ss ng L1 parameters n 36.213	Texas Instruments, Motoro a	

The document was presented by Eko Onggosanusi from TI and drafts corrections as some system parameters related to CQI reporting defined in the RRC specification 36.213 and 36.331 are not aligned and missing.

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083937.

Friday 3rd

R1 083937	36.213 CR0115 (Re 8, F) Introduc ng other m ss ng L1 parameters n 36.213	Texas Instruments, Motoro a	(R1 083518)

Decision: Document is noted and CR is agreed.

PDCCH

R1 083728	On the code rate m tat ons for PDCCH b nd decod ng and CR	Nok a, Nok a S emens Networks, Motoro a	

The document was presented by Lars Lindh from Nokia and addresses the UE handling of the PDCCH decoding. The paper proposes that the code rate limitation be updated in order to allow for more valid code rates as seen from an eNB perspective.

Discussion (Question / Comment): LGE requested time for reviewing more the details of the enclosed CR.
Decision: Document is noted. Formal CR shall be prepared in R1-083938.

Friday 3rd

R1 083938	36.213 CR0116 (Re 8, F) On the code rate m tat ons for PDCCH b nd decod ng and CR	Nok a, Nok a S emens Networks, Motoro a	(R1 083728)

Decision: Document is noted and CR is agreed.

R1 083621	Draft CR on PDCCH search space	CATT	

The document was presented by Ding Yu from CATT.

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083939 including isolated impact analysis

Friday 3rd

R1 083939	36.213 CR0117 (Re 8, F) on PDCCH search space	CATT	(R1 083621)

Decision: Document is noted and CR is agreed. MCC to correct Tdoc number on cover sheet before submission to plenary.

R1 083825	Draft CR 36.213 C ar f cat on of RNTI for UE spec f c PDCCH search space	Motoro a	

The document was presented by Amitabha Ghosh from Motorola and clarifies how the PDCCH assignment procedure will be handled in case the UE is configured with both C-RNTI and Semi-Persistent Scheduling C-RNTI.

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083940 according better wording are provided.

Friday 3rd

R1 083940	36.213 CR0118 (Re 8, F) C ar f cat on of RNTI for UE spec f c PDCCH search space	Motoro a	(R1 083825)

Decision: Document is noted. Postponed until next meeting.

R1 083574	Draft CR on RNTI for UE spec f c search space	ASUSTeK	

The document was presented by Eddie Lin from Asustek and deals with the problems of monitoring RNTI(s) during RACH message 3 transmissions. Corresponding modifications in UE-specific search space locations in 36.213 are proposed as follows:

<u>Proposal 1</u>: Search space locations are derived from its Temporary C-RNTI in case the UE monitors PDCCH addressed to the received Temporary C-RNTI for contention resolution and adaptive grants.

<u>Proposal 2</u>: One set of search spaces whose locations are only derived from its Temporary C-RNTI in case the UE monitors PDCCH addressed to its C-RNTI for contention resolution and monitors PDCCH addressed to the received Temporary C-RNTI for adaptive grants.

Discussion (Question / Comment):
Decision: Document is noted. Topic needs further discussion and is postponed until next meeting. Panasonic kindly proposes to moderate the on going email discussions over reflector.

<u>DCI</u>

R1 083835	MCS ndex mapp ng to TBS for DCI 1C and 1A w th CRs	Motoro a	

The document was presented by Robert Love from Motorola and proposes the 5-bit MCS index to TBS mapping for DCI 1C. Also proposed is the mapping of a column index field, formed by aggregating unused DCI 1A fields, to the TBS table column index N_{PRB} when scheduling broadcast control.

Discussion (Question / Comment):

Decision: Document is noted. Motorola informed off line of the existence of two CRs in R1-084042 (36.213) & R1-084043 (36.212) ➔ Refer to annex F

R1 083668	Rema n ng ssues on PDCCH for common contro channe	Panason c	

The document was presented by (…) from Panasonic and deals with the TBS indication method for the PDCCH for the common control channels. The paper proposes:

– For format 1C, to indicate all TBS values in column 2 and I_{TBS}=22 to 26 in column 3 from the single-layer TBS table

– For format 1A, to keep the TBS indication scheme for format 1A as in the current spec.

In addition, since the content of format 1A for the common control channels is totally different from the content of format 1A for unicast data, the paper suggests to define a new format 1E for the common control channel part of format 1A.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083648	Draft CR for the c ar f cat on of VRB usage n DCI format 1C	LGE	

The document was presented by Joon-Kui Ahn from LGE and is an attempt clarifying the range of allocable number of DVRBs for format 1C.

Discussion (Question / Comment): Qualcomm informed about their contribution in R1-083802
Decision: Document is noted.

R1 083802	Draft CR on c ar f cat on of type 2 PDSCH resource a ocat on for format 1C	Qua comm Europe	

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment): LGE agreed to add their proposal in R1-083648 into the formal revised CR from Qualcomm.
Decision: Document is noted. Formal CR shall be prepared in R1-083953 according to the above comment. Further to Ericsson's comment, check if CR is also needed for 36.211. In addition, section 8.4 in R1-083802 is not relevant to the CR and shall be removed.

Friday 3rd

R1 083953	36.213 CR0128 (Re 8, F) C ar f cat on of type 2 PDSCH resource a ocat on for format 1C	Qua comm Europe	(R1 083802)

The document was presented by Wanshi Chen from Qualcomm.

Discussion (Question / Comment): No CR required to 36.211.
Decision: Document is noted and CR is agreed.

R1 083837	Imp c t Redundancy Vers on mapp ng funct on for DCI 1C and CR	Motoro a	

The document was presented by (…) from Motorola and propose RV mapping to complete DCI 1C specification. To complete specification it is also proposed to set RV=0 i.e., $rv_{idx} = 0$ for RACH Response, Paging.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083877	Draft CR for the update of the DCI formats	LGE	

The document was presented by Joon-Kui Ahn from LGE and defines downlink resource allocation type and PDCCH search space for PDCCH DCI format 1D and 2A.

Discussion (Question / Comment): Philips commented that several contributions address same topic and might be a good idea to check for merge.
Decision: Document is noted.

R1 083720	Draft CR 36.212: Correct on to DCI Mon tor ng	Nok a S emens Networks, Nok a	

The document was presented by Mieszko Chmiel from NSN and proposes that format 1D is added to the PDCCH/PDSCH detection description, DCI format 1D and 2A are added to the list of reference format configurations in which the UE can receive DCI 1A in its UE-specific search spaces. In addition, DCI 1D and 2A are added to the table specifying the DCI formats that the UE shall monitor.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083504	36.213 CR0102 (Re 8, F) Recept on of DCI formats	Ph ps, NXP	

The document was presented by Tim Moulsley from Philips and clarifies which DCI formats correspond to each transmission mode.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083918	Draft CR for the c ar f cat on of the up nk ndex n TDD mode	LGE, Nok a, Samsung, Huawe , Er csson, CATT, ZTE	(R1 083647)

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment): .
Decision: Document is noted. Final CR shall be prepared in R1-083957.

Friday 3rd

R1 083957	36.213 CR0125 (Re 8, F) C ar f cat on of the up nk ndex n TDD mode	LGE, Nok a, Nok a S emens Networks, Samsung, Huawe , Er csson, CATT, ZTE	(R1 083918)

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed.

R1 083891	Draft CR 36.213 for codeword determ nat on when sw tch ng between DCI 1A and 2	Motoro a, Texas Instruments	(R1 083833)

The document was presented by Robert Love from Motorola.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083520	Prob ems w th DCI Format 1A and 2 for Retransm ss on	Texas Instruments	

The document was presented by Eko Onggosanusi from TI.

Discussion (Question / Comment):
Decision: Document is noted. Final CR shall be prepared in R1-083956.

Friday 3rd

R1 083956	36.213 CR0132 (Re 8, F) Sw tch ng between DCI 1A and 2	Texas Instruments	(R1 083520)

The document was presented by Eko Onggosanusi from TI.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

RACH

R1 083803	Draft CR on c ar f cat on of up nk grant n random access response	Qua comm Europe	

The document was presented by Wanshi Chen from Motorola and clarifies that N_{UL_hop} is present only when the hopping flag is set to 1.

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083958.

Friday 3rd

R1 083958	36.213 CR0129 (Re 8, F) C ar f cat on of up nk grant n random access response	Qua comm Europe	(R1 083803)

The document was presented by Wanshi Chen from Motorola.

Discussion (Question / Comment):
Decision: Document is noted and CR is agreed.

R1 083847	Presence of mu t p e PRACHs and PRACH se ect on	NextWave W re ess, IPW re ess	

The document was presented by Paul Piggin from NextWave Wireless and discusses an approach to include the selection of PRACH resources based on frequency selective channel characteristic in random access procedure. RAN1 is requested to review the proposal pending the decision in RAN2.

Discussion (Question / Comment): Ericsson requested clarification on the benefits that this approach may bring. Nokia suggested to postpone such approach if any benefits, as Release 8 is close for freezing.
Decision: Document is noted.

Uplink power control

R1 083727	Draft CR 36.213: de ta_TF for PUSCH	Nok a S emens Networks, Nok a	

The document was presented by Jari Lindholm from NSN and introduces the change of signaling method of delta_tf , from cell specific to UE specific.

Discussion (Question / Comment): .
Decision: Document is noted. Formal CR shall be prepared in R1-083944.

Friday 3rd

R1 083944	36.213 CR0119 (Re 8, F) de ta_TF for PUSCH	Nok a S emens Networks, Nok a	(R1 083727) (R1 083624)

Decision: Document is noted and CR is agreed.

R1 083726	Draft CR 36.213: de ta_preamb e_msg3 parameter va ues and TPC command n RA response	Nok a S emens Networks, Nok a	

The document was presented by Jari Lindholm from NSN for inclusion of the range and resolution of Po_pre (preamble_initial_received_target_power), delta_preamble_msg3 (offset for Po_pre) and delta_msg2 (TPC command in RA response).

Discussion (Question / Comment):
Decision: Document is noted. Formal CR shall be prepared in R1-083945.

Friday 3rd

R1 083945	36.213 CR0120 (Re 8, F) de ta_preamb e_msg3 parameter va ues and TPC command n RA response	Nok a S emens Networks, Nok a	(R1 083726)

Decision: Document is noted and CR is agreed.

R1 083744	36.213 CR0107 (Cat F, Re 8): Genera correct on of reset of power contro and random access response message	Er csson	

The document was presented by Daniel Larsson from Ericsson.

Discussion (Question / Comment): .
Decision: Document is noted. Off line discussion still needed. CR shall be revisited later on.

Friday 3rd

R1 084064	36.213 CR0107R1 (Cat F, Re 8): Genera correct on of reset of power contro and random access response message	Er csson	(R1 083744)

Decision: Document is noted and CR is agreed.

R1 083762	36.213 CR0109 (Re 8, F) Correct on on the def n t on of Pmax	LG E ectron cs, Panason c	

The document was presented by Dragan Vujcic from LGE and introduces a modification so that the UE maximum allowed power Pmax is configured by higher layers.

Discussion (Question / Comment): .
Decision: Document is noted and CR is agreed.

R1 083624	de ta_TF( ) n PUSCH Power Contro	CATT	

The document was presented by Ding Yu from CATT and corrects unclear statement of parameter Ks in PUSCH power control.

Discussion (Question / Comment):
Decision: Document is noted. CR shall be included in R1-083944.

R1 083651	Draft CR for the correct on to the PUSCH power contro	LGE	

Joon-Kui Ahn from LGE indicated that this CR shall be covered in the discussion related to R1-083744.

R1 083846	Path oss est mat on for up nk power contro	NextWave W re ess, IPW re ess	

The document was presented by Paul Piggin from NextWave Wireless.

Discussion (Question / Comment): Nokia commented that LS on E-UTRA UL Power Control was already sent to RAN4 under R1-080616 (RAN1#51bis)
Decision: Document is noted.

<u>Downlink Power control</u>

R1 083900	Need for Rev sed P_A Va ues to Support P ot Boost ng	Motoro a, Texas Instruments, Sharp	(R1 083831)

The document was presented by Weimin Xiao from Motorola and addresses the current choice of values of P_A as it was shown to yield unequal transmit power in OFDM symbols with and without cell-specific RS when the following conditions hold: 1) the power boost parameter is set to $P_B = 2$ 2) a single UE is allocated with the allocation spans the entire band, and 3) 16QAM or 64 QAM modulation is used or spatial multiplexing is employed with number of layers > 1. The paper proposes to resolve the issue by:

– Defining P_A values which are a function of the boost or

– By modifying the P_A set of values to include $P_A = -4.77$ dB.

Discussion (Question / Comment): Nokia suggested to replace the statement "… be configured by RRC…" by "… be configured by higher layers…" and let the proposed values be moved to RRC specs.
Decision: Document is noted. R1-083949 is reserved for further preparation of the CR related to this issue. Prepare an LS to RAN2 informing about the parameter change and the general principle for higher layer parameter handling (R1-083950, Panasonic).

