

Agenda Item: -
Source: Secretary
Title: Draft minutes of WG1 #18 meeting
Document for: Approval

Draft Minutes for 3GPP TSG-RAN WG1 18th Meeting

Meeting start: January 15th, 2001, in Boston, MA, U.S.A.

Day 1, started at 09.17

1. Opening of the meeting (09:17-09:21)

The chairman, Mr. Antti Toskala (Nokia), opened the meeting.

On behalf of the hosting company, the representative welcomed the meeting.

2. Approval of agenda (R1-00-1498) (09:22-09:36)

Chairman made a brief introduction of the agenda on the screen.

Regarding HSDPA discussion, chairman suggested that we should treat items which have direct link to RAN WG2 a bit later because RAN WG2 was having Ad Hoc session for Rel-4/5 issues in parallel with us on Monday and Tuesday in UK and we were expecting some information from their meeting. Chairman suggested that simulation results and issues on implementation complexity aspects could be covered first without minding RAN WG2 discussion. Mr. Guiliang Yang (CWTS) requested postponing of 1.28Mcps Ad Hoc one day because of the preparation status. Having this request, chairman decided not to have parallel Ad Hoc sessions on Day2 that had been originally suggested in the draft agenda.

Agenda was approved with no other comments.

3. Report from TSG RAN#10 From Bangkok (R1-01-0067) (09:52 –10:17)

1. Release 99 CRs

All Release '99 CRs WG1 presented were approved by TSG RAN.

2. Open item for release 99

1st interleaver memory with the UE capabilities was reported to TSG RAN as an open Release'99 item under discussion in WG1

3. TS on UE capabilities

New Release'99 specification was created out of TR 25.926. TS 25.306 replaced TR 25.926, with the first version 3.0.0 as agreed in TSG RAN. Thus any UE capability issue (FDD or TDD) is to be reflected for TS 25.306.

The 1.28 Mcps TDD UE capabilities need to be reflected to this TS as well. The TR on 1.28 Mcps TDD UE capabilities is for 3GPP internal use only (as all 25.8xx series).

(Chairman clarified this because there had been a question in the RAN WG1#17 meeting whether there would be a separated specific TR on 1.28 TDD UE capabilities. Now it was clarified that all UE capabilities issues should finally go to TS 25.306.)

4. How to proceed with CRs for release 99 and release 4

- In case we produce CRs which would impact both releases then 2 sets of agreed CRs need to be created – i.e. one per release.

- But before release 4 specifications have been created, even if the change will impact on both release, the only CR for release 99 is to be made. MCC will implement release 99 CRs until release 4 specifications have been created. When creating release 4 specifications, all TSG approved CRs for release 99 shall also be implemented in the release 4 version.

- Once release 4 specifications have been created, then those release 4 specifications would deviate from release 99 specifications by being applied release 4 specific CRs

5. Release 4/5 issues

1) **Terminal power saving feature** (DPCCH gating)

- The WG1 TR 25.840 was presented to TSG RAN as 2.0.0.
- The milestone remained 03/01.
- WG2 reported uncertainty whether they have conclusions/consensus on all the aspects of this feature for 03/01. WG1 TR stayed as 2.0.0
- Impact of compressed mode (on the gains) was mentioned as one issue which WG1 should cover as well.

2) **DSCH power control improvement in soft handover**

- TR 25.841 was presented and approved by TSG RAN.
- TR is now version 4.0.0 and under CR process if there is need for change.
- WG3 has draft TR on this under preparation

3) **TDD Node B synchronization**

- The TR 25.836 was presented and approved by TSG RAN to 4.0.0
- The milestone was kept as 03/01

4) **Uplink Synchronous Transmission Scheme**

- WG1 indicated that study report would be delivered 03/01
- The milestone for the study report was kept as 03/01

5) **1.28Mcps (Low Chip Rate) UTRA TDD Physical Layer**

- There was not much discussion on RAN WG1 issues.
- Issues to work with still as reported to TSG RAN
 - 1: Uplink synchronization
 - 2: Handover measurements for GSM for data rates above 32 kbits/s
- TDD status of co-existence studies were briefly discussed in TSG RAN.
 - It was decided that the base station to base station interference scenario needs to be further analysed and solutions for interworking needs to be found. RAN WG4 was tasked to do this work.
- RAN WG1 was requested to submit TR 25.928 for approval for RAN for RAN #11 although we are now working on *Working CRs*.

6) **Smart Antennas**

Work item was deleted. There was no topic identified to be worked on under this work item.

7) **High Speed Downlink Packet Access (HSDPA)**

- There had been activity only in RAN WG1 on this topic (since TSG RAN#9).
- RAN WG2 expected to address the topic beginning of this week (Jan 15 -16).
 - Some inputs from RAN WG2 could be expected during RAN WG1#18 meeting.
- Joint Ad Hoc between RAN WG1 and RAN WG2 was suggested by TSG RAN. This will be coordinated with RAN WG2 chairman after the RAN WG2 has addressed HSDPA during their current meeting.

8) **Other Topics**

- Hybrid ARQ
 - No activity reported, most likely to be covered as part of HSDPA
- Improved cell FACH state
 - No activity reported
- Positioning
 - WG1 chairman's understanding is that OTDOA-PE method is not for Release 4 time frame.
- Tx Diversity
 - We aim to have our conclusion for June for release 5.

9) **TSG RAN/SA level workshops agreed**

- TSG RAN Workshop UTRAN Evolution, Feb. 5-6
 - Based on the contributions presented in TSG RAN#10, TSG RAN felt that there is a need to organize a 2-day workshop discussing the UTRAN evolution beyond Release 4, i.e., on IP based UTRAN architecture, Iub, Iur, Iu and possible new internal UTRAN interfaces. The goal of the workshop is to identify requirements for the UTRAN evolution in co-operation with other groups that may have requirements or otherwise are linked to the UTRAN evolution. In addition, individual companies are invited to provide their vision of the UTRAN evolution.
- TSG SA workshop UE in idle mode, Feb 7-8
 - The goal of the workshop is to review and address the following topics, both from a requirement and functional point of view:
 - PLMN selection
 - Cell selection and reselection
 - Handovers

10) **RAN Plenary will have 4 days meetings from RAN #11 onwards.**

4. Identification of the incoming liaison statements and actions in the answering

No.	Title	Source	To/Cc	Tdoc No.	Originator of the LS	Notes
1	Liaison to RAN WG1 and RAN WG2 on the Efficiency of Packet-Switched Conversational Multimedia Service	SA WG4	TO	R1-01-0029 (S4-000700R)	Siemens	Answer LS will be sent (*1) <small>Day1 10:19-10:32</small>
2	On Iub NBAP Signalling Support for CPCH	RAN WG3	CC	R1-01-0028 (R3-003105)	Samsung	Noted (*2) <small>Day1 11:18-11:24</small>
3	Response to LS on request to review timing requirements in Idle mode test cases	CN WG1	CC	R1-01-0027 (N1-001329)	Ericsson	No Comments Noted (*3) <small>Day1 11:25-11:29</small>
4	LS on Results of HSDPA Study Item Ad Hoc	R2	TO	R1-01-0145 (R2-010205)	Motorola	(*4) <small>Day3 13:50-14:06</small>

(*1) Chairman presented this LS.

SA WG4 is setting up a new work item called "Multimedia Codecs and Protocols for Conversational Packet-Switched Services" that is targeting Rel4 and Rel5. And then they confronted questions on the efficiency constraint caused by applying RTP onto AMR speech codec, that is the impact of equal error protection rather than unequal protection. They listed 3 questions for RAN WG1 as well as RAN WG2 regarding the efficient solutions for the transportation of such RTP encapsulated media.

Ms. Evelyne Le Strat (Nortel) commented.

As for the impact of equal error protection, we had done some evaluation last year performed by NTT DoCoMo and Nortel on different coding strategies and so we should be able to provide some indication on this. However regarding the question on how we could effectively do unequal error protection if we are in packet-switched domain, RAN is not appropriate group to provide indication because the request is for the core network when they made question on the sub-flows with different quality of services. We provide radio bearers, all the transport channels to provide such quality of service. But we do not see RTP payload. We are relatively transparent. So question is to be answered by SA group itself.

Chairman agreed with this opinion and added that we had to be careful in answering the gain of unequal vs. equal error protection because what has been done studied for this is circuit-switched domain AMR. If there are some headers that need some kind of error protection, it would have an impact on the situation. So we have to say that our answer, for instance, the gain of 1dB does not include any impacts on quality of service by RTP header, etc. Finally chairman asked Ms. Evelyne Le Strat to draft an answer liaison statement. It was drafted in **R1-01-0090** and reviewed on Day4 and approved in **R1-01-0170**. (See No. 109)

/** Coffee break 10:33-11:15 **/

(*2) Delegate from Samsung presented this LS.

This LS was sent from RAN WG3 as the answer to the LS from RAN WG2 (R3-002350, R2-001846) on Iub NBAP signalling support for CPCH.

Ms. Evelyne Le Strat (Nortel) pointed out that there are again some terminology problems mixing CPCH with CPCH set and mixing the access resource with traffic resource.

Chairman agreed with this comments.

(*3) Mr. Dirk Gerstenberger (Ericsson) presented this LS.

This LS was sent from CN WG1 as the answer to the LS from T WG1(N1-001167, T1-000161) in which T WG1 had requested CN WG1 to review the attached documents (those documents were also attached to this LS) on timing requirements in idle mode. In this LS CN WG1 stated that these timing requirements should also be reviewed and studied in RAN WG1, RAN WG2 and GERAN WG2.

Chairman commented that we should somehow inform our RAN WG4 colleagues about this document because this is about the timing requirements and RAN WG4 would be impacted. He added this topic would come up in the Work Shop on UE idle mode (See section 3-9) and this is expected to be handled in that workshop.

(*4) See No. 57

5. Issues postponed / identified in RAN WG1 #17

5.1 Preconfigurations for GSM handover

No.	Tdoc	Title	Source	Conclusion	Notes
5	R1-01-0037	Proposed parameter values for default configurations	Ericsson	17:00-52	(*1) <small>Day1 12:06</small>

(*1) Mr. Dirk Gerstenberger (Ericsson) presented this document.

In RAN WG1#17 we received the LS (**R1-00-1412**, R2-002463) from RAN WG2. RAN WG2 was requesting us to provide some guidance on the parameter values for default configurations, the values for some transport channel and physical channel parameters which are not covered in TS 34.108. In RAN WG1#17 though we made a discussion on this request we could not reach the conclusion partly because the background of RAN WG2 request was not quite clear from the LS. Chairman suggested offline discussion in RAN WG1#17.

Now with this paper Mr. Dirk Gerstenberger explained the background of RAN WG2 LS and proposed the answer values for the following configurations with rationales.

- 13.6 kbps SRB
- 12.2 kbps speech + 3.4 kbps SRB
- 64kbps conv. CS- data + 3.4 kbps SRB
- 57.6 kbps streaming CS- data + 3.4 kbps SRB

There were some discussions.

1. PC preamble length 0.

In case RRC connection has not yet been established on the handover, then RRC connection establishment message would be transmitted first of all and therefore PC preamble length 0 can be considered inappropriate.

✍ Major opinion preferred to keep it 0 as it was proposed. The reason was same as described in the rationale section of the paper.

2. Regarding uplink DPCCCH power control, are the 2 parameters of power control step size and uplink power control algorithm going to be informed ? or would there be default values ?

✍ In case there would be default values then they should be normal algorithm (algorithm1) and normal 1 dB power control step size. This should be mentioned in the LS to RAN WG2.

3. Regarding dpccch-PowerOffset, in case no bits are available for message, it would be better to use 1dB or something else as the default value.

As a conclusion, LS to RAN WG2 shall be created including the comments received. LS would be drafted by Mr. Dirk Gerstenberger in **R1-01-0101**. This was reviewed on Day 2 and approved. (See No. 105)

Finally chairman added that if companies would submit proposals for the values for the default configurations which are not covered by this document, those proposals should be posted on RAN WG1 reflector as well so that RAN WG1 people can review them before those proposals go to RAN WG2.

5.2 Limitation on the downlink rate matching repetition

No.	CR	rev.	TS	Tdoc	Title	Cat	Source	Conclusion	Notes
6	102	-	25.212	R1-01-0057	Limitation on the downlink rate matching repetition	F	Panasonic	Postponed	(*1) <small>Day 1 12:08-12:26</small>
7	XXX	-	25.306	R1-01-0040	Downlink rate matching limitation	F	Ericsson	Postponed	(*1) <small>Day 1 12:27-12:34</small>
8	XXX	-	25.306	R1-01-0010	Clarifications to UE capability in the first de-interleaving phase	F	Nokia	Postponed	(*1) <small>Day 1 12:34-12:42</small>
9	-	-	-	R1-01-0169	Repetition limitation discussion	-	Panasonic Ericsson Nokia	Noted	(*2) <small>Day 4 12:06-12:38</small>

(*1) R1-01-0057 was presented by Mr. Hidetoshi Suzuki (Panasonic).