Friday 3rd

R1 083949	36.213 CR0133 (Re 8, F) Rev sed va ues for PDSCH EPRE to RS EPRE, P_A	Motoro a, Texas Instruments, Sharp	(R1 083900)

Decision: Document is noted. Nokia raised a concern that CR was not aligned with the agreement reported to RAN2 in draft LS R1-083950. Agreement in principle with the values. Discuss further the notation in RAN1 specifications.

R1 083950	[Draft] LS on P_A va ue and L1 parameter range	Panason c	

The document was presented by Suzuki from Panasonic.

Discussion (Question / Comment):
Decision: Document is noted. Agreement in principle but the final decision is postponed until next meeting.

PUCCH

R1 083603	Rema n ng Issues w th RI mu t p ex ng on PUCCH	ZTE	

The document was presented by (…) from ZTE and proposes the multiplexing scheme of RI with SR and/or ACK/NAK or SRS on PUCCH.

Discussion (Question / Comment): InterDigital supports ZTE proposal and informed the group of the existence of a CR along these lines.
Several companies highlighted that current specified protocol covers correctly the RI multiplexing and they don't see the need for it.
Decision: Document is noted. Proposal is not agreed.

R1 083848	36.213 CR0110 (Re 8, F) C ar f cat on on HARQ ACK resource ndex	A cate Lucent	

The document was presented by Fang-Chen Cheng from Alcatel Lucent.

Discussion (Question / Comment): RAN1 agrees that clarification may be required but solution still need to be figured out.
Decision: Document is noted and CR is not agreed.

R1 083701	C ar f cat on on the necess ty for up nk ACK/NACK transm ss on	Huawe	

The document was presented by Ms Xia Xiaomei from Huawei and clarifies scenarios when uplink HARQ ACK/NACK transmission is not needed (in cases such as RACH response message, PCCH, BCCH mapping to PDSCH transmission indicated by PDCCH DCI format 1A/1C).

Discussion (Question / Comment): Several companies raised that this was already in MAC specification, no need for CR.
Decision: Document is noted. Proposal is not agreed.

R1 083650	Draft CR for the c ar f cat on of the up nk transm ss on conf gurat ons	LGE, Panason c, NTT Docomo	

The document was presented by Joon-Kui Ahn from LGE and clarifies UE behaviour in some combinations of SR, CQI/PMI/RI and ACK/NACK transmission.

Discussion (Question / Comment): Nokia supports the change in principle but suggests that the wording may require further work.
Decision: Document is noted. Formal CR shall be prepared in R1-083959.

Friday 3rd

R1 083959	36.213 CR0126 (Re 8, F) C ar f cat on of the up nk transm ss on conf gurat ons	LGE, Panason c, NTT Docomo, Nok a S emens Networks, Nok a	(R1 083650)

Decision: Document is noted and CR is agreed.

PHICH

R1 083923	Draft CR for the correct on to the PHICH ndex ass gnment	LGE, Panason c	(R1 083646)

The document was presented by Joon-Kui Ahn from LGE and brings clarification:

- that only the cyclic shift signalled in uplink grant, $n_{\mathrm{DMRS}}^{(2)}$, is used in PHICH index mapping
- that $n_{\mathrm{DMRS}}^{(2)}$ assigned to PUSCH initial transmission is used in PHICH index mapping for PUSCH retransmission without uplink grant
- that $n_{\mathrm{DMRS}}^{(2)}$ is not used in PHICH index mapping in case of configured transmissions.

Discussion (Question / Comment): Samsung supports the CR
Decision: Document is noted. Formal CR shall be prepared in R1-083960.

Friday 3rd

R1 083960	36.213 CR0127 (Re 8, F) Correct on to the PHICH ndex ass gnment	LGE, Panason c	(R1 083923)

Decision: Document is noted and CR is agreed in principle. Samsung requested more time for detailed checking. Mr Chairman suggested in case revision would be needed to get this addressed at next meeting

R1 083924	Draft CR for the correct on to the PHICH ndex ass gnment_add	LGE	(R1 083876)

The document was presented by Joon-Kui Ahn from LGE.

Discussion (Question / Comment):
Decision: Document is noted. Discussion should continue for further clarification.

ACK/NACK repetition

Following 3 contributions shows different proposals w r.t ACK/NACK repetition

R1 083527	Way forward on support of ACK/NAK repet t on	Texas Instruments, LGE, Samsung, ZTE	

The document was presented by Zukang Shen from TI.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083804	Way Forward on UL ACK Repet t on	Qua comm Europe, Er csson	

The document was presented by Sandip Sarkar from Qualcomm.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083722	PUCCH resource a ocat on for repeated ACK/NACK	Nok a S emens Networks, Nok a	

The document was presented by Timo Lunttila from NSN.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083823	Up nk ACK/NACK repet t on	Motoro a	

The document was presented by Amitabha Ghost from Motorola.

Discussion (Question / Comment):
Decision: Document is noted.

Mr Chairman requested companies to have further off line discussions on a common way forward.

Friday 3rd

R1 084046	Way forward on support of ACK/NAK repet t on	TI, LGE, Samsung, Motoro a, ZTE, NTT DoCoMo, RIM, CMCC, CATT	

The document was presented by Zukang Shen from TI.

Discussion (Question / Comment):
Decision: Document is noted. Way forward is agreed as baseline for CRs to be prepared for next meeting.

RNTI

R1 083670	Re at onsh p between RNTIs, PDCCH DCI formats and DL transm ss on mode	Panason c	

Decision: Document is noted. Panasonic indicated other contributions in R1-083942/R1-083943 but these were not presented. Mr Chairman suggested the topic to be discussed over email reflector until next meeting (Panasonic as moderator)

TBS/MCS behaviour

Friday 3rd

R1 083626	Ema summary for 'To reuse TBS tab e for punctured PRB'	CATT	

The document was presented by Ding Yu from CATT and shows the agreement reach during email discussion to convert the number of PRB between DwPTS and normal subframe by |N_PRB*K|, where K is a constant.

Discussion (Question / Comment): Corresponding CR is in R1-083947.
Decision: Document is noted.

R1 083947	36.213 CR0103R1 (Re 8, F) To reuse the TBS tab e for punctured PRB	CATT, CMCC, RITT, Motoro a, Nok a, Nok a S emens Networks	(R1 083625)

Decision: Document is noted. CR is not agreed.

CQI Definition

R1 083665	Further correct on and c ar f cat on of CQI def n t on n TS 36.213	Panason c, Ph ps	

The document was presented by Alexander Golitschek edler von elbwart from Panasonic and proposes corrections to several deficiencies and inaccuracies in the current CQI definition of section 7.2.3 of TS 36.213.

Discussion (Question / Comment):
Decision: Document is noted.

R1 084036	CQI Reference Resource n the T me Doma n	Texas Instruments, Er csson	(R1 083523)

The document was presented by Runhua Chen from TI and concludes that:

– for aperiodic CQI reporting on PUSCH, $n_{CQI,ref} \geq 4$ may be suitable only to avoid the necessity of having another valid DL subframe between the reference DL subframe and the UL subframe containing the CQI report

- for periodic CQI reporting on PUCCH, $n_{CQI,ref} \geq 3$ is more suitable as it provides an ample UE processing time for CQI computation while avoiding some unnecessary increase in CQI delay.

Discussion (Question / Comment): Several companies expressed their wish to keep specification unchanged.
Decision: Document is noted. No change agreed.

R1 083748	36.213 CR0112 (Cat F, Re 8): CQI/PMI reference measurement per ods	Er csson	

The document was presented by George Jöngren from Ericsson and proposes that the subframe containing the CQI reference resource for aperiodic reports is constrained to always coincide with the subframe containing the CQI request. CQI requests in MSBSFN subframes are precluded.

Discussion (Question / Comment):
Decision: Document is noted. CR shall be revised in R1-084039.

Friday 3rd

R1 084039	36.213 CR0112R1 (Cat F, Re 8): CQI/PMI reference measurement per ods	Panason c, Er csson, Ph ps	(R1 083748)

Decision: Document is noted and CR is agreed.

Nominal PDSCH-to-RS-EPRE

R1 084012	F na z ng Nom na PDSCH to RS EPRE Offset for CQI Report ng	Texas Instruments, Er csson, Motoro a, NEC	(R1 083895)

The document was presented by Eko Onggosanusi from TI and shows that NPREO parameter is used to introduce a shift to the value of P_A for the CQI reporting of a particular UE. In addition, a proposal to finalize the specification of NPREO is provided.

Discussion (Question / Comment):
Decision: Document is noted. CR agreed in principle and formal CR shall be prepared for next meeting. Values should be in RRC specifications.

Codebook subset restriction

R1 084038	36.213 CR0108R1 (Cat F, Re 8): F na deta s on codebook subset restr ct ons	Er csson, LGE, NEC, NTT DoCoMo, Qua comm	

The document was presented by George Jöngren from Ericsson and proposes adding association of bits to layers in codebook subset restriction bitmap (both 2 and 4 antenna ports in Open-loop spatial multiplexing)

Discussion (Question / Comment): Nortel expressed different view in R1-083941.
Decision: Document is noted.

R1 083941	On codebook subset restr ct on for open oop SM	Norte	(R1 083858)

The document was presented by Hua Xu from Nortel and concludes as follows:

- For 2-tx open-loop SM, there is no need to define bitmaps for the purpose of codebook subset restriction.
- For 4-tx open-loop SM, 3-bit bitmaps for codebook subset restriction could be enough for specifying all the possible combinations of various rank > 1

Discussion (Question / Comment):
Decision: Document is noted.

As a conclusion on codebook restriction, decision is postponed until next meeting as there are different views regarding earlier agreements.

SRS

R1 083887	Draft CR 36.213: UE sound ng procedure	Nok a S emens Networks, Nok a, CATT	(R1 083725)

The document was presented by Jari Lindholm from NSN and provides the following changes:

- UE specific time domain configuration of SRS should be specified with respect to radio frame
- SRS is dropped if simultaneous PUCCH format 2 is configured. If CQI is transmitted in PUSCH, SRS can be transmitted in the same subframe
- The sentence about PUCCH region not included in the SRS bandwidth, is not needed. PUCCH region is not specified so UE does not know when to apply this rule

Discussion (Question / Comment): Samsung raised concern about third bullet and the reason for it.
Decision: Document is noted.

R1 083606	CR for c ar f cat on of the start pos t on of UE spec f c SRS per od and subframe offset	ZTE	

The document was presented by (…) from ZTE and clarifies that for periodicity larger than 10 ms, the periodicity starts at the frame satisfying $n_f \bmod T_{SRS} = 0$, where T_{SRS} is UE specific SRS periodicity.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083849	36.213 CR0111 (Re 8, F) On UE spec f c SRS conf gurat on n UpPTS	A cate Shangha Be , A cate Lucent, CMCC	

The document was presented by Fang-Chen Cheng from Alcatel Lucent and proposes to extend the SRS subframe offset value to all UpPTS by adding modulo 5 operation for the description of the value 0 and 1 of TDD.

Discussion (Question / Comment):
Decision: Document is noted. From the above 3 contributions, final CR shall be prepared in R1-083965.

R1 083965	36.213 CR0130 (Re 8, F) UE sound ng procedure	Nok a S emens Networks, Nok a, CATT	(R1 083887)

Decision: Document is noted and CR is agreed. MCC to check: reformatting issue

TDD ACK/NAK

R1 083910	L m t ng the usage of up nk down nk conf gurat on 5	CMCC, RITT, Huawe , CATT, ZTE, Qua comm	(R1 083595)

The document was presented by Xiaodong Xu from CMCC and proposes to exclude the usage of uplink-downlink configuration 5 from the current version of the specifications for Release 8.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083524	Further cons derat on on TDD ACK/NAK mu t p ex ng mapp ng schemes	Texas Instruments	

The document was presented by Zukang Shen from TI and shows possible improvements on the mapping tables for M = 2, 3, and 4 in section 10.1 of 36.213.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083905	Further cons derat on on ACK/NACK mu t p ex ng n TDD	Samsung	(R1 083560)

The document was presented by (…) from Samsung and provides a method to enhance current ACK/NACK multiplexing mode using DAI. The new scheme proposes that 1 or 2 ACK/NACK bits for each codeword of the first scheduled subframe could be transmitted.

Discussion (Question / Comment):
Decision: Document is noted.

Based on both proposals, Mr Chairman suggested proponents to reach a common way forward.

Friday 3rd

R1 084059	Way forward on rema n ng ssues for TDD ACK/NACK Transm ss on on PUSCH	CATT, CMCC, Er csson, Huawe , LGE, Nok a, Nok a S emens Networks, Qua comm Europe, ZTE, TI	

The document was presented by Xiangguang Che from Nokia.

Discussion (Question / Comment):
Decision: Document is noted. Set of CRs shall be prepared for next meeting.

The following set of contibutions has not been treated.

R1 083488	Correct on to PUCCH CQI report ng mode for N^DL_RB <= 7	NEC Group	
R1 083489	Correct on to Nom na PDSCH to RS EPRE offset for CQI	NEC Group	
R1 083490	F na sat on of PDSCH EPRE offset for CQI measurement	NEC Group	
R1 083503	36.213 CR0101 (Re 8, F) Conf gurat on of CQI modes	Ph ps, NXP	
R1 083506	36.213 CR0082R1 (Re 8, F) CQI correct ons	Ph ps, NXP	
R1 083512	Sem Pers stent Schedu ng and MIMO modes	InterD g ta Commun cat ons LLC	
R1 083513	Procedures for co s ons between per od c and aper od c CQI/PMI/RI reports and Draft CR to 36.213	InterD g ta Commun cat ons LLC	Resubm ss on
R1 083514	Procedures for reso v ng co s ons between SR and per od c CQI reports and Draft CRs to 36.213, 36.212 and 36.211	InterD g ta Commun cat ons LLC	Resubm ss on
R1 083521	On Rema n ng Issues of PUCCH CQI Reports	Texas Instruments	
R1 083522	Update on Phys ca Layer Parameters for CQI Report ng	Texas Instruments	
R1 083525	On rema n ng ssues of TDD ACK/NAK transm ss on on PUSCH	Texas Instruments	
R1 083526	TDD PUCCH ACK/NAK mu t p ex ng for conf gurat on 5	Texas Instruments	
R1 083558	4 b ts ACK/NACK generat on for TDD conf gurat on 5	Samsung	
R1 083559	On ACK/NACK PUCCH resource compress on n TDD	Samsung	
R1 083561	36.213 CR0085R1 (Re 8, F) CQI report for transm ss on mod e 7	Samsung, Qua comm, LGE, Norte	
R1 083573	C ar f cat on on UE behav or when sk pp ng decod ng	ASUSTeK	
R1 083604	Futher d scuss ons on report format for over oad nd cator	ZTE, CHTTL	
R1 083605	ACK/NAK Rema n ng Issues n TDD	ZTE	
R1 083641	C ar f cat on of subband spat a d fferent a CQI for CQI report ng Mode 2 1	LGE	
R1 083642	L1 parameter for codebook subset restr ct on	LGE	
R1 083645	contro nformat on mu t p ex ng n subframe bund ng mode	LGE, Panason c, NEC	
R1 083663	Treatment of CQI on y n HARQ procedure	Panason c	
R1 083664	Restr ct on of RI offset for CQI on PUCCH n TS 36.213	Panason c	

R1 083666	Further correct on of CQI d fferent a representat on n TS 36.213	Panason c	
R1 083669	Sem pers stent schedu ng and transm ss on mode	Panason c	
R1 083702	ACK/NACK repet t on n E UTRA up nk	Huawe	
R1 083721	Over oad Ind cator (OI) Conf gurat on and Report ng Cr ter a	Nok a S emens Networks, Nok a	
R1 083723	Rema n ng Issues for Mu t p e ACK/NAK n LTE TDD	Nok a, Nok a S emens Networks	
R1 083724	Draft CR 36.213: Correct on to the PUSCH Hopp ng procedure	Nok a, Nok a S emens Networks	
R1 083741	36.213 CR0104 (Cat F, Re 8): Def n ng offset va ue for contro on PUSCH as near va ues	Er csson	
R1 083745	F na deta s on codebook subset restr ct ons	Er csson	
R1 083790	Draft CR on c ar f cat on of DRS n DwPTS	Qua comm Europe	
R1 083797	Draft CR on c ar fy ng PUSCH hopp ng procedure	Qua comm Europe	
R1 083800	Draft CR on c ar f cat on of report ng t me nstances of CQI n TDD	Qua comm Europe	
R1 083801	Draft CR on c ar f cat on of error hand ng of PUSCH ass gnments	Qua comm Europe	
R1 083832	S gna ng Mapp ng of Type 1 PUSCH Hopp ng M rror ng operat on and CR	Motoro a	
R1 083834	Draft CR 36.213 TBS to support 7.95kbps NB AMR VoIP	Motoro a	
R1 083841	On TBS opt m zat on for DwPTS	Motoro a	
R1 083859	CQI/PMI report ng on PUSCH	Norte	
R1 083889	Draft CR for remov ng descr pt on of open oop SM operat on n 36.213	LGE	
R1 083897	Up nk contro nformat on mu t p ex ng n TTI bund ng mode and Draft CR	InterD g ta Commun cat ons LLC	
R1 083942	C ar f cat on of RNTI re at ng PDSCH	Panason c	
R1 083943	C ar f cat on of RNTI re at ng PUSCH	Panason c	
R1 083952	36.213 CR0121 (Re 8, F) Mov ng SRS procedure text from 36.211 to 36.213	Er csson	
R1 083954	Update on Phys ca Layer Parameters for CQI Report ng and Draft CR for 36.213	CATT	(R1 083627)
R1 084033	Draft CR 36.213 Correct on for Type 1 PUSCH Hopp ng	Motoro a, A cate Lucent	(R1 083842)
R1 084047	Correct on on TDD ACK/NACK mu t p ex ng mapp ng schems for M=4	TI, Er csson, Huawe , ZTE, CATT	

6.4 Corrections for TS 36.214

R1 083749	RSRQ Measurement Def n t on	Er csson, Panason c	

The document was presented by Ylva Jading from Ericsson and suggests to clarify the RSRQ definition so that RSSI is specified to be measured only in OFDM symbols containing reference symbols (symbol # 0 and # 4).

Discussion (Question / Comment): Nortel suggested additional clarification on which reference symbols are contained in OFDM symbols for the total received power.
Decision: Document is noted. Revisit after offline discussion at next meeting.

R1 083860	UE measurement report ng	Norte	

The document was presented by Anna Tee from Nortel and proposes to have symbol timing offset information reported to the eNodeB alongside the RSRP, RSRQ measurement reports.

Discussion (Question / Comment): Nokia made a comment that RAN1 shall only be focused in correcting almost frozen Rel-8 specs. Panasonic also raised concerns about the overall impact of the proposal. Strong objection also from Motorola doing such change at this stage.
Decision: Document is noted and proposal is not agreed.

R1 083861	Draft LS on UE measurement report ng	Norte	

The document was not presented.

6.5 Corrections for TS 36.306

NO CONTRIBUTIONS.

7. Dual-Cell HSDPA Operation on Adjacent Carriers

Single HS-DPCCH

Mr Chairman warned delegates that RAN1 has reached the very last chance to discuss and agree on HS-DPCCH in order to let RAN4 do their own work.

R1 083756	D scuss on on coverage mprovement for dua ce HSDPA up nk	Nok a, NSN	

The document was presented by Arto Lehti from Nokia and discusses advantages/drawbacks of the methods proposed in RAN1 meeting #54 to improve uplink coverage for dual cell HSDPA on top of a set of CRs that were agreed as RAN1 baseline for dual cell HSDPA operation on adjacent carriers WI.

Discussion (Question / Comment): Good summary of the current situation
Decision: Document is noted.

R1 083961	S ng e Code HS DPCCH ACK/NACK des gn for DC HSDPA	Qua comm Europe	(R1 083539)

The document was presented by Sharad Sambhwani from Qualcomm and addresses a single code HS-DPCCH ACK/NACK encoding scheme based on existing DL MIMO ACK/NACK code words, as an alternative to overcoming the cubic metric and link performance impact of the baseline dual code HS-DPCCH. The paper concludes on following proposal:

– The ACK/NACK scheme for DC-HSDPA is utilizes a single HS-DPCCH based on the code words listed in Table 2 of R1-083961

Discussion (Question / Comment):
Decision: Document is noted.

R1 083540	S ng e Code HS DPCCH CQI des gn for DC HSDPA	Qua comm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and addresses a single code HS-DPCCH CQI encoding scheme based on the existing basis sequences used for CQI encoding for DL MIMO, as an alternative to overcoming the cubic metric and link performance impact of the baseline dual code HS-DPCCH. The paper concludes on following proposals:

– **Proposal 1:** For DC-HSDPA, for CQI feedback cycle = 1 TTI, we reuse the existing (20,10) channel encoding basis sequences that are currently used for Type A DL-MIMO CQI reports.

– **Proposal 2:** For DC-HSDPA, for CQI feedback cycle > 1 TTI, we reuse the existing (20,10) channel encoding basis sequences that are currently used for Type A DL-MIMO CQI reports, and always repeat the CQI transmission by a factor of 2.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083962	Cub c Metr c Ana ys s of S ng e Code HS DPCCH for DC HSDPA	Qua comm Europe	(R1 083878)

The document was presented by Sharad Sambhwani from Qualcomm and examines the cubic metric and consequently the link budget impact of the proposed single code scheme for the ACK/NACK and CQI transmissions. The paper shows that the single code scheme outperforms the baseline dual code scheme from a cubic metric perspective.

Discussion (Question / Comment): .
Decision: Document is noted.

R1 083975	On the HS DPCCH structure for Dua Ce HSDPA operat on	Er csson	(R1 083592)

The document was presented by Johan Bergman from Ericsson and addresses the approach of a single HS-DPCCH channel instead of two. Ericsson sees it as promising if it can be done without jeopardizing the time plan for the DC-HSDPA work item.

Discussion (Question / Comment): Vodafone reinforced their willingness to go towards the single HS-DPCCH approach.

Samsung expressed their concern about future evolution of feature (multi carriers HSDPA) that may not be supported with the single approach.
Decision: Document is noted.

Current situation:

General preference from RAN1 seems to go towards the single solution. If so, decision should be made during that meeting. Ad-hoc session to discuss further the topic is on Thursday 2nd October. Preliminary conclusions are as follows:

- General preference from the group for a single code HS-DPCCH design
- CQI reusing the MIMO solution, with configurable repetition
- A/N: based on MIMO codebook with 2 CW extension (Qualcomm proposal) or Ericsson proposal
- Decide remaining details, e.g. transition from DC to SC transmission tomorrow
- Decide on set of CRs replacing the current baseline on Friday
- Prepare an LS to inform RAN4 and other groups (R1-084009)

R1 083541	25.211 CR0258R1 (Re 8, B) Mod f cat on due to DC HSDPA	Qua comm Europe	
R1 083542	25.212 CR0268R1 (Re 8, B) Mod f cat on due to DC HSDPA	Qua comm Europe	
R1 083543	25.213 CR0096R1 (Re 8, B) Mod f cat on due to DC HSDPA	Qua comm Europe	
R1 083544	25.214 CR0499R1 (Re 8, B) Mod f cat on due to DC HSDPA	Qua comm Europe	
R1 083971	25.211 CR0257R2 (Re 8, B) "Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers"	Er csson	
R1 083972	25.212 CR0267R2 (Re 8, B) "Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers"	Er csson	
R1 083973	25.213 CR0095R2 (Re 8, B) "Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers"	Er csson	
R1 083974	25.214 CR0497R3 (Re 8, B) "Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers"	Er csson	

Decision: Documents are noted.

Friday 3rd

R1 084029	25.211 CR0257R3 (Re 8, B) "Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers"	Er csson, Huawe , Nok a, Nok a S emens Networks, Ph ps, Qua comm Europe, Samsung	(R1 083971)
R1 084030	25.212 CR0267R3 (Re 8, B) "Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers"	Er csson, Huawe , Nok a, Nok a S emens Networks, Ph ps, Qua comm Europe, Samsung	(R1 083972)
R1 084031	25.214 CR0497R4 (Re 8, B) "Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers"	Er csson, Huawe , Nok a, Nok a S emens Networks, Ph ps, Qua comm Europe, Samsung	(R1 083974

The documents were presented by Johan Bergman from Ericsson.

Discussion (Question / Comment): Single code HS-DPCCH design is the only option in TS25.211.
NEC supports also these CRs. The previously agreed CR to 25.213 is no longer needed.
Decision: Documents are noted. CRs are agreed and replace the previously agreed set of CRs.

R1 084065	Draft LS on the HS DPCCH structure for Dua Ce HSDPA operat on	Er csson	(R1 084009)

The document was presented by Johan Bergman from Ericsson.

Discussion (Question / Comment):
Decision: Document is noted. Final LS is agreed in R1-084066.

Dual HS-DPCCH

R1 083580	CQI report ng procedure for DC HSDPA	Huawe	

The document was presented by Ms Majie from Huawei and concludes on following 2 proposals:

- To minimize the DPCCH transmission, the value of CQI_offset_sign shall be determined by table 3 in this contribution (proposal 1).
- The CQI information corresponding to the second carrier is transmitted with a fixed time offset equal to *N_cqi_transmit* subframes relative to the timing for the CQI transmission corresponding to the anchor carrier (proposal 2).

Discussion (Question / Comment):
Decision: Document is noted.

R1 083562	CQI and ACK/NACK transm ss on support ng dua ce HSDPA	Samsung	

The document was briefly presented by Ms Youn Heo from Samsung.

Discussion (Question / Comment): .
Decision: Document is noted.

Below set of contributions has not been treated.