R1-01-0040 was presented by Mr. Dirk Gerstenberger (Ericsson)

R1-01-0010 was presented by Mr. Markku Tarkiainen (Nokia)

All these 3 documents treated the problem of unlimited downlink rate matching repetition on UE memory requirements which had been originally raised by **R1-00-1456** (Panasonic and Mitsubishi) in RAN WG1#17 meeting. Since it was foreseeable that it would take time to reach conclusion, chairman suggested the offline discussion over the lunch by the proponents and interested parties after having short introduction of these papers in the plenary before the lunch break.

R1-01-0057 proposed to limit the transport channel capabilities in TS 25.212 by putting the upper limits to each of the transport channel capabilities (all transport blocks, convolutional coded transport blocks and turbo coded transport blocks defined in TS 25.306.).

R1-01-0040 proposed to put one limitation on the maximum number of bits of all transport blocks in TS 25.306.

R1-01-0010 also proposed to make changes in TS 25.306.

*/**\Lunch break 12:43-14:06 **/*

After lunch break it was announced by the proponents that they would need more time to reach conclusion. Chairman remarked that we would come back to this again later. (See No.9)

(*2) The issue of limitation on the downlink rate matching repetition was revisited on Day4 noon.

Mr. Hidetoshi Suzuki (Panasonic) explained current situation with this table which compares the proposals of 3 companies.

At this moment of time the consensus had not yet been reached by 3 companies.

Panasonic and Ericsson proposals would not introduce new capability classes and hence can be applicable to either TS 25.212 or TS 25.306 however Nokia's proposal request new capability class and is only implemented to TS 25.306.

Conclusion had not been reached before the lunch break but during the offline discussion in the lunch break it was reached and LS was drafted. (See No.115)

*/** Lunch break 12:40- 13:44 **/*

6. Change Requests for WG1 Release –99 specifications

No.	CR	rev.	TS	Tdoc	Title	Cat	Source	Conclusion	Notes
10	092	-	25.211	R1-01-0056	Clarification of the S-CCPCH frame carrying paging information	F	Panasonic	Rejected LS would be sent.	(*1) Day1 14:32
11	091	-	25.211	R1-01-0034	DSCH reading indication	F	Ericsson	Approved	No (*2) Comments Day1 14:37
12	104	-	25.212	R1-01-0077	Addition of compressed mode gap length “8 slots”	C	Nokia	Postponed	(*3) Day1 14:52
13	144	-	25.214	R1-01-0052	Removal of the power balancing algorithm from TS 25.214	F	NEC	Approved	No (*4) Comments Day1 14:58
14	145	-	25.214	R1-01-0053	Clarification of Nid parameter – when SSDT and uplink compressed mode are in operation	F	NEC, Telecom Modus	Approved	No (*5) Comments Day1 15:02
15	146	-	25.214	R1-01-0085	Clarification of closed loop transmit diversity mode 1 and mode 2 operation during compressed mode	F	Motorola	Approved	No (*6) Comments Day1 15:05
16	079	1	25.215	R1-01-0076	Correction of the observed time difference to GSM measurement	F	Nokia	To be revised	(*7) Day1 15:14
17	081	-	25.215	R1-01-0071	Removal of UE SIR measurement	F	Ericsson	Approved	(*8) Day1 15:25
18	039	-	25.221	R1-01-0016	Corrections of PUSCH and PDSCH	F	Siemens	To be revised	(*9) Day1 16:19
19	045	-	25.224	R1-01-0016	Introduction of closed-loop Tx diversity for the PDSCH and DTX for the PUSCH/PDSCH	F	Siemens	Approved	No Comments Day1 16:19
20	037	1	25.221	R1-01-0019	Bit Scrambling for TDD	F	Siemens	Approved	No (*10) Comments Day1 16:27
21	051	1	25.222	R1-01-0019	Bit Scrambling for TDD	F	Siemens	Approved	No (*10) Comments Day1 16:27
22	040	-	25.221	R1-01-0021	Alteration of SCH offsets to avoid overlapping midamble	F	Siemens	Postponed	(*11) Day1 16:34
23	041	-	25.221	R1-01-0022	Clarifications & Corrections for TS25.221	F	Siemens	Postponed	(*12) Day1 16:41
24	054	-	25.222	R1-01-0023	Corrections & Clarifications for TS25.222	F	Siemens	Postponed	(*12) Day1 16:41
25	046	-	25.224	R1-01-0017	Corrections of TDD power control sections	F	Siemens	Approved	No (*13) Comments Day 1 16:46
26	142	-	25.214	R1-01-0024	Uplink power control in compressed mode	F	Philips	To be revised	(*14) Day 1 16:52
27	142	1	25.214	R1-01-0112	Uplink power control in compressed mode	F	Philips	Approved	No (*15) Comments Day 4 11:51
28	079	2	25.215	R1-01-0107	Correction of the observed time difference to GSM measurement	F	Nokia	Approved	No (*16) Comments Day 4 11:54
29	023	-	25.225	R1-01-0107	Correction of the observed time difference to GSM measurement	F	Nokia	Approved	No (*16) Comments Day 4 11:54
30	039	1	25.221	R1-01-0111	Corrections of PUSCH and PDSCH	F	Siemens	Approved	No (*17) Comments Day 4 11:58
31	040	-	25.221	R1-01-0021	Alteration of SCH offsets to avoid overlapping Midamble	F	Siemens	Approved	No (*18) Comments Day 4 12:00
32	041	-	25.221	R1-01-0022	Clarifications & Corrections for TS25.221	F	Siemens	Approved	No (*19) Comments Day 4 12:01
33	054	-	25.222	R1-01-0023	Corrections & Clarifications for TS25.222	F	Siemens	Approved	No (*19) Comments Day 4 12:01
34	037	-	25.224	R1-01-0073	RACH random access procedure	F	InterDigital	Approved	(*20) Day 4 14:08
35	036	-	25.224	R1-01-0153	DTX and Special Burst Scheduling	F	InterDigital	Approved	No Comments Day 4 14:12

- (*1) Mr. Hidetoshi Suzuki (Panasonic) presented this CR.
This CR proposed to clarify that the S-CCPCH which carries the paging information should be one single frame. The rationale behind this proposal is that if it is sure that paging associated S-CCPCH would be sent in one single frame and not in multiple frames, UE would be able to turn off the receiver in order to improve the power consumption as soon as it has received that one S-CCPCH.
There were several comments.
- If this kind of CR is to be approved in RAN WG1 then similar kind of CR should be approved in RAN WG3.
- That paging associated S-CCPCH is single is already clearly stated in the first sentence of that section (7.2).
" Figure 30 illustrates the timing between a PICH frame and its associated S-CCPCH frame. (singular)"
If we put the word "single" as is proposed in the CR, it means there could be multiple frames. In that case the plural would be used in the first sentence instead of singular.
- Are we really sure that there would not be consecutive messages to the same UE sent by the network ?
Are we sure whether the scenario of consecutive frames on paging indicator channel is allowed or not ?
- Can UEs buffer more than 2 consecutive frames once it receives paging indicator channel ?
Conclusion : This CR was rejected. LS would be sent to RAN WG2 and RAN WG3 asking whether there would be consecutive frames on the paging indicator channel or not.
LS would be drafted in **RI-01-0105**. This was reviewed on Day4 and approved. (See No. 108)
- (*2) This CR proposed to remove the option of higher layer signalling to indicate UE should read the DSCH because DSCH reading indication by higher layer signalling is not supported in RRC.
This CR had been sent on the e-mail reflector prior to the meeting.
- (*3) Mr. Ville Steudle (Nokia) presented this CR.
This CR proposed the addition of compressed mode gap length of "8 slots" in TS 25.212 following the decision made in RAN WG4. (RAN WG4 had decided to include a compressed mode transmission gap length of 8 slots into their specifications.)
There were some comments that since this was something more than correction and therefore we need to have more information on the benefits of using transmission gap length of 8 from RAN WG4. Furthermore it is a bit late to introduce this kind of changes even if we could agree to the motivations.
Chairman suggested 2 approaches;
1. If everybody is happy then we consider this as a release 99 correction.
2. We consider this as an improvement of inter-frequency measurements (release 4)
It was suggested to send a liaison statement to RAN WG4 to ask the background of their change. The LS was drafted in **RI-01-0106** by Mr. Ville Steudle. It was reviewed and approved in **RI-01-0167** on Day4. (See No.107) (It was informed by Mr. Ville Steudle that there would be a liaison statement from RAN WG4 on this issue.)
The decision of this CR was postponed.
- (*4) Mr. Takashi Mochizuki (NEC) presented this CR.
This CR proposed to remove the description of the power-balancing algorithm from TS 25.214 in order to make specifications consistent because the power-balancing algorithm was described in TS 25.214 and TS 25.433 in a different manner. (In TS 25.433 it was described as normative whereas in TS 25.214 informative.) According to the proponent TS 25.433 had been modified in RAN in September, 2000 in this respect.
- (*5) Mr. Takashi Mochizuki (NEC) presented this CR.
This CR proposed to clarify the definition of N_{fd} parameter because current definition was considered misleading.
- (*6) It was proposed to remove the irrelevant text from section 7.2.3.1 and 7.3.3.1 which implies a UE could receive CPICH during a downlink compressed mode gap.
- (*7) Mr. Ville Steudle (Nokia) presented this CR.
This CR proposed to clarify the definition of "Observed time difference to GSM cell" in TS 25.215 by adding the relationship between measurement and reported value.
A couple of comments were made that the added description was somewhat unclear and should be modified.
" For calculating the reported time difference, the frames are assumed to be ideal." Is this clear ?
" For the actual measurement, the reference points shall be:" the term *reference point* is already used for different purpose.
So this was set to be revised. Chairman requested the proponents to add more words to the "reason for change" field in the cover sheet in conformity to RAN practice. The revision was made in **RI-01-0107** and reviewed on Day4 and approved with no comments. (See No.28,29)
- (*8) Mr. Dirk Gerstenberger (Ericsson) presented this CR.
This CR proposed to remove the SIR measurement from the UE measurements in TS 25.215 because SIR measurement by UE is a physical layer internal measurement and is not reported by UE to UTRAN in any RRC messages. No performance requirements on SIR measurement are specified in TS 25.113.
Mr. Matthew Baker (Philips) remarked that deleting SIR measurement itself would not be a problem but somewhere in the specifications there should be retained the definition of SIR target or the information regarding SIR measurement, something like (RSCP/ISCP) \times (SF/2) because otherwise there would be confusion in downlink power control with UEs having different definition of SIR targets. For instance some UEs would take into account the spreading factor in their definition and other UEs would not include it.
There took place some discussion regarding this comment. Major concern was that it is the definition of SIR target that would be needed and not the definition of SIR.
Finally chairman concluded based on the comments received that the removal of the SIR measurement from TS 25.215 which is proposed in this CR is fine because SIR measurement would not be reported over the air but at the same time the definition of SIR target including the definition of SIR should be retained in the informative annex

of TS 25.214 because otherwise there would be an impact on the downlink power control as Mr. Matthew Baker pointed out. Chairman stated that this CR was approved here with the condition that another CR for TS 25.214 should be submitted to RAN with this CR. Chairman asked Mr. Matthew Baker to draft a CR for this purpose. **R1-01-0108 CR 25.214-148** was allocated for this CR. This CR was not presented during this meeting. Siemens will check whether a similar change request (removal of SIR measurement for TDD) is needed or not. (In RRC, for FDD part Nokia presented CR to remove SIR measurement in the previous RAN WG2 meeting, but for TDD part there likely still remains SIR measurement.)

/*** R1-01-0108 would be discussed on the e-mail reflector prior to the next meeting. ***/

/** Coffee break 15:26-16:06 **/

- (*9) It was proposed by the proponent to add "Note" in section 5.3.6.4 to state that the method 1) and 2) are not supported in release 99.

Mr. Alexander Lax (3G.com) questioned whether it is possible to rephrase the last sentence in section 5.3.6 from "*only one UE may share the PDSCH time slot at the same time*" to "*only one UE may share the same PDSCH time slot*"

It was answered that here intention is not only the same time slot but also the same slot and the same frame and therefore this rephrasing would be misleading.

Chairman suggested rewording could be possible to clarify the relation with TTI.

As a conclusion, this CR was to be revised to add one "Note" and to modify the section 5.3.6.4 to reflect the comments received. Chairman suggested that the "reason for change" field would be better to have more words, for instance the description of what currently is missing.

The revision can be found in **R1-01-0111**. This was reviewed on Day4 and approved with no comments. (See No.30)

/*** But this revision is not based on the current spec but on the **R1-01-0016** with respect to section 5.3.6.4.

This should be revised again before RAN submission. ***/

- (*10) Mr. Marcus Purat (Siemens) presented this CR.

In RAN WG1#17 meeting (in the TDD Ad Hoc), it was already proposed to have bit scrambling function in order to solve the problematic situation where the data to be transmitted have DC offset due to the long sequence of same data symbol. (**R1-00-1340**) But there had been raised a concern regarding the usage of bit scrambling for uplink.

In this paper Siemens clarified the necessity for the uplink bit scrambling. (Even if the NodeB's receiver may be DC coupled, the transmitter of a simple UE may cancel the DC offset. The scrambling polynomial and the scrambling function itself will be implemented in the UE in any case for DL.)

As for the actual CRs there had been made some notational change to those presented in RAN WG1 #17.

- (*11) Mr. Marcus Purat (Siemens) presented this CR.

This CR proposed to change the formula that gives t_{offset} for the SCH codes in order to avoid overlap midamble. Simulation results were presented to show the improvement which new sync offsets will have.

It was requested to postpone the conclusion to Day3 so that people can check in detail.

Chairman accepted this request and postponed the approval to Day4. (See No. 31)

- (*12) Mr. Marcus Purat (Siemens) presented these CRs.

There has been a discussion about the re-allocation of coding section for layer1 control command (TPC and paging indicator) from TS 25.222 to TS 25.221 because though we can consider it as a kind of coding it is not really coding.

R1-01-0022 contains CR 25.221-041 in which coding of TPC is transplanted in section 5.2.2.5 from TS 25.222.

R1-01-0023 contains CR 25.222-054 in which coding of TPC is removed. (Whole section 4.3.3 is to be removed.)

However R1-01-0023 CR 25.222-054 contained other 2 independent changes regarding the information on SF selection in the rate matching section (4.2.7.1) and numbering of physical channels in section 4.2.11.

Although there was no comment on the change for re-allocation of coding of TPC description there was a request to postpone the conclusion to Day3 with respect to other changes in R1-01-0023. Therefore the approval of both documents was postponed to Day4. (See No. 32, 33)

/*** R1-01-0020 was postponed to the next meeting. ***/

- (*13) This CR proposed to remove the description of TDD open loop power control for the uplink from TS 25.224 because it is also described in TS 25.331. There is a corresponding CR in RAN WG2 which adds some details of open loop power control in TS 25.331 which had been covered in TS 25.224.

- (*14) Mr. Matthew Baker (Philips) presented this CR.

This CR proposed to make a correction to the CR which had been approved in RAN WG1#17 (**R1-00-1400** CR 25.214-140) in terms of terminology. This CR introduced SIR_{PILLOT} instead of SIR_{PILOT} in the calculation of $SIR_{\text{cm_target}}$ to avoid potential misunderstanding in section 5.1.2.3.

Mr. Ville Steudle (Nokia) pointed out that the term "transmission gap patterns" should now be replaced by "transmission gap pattern sequences".

Mr. Matthew Baker agreed with comment and stated that he would provide the revision to incorporate this comments. The revision can be found in **R1-01-0112**. This was reviewed on Day4 and approved. (See No. 27)

- (*15) This is the revision of R1-01-0024 which was reviewed on Day 1. (See No. 26) (Above notes)

"transmission gap patterns"s have been replaced by "transmission gap pattern sequences"s.

- (*16) This is the revision of **R1-01-0076** which was reviewed on Day 1. (See No.16)

The corresponding CR for TS 25.225 (CR 25.225-023) was added in this revision.

- (*17) This is the revision of **R1-01-0016** which was reviewed on Day 1 (See No. 18). Since this CR is based on the R1-01-0016, **this must be revised again**.

- (*18) It was requested on Day1 to postpone the decision of this CR in order to have offline checking. (See No.22) This

was revisited on Day 4 and approved without being reviewed again.

(*19) It was requested on Day1 to postpone the decision of these CRs in order to have offline checking.
(See No.23, 24)

These were revisited on Day 4 and approved without being reviewed again.

(*20) Mr. Stephen Dick (InterDigital) presented this CR.

TS25.224, Section 4.7 *Random access procedure* contained several inconsistencies. It referred to sub-channels, but did not define sub-channels for TDD. It also described overall process functionality without clearly segregating the Layer 1 functions from those of the higher layers.

There were 3 coordinating CRs to RAN WG2 and RAN WG3. Mr. Stephen Dick stated that he had confirmed by the telephone that both RAN WG2 and RAN WG3 had approved those CRs.

Chairman stated responding to a comment that if there were problems with this or with any other coordinating CRs found before the next meeting, we can discuss them in the next meeting. He added that we can put CRs on-hold as well in the RAN plenary.

/** R1-01-0020 was postponed to RAN WG1 #19 **/

Day 2, started at 09.00

7. Release 4/5 issues

Ad Hoc configuration

- AH21 : TDD 1.28 Mchips functionality
- AH22 : Terminal power saving features
- AH23 : Compressed mode
- AH24 : High speed downlink packet access
- AH25 : Hybrid ARQ
- AH26 : Tx-diversity
- AH27 : Radio link performance enhancements
- AH28 : Improved Common DL Channel for Cell FACH State
- AH29 : Positioning
- AH30 : TDD NodeB synchronisation
- AH31 : Uplink Synchronous Transmission

7.1 High Speed Downlink Packet Access (Ad Hoc 24)

7.1.1 Reviewal of the revised TR (TR 25.848 v0.2.1) (Day1 17:37-18:45)

At the end of the RAN WG1#17 meeting, the new revision of the TR (v0.2.0) was distributed in **R1-00-1480** by Motorola. At that time it was not reviewed because the document was pretty big and apparently it needed offline checking. Prior to RAN WG1 #18 there had been comments made to the v0.2.0 on the e-mail reflector and Motorola made a further revision (v0.2.1) to reflect those comments and sent it on the e-mail reflector with the file name "**R1-00-18xx-HSDPA-TR_25_848.zip**". (This file was not provided in the meeting.)

Mr. Amitabha Ghosh (Motorola) presented this revision on the screen and explained what had been done so far on the sections regarding "Simulation assumptions", "Simulation results", "Complexity" (all in section 7). Those sections which have direct link to RAN WG2 would be reviewed later.

There were several comments made and discussions took place.

- Section 7.1.1. 'Conclusion' should be modified to clarify that these simulation results assume that MCS level does not change in the re-transmission and further these assume AMC in conjunction with HARQ.
- Section 7.2 'Hybrid ARQ' No comments. There would be Nokia proposal on this section.
- Section 7.4.1 'MIMO performance evaluation'

Mr. Serge Willenegger (Qualcomm) remarked that there would be some introduction text needed in the header that clarifies that this is the initial state of results and specific set of simulation conditions was provided by single company because these results have not been confirmed by other companies and the conditions of the simulation have not been confirmed to be representative of typical environment.

At first Lucent opposed this proposal but finally agreed to this suggestion saying that text can be changed in the future. Lucent also encouraged the people to do the simulations and provide the results in the next meeting.

After some discussion chairman concluded that a small text as following would be better to be inserted somewhere in the text on the *system level* simulation results.

" It may be noted that the **system level simulation** did not use all the assumptions as outlined in Annex A."

- Chairman suggested to create new (blank) section 7.4.3 for "MIMO Node-B Complexity Evaluation"
- Section 7.4.2 'MIMO UE Complexity Evaluation'

Motorola made a comment which is summarized in **R1-01-0109**.

Chairman suggested to leave section 7.4.2 with revision mark because we would see R1-01-0109 later.

- Mr. Volker Höhn (Mannesmann Mobilfunk) questioned whether the impacts on Iub/Iur aspects should be included or not. Chairman answered that we could expect RAN WG2 and RAN WG3 to do it.

New revision (v0.3.0) that includes all of the comments received can be found in **R1-01-0117**.

/** Day1 closed at 18:46 **/

7.1.2 Reviewal of T-docs related to HSDPA

Taking into account of the parallel RAN WG2 Ad Hoc session, Chairman organised presentation so that the simulations and complexity issues could be treated first.

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
36	24	R1-01-0006	Text proposal on HARQ complexity to TR25.848	Nokia	To be revised	(*1) <small>Day 3 09:09-09:38</small>
37	24	R1-01-0059	UE complexity for AMCS	Sony	Noted	(*2) <small>Day 2 09:38-09:54</small>
38	24	R1-01-0060	Text Proposal for AMCS complexity evaluation section of TR25.848	Sony	To be revised	(*3) <small>Day 2 09:55-09:58</small>
39	24	R1-01-0044	Performance Comparison of Hybrid-ARQ Schemes – Additional Results	Motorola	☞ Text proposal	(*4) <small>Day 2 10:06-10:24</small>
40	24	R1-01-0004	System Level simulation results of HSDPA estimating downlink channel quality from the transmit power of DPCH	Panasonic	Noted	(*5) <small>Day 2 10:26-10:38</small>
41	24	R1-01-0046a	HSDPA system performance with/without FCS (faded but no motion)	Motorola	☞ Text Proposal	(*6) <small>Day 2 11:15-11:37</small>
42	24	R1-01-0047	HSDPA system performance with/without CPICH errors and H-ARQ	Motorola	☞ Text Proposal	(*7) <small>Day 2 11:38-11:50</small>
43	24	R1-01-0049	HSDPA system performance based on simulation (II update ☞ III)	Motorola	☞ Text Proposal	(*8) <small>Day 2 11:50-11:52</small>
44	24	R1-01-0102	Multipath Interference Canceller (MPIC) for HSDPA and Effect of 64QAM Data Modulation	NTT DoCoMo	Noted	(*9) <small>Day 2 11:53-12:08</small>
45	24	R1-01-0036	HSDPA System Performance	Ericsson	Noted	(*10) <small>Day 2 12:09-12:27</small>
46	24	R1-01-0050	Performance of AMCS and HARQ for HSDPA in the non-ideal measurement and feedback situations	Wiscom	☞ Text Proposal	(*11) <small>Day 2 13:53-14:05</small>
47	24	R1-01-0051	Effect of MCS selection delay on the performance of AMCS and HARQ for HSDPA	Wiscom	☞ Text Proposal	(*12) <small>Day 2 14:06-14:17</small>
48	24	R1-01-0025	On the Need of Long-Range Prediction (LRP) of Channel Estimation in HSDPA and Text Proposal	Wiscom	Noted	(*13) <small>Day 2 14:17-14:31</small>
49	24	R1-01-0109	Comments on MIMO complexity text in technical report	Motorola	☞ Offline	(*14) <small>Day 2 14:41-14:48</small>
50	24	R1-01-0043	Comments/Questions on Throughput Simulations for MIMO	Motorola	Noted	(*15) <small>Day 2 16:07-16:17</small>
51	24	R1-01-0131	Link level results for HSDPA using multiple antennas in correlated channels	Lucent	☞ Text Proposal	(*16) <small>Day 2 16:18-16:44</small>
52	24	R1-01-0079	Variable TTI proposal for HSDPA	Lucent	Noted T.P. postponed	(*17) <small>Day 2 16:45-17:02</small>
53	24	R1-01-0081	A ² IR - An Asynchronous and Adaptive HARQ Scheme for HSDPA	Lucent	Noted	(*18) <small>Day 2 17:02-17:30</small>
54	24	R1-01-0082	Throughput Results for Asynchronous and Adaptive Incremental Redundancy (A ² IR) for HSDPA	Lucent	Noted	(*18) <small>Day 2 17:30-18:09</small>
55	24	R1-01-0134	Complexity of Node B for MIMO architectures	Lucent	☞ Text Proposal	(*19) <small>Day 2 18:13-18:32</small>
56	24	R1-01-0018	Techniques to Support HSDPA for TDD Mode	Siemens	☞ Text Proposal	(*20) <small>Day 2 18:33-18:43</small>
57	24	R1-01-0145	LS on Results of HSDPA Study Item AdHoc	RAN WG2	Noted	(*21) <small>Day 3 13:50-14:06</small>
58	24	R1-01-0128	Text proposal on HARQ complexity to TR25.848, Rev. 1	Nokia	☞ TR	(*22) <small>Day 3 14:08-14:14</small>
59	24	R1-01-0129	Updated Text Proposal for AMCS complexity evaluation section of TR25.848	Sony	☞ TR	No (*23) Comments <small>Day 3 14:15-14:22</small>
60	24	R1-01-0132	Text proposal on system perf. w/wo FCS (faded but no motion, 0047)	Motorola	☞ TR	(*24) <small>Day 3 14:23-14:34</small>