R1 083564	UPH transm ss on for Dua Ce HSDPA	Samsung	
R1 083581	25.214 CR0507 (Re 8, B) Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers	Huawe	
R1 083582	25.214 CR0512 (Re 8, B) Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers	Huawe	

UE categories

As the topic has been discussed in RAN2, RAN1 took a glance at the LS in R2-085732 (LS to RAN WG4 on UE measurement capability and UE categories for Dual Cell operation)

RAN WG2 has technically endorsed the enclosed CR, which contains four new categories for Dual Cell operation.

In addition, RAN WG2 has discussed the possibility to introduce a new optional UE capability indication that the Dual Cell capable UE does not require compressed mode in order to perform measurements on adjacent carrier. RAN WG2 has agreed that this capability will be introduced into RAN WG2 specifications provided that no concerns are identified.

Below set of contributions has not been treated.

R1 083563	D scuss on on UE categor es for dua ce HSDPA	Samsung	
R1 083579	D scuss on on UE categor es for DC HSDPA operat on	Huawe	
R1 083593	UE categor es for Dua Ce HSDPA operat on	Er csson	
R1 083892	D scuss on on add t on of UE categor es for dua ce HSDPA	Nok a, NSN	

Other

R1 083591	Hand ng of conf ct ng HS SCCH orders n Dua Ce HSDPA operat on	Er csson	

The document was presented by Johan Bergman from Ericsson and specifies the case when the UE receives conflicting HS-SCCH orders from the serving HS-DSCH cell and the secondary serving HS-DSCH cell. These alternatives are proposed:

- Always obey the order from the serving HS-DSCH cell (preferred alternative by proponent)
- Disregard from both orders
- Leave the behaviour unspecified

Discussion (Question / Comment):
Decision: Document is noted.

R1 083963	Ana ys s of HS SCCH order comb nat ons n DC HSDPA	Qua comm Europe	

The document was presented by Sharad Sambhwani from Qualcomm and considers possible combinations of HS-SCCH orders defined for dual cell operation. In the case where a conflict arises between the order received from the serving and one from the secondary serving HS-DSCH cell, it is recommended that the UE disregard both orders.

Discussion (Question / Comment): Motorola supports this proposal.
Decision: Document is noted.

Based on these two contributions, no consensus was reached. Further off line discussion is required.

8. Enhanced CELL_FACH state in 1.28 Mcps TDD (UL/DL)

NO CONTRIBUTIONS

9. Continuous Connectivity for packet data users for 1.28Mcps TDD

R1 083966	Up nk transm ss on scheme n CPC for LCR TDD	CATT	(R1 083553)

The document was presented by (…) from CATT and proposes an uplink transmission scheme in CPC for LCR TDD. Already discussed in RAN2; RAN2 agreed that Node B can re-assign the UE's semi-persistent resource when the UE transfers from VoIP active period to silence period. The paper conclusion provides the following statements:

- Node B can assign/re-assign the semi-persistent physical resources via E-AGCH.
- The transition from active to silent period is detected by Node B according to the data on E-PUCH.
- The transition from silent to active period is reported via SI on E-RUCCH or E-PUCH by UE.

Discussion (Question / Comment):
Decision: Document is noted. RAN1 agreed on first bullet: Node B can assign/re-assign the semi-persistent physical resources via E-AGCH.

As there was no representative from TD Tech, the following document was handled by CATT:

R1 083768	Text proposa s to TR25.929 on 1.28Mcps TDD CPC	TD Tech	

Decision: Document is noted. TR shall be revised in R1-084010.

Friday 3rd

R1 084010	Text proposa s to TR25.929 on 1.28Mcps TDD CPC	TD Tech	(R1 083768)

Decision: Text proposal is agreed.

Following documents have not been discussed due to unavailability of the proponents.

R1 083769	Further VoIP up nk schedu ng d scuss on n CPC for 1.28 Mcps TDD	TD Tech	
R1 083770	VoIP down nk schedu ng n CPC for 1.28 Mcps TDD	TD Tech	

10. MIMO for 1.28Mcps TDD

R1 083549	HS SCCH structure n MIMO for LCR TDD	CATT	

The document was presented by (…) from CATT and addresses the control signaling design and coding scheme for dual stream of TDD MIMO. Three proposals are provided:

- Proposal1: HS-SCCH control signaling lengths in MIMO for both single and dual stream are the same.
- Proposal2: HS-SCCH in MIMO conveys:
  - Channelisation-code-set information (q = 8 bits): $x_{ccs,1}, x_{ccs,2}, \ldots, x_{ccs,q}$
  - Time slot information (n = 5 bits): $x_{ts,1}, x_{ts,2}, \ldots, x_{ts,n}$
  - Modulation scheme information (1+1 bit): $x_{ms,1}, x_{ms,2}$
  - Transport-block size information (m = 6+6 bits): $x_{tbs,1}, x_{tbs,2}, \ldots, x_{tbs,m}$
  - Hybrid-ARQ process information (4 bits): $x_{hap,1}, x_{hap,2}, x_{hap,3}, x_{hap,4}$
  - Redundancy version information (2+2 bits): $x_{rv,1}, x_{rv,2}, x_{rv,3}, x_{rv,4}$
  - HS-SCCH cyclic sequence number (3 bits): $x_{hcsn,1}, x_{hcsn,2}, x_{hcsn,3}$
  - UE identity (16 bits): $x_{ue,1}, x_{ue,2}, \ldots, x_{ue,16}$
- Proposal3: For MIMO single stream, control signaling for stream 2 i.e. $x_{ms,2}, x_{tbs,7}, \ldots, x_{tbs,12}, x_{rv,3}, x_{rv,4}$ is filled with void bits.

Discussion (Question / Comment): ZTE expressed that there is no need to extend HS-SCCH to support MIMO dual stream transmission.
Decision: Document is noted. Further discussion shall take place. The topic is postponed until next meeting.

R1 083550	HS SICH structure n MIMO for LCR TDD	CATT	

The document was presented by (…) from CATT and discusses the HS-SICH control signaling design and coding scheme for dual stream transmission of LCR TDD MIMO.

Discussion (Question / Comment):
Decision: Document is noted. Further discussion shall take place. The topic is postponed until next meeting.

R1 083551	Up nk channe est mat on n MIMO for LCR TDD	CATT	

The document was presented by (…) from CATT and proposes that only the legacy uplink physical channels are used for the uplink channel estimation. UE transmits uplink physical channels using one of the two antennas alternatively in the time domain. Node B updates the corresponding channel estimation every time receiving the uplink physical channel.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083894	UL sound ng based on d fferent M damb e code	ZTE	

The document was presented by (…) from ZTE and introduces the UL sounding scheme solving the problem of the uplink channel measurement in the TDD MIMO system. The Mid-amble code is used as the Sounding signal to get the uplink channel information of the dual antennas of a terminal.

Discussion (Question / Comment):
Decision: Document is noted.

As the above contributions haven't got any comments from other companies than CATT and ZTE, Mr Chairman requested proponents to continue the discussion off line. The topic is postponed until next meeting.

R1 083552	Ident f cat on of MIMO dua stream at Node B and UE	CATT	

The document was presented by (…) from CATT and proposes a method to exactly identify the two streams and the corresponding control signaling carried on HS-SCCH and HS-SICH using midamble shift and some predefined rules.

Discussion (Question / Comment):
Decision: Document is noted. The topic is postponed until next meeting.

Following documents have not been discussed due to unavailability of the proponents.

R1 083771	T me S ot a ocat on and HS SCCH conf gurat on n 1.28Mcps TDD MIMO System	TD Tech	
R1 083772	nk eve s mu at on resu ts on stand a one m damb e s gna for 1.28Mcps TDD	TD Tech	

11. Study Item on LTE-Advanced

R1 083584	TR36.814 v0.0.1	Rapporteur (NTT DOCOMO)	

The document was presented by Sadayuki Abeta from NTT DoCoMo and captures all current text proposals.

Discussion (Question / Comment):
Decision: Document is noted. TR is endorsed as v0.1.0 in R1-084015.

R1 084008	LTE Advanced schedu e	RAN1 Cha rman, Rapporteur	

The document was presented by Mr Chairman and aims companies to schedule RAN1 work w.r.t LTE-A. It provides some level of priorization for further progress in RAN1 discussions. For the next quarter, focus should be put on specifying UL scheme and bandwidth, while other issues (Relay, Repeater, Coordinated Multi Point…) should likely require longer time.

Discussion (Question / Comment):
Decision: Document is noted and endorsed.

<u>Evaluation of techniques for Advanced E-UTRA</u>

R1 083597	Cons derat on on Re ay Eva uat on Methodo og es for LTE Advanced	CMCC, Huawe	

The document was presented by Xiaodong Xu from CMCC and considers an evaluation methodology for a relay system simulation. Several conclusions are summed up as follows:

- Urban Hotspot, Urban Macrocell, Dead Spot, Indoor hotspot and Rural Area are taken as the scenarios for evaluation.
- Emergency or Temporary Coverage, Wireless Backhaul only and Group Mobility should not be taken into consideration for the performance evaluation with simulation. They're evaluated for functional assessments only.

Discussion (Question / Comment):
Decision: Document is noted.

R1 084017	Text proposa for eva uat on methodo ogy	Er csson, M tsub sh E ectr c, Motoro a, Nok a, Nok a S emens Network, Qua comm Europe, Samsung, Texas Instruments	(R1 083807)

The document was presented by Juan Montojo from Qualcomm and provides a text proposal for TR 36.814 to include the evaluation methodology for LTE-A studies.

Discussion (Question / Comment): Mr Chairman expressed his willingness to reach an agreement by the end of the meeting and make sure RAN1 can have a baseline for further work.
Decision: Document is noted. Revision shall be prepared in R1-084026.

Friday 3rd (end of meeting)

R1 084026	Text proposa for eva uat on methodo ogy	A cate Lucent, CATT, CEW T, Fuj tsu, Er csson, Huawe , ITRI, LGE, M tsub sh E ectr c, Motoro a, NEC, Nok a, Nok a S emens Network, Norte , NTT DOCOMO, Orange, Panason c, Qua comm Europe, Samsung, Sharp, Texas Instruments, T Mob e, ZTE	(R1 084017)

The document was presented by Juan Montojo from Qualcomm and provides the latest status for TR 36.814.

Discussion (Question / Comment): Hitachi also support the text proposal.
Decision: Document is noted. Text proposal is endorsed.

R1 083614	Antenna Pattern for the System Leve S mu at on	ZTE	

The document was presented by (…) from ZTE and proposes to limit the deployment of 2D antenna pattern to those cases that can be quantified by the coverage size, for instance cells of diameter of 200 meter and less (such as pico cell, femto cells or relay stations).

Discussion (Question / Comment):
Decision: Document is noted.

Support of wider bandwidth

R1 083677	Update V ews on Support of W der Bandw dth n LTE Advanced	NTT DOCOMO	

The document was presented by Yoshihisa Kishiyama from NTT DoCoMo and states:

- Carrier aggregation comprises continuous and discontinuous spectrum allocations, with priority given to continuous spectrum
- Asymmetric component carrier assignments should be supported
- Center frequency of all component carriers should be located on 100-kHz channel raster
  - In continuous spectrum allocation -
    - Common sub-carrier separation, i.e., 15 kHz, should be maintained over aggregated bandwidths
    - Guard band between contiguous component carriers can be removed
- SCH and PBCH are transmitted from all component carriers

Discussion (Question / Comment): Ericsson commented that Guard Band for aggregated bandwidths was an issue for RAN4 to decide. Motorola asked why priority is given to continuous spectrum over discontinuous. NTT DoCoMo responded that's mainly due to a spectrum availability issue.

Decision: Document is noted.

R1 083528	Issues on Carr er Aggregat on for Advanced E UTRA	Texas Instruments	

The document was presented by Eko Onggosanusi from TI and addresses several aspects of carrier aggregation for the Advanced E-UTRA.