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
61	24	R1-01-0079	Variable TTI proposal for HSDPA	Lucent	To be revised	(*25) <small>Day 3 14:38-15:09</small>
62	24	R1-01-0007	Considerations on HSDPA HARQ concepts	Nokia	Noted	(*26) <small>Day 3 15:10-15:33</small>
63	24	R1-01-0008	Relationship between frame error rate and TrCH block error rate	Nokia	Noted	(*26) <small>Day 3 15:10-15:33</small>
64	24	R1-01-0005	Text proposal on HARQ for HSDPA TR	Nokia	Offline Discussion	(*27) <small>Day 3 16:07-16:23</small>
65	24	R1-01-0124	Text Proposal for the TR 25.848	Lucent		(*27) <small>Day 3 16:24-16:42</small>
66	24	R1-01-0031	Proposal of bit mapping for type-III HARQ	Panasonic	Noted	(*28) <small>Day 3 16:43-17:00</small>
67	24	R1-01-0048	Clarifications on Dual-Channel Stop-and-Wait HARQ	Motorola	Offline Discussion	(*29) <small>Day 3 17:01-17:16</small>
68	24	R1-01-0045	Physical Layer Structure for HSDPA – Text Proposal for Section 6.1	Motorola	Offline Discussion	(*30) <small>Day 3 17:18-17:20</small>
69	24	R1-01-0116	Text proposal for TR25.848 on physical layer structure	Nortel		(*30) <small>Day 3 17:21-17:38</small>
70	24	R1-01-0033	Power Control for Fast Cell Selection in HSDPA	Samsung	Noted	(*31) <small>Day 3 17:38-17:53</small>
71	24	R1-01-0083	Context sensitive modulation and coding sets	Lucent	Noted	(*32) <small>Day 3 17:54-18:31</small>
72	24	R1-01-0074	Use of TPC for DL Channel Quality Estimation	Sony	Further inputs requested	(*33) <small>Day 3 18:32-18:38</small>
73	24	R1-01-0113	Comments on proposed update of TR 25.848 version 0.2.1	Nortel	Noted	No Comments <small>Day 3 18:39-18:43</small>
74	24	R1-01-0168	TR25.848 v0.3.1	Drafting Group	To be revised	(*34) <small>Day 4 14:50-15:31</small>
75	24	R1-01-0140	Complexity of Node B for MIMO architectures	Lucent	Approved with modifications	(*35) <small>Day 4 15:32-15:43</small>
76	25	R1-01-0144	Text Proposals for TR25.848 and TR25.950	Siemens Nokia	Approved Offline TR	No (*36) Comments <small>Day 4 15:44-15:48</small>

(*1) Mr. Jussi Kahtava (Nokia) presented this document.

Nokia had presented the first complexity text proposal (Section 7.1) in the RAN WG1#17 meeting. This is further continuous work on this section. Section 7.1.1.4 *UE and RNS processing time considerations* was newly added. Furthermore some tables were added in the end of section 7.1.1.2 (examples of UE buffer size.)

Ms. Evelyne Le Strat (Nortel) remarked that there is a kind of inconsistency in the paper because in figure 1 "Average receiver L1 buffer size for dual channel SAW HARQ", TTI of 15 slots is assumed as one case but on the other hand there is no case of TTI of 15 slots in the buffer/memory tables neither in the processing time consideration section. She added that shorter TTI has some benefits but it also have problem with signalling being complicated and therefore in terms of feasibility study at this point TTI 15 slots should be considered.

Mr. Jussi Kahtava agreed with this comments and answered that he would provide the revised text proposal.

There were some discussion on the relation between (shorter) TTI and processing time. Chairman remarked that it should be clarified that it is not feasible to have 1 slot TTI from the feasibility study point of view because there is no time for processing at all regardless how many bits there are.

Mr. Erik Dahlman (Ericsson) commented on Figure .1 that this is average receiver L1 buffer size however what is the actual receive buffer size ? the "average" will be removed in the actual TR.

Mr. Erik Dahlman added that there should be conclusion added in this text proposal otherwise the intention of this text would be ambiguous. Chairman agreed with this comment and remarked that this text should have a conclusion which hopefully states that HARQ is feasible, can be implemented. Chairman also remarked that Section 7.1.1.4 *UE and RNS processing time considerations* had better be put in one level higher section because 7.1 is UE complexity evaluation.

Chairman asked Mr. Jussi Kahtava to provide the revision to the editor of the TR. The revision can be found in **R1-01-0128**.

(*2) Mr. Kasutoshi Itoh (Sony) presented this document.

This paper presented UE complexity issues regarding AMCS for which no text proposal had been made so far. UE complexity with respect to AMCS was analysed in view of performance sensitivity to the estimation errors. Following factors were analysed with the simulation results provided.

- Sampling timing
- CPICH estimation (as the Phase /Amplitude reference)
- Downlink channel quality

? Ideal AD conversion (no quantizing error) was assumed for the simulation.

? 3.3ms TTI is assumed for simulation.

?"TUI" in figure 5 stands for Transmit Unit Interval(5-slot, 3.33msec) and so the curve entitled "3-TUI average" corresponds to 10ms TTI from the average point of view. \approx This should be clarified in the actual text proposal.

Mr. Erik Dahlman (Ericsson) questioned regarding Figure. 1 *Sensitivity to sampling timing error* what kind of channel coding has been assumed for release 99 case. He added it would be somehow misleading to put 'TTI=10ms' on the release 99 curve because TTI would not affect on sensitivity to the sampling timing error and therefore rather the channel coding type should be put on the curve instead.

Mr. Katsutoshi Ito agree with this comment and answered 'QPSK + 1/3 turbo coding' had been assumed for all release 99 results.

? 32 times over sampling was used for the simulation and from those data, the errors were estimated for each corresponding to 4times, 8 times, 16 times over sampling cases. (in figure 1)

- (*3) This document was not actually presented. Proponent stated that they had not incorporated figures presented in **R1-01-0059** into this text proposal. Chairman suggested that the figures had better be included in order to be understood well. Chairman invited proponent to provide the revision during this meeting.

The revision of this text proposal which includes relevant figures in R1-01-0059 was drafted in **R1-01-0129**.

It was reviewed and approved on Day3. (See No. 59)

- (*4) (Motorola) presented this document.

This is the further study result of comparison of Chase combining and Incremental Redundancy (IR) combining. (There had been 2 contributions regarding this comparison in RAN WG1#17 meeting. Those are **R1-00-1396** [Motorola] and **R1-00-1428** [Ericsson] in which Motorola presented the comparison between Chase combining and Partial Incremental Redundancy combining whereas Ericsson presented the comparison between Chase combining and Full Incremental Redundancy combining and both results rather opposed to each other.)

In this contribution, several simulation results were presented and following conclusion were drawn.

- For QPSK, full IR benefits over Chase are not significant in the region of interest.
- For higher order modulation (MCS-6 and MCS-7), the full IR provides more than 1dB gain in Ior/Ioc in a fading channel. However, the gain occurs in a region where a lower MCS may have been selected.
- The decoder and signalling complexity of the full IR scheme over Chase combining needs to be evaluated, and weighed against the likelihood of the MCS selection process degrading to the point where a significant overall throughput gain is seen for the full IR

There were several comments made.

? The curves do not accommodated the fact that 64 QAM is more sensitive to things like estimation errors.

? Is it correct to understand that Full IR is beneficial only for 64QAM ? \approx Yes

? These results agree very much with the ones shown in **R1-00-1428** (Ericsson). The results in R1-00-1428 should be referred in the conclusion in the TR.

? These results assume that MCS level would not be changed in re-transmission. \approx this is link level simulation. \approx This should be clarified in the assumption in TR. (chairman)

? The conclusion should be reached on the system level simulations because many aspects like feedback delay and asynchronous operation of Chase or IR combining are being ignored here.

Chairman concluded that since it is beneficial to have these curves in the TR from the feasibility study point of view and RAN WG2 was waiting for this kind of results, some of these curves should be included in the TR. But in the TR, he added, it should not cover all the aspects, why Chase or why IR etc. But it should just have the link level simulation results assuming MCS is constant in the re-transmission and just put what can be concluded.

He asked Mr. Amitabha Ghosh to provide text proposal for this in **R1-01-0130**.

/** Eventually R1-01-0130 was not produced. Text proposal was combined in **R1-01-0133** ***/

- (*5) This paper addressed a scheme in which the downlink channel quality is estimated by the transmit power of DPCH instead of having explicit channel quality reports from UE. It was shown with some system level simulation results that this proposed scheme works well and can achieve almost the same throughput as in the case with channel quality report.

A couple of comments were made.

? The error in TPC commands was not considered in the simulation.

? What is going to happen if the UE velocity becomes higher than 3km/h ? \approx For further study.

Chairman concluded we should note from this contribution that there is also some possibilities in Node B side to use other information besides UE report. When we finalize the scheme for MCS selection, we should keep in mind this kind of possibility as well.

/** coffee break 10:39-11:14 **/

- (*6) This paper presented simulation results on HSDPA system performance with/without fast cell selection(FCS).

It was shown that FCS improves throughput and residual FER for UEs in soft handover regions. It was also shown that overall system benefit due to FCS is more significant with fair schedulers such as Round Robin compared to maximum C/I schedulers. No mobility was assumed in the simulation.

There took place some questions-answers session on the simulation assumptions.

Finally chairman concluded taking into account the fact that there has been no text proposal on this topic that a text proposal based on this paper should be produced including 4 tables and some curves. He added that it should be clearly stated in the TR that there any assumption about delay on protocol sides has not been done so that RAN

WG2 can clearly understand that for their aspects no delay assumption has been made. He suggested a sample statement.

the time for transfer between Node-B's are not included in simulation results.

The text proposal would be produced in **R1-01-0132**.

- (*7) This paper presented simulation results on HSDPA system performance with/without CPICH errors and H-ARQ. It was shown that a drop in packet call throughput is between 5% and 10% with 1 dB CPICH measurement error however the packet call throughput drop approaches 50% when CPICH measurement error becomes 3dB. It was also shown that compared to the case with HARQ there is a significant drop in packet call throughput in the case without HARQ.

It was pointed out that the over the air throughput in Table 5 (CPICH Error s = 1dB) looks better than that in Table 4 (CPICH Error s = 0dB). \approx Motorola had not realized it. But for packet call throughput, Table 4 is better than Table 5. Chairman commented that we should not pay much attention for this, it is small difference.

As a conclusion, in order to show performance degradation related to estimation error, this results should be included in the TR. Text proposal would be produced in **R1-01-0133**.

- (*8) This is the update of **R1-00-1397** which was presented in RAN WG1#17 meeting. Since the results in R1-00-1397 had been implemented in the TR already, those tables corresponding to Table 1 and Table 2 in this paper should be replaced by those in this paper.

- (*9) Mr. Masafumi Usuda (NTT DoCoMo) presented this document.

This paper introduced new technique called Multi-Path Interference Canceller (MPIC) which can mitigate severe multipath interference. It was shown that with this technique it is possible to obtain high throughput using high order modulation such as 64QAM even in the multipath environment. Figure 3 showed drastically improved performance by this technique in 2 path environment.

There were several comments made.

- How much receiver complexity will this technique have ?

\approx Not yet analysed but NTT DoCoMo will show the complexity study report in the future meeting.

- Section 2 says that effective spreading factor (not actual spreading factor) becomes nearly 1.

- This is interesting technique and we should definitely evaluate this.

- equal power path was assumed for the 2 path environment in figure 3.

- As for the delay profile in the simulation, NTT DoCoMo will inform it later.

Chairman concluded that this is something to think about.

- (*10) Mr. Erik Dahlman (Ericsson) presented this document.

This paper presented several simulation results including,

- Scheduler performances
- Performance gain with higher-order modulation
- Gain achieved by fast cell selection
- Impacts of fast fading and time dispersion

and concluded

- There is a significant gain with fast scheduling and fast adaptive modulation/coding.

- The gain with fast cell selection is most notable for Round-Robin scheduling while, with a scheduler that already takes the channel conditions into account in the scheduling, the gain with fast cell selection is smaller.

- Both fast fading and time dispersion has significant negative impact on the HSDPA performance. However, in both cases, the performance can most likely be improved by means of more advanced UE signal processing.

Mr. Erik Dahlman remarked that results here confirmed the results of Motorola and there was no need to put these results in this paper into the TR because these had already been quite well covered Motorola.

/** Lunch break 12:28- 13:47 **/

- (*11) This document presented the performance evaluation of adaptive modulation and coding schemes (AMCS) and fast HARQ in the non-ideal measurement and feedback situations for HSDPA and compared them with the performance in the ideal case.

It was shown that for the typical value of E_c/I_{oc} , the channel measurement accuracy has large impact on the throughput. It was also shown that at slow vehicle speed the performance between the ideal and non-ideal case is about 1 to 2 dB for most E_c/I_{oc} except very low values (less than -15dB). Based on the results it was suggested that at slow vehicle speed, longer time CPICH average might be necessary for more accurate measurement to improve the throughput though at fast vehicle speed, the long time average might fail to track the channel condition closely.

There was small question-answer discussion.

Chairman stated that this is something that needs to be discussed further but it is not necessary to be included in the TR at this point of time. Proponent requested that this should be included in the simulation section. Chairman agreed to this request. The text proposal for this paper shall be provided in **R1-01-0136**.

- (*12) This document presented simulation results of the effect of MCS selection delay on the performance of AMCS and HARQ for HSDPA.

It was shown that the performance loss due to the MCS delay is not significant at very slow vehicle speed however it increases at higher vehicle speeds and larger MCS selection delays. It was also shown that the throughput loss due to MCS selection delay is about 1 dB or 22% throughput loss. It was suggested that the technique to predict the channel condition might help to reduce such performance loss.

Chairman remarked that the text proposal of the previous paper (**R1-01-0136**) should contain the results of this paper as well. Chairman stated that it should be clearly mentioned in the text proposal about what is included in

the non-ideal case, which error are included.

(*13) Mr. Robert C. Qiu (Wiscom) presented this document.

This paper proposed to include Long Range Prediction(LRP) for channel estimation in the TR. It has been already shown by several simulation results so far presented that the throughput performance is very sensitive to the channel estimation and thus the accurate channel estimation is essential especially in the case of higher modulation, high coding rate and high mobility. This paper proposed to include such LRP technique in the TR by having separate section for it.

There were several comments made against this proposal of having separate section (separate technology) for this. Main opinion was that LRP could be useful technique but it is just an implementation issue and it is one method of improving the performance of adaptive modulation and coding scheme. It cannot be considered as a fundamental or new technology for HSDPA. It could be mentioned in the adaptive modulation and coding performance section. Chairman supported this major opinion and concluded.

There is no reason to rush with this now. This is not anything essential for RAN WG2 to know. For the next meeting we can probably figure out where and how to reflect this.

Chairman introduced the e-mail distribute by RAN WG2 chairman on the RAN WG1 reflector.

< E-mail sent on January 16, 01:06 >

(14:33-14:40)

> Dear Antti and RAN WG1 colleagues,

>

> I am writing a small mail in order to inform you of the progress made today during the first of the 2 days R2 ad-hoc where HSDPA is treated. I can expect that this is important for Antti to use the already available results so that he organises the work in RAN WG1 based on correct assumptions.

>

> There has been a decision (that will not surprise so many people) of having a new function in the Node B, called MAC hs-DSCH, which has the following functions:

- > - flow control to the RNC
- > - Hybrid ARQ repetition protocol
- > - scheduling
- > - TFC selection

>

> This MAC operates over a number of DSCH, similarly to what we have today in the CRNC for MAC c/sh. This MAC uses services of Transport Channels (hs-DSCH) according to the existing rel 99.

>

> It was agreed that the same model should be used also for TDD, although the actual protocol operation (in particular the associated signalling) may differ for the allocation of DSCH resources.

>

> RAN WG2 will study the HARQ protocol tomorrow, and in particular study the requirements that it places on the Transport Channels provided by the layer 1. Since we only perform a feasibility study, there is no need to close on the detailed protocol before we start on release 5. Still, we must describe one feasible scheme, and show its performance so that we can report to RAN Plenary, with the corresponding proposed Work Items.

>

> As agreed with Antti, the results of the layer 1 simulations will be input into the RAN WG2 TR so that it can be approved in RAN Plenary. This means that everything needs to be finished by our next meetings. Then after the plenary (before looks difficult given time schedule) the proposal would be to have a joint meeting where the RAN WG2 TR can be used to kick off actual work.

>

> RAN WG2 intends to send a LS with an update of the R2 TR on HSDPA ASAP so that the work in RAN WG1 can now progress on stable ground. This should be probably Wednesday morning your time at the latest.

>

> BR

> Denis Fauconnier

> RAN WG2 Chairman

(*14) Motorola presented comments on the text in the TR (R1-01-0117) regarding section 7.4.2, *MIMO UE complexity evaluation*.

Comments were made on

- UE form factor
- RF complexity
- Base band complexity
- Antenna spacing required to achieve required decorrelation
- Multiple antenna reference

Chairman remarked that he thought the comments are more or less relevant. He added a comment on the base band complexity that in case some values are used, regardless the units it should be clarified what are the assumptions behind the value so that everybody can repeat similar calculation. Some information on the assumptions is definitely needed.

Chairman suggested offline discussion among interested parties for the necessary clarifications or additions to the text. **R1-01-0138** was allocated for the possible revision for MIMO UE complexity evaluation section.

(*15) Mr. Amitabha Ghosh (Motorola) presented this document.

Comments and questions on **R1-00-1387** titled "Throughput Simulations for MIMO and Transmit Diversity Enhancements to HSDPA" were presented.

Lucent answered briefly on each items on line. Concerning closed loop diversity, it was mentioned that closed loop diversity is not appropriate reference to be used. They will provide some results for this. Furthermore there are going to be further simulation results and some updates on the simulation assumption. Detailed discussion will be made offline.

- (*16) This document presented simulation results on MIMO performance in highly correlated channels. In the last meeting it was questioned by Siemens what would happen to the MIMO performance in highly correlated channels. Lucent provided this paper as the answer to the question raised by Siemens and they did not have any intention to put this study into the TR. It was mentioned that the channel used here is unrealistic and we do not expect this kind of channel in practice. It was shown that the MIMO has a very robust performance even in highly correlated channels.

There were a lot of comments/questions were raised.

Finally chairman remarked that it would be good to have these results in the TR unless somebody has problem with this because the sensitivity to the correlated channel is interesting and one important area.

With respect to this chairman's proposal, Siemens requested to postpone the decision until next meeting so that they can have offline checking. Chairman agreed to this request.

- (*17) This paper introduced the notion of using a variable length TTI for the HS-DSCH which had been originally presented in **R1-00-1381** in RAN WG1#17. In this paper the benefits of variable length TTI were shown along with some simulation results. The variable TTI concept allows using larger code block sizes even for lower data rates in order to get maximum Turbo coding gains. For higher data rates, the transmission time is kept to minimum to fully exploit the scheduling gains, while still achieving high Turbo interleaving gains.

This paper also contains the text proposal on variable length TTI for the TR.

Chairman remarked as follows.

We should not enter discussion on the text proposal for this section 6 before we get the updated technical report from RAN WG2. Our intention is that we should cover something for the simulation results and complexity issue first. In order to have this kind of detailed discussion on whether we should vary TTI or not we need to see what kind of principles RAN WG2 is laying out there even though the fact that for the larger block size we can get better turbo coding gain would not be controversial issue.

Lucent proposed to present **R1-01-0081** before they get comments because **R1-01-0079** and R1-01-0081 are closely related. R1-01-0081 has algorithm, detailed scheme for which they are going to give simulation results in **R1-01-0082** and R1-01-0081 itself is not directly related to TR

Chairman accepted this proposal but added that we would only see what has been simulated and what is to be demonstrated by those results. We would not treat text proposals or what is supposed to be reflected in the concept at this point of time. As for the text proposal, we would come back later after we received RAN WG2 updated technical report.

- (*18) This is power point presentation. The complete description of this scheme is given in **R1-01-0080**.(Word file) This paper presented details of Asynchronous and Adaptive Incremental Redundancy (A²IR) proposal for HSDPA which had been proposed in **R1-00-1382** in RAN WG1#17. **R1-01-0082** contains simulation results on this scheme and reviewed in succession right after the presentation of **R1-01-0081**.

There were quite a lot of questions and comments were made with respect to R1-01-0079, 81 and 82.

- What is idea of *Aggressive approach* on the scheduling ?
- Simulation results presented are the link level simulation (no traffic model involved). We definitely need to have system level simulation to see what actually the benefit is.
- Throughput comparison for synchronous/asynchronous should be modified. Stop-and-Wait scheme is wrongly treated.
- We have to take into account of the complexity.
- Comparison of variable TTI and variable code allocation is needed.
- What is the frame in frame error rate in R1-01-0079? \neq equal to block size
- How should we read the table 1 in R1-01-0079 ?
- How much is the aggressive method related to IR ? Can we use Chase combing with the aggressive method?
 \neq Chase combing can be used with aggressive method though the simulation results (gain) would be different because MCS level is changed in the re-transmission in IR.
- etc.

For every question, Lucent made answer.

Chairman remarked that we need to have system level simulation for the average throughput before we made a conclusion.

/** Lucent explained for information that R1-01-0084 contains Lucent's response to a document (R1-00-HARQ-Issues) which had been distributed on the e-mail reflector by Ericsson. **/

- (*19) This contribution addressed the complexity at the Node B for MIMO architectures over those requirements for conventional HSDPA transmission with a single antenna. The additional baseband processing required for MIMO transmission and the antenna separation requirements for sufficient channel decorrelation were analysed. Several comments were made.

- The number of power amplifiers (for each antenna) should be mentioned.
- Does MIMO have same requirement as Tx-diversity in terms of exact timing sensitivity ? \neq could be addressed.
- The assumption not only this document but in general concerning MIMO looks as if there were only one single transport channel with fix bit rate allocated to one user. What is going to be the impact on Node B when we have to switch configurations with/without MIMO ? In Node B we also have other channels than HSDPA at the same time which may not use MIMO and then we will end up with PA having different powers for transmitting those

- conventional channels and other transmitting the MIMO operating channels. We should try to reflect this kind of things in the complexity analysis. \approx Lucent proposed offline discussion concerning this comment.
- Is MIMO only applicable to HS-DSCH ?
 \approx Analysis have shown that in case where you have multiple users with lower bit rate environment MIMO is not the best solution. Tx-diversity and Rx-diversity technique would achieve compatible gain as MIMO in such environment. Lucent will probably provide the document addressing this issue in the next meeting.
 - In MIMO system if we need channel estimation at each antenna element then complexity will increase n times than single antenna cas ? \approx It is true that MIMO needs channel estimation at each antenna element but this should be mentioned in MIMO UE complexity.

Chairman concluded that this document should be converted into the text proposal reflecting the comments received. **R1-01-0140** was allocated for this text proposal.

- (*20) This document presented applicability consideration of those HSDPA techniques proposed in FDD mode to TDD mode. In conclusion this paper stated that in general the proposed techniques are applicable for the TDD mode as well. It was proposed that HSDPA techniques for TDD mode be considered for release 5 and harmonization of TDD and FDD was desired in order to optimise the system for both modes.
 Chairman suggested that we should have some section that include TDD specific consideration in the TR. There is no need to duplicate the common stuffs. **R1-01-0141** was allocated for the text proposal on this issue. But later this number was cancelled and new number **R1-01-0144** was reallocated for this text proposal. (See No. 76)
- (*21) This is a LS from RAN WG2 HSDPA Study/Item Ad Hoc (R2-010205) sent to RAN WG1 and RAN WG4. This was received on Day3 morning. TR (TR 25.950 *UTRA High Speed Downlink Packet Access* v0.1.0) was attached. Chairman presented the LS on the screen.
 Besides the attached TR they also were asking 5 questions on HSDPA. As for the TR attached, a lot of sections were left blank to be filled by RAN WG1.
 RAN WG2 was not clearly saying anything about RAN WG1 TR what they expect. Probably they expect those simulations and assumptions and in most cases they would just try to use them putting references to our TR in their TR.
 Mr. Said Tatesh (Lucent) remarked regarding the questions raised by RAN WG2 that Lucent was happy to volunteer in providing draft answers.
 Chairman answered before having a draft provided by one company we have to make a discussion on what kind of answers we should make. \approx Discussion will be made in the night session.
- (*22) Mr. Jussi Kahtava (Nokia) presented this document.
 This is the text proposal on HARQ complexity. This is the revision of R1-01-0006 which was reviewed on Day2 (See No. 36) Comments received were reflected in this revision.
 Mr. Erik Dahlman (Ericsson) remarked that it should be mentioned somewhere in the text that there is a difference in complexity between different HARQ schemes (Chase combining vs. IR) though these differences do not justify that any scheme is discarded at this stage.
 Chairman agreed with this comment and suggested this should be mentioned in the conclusion.
 Mr. Amitabha Ghosh (Motorola) questioned whether we should include something regarding memory access time for Turbo codes ? \approx It should be considered a little bit later stage. (Chairman)
 Conclusion : This text proposal was approved with one addition to conclusion about complexity issue mentioned above.
- (*23) Mr. Kasutoshi Itoh (Sony) presented this document.
 This is the revision of **R1-01-0060** which was reviewed on Day2 (actually it was R1-01-0059 that was reviewed.). (See No. 37, No. 38)
 Some of the curves in **R1-01-0059** were incorporated into the text proposal as was requested by chairman.
- (*24) Mr. Amitabha Ghosh (Motorola) presented this document.
 This is the revision of **R1-01-0046a** which was reviewed on Day 2 (See No. 41)
 Chairman remarked that it should be mentioned that *the possible delay due to the time for transfer between Node-B's are not included in simulation results* as it had been discussed in the Day2 discussion. \approx Mr. Amitabha Ghosh agreed.
- (*25) This document had already been reviewed on Day3 (See No. 52) But the text proposal part had been postponed until we received the LS from RAN WG2. Now that the LS was received and thus it was proposed to review the text proposal.
 There took place a bit long discussion.
 The main opinion was that the text proposal provided in this paper is not balanced, neutral because only benefits of variable TTI scheme were listed and no disadvantages, difficulties were mentioned. Furthermore there were several opinion that the background assumptions on which the benefits stands were not necessary valid. Several examples were given to show that it is not necessary valid assumptions. Lucent side also explained their background and validity of the assumptions and benefits. There were also opinions that this kind of scheme should definitely included in the TR as an option to be investigated though the current proposal text itself is not balanced and therefore needs to be modified.
 Finally chairman concluded as follows.
 My personal view is that we should definitely cover this scheme of variable TTI in the technical report. But I sense that people feels that the text proposal what is put in this paper is not neutral. We need to have a bit more neutral and generic text proposal on this topic. So this should be revised.
R1-01-0149 was allocated for the revision. Lucent expressed their welcome for any contribution on this topic.
- (*26) Mr. Jussi Kahtava (Nokia) presented these documents. (R1-01-0007, R1-01-0008)

This paper discussed a couple of concepts on HSDPA.