- **Carrier aggregation for contiguous component carriers**: Maintain the alignment between the center sub-carrier of each 20-MHz component carrier with the 100-kHz raster. Introduce empty sub-carriers (termed mid-guard) between two contiguous component carriers to minimize the interference to Rel-8 UEs.
- **Transport block (TB) mapping and HARQ**: For downlink single-layer transmission, prefer one TB and HARQ entity per component carrier.
- **Downlink control signaling**: Assign one L1/L2 control entity (including PCFICH, PHICH, and PDCCH) for each of the assigned component carriers.
- **Uplink control signaling**: Whether a dedicated PUCCH resource is allocated for LTE-A-only UEs should be further studied.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083730	L1 contro s gna ng w th carr er aggregat on n LTE Advanced	Nok a, Nok a S emens Networks	

The document was presented by Lars Lindh from Nokia and provides further insight on the possibilities of multiplexing downlink and uplink control channels (PDCCH, PUCCH) with carrier aggregation, considering also the linkage between PDCCH and PUCCH.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083491	Down nk Contro Structure for Carr er Aggregat on Approach n LTE Advanced System	NEC Group	

The document was presented by Yassin Awad from NEC and discusses the downlink control structure for LTE-Advanced in conjunction with the carrier aggregation approach.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083706	DL/UL Asymmetr c Carr er aggregat on	Huawe	

The document was presented by Fredrik Berggren from Huawei and discusses issues on scenarios of cell-specific asymmetric Carrier Aggregation and UE-specific asymmetric Carrier Aggregation, namely:

- Cell ID problem in case of cell-specific asymmetric Carrier Aggregation;
- The resource of UL control channels and the mapping rule of ACK/NAK channel to PDCCH corresponding to multiple DL carriers, in case of UE-specific asymmetric Carrier Aggregation

The paper proposes that the scenarios of cell-specific asymmetric Carrier Aggregation and UE-specific asymmetric Carrier Aggregation should be supported in LTE-A.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083750	Carr er aggregat on	Er csson	

The document was presented by Stefan Parkvall from Ericsson and proposes to capture the following:

- Adopt an agnostic approach in RAN1 towards contiguous-vs-non-contiguous component carriers.
- Different numbers of component carriers in uplink and downlink should be supported.
- Component carriers…
    - …have the same numerology as Rel-8 carriers
    - …is at most 110 RB wide.
- The exact component-carrier spacing is for RAN4 to discuss but it should be possible to set to a multiple of both 15 kHz and 100 kHz.
- Include mechanisms to allow an LTE-Advanced terminal to monitor a smaller bandwidth than the system bandwidth.
- (MC-CL-)DFTS-OFDM should be supported for uplink transmission.

Discussion (Question / Comment):
Decision: Document is noted.

Uplink transmission scheme

R1 083812	Stud es of d fferent waveforms for the UL of LTE A	Qua comm Europe	

The document was presented by Juan Montojo from Qualcomm and examines the advantages that OFDMA would bring to LTE-A uplink assuming that LTE-A UEs should support OFDMA in uplink in addition to SC-FDMA. The conclusion of the paper shows interest going into further details quantifying the gains achievable by an OFDMA waveform.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083732	Compar son between SC FDMA and OFDMA for LTE Advanced Up nk	Nok a S emens Networks, Nok a	

The document was presented by Timo Lunttila from NSN and concludes that there are no compelling reasons to introduce OFDMA to LTE-Advanced, with following statements:

- SU-MIMO:
  - With iterative turbo SIC, the receiver complexity is similar
  - With 2x2 OFDMA when SNR > 10 dB (16/64 QAM), OFDMA gives about 1-10 % (depending ECR) higher througput than SC-FDMA; with QPSK the performance is similar.
  - With 2x4 the performance is equal.
- Closed-loop antenna diversity
  - Even with an MMSE receiver, OFDMA and SC-FDMA have equal performance with both 2x2 and 2x4.
- System performance 1x2
  - In interference limited situation CASE 1 with MMSE, OFDMA gives 3 % higher average spectrum efficiency, no difference in cell edge performance.
  - In power limited situation, the achievable cell-edge bit rate of OFDMA is smaller than SC-FDMA, hence there seems to be no system performance reasons to introduce OFDMA for single antenna case.
- Cell edge bit rate in noise limited situation / cubic metric
  - In noise limited situation, assuming aggregation level 2 and single antenna transmission, NxSC-FDMA (40 MHz) with QPSK gives still 1.2-2.4 dB lower CM resulting in 25-56 % higher cell edge bit rate than OFDMA.
- Cubic metric / power efficiency is still an issue with OFDMA.
  - Even with MIMO, since UE PAs will be optimized for half power with two PAs => MIMO transmission will be limited by cubic metric, i.e. only single stream can be provided in power-limited case (with SC-FDMA).

Discussion (Question / Comment):
Decision: Document is noted.

R1 083682	V ews on UL Hybr d Rad o Access Scheme n LTE Advanced	NTT DOCOMO	

The document was presented by (…) from NTT DoCoMo and provides a comparison between OFDM and DFT-Spread OFDM with 2-by-2 MIMO spatial multiplexing. The evaluation results showed the following.

- OFDM MIMO spatial multiplexing provides a significantly higher user throughput compared to that for DFT-Spread OFDM with MIMO multiplexing especially when 64QAM data modulation and a higher channel coding rate are used.
- OFDM provides more flexible resource assignment compared to DFT-Spread OFDM when a wideband transmission UE is assigned. More flexible resource assignment using non-contiguous RB allocation is beneficial even within 20 MHz especially under non-power-limited conditions such as under local area conditions.
- To limit the number of options and simplify the variation in the UE categories, we propose options for uplink hybrid radio access with respect to the transmission bandwidth and number of streams (ranks).
  - Clustered DFT-Spread OFDM with low PAPR functionality is applied to one-stream transmission, i.e., a non-MIMO case.
  - OFDM is applied to multi-stream transmission, i.e., MIMO multiplexing with the rank order of two or greater.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083497	Up nk Transm ss on Enhancement for LTE Advanced	SHARP	

The document was presented by (…) from Sharp and provides an evaluation of the two major candidates for the uplink of LTE-Advanced, "Clustered DFT-S-OFDM" and "OFDM". The paper concludes that:

- Frequency Diversity (FD) has performance gains and should be considered as an integral part of the LTE-A UL MA.

- Clustered DFT-S-OFDM retains its advantage with the FD enhancement, and is the preferred access scheme (with the FD enhancement).

Discussion (Question / Comment):
Decision: Document is noted.

R1 083498	Up nk MIMO Mu t p ex ng scheme for LTE Advanced	SHARP	

The document was presented by (…) from Sharp and provides a comparison between of the MIMO-SM performances of OFDM and that of Clustered DFT-S-OFDM from the view point of received signal qualities.

Discussion (Question / Comment):
Decision: Document is noted.

R1 083820	Up nk Access for LTE A Non aggregated and Aggregated Scenar os	Motoro a	

The document was presented by Weimin Xiao from Motorola and deals with uplink access schemes for LTE-Advanced. Following recommendations are drawn:

- Only one additional uplink access scheme should be selected independent of e.g. aggregated system bandwidth or MIMO mode. OFDMA appears to be a promising candidate for an optional UL access scheme.
- Use MAC layer segmentation to deliver one transport block with associated H-ARQ per carrier.
- The following uplink access scheme can be the focus for further development in LTE-A

Scenario	Uplink Access Scheme
Non-aggregated Case	SC-FDMA and OFDMA
Aggregated-carrier Case	N×SC-FDMA and OFDMA

Discussion (Question / Comment):
Decision: Document is noted.

R1 083658	Up nk mu t p e access schemes for LTE A	LGE	

The document was presented by Joon-Kui Ahn from LGE and evaluate different options in the view point of Cubic Matrix and decoding performances in both non-MIMO and MIMO cases.

Discussion (Question / Comment):
Decision: Document is noted.

As a conclusion, Mr Chairman requested to make use of the time left until next meeting (via email reflector) to discuss further and reach kind of agreement w.r.t Uplink transmission scheme and Support of wider bandwidth.

Following set of documents has not been reviewed during the meeting.

R1 083484	Bas c structure of re ay ng under mu t antenna eNB	M tsub sh E ectr c	
R1 083485	Exp o t ng channe rec proc ty n TDD w th asymmetr c nterference	M tsub sh E ectr c	
R1 083492	Support of bandw dth over 20MHz n LTE Advanced up nk	NEC Group	
R1 083493	Up nk Access Scheme for LTE Advanced n BW=<20MHz	NEC Group	
R1 083496	Stat st ca Cons derat ons for S mu at on Methodo ogy	SHARP	
R1 083510	MU MIMO for LTE Advanced	Ph ps, NXP	
R1 083511	Interference Management for LTE Advanced	Ph ps, NXP	
R1 083515	Throughput eva uat on of UL Transm ss on Schemes for LTE A	InterD g ta Commun cat ons LLC	
R1 083529	Further Ana ys s on Up nk SU MIMO for E UTRA	Texas Instruments	
R1 083530	Aspects of Coord nated Mu t po nt Transm ss on for Advanced E UTRA	Texas Instruments	
R1 083532	Reference S gna Structure To Support 8 Tx Antenna Ports	Texas Instruments	
R1 083533	Decode and forward Re ays for E UTRA Enhancements	Texas Instruments	

R1 083534	On Up nk Macro D vers ty for LTE A	Texas Instruments	
R1 083535	Impact of H gher Carr er Frequenc es onto the Up nk of LTE A	Texas Instruments	
R1 083545	Structure and conf gurat on of component carr ers n carr er aggregat on	ETRI	
R1 083546	Per ce precod ng methods for down nk jo nt process ng CoMP	ETRI	
R1 083554	LTE Advanced Backwards Compat b ty	Ph ps, NXP	
R1 083565	DL carr er aggregat on n LTE A	Samsung	
R1 083566	Superpos t on of Un cast and Broadcast	Samsung	
R1 083567	D scuss ons on 8 Tx D vers ty Schemes n LTE A Down nk	Samsung	
R1 083568	D scuss ons on L3 Re ay for LTE A	Samsung	
R1 083569	Furhter d scuss on on Inter Ce Interference M t gat on Through L m ted Coord nat on	Samsung	
R1 083570	Codebook based Precod ng for 8 Tx Transm ss on n LTE A	Samsung	
R1 083588	Summary of the e ma d scuss on on LTE A channe mode	Rapporteur (NTT DOCOMO)	
R1 083607	Spectrum eff c ency for w der bandw dth	ZTE	
R1 083608	Cons derat on for CoMP and SFR	ZTE	
R1 083609	Genera Contro channe des gn for LTE A	ZTE	
R1 083610	Cons derat on on DL 8 Tx Transm t d vers ty n LTE A	ZTE	
R1 083611	Cons derat on on COMP antenna port mapp ng n LTE A	ZTE	
R1 083612	Shadow Fad ng for the Eva uat on of CoMP	ZTE	
R1 083613	Heterogeneous Network Scenar os	ZTE	
R1 083615	Comb ned f xed and adapt ve soft frequency reuse for nter ce nterference coord nat on	M tsub sh E ectr c	
R1 083628	Enhanced Beamform ng Techn que for LTE A	CATT	
R1 083629	Up nk Non codebook based Precod ng	CATT	
R1 083630	A Techn que to Enhance the Ce Edge performance	CATT, RITT	
R1 083631	Proposa of mu t p e s tes coord nat on for LTE A TDD	CATT	
R1 083652	Up nk MIMO Transm ss on for LTE Advanced	LGE	
R1 083653	Network MIMO n LTE Advanced	LGE	(R1 082942)
R1 083654	Cons derat on on DL MIMO n LTE Advanced	LGE	(R1 082941)
R1 083655	Cons derat on on Re ay ng Frame Structure Des gn n LTE A FDD Mode	LGE	(R1 082944)
R1 083656	Mu t ayered Rate Contro for Network MIMO n LTE Advanced	LGE	
R1 083657	Hybr d of AF and DF n Layer 2 Re ay	LGE	
R1 083659	Carr er aggregat on and contro s gna ng for LTE A	LGE	
R1 083671	Cons derat ons on the UL contro n MIMO PUSCH	Panason c	
R1 083672	Cons derat ons on the up nk RS for LTE A	Panason c	
R1 083673	Transm t d vers ty scheme for LTE Adv up nk	Panason c	

R1 083674	Precod ng cons derat on on LTE Adv up nk	Panason c	
R1 083675	Mu t user MIMO on LTE Adv up nk	Panason c	
R1 083676	D scuss on on the TD re ay and FD re ay for FDD system	Panason c	
R1 083678	V ews on UE Capab ty n LTE Advanced	NTT DOCOMO	
R1 083679	UL Layered Contro S gna Structure n LTE Advanced	NTT DOCOMO	
R1 083680	In t a Access Procedure for Asymmetr c W der Bandw dth n LTE Advanced	NTT DOCOMO	
R1 083681	DL Layered Contro S gna Structure n LTE Advanced	NTT DOCOMO	
R1 083683	UL Transm ss on Bandw dth n LTE Advanced	NTT DOCOMO	
R1 083684	UL MIMO Transm ss on Schemes n LTE Advanced	NTT DOCOMO	
R1 083685	Support of DL H gher Order MIMO Transm ss on n LTE Advanced	NTT DOCOMO	
R1 083686	V ews on Coord nated Mu t po nt Transm ss on/Recept on n LTE Advanced	NTT DOCOMO	
R1 083687	Inter ce Rad o Resource Management for Heterogeneous Network	NTT DOCOMO	
R1 083688	V ews on Remote Rad o Equ pment for LTE Advanced	NTT DOCOMO	
R1 083689	Inter ce nterference coord nat on scheme for CoMP	H tach , Ltd.	
R1 083690	Resource management cooperat on scheme for CoMP	H tach , Ltd.	
R1 083703	Concept for down nk carr er aggregat on n LTE Advanced	Huawe	
R1 083704	Down nk spectrum ut zat on n LTE Advanced	Huawe	
R1 083705	PDCCH on Carr er Aggregat on	Huawe	
R1 083707	In t a compar son of UL TX d vers ty so ut ons for LTE Advanced	Huawe	
R1 083708	Up nk TX d vers ty schemes for LTE Advanced w th Text Proposa	Huawe	
R1 083710	DL Coord nated Beam Sw tch ng for Interference management n LTE Advanced	Huawe	
R1 083711	Ce edge throughput mprovement w th L1 re ay	Huawe	
R1 083712	Further deta s and cons derat ons of d fferent types of re ays	Huawe	
R1 083731	Impact of P ann ng on eNB Re ay L nk Mode	Nok a S emens Networks, Nok a	
R1 083733	A gor thms and resu ts for autonomous component carr er se ect on for LTE Advanced	Nok a S emens Networks, Nok a	
R1 083734	Spectrum ssues w th carr er aggregat on n LTE Advanced	Nok a, Nok a S emens Networks	
R1 083751	Up nk SU MIMO n LTE A	Er csson	
R1 083752	W re ess re ay ng for the LTE evo ut on	Er csson	
R1 083759	UE PMI feedback s gna ng for user pa r ng / coord nat on	A cate Lucent	
R1 083760	CQI and CSI Feedback Compress on	A cate Lucent	
R1 083763	Up nk transm t d vers ty schemes w th ow CM for LTE Advanced	M tsub sh E ectr c	
R1 083774	Feedback and Precod ng Techn ques for MU MIMO for LTE A	NXP, Ph ps	
R1 083775	Un tary Beamform ng for MU MIMO W th Per Transm t Antenna Power Constra nt	NXP, Ph ps	
R1 083776	An Eff c ent H erarch ca Modu at on based DL Data Transm ss on for LTE Advanced	Fuj tsu	
R1 083777	Grouped and Encoded Packet based HARQ for LTE Advanced	Fuj tsu	

R1 083778	System S mu at on Eva uat on for L nk from eNode B to RN	Fuj tsu	
R1 083779	DL System Leve Performance Compar son between 2GHz and 3.5GHz for Advanced E UTRA	Fuj tsu	
R1 083780	PAPR compar son of c ustered DFT S OFDM, NxSC FDMA and OFDM	Fuj tsu	
R1 083781	Short study on PAPR property of c ustered DFT S OFDM	Fuj tsu	
R1 083807	Text proposa for eva uat on methodo ogy	Er csson, Motoro a, Nok a, Nok a S emens Networks, Qua comm Europe, Samsung	
R1 083808	Advantages of synchronous network operat on	Qua comm Europe	
R1 083809	New nterference scenar os n LTE A	Qua comm Europe	
R1 083810	Operat on of re ays n LTE A	Qua comm Europe	
R1 083811	Carr er aggregat on operat on n LTE A	Qua comm Europe	
R1 083813	Range expans on for eff c ent support of heterogeneous networks	Qua comm Europe	
R1 083814	Serv ng ce assoc at on n heterogeneous networks	Qua comm Europe	
R1 083815	DL h gher order MIMO n LTE A	Qua comm Europe	
R1 083816	In t a mob ty eva uat ons	Qua comm Europe	
R1 083819	Mob ty enhancements	Qua comm Europe	
R1 083821	Carr er Aggregat on for LTE A e NodeB ssues	Motoro a	
R1 083822	V deo Serv ces over LTE A	Motoro a	
R1 083826	LTE System mpact of Re ays for Best Effort Traff c	Motoro a	
R1 083827	Common Reference Symbo Mapp ng/S gna ng for 8 Transm t Antennas	Motoro a	
R1 083828	Text Proposa for LTE A Spectrum Aggregat on Scenar os and The r Impact on UE Arch tecture	Motoro a	
R1 083829	Up nk Transm ss on Schemes for Mu t p e Antenna Ues	Motoro a	
R1 083830	A Structured Approach for Study ng DL MIMO Enhancements for LTE A	Motoro a	
R1 083850	M2M Commun cat on	A cate Lucent	
R1 083851	Ach ev ng LTE Advanced performance targets w th MIMO	A cate Lucent	
R1 083852	TDMA Re ay Code for Ha f Dup ex Re ay System	A cate Lucent	
R1 083853	Coord nated Mu t Po nt transm ss on/recept on Requ rements	Vodafone Group	
R1 083862	The benef t of us ng transm t d vers ty for PUCCH n LTE A	Norte	
R1 083863	D scuss on on Transm t d vers ty for PUSCH n LTE A	Norte	
R1 083864	D fferent a codebook feedback scheme for LTE A	Norte	
R1 083865	LTE A h gh order MIMO performance eva uat on support ng SU MIMO and MU MIMO	Norte	
R1 083866	More Des gn Aspects on Down nk Transparent Re ay n LTE A	Norte	
R1 083867	MBSFN enhancements for LTE Advanced	Norte	
R1 083868	D scuss on on nterference management schemes for LTE A	Norte	
R1 083869	Des gn Cons derat on for H gher order MIMO n LTE advanced	Norte	
R1 083870	LTE A Down nk Mu t s te MIMO Cooperat on	Norte	

R1 083871	RS des gns for MIMO conf gurat on n LTE A	Norte	
R1 083872	On Schemes for Se f Backhau ng	Norte	
R1 083873	Opportun st c space t me mu t p e access for LTE A	Norte	
R1 083883	Re ay channe mode for LTE A	Norte	
R1 083884	Re ay Nodes Dep oyment Scenar os for LTE Advanced	Icera Sem conductor	
R1 083901	Phys ca m ts of SU MIMO conf gurat ons for LTE A	NXP Sem conductors, Ph ps	(R1 083880)
R1 083906	CoMP c ar f cat on of def n t ons and TP	Huawe , CMCC, RITT	(R1 083709)
R1 083914	D scuss ons on UL 2Tx Transm t D vers ty Schemes n LTE A	Samsung	(R1 083571)
R1 083931	Down nk coord nated transm ss on mpact on spec f cat on	Er csson	
R1 083948	Issues on the cho ce of C ustered DFT S OFDMA versus Nx SCFDMA	Texas Instruments	(R1 083531)

12. Closing of the meeting

RAN1 Chairman, Mr. Dirk Gerstenberger expressed his appreciation to EF3 for hosting the meeting and to the delegates for their hard working effort.

The meeting was closed at 17:00.

Annex A: List of participants at RAN1 #54bis

Please see excel file attached to this report

Annex B: TSG RAN WG1 meetings in 2008/2009

TITLE	TYPE	DATES	LOCATION	CTRY
3GPPRAN1#54bis	WG	29/09 – 3 Oct 2008	Prague	CZ
3GPPRAN1#55	WG	10 – 14 Nov 2008	Prague	CZ
TITLE	**TYPE**	**DATES**	**LOCATION**	**CTRY**
3GPPRAN1#55bis	WG	12 – 16 Jan 2009	Ljubljana	SV
3GPPRAN1#56	WG	09 – 13 Feb 2009	Athens	GR
3GPPRAN1#56bis	WG	23 – 27 March 2009	TBD	KR
3GPPRAN1#57	WG	04 – 08 May 2009	TBD	US
3GPPRAN1#57bis	WG	29/06 – 3 July 2009	TBD	US
3GPPRAN1#58	WG	24 – 28 Aug 2009	TBD	China
3GPPRAN1#58bis	WG	12 – 16 Oct 2009	Miyazaki	JP
3GPPRAN1#59	WG	9 – 13 Nov 2009	TBD	KR

MEETING TYPES	
AH = Ad Hoc	CM = Cha rmen's meet ng
JM = Jo nt	OR = Ord nary
PM = Preparatory Meet ng	RG = Rapporteurs Group
RM = Reso ut on Meet ng	SG = Steer ng Group
ST = Startup Meet ng	TG = Task Group
WG = Work ng Group	XO = Extraord nary

Annex C: List of CRs agreed at RAN1#54bis

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.211	80		Re 8	Correct on to the def n t on of nbar_oc for extended CP	F	8.4.0	R1 083486	LTE Phys
36.211	70	1	Re 8	Correct on for the def n t on of UE spec f c reference s gna s	F	8.4.0	R1 083494	LTE Phys
25.222	158		Re 7	C ar f cat on of E DCH RV ndex se ect on for 1.28Mcps TDD	F	7.8.0	R1 083547	LCRTDD EDCH Phys
25.222	159		Re 8	C ar f cat on of E DCH RV ndex se ect on for 1.28Mcps TDD	A	8.2.0	R1 083548	LCRTDD EDCH Phys
25.214	505		Re 7	Correct on to the descr pt on of CPC procedures	F	7.9.0	R1 083576	
36.213	109		Re 8	Correct on on the def n t on of Pmax	F	8.4.0	R1 083762	LTE Phys
25.221	165		Re 7	Correct on on FPACH m sa gnment for 1.28Mcps TDD	F	7.8.0	R1 083764	TEI7
25.221	166		Re 8	Correct on on FPACH m sa gnment for 1.28Mcps TDD	A	8.2.0	R1 083765	TEI7
25.221	167		Re 7	Correct on of E PUCH TPC descr pt on for 1.28Mcps TDD	F	7.8.0	R1 083766	LCRTDD EDCH Phys
25.221	168		Re 8	Correct on of E PUCH TPC descr pt on for 1.28Mcps TDD	A	8.2.0	R1 083767	LCRTDD EDCH Phys
25.214	508	1	Re 8	Improved EUL power contro at UE power m tat on	B	8.3.0	R1 083879	
36.212	53		Re 8	Ed tor a correct ons to 36.212	D	8.4.0	R1 083899	LTE Phys
36.211	86		Re 8	C ar f cat on on scramb ng of ACK/NAK b ts for PUCCH format 2a/2b	F	8.4.0	R1 083922	LTE Phys
36.211	89		Re 8	C ar f cat on on PUSCH DM RS Cyc c Sh ft Hopp ng	F	8.4.0	R1 083927	LTE Phys
36.211	93		Re 8	C ar fy the RNTI used n scramb ng sequence n t a zat on	F	8.4.0	R1 083932	LTE Phys
36.211	81	1	Re 8	Spec f cat on of reserved REs not used for RS	F	8.4.0	R1 083933	LTE Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.211	88		Re 8	Correct ons to 36.211	F	8.4.0	R1 083935	LTE Phys
36.213	114		Re 8	RAN1/2 spec f cat on a gnment on HARQ operat on	F	8.4.0	R1 083936	LTE Phys
36.213	115		Re 8	Introduc ng other m ss ng L1 parameters n 36.213	F	8.4.0	R1 083937	LTE Phys
36.213	116		Re 8	PDCCH b nd decod ng	F	8.4.0	R1 083938	LTE Phys
36.213	117		Re 8	PDCCH search space	F	8.4.0	R1 083939	LTE Phys
36.213	119		Re 8	De ta_TF for PUSCH	F	8.4.0	R1 083944	LTE Phys
36.213	120		Re 8	De ta_preamb e_msg3 parameter va ues and TPC command n RA response	F	8.4.0	R1 083945	LTE Phys
36.212	50	1	Re 8	C ar f cat on of nput b ts correspond ng to 2 b t HARQ ACK and 2 b t RI	F	8.4.0	R1 083946	LTE Phys
36.213	128		Re 8	C ar f cat on of type 2 PDSCH resource a ocat on for format 1C	F	8.4.0	R1 083953	LTE Phys
36.213	132		Re 8	Sw tch ng between DCI 1A and 2	F	8.4.0	R1 083956	LTE Phys
36.213	125		Re 8	C ar f cat on of the up nk ndex n TDD mode	F	8.4.0	R1 083957	LTE Phys
36.213	129		Re 8	C ar f cat on of up nk grant n random access response	F	8.4.0	R1 083958	LTE Phys
36.213	126		Re 8	C ar f cat on of the up nk transm ss on conf gurat ons	F	8.4.0	R1 083959	LTE Phys
36.213	127		Re 8	Correct on to the PHICH ndex ass gnment	F	8.4.0	R1 083960	LTE Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.213	130		Re 8	UE sound ng procedure	F	8.4.0	R1 083965	LTE Phys
36.212	54		Re 8	Correct on of offset s gna ng of up nk contro nformat on MCS	F	8.4.0	R1 083969	LTE Phys
25.222	161	1	Re 8	Correct on of descr pt on about 64QAM for LCR TDD	F	8.2.0	R1 083980	RAN mp 64Qam1.28TDD
25.214	501	1	Re 7	C ar f cat on of F DPCH TPC Comb n ng Ru e of ce s n the same RLS	F	7.9.0	R1 083981	
25.214	502	1	Re 8	C ar f cat on of F DPCH TPC Comb n ng Ru e of ce s n the same RLS	A	8.3.0	R1 083982	
25.214	503	1	Re 8	Introduct on of HS PDSCH Serv ng Ce Change Enhancements	B	8.3.0	R1 083983	
25.214	504	1	Re 8	Correct ons n the phys ca random access procedure for Enhanced Up nk n CELL_FACH State and Id e mode	F	8.3.0	R1 083984	
25.214	513		Re 8	Support of HS DPCCH for Enhanced up nk n CELL_FACH state	F	8.3.0	R1 083985	
25.211	259	1	Re 8	Remova of a reference to E AICH	F	8.2.0	R1 083986	
25.212	270	3	Re 8	Introduct on of HS PDSCH Serv ng Ce Change Enhancements	B	8.3.0	R1 083987	
25.214	509	1	Re 8	Typograph ca error correct on n a parameter name n HS PDSCH recept on	F	8.3.0	R1 083990	
25.214	510	1	Re 7	Correct on to E DPDCH ga n factor nterpo at on n compressed mode	F	7.9.0	R1 083991	
25.214	514		Re 8	Correct on to E DPDCH ga n factor nterpo at on n compressed mode	A	8.3.0	R1 083992	
36.211	72	2	Re 8	Correct ons to precod ng for arge de ay CDD	F	8.4.0	R1 084000	LTE Phys
36.211	95		Re 8	C ar f cat on on PUSCH pre determ ned hopp ng pattern	F	8.4.0	R1 084001	LTE Phys
36.212	55		Re 8	M sce aneous Correct ons	F	8.4.0	R1 084004	LTE Phys