R1-01-0008 was reviewed in conjunction with R1-01-0007.

There was one remark for more specific explanation why variable TTI will complicate the scheduling.

It was answered the scheduling would be complicated from the comparison point of view with release 99 specs.

Questioner was not satisfied with this answer. \approx Chairman suggested offline discussion.

Mr. Amitabha Ghosh (Motorola) made a comment on the simulation results in R1-01-0007 that Motorola also had performed similar kind of simulation with release 99 system and had arrived same conclusion.

Chairman remarked that since RAN WG2 is expecting this kind of results as well, we could consider this result should be included in the TR somehow.

(conclusion of R1-01-0007 : *It seems sensible to do the HARQ ack/nacks and retransmissions at the frame level (TTI level), and not separately for each TrCH block.*)

/** Coffee Break 15:34-16:04 **/

(*27) Mr. Jussi Kahtava (Nokia) presented R1-01-0005.

This is the continuation work of **R1-00-1369** which was discussed in RAN WG1#17.

Text proposal on HARQ was presented. Not solution but what kind of things has to be considered when we further investigate actual scheme for HSDPA was explained.

Since Lucent had provided the text proposal on the same section as this paper, chairman proposed to have a look at Lucent paper (**R1-01-0124**) in succession.

Lucent presented R1-01-0124.

In this paper, in addition to Nokia's proposal, following text proposals are included.

- Fully asynchronous operation
- Adaptive HARQ operation in which MCS can be changed in re-transmissions
- FCS operation

There were some discussion took place.

- We should avoid duplication of the description with RAN WG2 TR. We should only focus on layer1 issue. For instance, regarding synchronous / asynchronous operation, 2 signalling possibilities have already been documented in RAN WG2 TR. From RAN WG1 point of view we should clarify what is effectively simulated. What has been simulated ? What do we need to explain in addition to RAN WG TR ?

- Ideally if RAN WG2 description is in that detail we could just refer to that and cover the topic. But probably we need to have some picture in RAN WG1 TR as well because some of the RAN WG2 picture are not necessary the best ones we can have. (Chairman)

- We should try to have neutral description in the TR. Let's not draw any recommendations or conclusions for the topics we have not reached consensus. (Chairman)

Chairman suggest offline discussion to make one proposal. If we can refer to RAN WG2 TR, then we should avoid repetition. Overview section had better be brief. **R1-01-0150** was allocated for the revised text proposal.

(*28) This document presented new scheme on bit-mapping for type-III HARQ. In this scheme sender transmits systematic bits and parity bits on separated symbols and then receiver combines retransmitted packets' symbol before calculating the log-likelihood ration. Simulation results were also presented.

It was shown that proposed new scheme can achieve better performance than conventional type-III HARQ and requires less size of receiver buffer compared to that of conventional one.

It was pointed out related to figure 5 that in case of QPSK case there is no difference between so-called symbol combining and conventional combining in the computation of log-likelihood ratio. We should be more specific about how the difference is in figure 5.

Panasonic agreed with this comment and stated that they would examine the results of QPSK case again.

Chairman stated that this could be one alternative of implementing IR and be incorporated in the TR at some point of time if everybody thinks OK. Some clarification should be done on the e-mail reflector before the next meeting.

Then in the next meeting we can approve the text proposal on this topic for the TR. This kind of transmitter / receiver structures on the complexity issue could be included to current complexity section. From the memory size viewpoint this kind of proposal is very important. The channel interleaver operation should be elaborated more using one explanatory picture.

(*29) Mr. Amitabha Ghosh (Motorola) presented this document.

This document proposed to clarify the purpose, possible configurations, and signalling requirements of Dual-Channel Stop-and-Wait Hybrid ARQ (DC-SW-HARQ). Since similar paper had already reviewed (R1-01-0005, Nokia, See No. 64) Mr. Amitabha Ghosh presented this briefly.

Chairman remarked that this text proposal seemed to have been submitted to RAN WG2 as well because more or less same text was included in RAN WG2 TR and so in our TR, we could just put references to RAN WG2 report. (There was one comment that although this text was adopted in RAN WG2 TR it is no way aligned with RAN WG2 usual terminology.)

Mr. Amitabha Ghosh will join the drafting of R1-01-0150. (See No. 64)

(*30) Both of these 2 documents (R1-01-0045 and R1-01-0116) contained the text proposal for the same section (6.1).

Chairman proposed to review both documents together.

Mr. Amitabha Ghosh (Motorola) presented R1-01-0045 and Ms. Sarah Boumendil (Nortel) presented R1-01-0116. There was a bit long discussion regarding the treatment of 3rd bullet and 4th bullet in section 6.1.3 in R1-01-0116.

There was a comment that 3rd and 4th bullet points are RAN WG2 issues and it does not agree with RAN WG2 TR. Ms. Evelyne Le Strat (Nortel) explained the background why Nortel drafted this text proposal. She added that they can agree not to include their text proposal however then they cannot agree to Motorola's text proposal because it explicitly states fixed spreading factor which is not in line with RAN WG2 TR.

- Chairman suggested offline discussion. The revised text proposal on this section will be made in **R1-01-0152**.
- (*31) The paper discussed the impact of FCS on power control and presented possible power control strategies for the dedicated channels associated with HSDPA.
 There was one concern raised on this proposed strategy for the uplink.
 Chairman stated that this proposal was noted at this point of time since this issue is not critical at this stage from the feasibility study point of view. Later after the feasibility study this may be revisited when we discuss power control issue for FCS if necessary.
 Mr. Erik Dahlman (Ericsson) remarked that it is important to consider this issue of power control for FCS in the feasibility study phase, however when it comes to solution, it should be done in later phase. Furthermore he added he is sceptical with this solution.
- (*32) It was proposed in this paper that the transport block is not necessary always tied to the code space and therefore in case of HARQ we could have variations in the code space however transport block size has been fixed, we will have to change the code rate.
 It was pointed out that the proposal is actually the relationship between different transport formats. We will have to consider the fact that we have limited signalling capability for the definition of transport formats to be used by certain UE. How the UE should derive the transport formats from broadcasted code availability. This is out of RAN WG1 scope.
 It was also pointed out that the terminology should be aligned as much as possible with what is used in RAN WG1 and RAN WG2.
 Chairman agreed with above comments and concluded if we want to introduce this kind of schemes then we should introduce it in RAN WG2 for the first place and there make them aware what the proposal really is. It is difficult to initiate the discussion from RAN WG1 perspective because this does have impact eventually on RRC signalling and broadcast channel contents.
- (*33) Mr. Kasutoshi Itoh (Sony) presented this document.
 This is the extensional work of **R1-00-1378** which was reviewed in RAN WG1 #17 in which it had been proposed to use TPC commands in order to adjust the reported DL channel quality and to recover the throughput lost by the delay of feed back. In this new paper an extended method was proposed in which TPC commands are used to reduce the required reporting frequency for DL channel quality. It was mentioned in the presentation that this method would require an additional signalling message to indicate reporting frequency. Sony will provide the performance evaluation results in the next meeting in case the proposed method is considered to be feasible.
 Chairman stated that we would wait for further inputs on the performance evaluations in the upcoming meetings.
- (*34) Mr. Amitabha Ghosh (Motorola, editor of the TR) present this revised TR.
 This is the output of the drafting session which took place on Day3 night.
 Chairman gathered comments on section-by-section basis.
 Section 5.4 : "Third" \approx "Furthermore"
 Section 6.1.1 : "The argument for this alternative is lower UE complexity." should be removed at this point of time. This issue would be revisited in the next meeting.
 Section 6.1.2 : Square brackets should be removed. Sentence in the square bracket should be kept.
 Revision will be made in **R1-01-0177**.
- (*35) This is the revision of **R1-01-0134** which was reviewed on Day 3 (See No.55). This was reviewed right after the TR reviewal because in the TR the text concerning MIMO Node B complexity had still been blank. Intention was to review this text proposal here and to put it in the section 7.4.3 in the TR before we sent TR to RAN WG2 if the text proposal was agreeable.
 Mr. Amitabha Ghosh (Motorola) was opposed to having concrete numbers in this text. He insisted that text should be general.
 Finally with removal of the concrete numbers and with some modification on the text, this text proposal was approved.
 Chairman suggested that form now on TR needs to be self-containable and no references to RAN WG1 documents (R1-*.*) nor references to public documents should be put in.
 Lucent remarked that they would provide the document [3] (IEEE document) on the e-mail reflector.
- (*36) This is the text proposal regarding inclusion of TDD to the TR. This was based on the discussion of **R1-01-0018** which was reviewed on Day 3. (See No. 56) This document also contained a very short text proposal for RAN WG2 TR just putting the reference to RAN WG1 TR so that RAN WG2 can simply refer to RAN WG1 TR in their section concerning TDD mode.
 Chairman concluded that the text proposal for RAN WG2 TR would be sent together with RAN WG1 TR in the LS to RAN WG2. RAN WG2 will decide what they should do with the text proposal.

/** Day 4 coffee break 15:53 -16:05 **/

/** Day3 plenary meeting ended at 18:55 **/

7.1.3 TR 25.848 Drafting session

Day3 20:00 - 24:00?

7.2 TDD Node B Synchronizations (Ad Hoc 30)

No.	CR	rev.	TS	Tdoc	Title	Cat	Source	Conclusion	Notes
74	XXX	-	25.223	R1-01-0003	Working CR on Node B sync over air interface in UTRA TDD R 4 – Description of the cell synchronisation codes	B	Mitsubishi	Approved in principle	No (*1) Comments Day2 15:06-15:10
75	042	-	25.221	R1-01-0068	Introduction of the cell sync burst	B	Siemens	Approved in principle	(*2) Day2 15:10-15:14
76	044	-	25.224	R1-01-0002	Layer 1 procedure for Node B synchronisation	B	Siemens	To be revised	(*3) Day2 15:15-15:24
77	022	-	25.225	R1-01-0013	Measurements for Node B synchronisation	B	Siemens	Approved in principle	(*4) Day1 15:24-15:27

(*1) Mr. Marian Rudolf (Mitsubishi) presented this CR.

This CR is based on the contribution which was discussed and agreed in principle in the TDD Ad Hoc session in RAN WG1#17 meeting. (**R1-01-1351**). This CR had been sent on the e-mail reflector one week prior to this meeting. This was agreed in principle. After getting CR number for release 4, this will be approved in the next meeting.

(*2) Mr. Stefan Oestreich (Siemens) presented this CR.

This CR proposed to insert a note indicating that there might be other transmission than RACH on the PRACH. Note reads,

In case of Node B synchronisation the PRACH may be used for the transmission of a cell sync burst [8] based on a higher layer schedule. The cell sync burst shall be transmitted at the beginning of a timeslot. In this case the transmission of a RACH may be prohibited on higher layer command.