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Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.213	124		Re 8	M sce aneous Correct ons	F	8.4.0	R1 084005	LTE Phys
36.212	56		Re 8	SRS symbo punctur ng	F	8.4.0	R1 084006	LTE Phys
36.212	57		Re 8	C ar f cat on of mapp ng of nformat on b ts	F	8.4.0	R1 084007	LTE Phys
36.211	96		Re 8	C ar f cat on of SRS sequence group and base sequence number	F	8.4.0	R1 084011	LTE Phys
36.212	58		Re 8	Comp et on of 36.212 CR47 (R1 083421) for “new” DCI Formats	F	8.4.0	R1 084013	LTE Phys
36.211	82	2	Re 8	C ar f cat on of the random access preamb e transm ss on t m ng	F	8.4.0	R1 084014	LTE Phys
36.211	98		Re 8	Rema n ng SRS deta s for TDD	F	8.4.0	R1 084023	LTE Phys
36.211	87		Re 8	Correct on of ntroduct on of shortened SR	F	8.4.0	R1 084027	LTE Phys
36.213	113		Re 8	Correct on of ntroduct on of shortened SR	F	8.4.0	R1 084028	LTE Phys
25.211	257	3	Re 8	Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers	B	8.2.0	R1 084029	RAN mp DCHSDPA
25.212	267	3	Re 8	Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers	B	8.3.0	R1 084030	RAN mp DCHSDPA

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
25.214	497	4	Re 8	Introduct on of Dua Ce HSDPA Operat on on Adjacent Carr ers	B	8.3.0	R1 084031	RAN mp DCHSDPA
36.213	122	1	Re 8	Correct on of offset s gna ng of up nk contro nformat on MCS	F	8.4.0	R1 084034	LTE Phys
36.213	112	1	Re 8	CQI/PMI reference measurement per ods	F	8.4.0	R1 084039	LTE Phys
25.214	506	2	Re 8	Correct on to the descr pt on of CPC procedures	A	8.3.0	R1 084040	
36.211	99		Re 8	C ar fy ng UL VRB A ocat on	F	8.4.0	R1 084044	LTE Phys
36.213	135		Re 8	C ar fy ng UL VRB A ocat on	F	8.4.0	R1 084045	LTE Phys
36.213	105	6	Re 8	A gnment of RAN1/RAN2 spec f cat on	F	8.4.0	R1 084060	LTE Phys
36.211	84	5	Re 8	A gnment of RAN1/RAN2 spec f cat on	F	8.4.0	R1 084061	LTE Phys
36.213	107	1	Re 8	Genera correct on of reset of power contro and random access response message	F	8.4.0	R1 084064	LTE Phys
36.211	94	1	Re 8	On nkage Among UL Power Contro Parameters	F	8.4.0	R1 084073	LTE Phys
36.211	100		Re 8	C ar f cat on on PUCCH resource hopp ng	F	8.4.0	R1 084074	LTE Phys
36.211	92	1	Re 8	Correct on to the up nk DM RS ass gnment	F	8.4.0	R1 084075	LTE Phys
36.211	97	1	Re 8	SRS subframe conf gurat on	F	8.4.0	R1 084076	LTE Phys

Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Doc-2nd-Level	Workitem
36.213	134		Re 8	Change for determ n ng DCI format 1A TBS tab e co umn nd cator for broadcast contro	F	8.4.0	R1 084077	LTE Phys
36.212	59		Re 8	Change for determ n ng DCI format 1A TBS tab e co umn nd cator for broadcast contro	F	8.4.0	R1 084078	LTE Phys
36.211	83	1	Re 8	Index ng of PRACH resources w th n the rad o frame	F	8.4.0	R1 083915	LTE Phys

Annex D: List of Outgoing LSs from RAN1#54bis

R1	Response to (Ic LS)	To	Cc	Title	Contact	Ref'd /Attachd Tdoc	Release	WI
R1 084056	R1 083475 (R2 084903)	R2		LS Response to Sem Pers stent Schedu ng Act vat on w th s ng e PDCCH	Qua comm Europe		Re 8	LTE L23
R1 084057		R2	R4	Response LS on RAN2 dec s on to use Path oss parameter n the RACH preamb e group se ect on	LGE		Re 8	LTE
R1 084058		R2		Rep y LS on PDCCH DL data arr va	Er csson	R1 083915	Re 8	LTE
R1 084063		R2		LS on transport b ock s ze on BCH	NTT DoCoMo		Re 8	LTE
R1 084066		R2, R3, R4		LS on the HS DPCCH structure for Dua Ce HSDPA operat on	Er csson	R1 084029, R1 084030, R1 084031	Re 8	RAN mp DCHSDPA
R1 084067		R2		LS on RV Determ nat on for BCCH	Nok a S emens Networks		Re 8	LTE
R1 084068		R2		LS on defau t va ue of u Bandw dth	NEC Group		Re 8	LTE
R1 084055		R2	R4	LS on measurement gap for TDD	CATT	R1 083454	Re 8	LTE
R1 084069	R1 083955 (R4 082585)	R4		LS Response to LS on UE Em ss ons	Motoro a		Re 8	LTE L23
R1 084072		R4		LS on the requ red t m ng re at onsh p between the synchron zat on s gna and the down nk reference s gna	Norte		Re 8	SAE/LTE

Annex E: List of Tdocs at RAN1 #54bis

Please see excel file attached to this report

Annex F: List of actions

1. Outgoing LS.

LTE 54b/1

R1 083920	Draft LS on the requ red t m ng re at onsh p between the synchron zat on s gna and the down nk reference s gna	Norte	(R1 083854)

LS is for email approval until 10/10.

Done: Final LS is agreed in R1-084072 as per Mr Chairman's email dated October 15th

2. CR approval

HSPA 54b/1

R1 083981	25.214 CR0501R1 (Re 7, F) C ar f cat on of F DPCH TPC Comb n ng Ru e of ce s n the same RLS	Qua comm Europe	(R1 083537)
R1 083982	25.214 CR0502R1 (Re 8, A) C ar f cat on of F DPCH TPC Comb n ng Ru e of ce s n the same RLS	Qua comm Europe	(R1 083538)

CRs are for email approval until 13/10

Done: CRs are agreed as per Mr Chairman's email dated October 15th. WI code for these CRs was incorrect and needed to be changed to TEI7 (instead of RANimp-CPC) : to be fixed by MCC before submission to RAN.

HSPA 54b/2

R1 083986	25211 CR0259R1 (Re 8, F) Remova of a reference to E AICH	Nok a, Nok a S emens Networks, A cate Lucent	(R1 083890)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th

HSPA 54b/3

R1 084040	25.214 CR0506R2 (Re 8,A) Correct on to the descr pt on of CPC procedures	Huawe	(R1 083989)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th

HSPA 54b/4

R1 083990	25.214CR0509R1 (Re 8, F) Typograph ca error correct on n a parameter name n HS PDSCH recept on	Nok a, Nok a S emens Networks	(R1 083753)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th

HSPA 54b/5

R1 083991	25.214CR0510R1 (Re 7, F) Correct on to E DPDCH ga n factor nterpo at on n compressed mode	Nok a, Nok a S emens Networks	(R1 083754)
R1 083992	25.214CR0514 (Re 8, A) Correct on to E DPDCH ga n factor nterpo at on n compressed mode	Nok a, Nok a S emens Networks	

CRs are for email approval until 13/10

Done: CRs are agreed as per Mr Chairman's email dated October 15th.

HSPA 54b/6

R1 083980	25.222 CR0161R1 (Re 8, F) Correct on of descr pt on about 64QAM for LCR TDD	ZTE, CATT, TD TECH	(R1 083875)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th. Revision was incorrect and needed to be updated : to be fixed by MCC before submission to RAN.

LTE 54b/2

R1 083921	Draft CR for 36.300 on Correct on of the descr pt on of FS2 and down nk reference s gna	CATT	(R1 083618)

Draft CR is for email approval until 13/10

Done: Draft CR is agreed in principle as per Mr Chairman's email dated October 15th. CATT shall prepare LS to RAN2 for next meeting, including draft CR with correct cover sheet.

LTE 54b/3

R1 083922	36.211 CR0086 (Re 8, F) C ar f cat on on scramb ng of ACK/NAK b ts for PUCCH format 2a/2b	Freesca e	(R1 083499)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/4

R1 084049	Draft CR on c ar f cat on of PUCCH resource hopp ng	Qua comm Europe, Samsung, TI, NTT DoCoMo, Motoro a, Er csson	(R1 083788)

CR is for email approval until 13/10

Done: Final CR is agreed in R1-084074 as per Mr Chairman's email dated October 15th.

LTE 54b/5

R1 084027	36.211 CR0087 (Re 8, F) Correct on of ntroduct on of shortened SR	LGE, Panason c, ZTE, Huawe , ETRI, Texas Instruments, NEC	(R1 083925)
R1 084028	36.213 CR0113 (Re 8, F) Correct on of ntroduct on of shortened SR	LGE, Panason c, ZTE, Huawe , ETRI, Texas Instruments, NEC	(R1 083926)

CRs are for email approval until 13/10

Done: CRs are agreed as per Mr Chairman's email dated October 15th.

LTE 54b/6

R1 083927	36.211 CR0089 (Re 8, F) C ar f cat on on PUSCH DM RS Cyc c Sh ft Hopp ng	Motoro a, LGE, Qua comm Europe	(R1 083838)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/7

R1 083930	36.211 CR0092 (Re 8, F) Correct on to the up nk DM RS ass gnment	LGE, Panason c	(R1 083636)

CR is for email approval until 13/10

Done: CR is agreed in R1-084075 as per Mr Chairman's email dated October 15th.

LTE 54b/8

R1 083932	36.211 CR0093 (Re 8, F) C ar fy the RNTI used n scramb ng sequence n t a zat on	Motoro a	(R1 083844)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/9

R1 083933	36.211 CR0081R1 (Re 8, F) Spec f cat on of reserved REs not used for RS	Ph ps, NXP	(R1 083502)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 17th.

LTE 54b/10

R1 083934	36.211 CR0094 (Re 8, F) On nkage Among UL Power Contro Parameters	Qua comm Europe	(R1 083792)

CR is for email approval until 13/10

Done: CR is agreed in R1-084073 as per Mr Chairman's email dated October 15th.

LTE 54b/11

R1 083935	36.211 CR0088 (Re 8, F) Correct ons to 36.211	Huawe , CATT	(R1 083697)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/12

R1 084014	36.211 CR0082R2 (Re 8, F) C ar f cat on of the random access preamb e transm ss on t m ng	Samsung, LGE, Panason c, Texas Instruments	

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/13

R1 084000	36.211 CR0072R2 (Re 8, F) Correct ons to precod ng for arge de ay CDD	Ph ps, NXP	(R1 083885)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/14

R1 084044	36.211 CR0099 (Re 8, F) C ar fy ng UL VRB a ocat on	Qua comm Europe, Samsung, NEC, LGE, Huawe , Motoro a	(R1 083786)
R1 084045	36.213 CR0135 (Re 8, F) C ar fy ng UL VRB a ocat on	Qua comm Europe, Samsung, NEC, LGE, Huawe , Motoro a	(R1 083805)

CRs are for email approval until 13/10.

Done: CRs are agreed as per Mr Chairman's email dated October 15th.

LTE 54b/15

R1 084001	36.211 CR0095 (Re 8, F) C ar f cat on on PUSCH pre determ ned hopp ng pattern	Motoro a, Huawe	(R1 083843)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/16

R1 083599	Draft CR on ded cated reference s gna mapp ng for PDCCH w th 4 symbo s	ZTE	

Draft CR is for email approval until 13/10

Done: No agreement has been reached and discussion is postponed until next meeting according to Mr Chairman's email dated October 17th.

LTE 54b/17

R1 083845	36.211 CR0085 (Re 8, F) C ar f cat on of the use of UE spec f c reference s gna s n the presence of PBCH, PSS, and SSS	NextWave W re ess, IPW re ess	
R1 083791	Draft CR on c ar f cat on of co s on between UE spec f c RS and synchron zat on s gna s	Qua comm Europe	

CRs are for email discussion until 13/10

Done: No agreement has been reached and discussion is postponed until next meeting according to Mr Chairman's email dated October 17th.