Ms. Evelyne Le Strat (Nortel) questioned regarding this whether it is clear in RAN WG2 specification that this is allowed or whether there is any model in RAN WG2 showing this.

Mr. Stefan Oestreich answered that Siemens has an accompanying CR in RAN WG2 for this procedure but maybe they do not know that cell sync burst will be transmitted because this is something in physical layer. It should be checked whether this CR will have an impact on TS 25.302 or not.

Chairman concluded that the final approval decision will be made in the next meeting.

(*3) Mr. Stefan Oestreich (Siemens) presented this CR.

Main part of this CR (creation of new section 4.9 *Node B synchronisation procedure*) is coming from the technical report.

Mr. Stephen Dick (InterDigital) requested offline discussion on higher layer functionalities.

Chairman remarked that it would be better to have reference to the corresponding RAN WG3 specifications.

He also made a comment that it might be better to mention in the some of the specifications that this is not only one method for synchronization. It is not necessary that all the Node Bs implement exactly this kind of method.

There was one editorial comment that the description should be in line in the specification.

Chairman concluded that the final approval decision will be made in the next meeting.

(*4) Mr. Stefan Oestreich (Siemens) presented this CR.

Two new UTRAN measurements for Node B synchronization were introduced, they are *Cell Sync Burst Timing* and *Cell Sync Burst SIR*.

Chairman concluded that the final approval decision will be made in the next meeting.

/** Coffee break 15:28-16:04 **/

7.3 DSCH power control in Soft handover

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
78	27	R1-01-0125	TFCI power control in split mode	LGE	Not release 4	(*1) Day2 18:45-18:58
79	27	R1-01-0063	Text proposal for TR 25.841 : Improvement of Power control for DSCH in soft handover	LGE	Next meeting	(*2)

(*1) The concept of this proposal had been presented in RAN WG1#17 meeting in **R1-00-1429**. Chairman had also mentioned this in his report to RAN. This document was continuous work on that and comparison of proposed method and release 99 method was presented. It was requested that this method be included in the TR.

Mr. Jussi Kahtava (Nokia) asked for quantitative analysis on how much gain and improvement of power consumption will be achieved by this method. \approx concrete estimation was not provided at least in the meeting. Chairman asked people whether we should treat this for release 4 but no support except proponents was made. Based on this chairman concluded that we should treat this issue as a possible proposal for release 5.

(*2) This document was not presented.

LGE explained that this is the text proposal on the topic described in **R1-01-0125**. Since now the TR is placed under change control, CR procedure is needed for a change. Chairman stated that if you prepare the CR (for rel. 5) then it would be better placed under the section of "beyond release 99".

Day 3, started at 09.14

7.4 Terminal power saving features (Ad Hoc 22)

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
80	22	R1-01-0032	Revision of TR25.840 Terminal Power Saving Features (v2.0.0)	Samsung	Approved	No (*1) Comment Day3 09:21-09:26
81	22	R1-01-0039	Impact of compressed mode on the performance of DPCCH gating	Ericsson	LS will be produced	(*2) Day3 09:27-10:08
82	22	R1-01-0114	Interactions between DPCCH gating and monitoring for handover purposes	Nortel		
83	22	R1-01-0009	Further clarifications on outer loop power control during DPCCH gating	Nokia	Agreed	(*3) Day3 10:09-10:14
84	22	R1-01-0011	Revision of TR25.840 Terminal Power Saving Features including changes to facilitate OL PC to be based on CRC during DPCCH gating	Nokia	To be revised	(*4) Day3 10:14-10:26
85	22	R1-01-0038	Comments on TR 25.840 Terminal Power Saving features	Ericsson	Discussed	(*5) Day3 10:27-10:44
86	22	R1-01-0142	Answers to Comments on TR 25.840 "Terminal Power Saving Features"	Samsung Nokia		(*6) Day3 11:25-12:04
87	22	R1-01-0164	Revision of TR25.840 Terminal Power Saving Features including changes to facilitate OL PC during gating and clarifications based on the comments made during R1 #18	Samsung Nokia	To be revised	(*7) Day4 16:32-16:44

(*1) This is the revision of **RI-00-1444** (v1.2.0). After WG1 #17 meeting, there were some e-mail discussions on the following 2 issues.

- Interaction of gating with compressed mode
- Assumptions under which UE battery life enhancement calculation was performed

This revision includes some clarifications on above discussions and some minor editorial corrections.

According to the decision in RAN WG1#17 meeting on the description of impacts to RAN WG3, RAN WG3 TR 25.938 "Terminal Power Saving Features (Iur/lub aspects)" is referenced.

(*2) Mr. Dirk Gerstenberger (Ericsson) presented **RI-01-0039** and Ms. Sarah Boumendil (Nortel) presented **RI-01-0114**. Both of these documents discussed the impact of compressed mode on the achievable gains of DPCCH gating. Since DPCCH gating is terminated during the compressed mode, these 2 documents concluded that the achievable gains by DPCCH gating are very dependent on the use of compressed mode (total time for which compressed mode is active) and thus the claimed battery savings are not likely to be met.

There was a bit long discussion took place.

- We need to consider the possibility of gating mode being automatically disabled by layer 1 during the compressed mode so that we can still get benefits of gating mode. There is always significant number of frames without transmission gap. (Mr. Matthew Baker (Philips))
- Some realistic value would be used for amount of compressed mode due to the fact that the compressed mode deteriorate the system capacity. It should be minimized. (Mr. Markku Tarkiainen (Nokia))
- Who can say that compressed mode is going to be used for 90% of the time or going to be used 10% of the time ? Probably RAN WG4 is the best place to give some feed back on this kind of issue because it depends on the deployment scenarios, etc. Some kind of LS to RAN WG4 would probably be good for their next meeting then we can get feed back in Las Vegas. (Chairman)
- We are mixing 2 different things which are the percentage of time when the compressed mode is active and the percentage of compressed frames. You can activate compressed mode patten indefinitely, this is allowed by RRC signalling. It does not mean that every frame is going to be compressed and the way the compressed mode is activated as was described in Ericsson's paper is an operators' choice. If operators decide to use infinite duration for compressed mode pattern sequence without compressing every frame it will completely forbid the use of DPCCH gating. (Ms. Sarah Boumendil (Nortel))
- Time duration of an active transmission gap pattern sequence is not immediately related to the amount of compressed mode in terms of compressed frames. If we had a discussion saying that we should not use that long or maybe RAN WG4 should say some recommendation of the certain use of RRC parameters then we are actually limiting the operators freedom to use the compressed mode in the most optimum way. We are limiting parameterisation of compressed mode if we ruled out some of the possibilities. In what sense RAN WG4 will be able to do work on that ?

The time when the compressed mode or transmission gap pattern sequences is active is not immediately related to performance. (Mr. Dirk Gerstenberger (Ericsson))

- Operators will not be restricted. They will set parameters as they wish. If they set compressed mode infinite then it will just mean gating is disabled. This will not restrict the operators. Even in GSM, terminal battery life is strongly depending on the network setting and this is not putting any restrictions to the operators.

(Chairman)

Conclusion : We would send LS to RAN WG4 indicating that we want to receive some guidance on this aspect of the use of the compressed mode. Then we will derive the conclusion on what can be achieved for release 4 in Las Vegas. The LS should also sent to RAN WG2 and RAN WG3 as CC so that they also can have an answer from RAN WG4.

Chairman asked Ms. Sarah Boumendil and Mr. Markku Tarkiainen to draft the LS in **R1-01-0143**. This LS was reviewed on Day 4 and approved in **R1-01-0173** (See No.112).

(*3) Mr. Markku Tarkiainen (Nokia) presented this document.

This is a revision of **R1-00-1460** which was reviewed in RAN WG1#17 meeting.

It was proposed that outer loop power control based on CRC attached to zero transport block will be used also during DPCCCH gating because DPCCCH BER will not offer good enough performance for outer loop. This method means that DPCCCH gating concept will correspond to DPCCCH + DPDCH gating. Regarding the impact of this method on the potential DPCCCH gating gains in battery saving, it was concluded this method does not have any deterioration.

Mr. Dirk Gerstenberger (Ericsson) remarked though it sounds strange in some way that we have to start transmitting on DPDCH in order to keep the outer loop power control alive when we consider why DPCCCH gating was introduced, it seems to be sensible to use the CRC on zero transport blocks.

(*4) Mr. Markku Tarkiainen (Nokia) presented this document.

This is the revision of the TR 25.840 which included the outer loop control during DPCCCH gating discussed in R1-01-0009.

Several comments for corrections were made.

- "zero transport channel blocks" should be replaced by "zero length (or bit) transport blocks"
- "DPCCCH and DPDCH fields", "field" is not necessary.
- In section 6.1, "DPDCH field is sent in the same slot ..." gives an impression that the transport format corresponding to zero length transport block is already there but this is not necessary the case.

These comments shall be reflected to the next revision.

(*5) Mr. Dirk Gerstenberger (Ericsson) presented this document.

This is the commenting paper on TR 25.840 *Terminal Power Saving Features* v2.0.0.

Detailed comments were provided in this paper on the following topics.

- Gated DPCCCH transmission scheme in FDD – Terminology
- Detection of DPDCH frame during gating
- Power control parameters
- Operation with other features
- Impact to WGs
- Reference and history sections
- Performance

Since there had been prepared an answer paper for this commenting paper (**R1-01-0142**) by Samsung and Nokia, chairman proposed to have it presented at first and then to start discussions afterwards.

/***/ Coffee break 10:44-11:24 ***/

(*6) This was the answer paper for the commenting paper (**R1-01-0038**).

For each comment raised in R1-01-0038, answer was provided.

After this presentation, several discussions were made between Mr. Dirk Gerstenberger (Ericsson) and Samsung and chairman.

- "non-DPDCH period" is not necessary appropriate $\not\approx$ Regarding terminology issue, chairman suggested offline discussion.
- Detection of DPDCH frame during gating
Mr. Dirk Gerstenberger remarked that if the transmission of TFCI in uplink is really useless, it is a waste of uplink capacity and some method like the one used in the downlink should be considered. Samsung answered there is a room for modifying the method in uplink. They said that the current method has just been chosen for simplicity.
- Now that the outer loop power control is to be included in the TR, issues on recovery period and power control step size need to be reviewed again.
- With respect to SSDT, second bullet point could be more elaborated in terms of the relation with gating.
- Issues related to compressed mode should be treated after we received feed back from RAN WG4.
- Regarding UE battery life enhancement it should be mentioned in the TR that there some dependencies on the implementation.

Mr. Lee Hyeonwoo (Samsung) made a comment on the transmission of TFCI in the uplink in gating at the end of discussion that the reason we transmit the TFCI even in gating mode is to avoid unnecessary switching in gating. He stated that if we do not transmit TFCI in gating mode then the switching rate of UE would be doubled and so that is not recommended. He added Samsung believes transmission of TFCI in uplink in gating is preferred solution.

Against this remark, Mr. Dirk Gerstenberger proposed offline checking.

(*7) This is the revision of the TR (**R1-01-0032**). Discussion which had taken place in this meeting was included.

There were a couple of comments made to the section 8.1.2.2.3 *Impact of Compressed Mode on Battery Life Enhancement* and the revised part in conclusion section (8.1.2.3) that they did not reflect the discussion well. Chairman concluded that section 8.1.2.2.3 and revised part in section 8.1.2.3 should be removed.

TR should be revised with above correction and be v2.1.0. The revision can be found in **R1-01-0179**.

7.5 Positioning (Ad Hoc 29)

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
88	29	R1-01-0118	Simulation results on TDD LCS	Siemens	Noted	No (*1) Comments Day3 12:05-12:09
89	29	R1-01-0014	Clarifications about TDD-LCS and IPDL scheme proposal	Siemens	Postponed LS to be sent	(*2) Day3 12:09-12:22
90	29	R1-01-0064	RTD measurement in UTRAN	Nokia	LS will be sent.	(*3) Day3 12:23-12:34

(*1) This document presented further simulation results on the location services for TDD mode. It was shown that a sufficient accuracy is achieved with an average of 3 measurements and the proposed IPDL scheme for TDD provides enough accuracy and coverage for LCS.

(*2) Mr. Siegfried Bär (Siemens) presented this document.

In RAN WG2#17 it was proposed to introduce an IPDL like enhancement to the OTDOA method for TDD. RAN WG2 had asked us to study its feasibility and evaluate performance improvements achieved by IPDL in **R1-00-1415** (R2-002466). In relation to this request, **R1-00-1355 LCS for 3.84 Mcps TDD** was reviewed in RAN WG1#17 meeting. R1-00-1355 showed that IPDLs are necessary to provide sufficient accuracy and coverage for LCS however it also received several comments/questions on the simulation assumptions.