LTE 54b/18

R1 084022	36.211 CR0097 (Re 8, F) SRS subframe conf gurat on	Nok a S emens Networks, Nok a	(R1 083715)

CR is for email approval until 13/10

Done: CR is agreed in R1-084076 as per Mr Chairman's email dated October 15th.

LTE 54b/19

R1 084011	36.211 CR0096 (Re 8, F) C ar f cat on of SRS sequence group and base sequence number	LG E ectron cs, TI, Nok a S emens Networks, Samsung	(R1 083634)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/20

R1 084023	36.211 CR0098 (Re 8, F) Rema n ng SRS deta s for TDD	Nok a, Nok a S emens Networks	(R1 083713)

CR is for email approval until 13/10

Done: CR is agreed as per Mr Chairman's email dated October 15th.

LTE 54b/21

R1 084024	36.213 CR0131 (Re 8, F) TDD UE transm t antenna se ect on	CMCC, RITT, Huawe , CATT, ZTE	(R1 083909)

CR is for email approval until 13/10

Done:

LTE 54b/22

R1 083623	Draft CR on c ar fy the up nk bandw dth n TDD	CATT	

CR is for email approval until 13/10

Done: CATT confirms that this CR should be better in RAN2 specifications, and after further checking with RAN2 colleagues, as one similar CR had been approved in RAN2. So CR is withdrawn (CATT's email dated October 9th).

LTE 54b/23

R1 084042	36.213 Draft CR (Re 8, F) Change for DCI format 1A and 1C for broadcast contro and update of DCI formats	Motoro a, LGE, Panason c, Ph ps, Nok a S emens Networks, Norte , Samsung	
R1 084043	36.212 Draft CR (Re 8, F) Change for determ n ng DCI format 1A TBS tab e co un nd cator for broadcast contro	Motoro a, LGE, Panason c, Ph ps, Nok a S emens Networks, Norte , Samsung	

CRs are for email approval until 13/10

Done: CRs are agreed in R1-084077 (36.213) & R1-084078 (36.212) as per Mr Chairman's email dated October 15th.

LTE 54b/24

Revision in R1-084070 is agreed and CRs shall be prepared for next meeting.

3. Text proposal for TS and TR

None

Appendix H

3GPP_TSG_RAN_WG1 Archives

3GPP_TSG_RAN_WG1@LIST.ETSI.ORG

View: Message: [First | Previous | Next | Last]
By Topic: [First | Previous | Next | Last]
By Author: [First | Previous | Next | Last]
Font: Proportional Font

Subject: DOCOMO LTE-Advanced Contributions - 1
From: Nobuhiko Miki <mikin@NTTDOCOMO.COM>
Reply-To: Nobuhiko Miki <mikin@NTTDOCOMO.COM>
Date: Wed, 24 Sep 2008 02:02:38 +0900
Content-Type: multipart/mixed
Parts/Attachments: text/plain (38 lines) , R1-083677.zip (38 lines) , R1-083678.zip (38 lines) , R1-083679.zip (38 lines) , R1-083683.zip (38 lines)

Reply

```
Dear all,

This is Nobuhiko Miki of NTT DOCOMO.

Attached please find 4 contributions on LTE-Advanced
from NTT DOCOMO to RAN1#54bis meeting in Prague.

Best regards,
Nobuhiko Miki

---------------

R1-083677
  Source: NTT DOCOMO
  Title: Updated Views on Support of Wider Bandwidth in LTE-Advanced
  Agenda Item: 11
  Document for:  Discussion and Decision

R1-083678
  Source: NTT DOCOMO
  Title: Views on UE Capability and UE Categories in LTE-Advanced
  Agenda Item: 11
  Document for:  Discussion and Decision

R1-083679
  Source: NTT DOCOMO
  Title: UL Layered Control Signal Structure in LTE-Advanced
  Agenda Item: 11
  Document for:  Discussion and Decision

R1-083683
  Source: NTT DOCOMO
  Title: UL Transmission Bandwidth in LTE-Advanced
  Agenda Item: 11
  Document for:  Discussion and Decision
```

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3GPP_TSG_RAN_WG1 September 2008, Week 4

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Appendix I

3GPP_TSG_RAN_WG1 Archives
December 2008

3GPP_TSG_RAN_WG1@LIST.ETSI.ORG

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Show All Mail Headers

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

Subject: FW: post RAN#42 implemented specs
From: Patrick Merias <Patrick.Merias@ETSI.ORG>
Reply To: Patrick Merias <Patrick.Merias@ETSI.ORG>
Date: Thu, 18 Dec 2008 11:00:52 +0100
Content-Type: multipart/alternative
Parts/Attachments: text/plain (2229 bytes) , text/html (9 kB)

Dear all,

my intention is to release all new versions of the specs by the end of the day...
any clarification on points 1, 2 and 5 are welcome
Br,
P

From: Patrick Merias [mailto:Patrick.Merias@ETSI.ORG]
Sent: 16 December 2008 18:06
To: 3GPP_TSG_RAN_WG1
Subject: Re: post RAN#42 implemented specs

Dear all,

All drafted versions of the LTE specs are now available @/tsg_ran/WG1_RL1/DRAFT
Please check carefully TS36.213 especially in relation with the following

1/ Implementation of CR143R1 and CR125 in section 8 "Physical uplink shared channel related procedures" :please do refer to the sentences I highlighted in yellow color
I've implemented both CRs but it looks like a change on change issue to me.

2/ Just before the Table 7.2.2-3: PUCCH Report Type Payload size per Reporting Mode
CR165R1 requests the deletion of a sentence that has been modified by earlier CR. Is that the right intention? Thanks for your feedback

3/ In section 8.4 UE PUSCH Hopping procedure there is a change on change issue between CR172R1 and CR105R8. Currently the drafted spec reflects CR105R8 (simply because I'm implementing CRs in increasing order) but your advices are welcome

4/ CR176R1: According to me the title of table 7.2.2-1C (for TDD) should be aligned with same title of table 7.2.2-1A (for FDD). Am I correct or wrong?

5/ CR177: I would ask sourcing companies to check the way I've reflected the changes (hopefully correctly?)

That's it from now
Further to your feedback on the above open issues, I'll ask spec manager to upload official versions to 3GPP server.
Br

Patrick

From: Patrick Merias [mailto:Patrick.Merias@ETSI.ORG]
Sent: 08 December 2008 23:09
To: 3GPP_TSG_RAN_WG1
Subject: post RAN#42 implemented specs

Dear all,

FYI, a draft version of post RAN#42 implemented specs are visible @/tsg_ran/WG1_RL1/DRAFT
Still missing 36.211 and 36.213 ...
I'll give you a sign when available
Br,
P

Patrick Mérias
European Telecommunication Standards Institute
Mobile Competence Centre
Tel: +33492944206
email: patrick.merias@etsi.org
www.etsi.org
www.3GPP.org

Appendix J

Subject: review of draft specifications (9)
From: Joern Krause <Joern.Krause@ETSI.ORG>
Reply To: Joern Krause <Joern.Krause@ETSI.ORG>
Date: Sat, 21 Mar 2009 23:01:07 +0100
Content-Type: multipart/alternative
Parts/Attachments: text/plain (2874 bytes) , text/html (156 kB)

Dear all,
Also draft versions of 36.322 and 36.300 are available now for review under:
ftp://ftp.3gpp.org/tsg_ran/WG2_RL2/Specifications/200903_draft_specs_after_RAN_43/

Some implementation comments and an overview table is provided below, i.e.
implementation pending: 25.331 REL-7, 25.321 REL-8
review pending but draft/update available: 36.300, 36.322, 36.321 (for update)
BR

Joern

Overview of implemented RAN2 CRs after RAN #43 (Biarritz): status Sat 21.03.2009 pm

spec	REL-4	REL-5	REL-6	REL-7	REL-8	CRs	specs	rapporteur	email
25.301	-	-	-	-	1	**1**	**1**	Sven Ekemark (Ericsson)	sven.h.ekemark@ericsson.com
25.304	-	-	-	-	6	**6**	**1**	Brian Martin (Nokia)	brian.2.martin@nokia.com
25.306	1	1	1	1	5	**9**	**5**	Anders Berggren (Ericsson)	anders.y.berggren@ericsson.com
25.307	1	1	1	1	1	**5**	**5**	Mathieu Boue-Lahorgue (Nortel)	boue@nortel.com
25.308	-	-	-	-	2	**2**	**1**	Ravi Kuchibhotla (Motorola)	Ravi.Kuchibhotla@motorola.com
25.319	-	-	-	-	1	**1**	**1**	Kundan Kumar Lucky (Samsung)	kklucky@samsung.com
25.321	-	-	2	8	17	**27**	**3**	Markus Wimmer (Nokia Siemens Networks)	Markus.Wimmer@nsn.com
25.322	-	-	-	1	5	**6**	**2**	Kundan Kumar Lucky (Samsung)	kklucky@samsung.com
25.323	-	-	-	-	2	**2**	**1**	Martin Hans (Infineon)	Martin.Hans@infineon.com
25.331	-	-	3	13	55	**71**	**3**	Sven Ekemark (Ericsson) / ASN.1: Brian Martin (Nokia)	sven.h.ekemark@ericsson.com brian.2.martin@nokia.com
25.346	-	-	-	-	2	**2**	**1**	Woonhee Hwang (Nokia Siemens Networks)	woonhee.hwang@nsn.com
25.367	-	-	-	-	2	**2**	**1**	Jen Chen (Qualcomm)	jenc@qualcomm.com
36.300	-	-	-	-	24	**24**	**1**	Benoist Sebire (Nokia Siemens Networks)	benoist.sebire@nsn.com
36.302	-	-	-	-	2	**2**	**1**	Stanislas Bourdeaut (Alcatel-Lucent)	stanislas.bourdeaut@alcatel-lucent.fr
36.304	-	-	-	-	17	**17**	**1**	Jarkko Koskela (Nokia)	jarkko.t.koskela@nokia.com
36.306	-	-	-	-	7	**7**	**1**	Ravi Kuchibhotla (Motorola)	Ravi.Kuchibhotla@motorola.com
36.314	-	-	-	-	6	**6**	**1**	Johan Johansson (Huawei)	johan.johansson@huawei.com
36.321	-	-	-	-	55	**55**	**1**	Magnus Lindstroem (Ericsson)	magnus.q.lindstrom@ericsson.com
36.322	-	-	-	-	13	**13**	**1**	Anil Umesh (NTT DoCoMo)	umesyu@nttdocomo.co.jp
36.323	-	-	-	-	9	**9**	**1**	Seung June Yi (LG)	seungjune@lge.com
36.331	-	-	-	-	106	**106**	**1**	Himke van der Velde (Samsung)	himke.vandervelde@samsung.com
UTRA	2	2	7	24	99	**134**	**25**		
LTE	-	-	-	-	239	**239**	**9**		
total	2	2	7	24	338	**373**	**34**		

no colour: draft spec available for review; grey: updated draft available; blue: final RAN2 version available
implementation pending: purple: 10-25 CRs

implementation comments:

36.300:
- CR0079 (RAN3/Ericsson):
  - section 20.2.3: can not be deleted, set to "Void"
- CR0076 (RAN3/Ericsson):
  - includes not allowed revisions on revisions
- CR0062 (NSN):
  - not based on latest spec version ([20] changed into [25]}
- CR0066 (Qualcomm):
  - - section 9.3: can not be deleted, set to "Void"
- CR0073 (RAN3/Ericsson):
  - clashing with CR0062 (NSN). Please check whether the way I included CR0073 is acceptable.
- General:
  The spec still includes several empty sections as well as editor's notes.
  A rapporteur's CR to clean this would be recommended.

Joern Krause
ETSI MCC
Joern.Krause@etsi.org

Appendix K

Subscriber Options
LISTSERV Archives
Search Archives
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Preferences
Change Password
Log Out

3GPP_TSG_RAN_WG1 Archives

September 2009

New in LISTSERV 17.0

3GPP_TSG_RAN_WG1@LIST.ETSI.ORG

Options: Use Proportional Font
Show Text Part by Default
Show All Mail Headers

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

Subject: September versions of RAN1 specs
From: Patrick Merias <Patrick.Merias@ETSI.ORG>
Reply To: Patrick Merias <Patrick.Merias@ETSI.ORG>
Date: Wed, 30 Sep 2009 11:08:13 +0200
Content-Type: multipart/alternative
Parts/Attachments: text/plain (472 bytes) , text/html (3674 bytes)

Dear all,

Please be aware that both UTRA and LTE new versions of spec are now visible on 3GPP server.
So please those involved in preparing CRs for our next round of meetings should use these versions as the basis for CR.

Best regards,

Patrick

Patrick Mérias
European Telecommunication Standards Institute
Mobile Competence Centre
Tel: +33492944206
email: patrick.merias@etsi.org
www.etsi.org
www.3GPP.org

ATOM RSS1 RSS2