This paper (**R1-01-0014**) addressed those comments/questions and provided an updated scheme for IPDLs. This paper also recommended to include the proposed IPDL scheme for TDD in TR 25.847 and to send LS to RAN WG2.

Mr. Stephen Dick (InterDigital) remarked that offline checking (further study) is needed to evaluate the impact on power control performance in case the beacon channels are switched off. (impacts should be clarified.)

There were some concerns raised.

- What is the impact on the cell search ? (This should not be forgotten.)
- Backward compatibility for release 99 UEs.

Chairman suggested offline discussion with the interested parties over the lunch and those raised concerns should be reflected in the LS.

LS shall be drafted in **R1-01-0148**. This was reviewed on Day4 and approved in **R1-01-0174**. (See No. 113)

(*3) Mr. Jussi Kahtava (Nokia) presented this document.

This document proposed new UTRAN measurement for the support of OTDOA measurements in UTRAN Rel.-4 UE positioning. In TS 25.305 *Stage 2 Functional Specification of UE Positioning in UTRAN*, v3.4.0, the need for the relative time difference (RTD) measurement is described. In order to support this RTD measurement, it was proposed to include SFN-SFN observed time difference for UTRAN.

This document also contained a draft LS to other WGs to get feedbacks on this issue from them.

Mr. Dirk Gerstenberger (Ericsson) questioned where this measurement is supposed to be performed. Node B or RNC ? . ☹ It maybe in Node Bs. (chairman)

There were 2 comments on the attached draft LS raised by Mr. Dirk Gerstenberger.

- "STD" in the 3rd line should be "RTD" and the sentence below the definition box should be reworded.
- A question should be put regarding where this measurement is thought to take place (Node B or RNC) ?

There was no other comment and the attached draft LS was approved with correction mentioned above.

R1-01-0147 was allocated for the approved version of the LS. (See No. 106)

/***/ Lunch break 12:34-13:48 ***/

7.6 TDD 1.28 Mcps functionality (Ad Hoc 21)

7.6.1 Physical Ad Hoc session took place Day 3 20:00 – 00:50

7.6.2 Report from Ad Hoc #21: 1.28 Mcps TDD (R1-01-0151) / Source : Ad Hoc 21 chairman

(Day4 13:46-14:00)

Mr. Marcus Purat (Siemens, Ad Hoc 21 chairman) presented this document.

Ad Hoc 21 recommended to update the working CRs with the following contributions including the comments made during the discussion.

TS 25.221:

R1-01-0120	<i>Beamforming for 1.28 Mcps TDD</i>	CATT/CWTS
R1-01-0121	<i>Time Slot Formats for 1.28 Mcps TDD</i>	CATT/CWTS
R1-01-0099	<i>Changes to the physical random access channel (PRACH) for 1.28 Mcps TDD</i>	Siemens
R1-01-0096	<i>Coding of SS commands in 1.28 Mcps TDD</i>	Siemens

TS25.222:

R1-01-0092	<i>Coding of FPACH</i>	Siemens
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TS25.223:

R1-01-0126	<i>Modulation of the SYNC-DL</i>	Siemens
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TS25.224:

R1-01-0119 *DTX of radio frames for 1.28 Mcps TDD*
R1-01-0122 *Transmit power control for 1.28Mcps option*

CATT/CWTS
CATT/CWTS

The updated working CRs will be posted to the RAN1-reflector immediately after the WG1#18 meeting. Comments shall be provided before the WG1#19 meeting.

For following 3 documents, revisions shall be presented in the plenary for approval.

R1-01-0091, "Description of the FPACH", Siemens \approx **R1-01-0158** (See No.94), **R1-01-0159** (See No.93)
R1-01-0075, "Correction of the Mapping of TFCI Code Word for very short TFCI for 8PSK", Samsung \approx **R1-01-0157** (See No. 95)
R1-01-0094, "Transmission of TPC commands in 1.28 Mcps TDD", Siemens \approx **R1-01-0160** (See No.92)

For following 2 documents, offline discussions were needed. In case agreements were reached, they should be reviewed in the plenary session.

R1-01-0093, "Main path Rx Timing Deviation for 1.28 Mcps TDD", Siemens (Not reviewed in the plenary after all.)
R1-01-0098, "Timing Advance (T_{ADV}) Measurement in 1.28 Mcps TDD", Siemens (See No. 91)

The Ad Hoc report was approved without any comments.

Chairman reminded people of the technical report which was requested by RAN to be completed by the next RAN plenary. Chairman suggested that the best approach would be that we should prepare a single text proposal for the TR and check it in the next meeting together with the working CRs which would be submitted to RAN. TR needs to be aligned with working CRs.

7.6.3 Leftovers from Ad Hoc 21

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
91	21	R1-01-0098	Timing Advance (T_{ADV}) Measurement in 1.28Mcps TDD	Siemens	Approved	(*1) <small>Day4 16:51-16:53</small>
92	21	R1-01-0160	Transmission of TPC commands in 1.28Mcps TDD	Siemens	Approved	No comments <small>Day4 16:54-16:55</small>
93	21	R1-01-0159	The use and generation of the information fields transmitted in the FPACH	Siemens	Approved	(*2) <small>Day4 16:53-16:59</small>
94	21	R1-01-0158	Description of the FPACH	Siemens	Approved	No comments <small>Day4 16:59-17:03</small>
95	21	R1-01-0157	Revision of "Correction of the Mapping of TFCI Code Word for Very Short TFCI for 8PSK"	Samsung	Approved	No comments <small>Day4 17:04-17:05</small>

(*1) This document had gone through the offline discussion and was reviewed in the plenary. It was mentioned as an outcome of the offline discussion that following correction shall be done to this text proposal before being implemented into working CR.

- Removal of the granularity of (1/8 chips) because this is subject of RAN WG4
- Following should be included at the end

"Note: This measurement can be used for uplink synchronisation or location services."

(*2) Table X should be removed from section 5.6.2.1.

Section 5.6.2.1.4, "may" should be inserted to the second sentence as follows

*The network **may** set this value based on the measured interference level (I) (in dBm) on the specific PRACH and on the desired signal to interference ratio (SIR) (in dB) on this channel as follows:*

(*3) There was a comment on section 6.3.3.1.4 that the mapping of the power level to logical space should be done in RAN WG4 for the first place.

It was proposed and agreed to replace the sentence in 6.3.3.1.4 with

"The transmit power level command is transmitted in 7 bits."

Day 4, started at 09.04

7.7 RAN technical small enhancements and improvements ---Improved Uplink Power Control

No.	CR	rev.	TS	Tdoc	Title	Cat	Source	Conclusion	Notes
96	147	-	25.214	R1-01-0087	Improved Uplink Power Control	C	Siemens	Approved in principle	(*1) Day4 09:06-09:20
97	-	-	-	R1-01-0115	Impact of the introduction of improved power control at power control limits	-	Nortel	LS will be sent to R4	(*1) Day4 09:21-09:45

(*1) In R1-01-0087 besides the proposed CR, further simulation results were also presented. In addition, answers for the questions raised to **R1-00-1447** in RAN WG1#17 meeting were also provided.

R1-01-0115 discussed the possible ways of introducing the proposed feature in release 4 and the potential impact on the system performance in terms of power management at the RNC level. The main concern in this paper was the improved power control behaviour for the release 4 UE implementing this feature in Release 99 networks. This paper listed 2 possible way of introducing this feature into the system.

There was a comment that in release 99 networks, release 4 UE must act as an release 99 UE and therefore there would be no problem.

It was answered that there is no corresponding test case in RAN WG4 for this feature. For the release 4 UE implementing this feature there is only one algorithm and even when in release 99 network we will have this behaviour because this is not addition of the new feature but the replacement of the behaviour. ?

Chairman concluded to send LS with R1-01-0087 attached to RAN WG4 as was proposed by Nortel in order to ask their view on this feature.

The LS was drafted by Nortel in **R1-01-0162**. This was reviewed in afternoon and approved in **R1-01-0171**. (See No. 110)

There was question on the approval of the CR. Chairman answered that CR was approved in principle and it should be mentioned in the LS as well. Having RAN WG4 on this issue, we will make a decision in the next meeting. There was one comment that as was stated by the proponent, the description of the CR is not necessary easy to understand and therefore some kind of block diagrams should be included. Chairman invited proponent to provide the revision for readability on the e-mail so that people can check it before the next meeting.

7.8 Radio link performance enhancements (Ad Hoc 27)

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
98	27	R1-01-0030	Further Results on CPICH Interference Cancellation as A Means for Increasing DL Capacity	Intel	Noted	(*1) Day4 09:45-09:57

(*1) This paper is the continuation work of **R1-00-1371** which was reviewed in RAN WG1#17 meeting.

Further simulation results on the proposal for the UE to cancel multiple access interference (MAI) associated with the pilot channels of the active and neighbouring base stations were presented. It was shown again that CPICH cancellation can increase capacity by 10% or more with relatively small computational complexity. As was suggested in RAN WG1#17, the proponent is going to present this scheme in RAN WG4.

Mr. Peter Chambers (Siemens) remarked that since this is considered as release 5 or after item, the improved performance requirements on the UE receiver would likely be on the release 5 UEs only. In that case, with the mixture of release 99, release 4 and release 5 UEs, can we still achieve the said capacity increase ?

⊗ Capacity increase here will require all UEs to use this procedure. (Intel)

7.9 Tx Diversity (Ad Hoc 26) (Release 5)

The concepts of the proposed method should be provided in TSG RAN #12 (June, 2001) which means we have to have some sort of conclusion by our meeting in May at the latest

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
99	26	R1-01-0103	Simulation Results of the Tx Diversity Scheme with Beamforming Feature	Fujitsu	Noted	(*1) <small>Day4 09:58-10:07</small>

(*1) This is a continuation work of **R1-00-1065**. In the Ad Hoc 26 in RAN WG1 #15 meeting, Fujitsu proposed a new multiple antenna Tx-diversity scheme with a beamforming feature which supports a variety of antenna configurations and beamforming algorithms to achieve efficient Tx-diversity / beamforming gain depending on the spatial correlation characteristics. However R1-00-1065 did not contain any simulation result. In this current paper (R1-01-0103) the first simulation results were presented as agreed in RAN WG1#15 in order to show the benefits of this scheme. Following main points were shown in this paper with the simulation results.

- Simple extension of Tx diversity Mode 1 rapidly degrades the performance in the high mobility region due to the limited feedback bandwidth.
- Proposed scheme combining Tx diversity and beamforming improves the performance regardless of UE mobility. Average Tx Ec/Ior can be reduced about 1.8–2.0 dB.
- Beamforming gain of the proposed scheme is independent of channel model and geometry.

Antenna spacing between sub-arrays was about $\lambda/2$ and soft handover was not considered in the simulations.

7.10 USTS (Ad Hoc 31) (Release 4 study item)

No.	Ad Hoc	Tdoc	Title	Source	Conclusion	Notes
100	31	R1-01-0110	Study report for USTS (v0.0.2)	SK Telecom Nokia	Agreed	(*1) <small>Day4 10:09-10:37</small>
101	31	R1-01-0061	Comparison of soft handover schemes for USTS	LGE	Approved	No (*2) comments <small>Day4 11:06-11:17</small>
102	31	R1-01-0062	TAB Field Improvements for USTS in Soft Handover	LGE	Noted	(*3) <small>Day4 11:17-11:25</small>
103	31	R1-01-0070	Code allocation rule for USTS	Samsung SK Telecom	Noted	(*4) <small>Day4 11:26-11:39</small>

(*1) In RAN WG1 #17 meeting the first version of this TR (v0.0.0) (**R1-00-1380**) was presented and reviewed. It got a lot of comments for the revision and SK Telecom provided the revision of TR (v0.0.1) (**R1-01-0054**) in prior to the RAN WG1#18.

But during the meeting and before the review, it was further revised into v0.0.2. The only one but still one astonishing change was made in section 4.1.3.2 compared to v0.0.1. Nokia joined the source companies in v0.0.2. Mr. Erik Dahlman (Ericsson) remarked regarding the following sentence in section 4.1.1 the cell size should not be restricted to 10km radius because when we consider the solutions (application of USTS like WLL) it should not be limited to 10km. If we put the value of 10km as *an example* then it would be OK. Is there any fundamental reason for this 10km?

The proposed value for T_{ref} is the maximum one-way propagation delay and it comes to 128 chips for a cell radius of 10 km and a chip rate of 3.84 Mcps (this cell size is sufficiently large for indoor and micro cell environments).

☞ Of course there must some limitation radius exist in terms of uplink synchronous transmission requirements.

Mr. Volker Höhn (Mannesmann Mobilfunk) made a comment that the "10km cell" and still "indoor" or "micro cell" would not fit and therefore some rewording should be done.

Chairman suggested to remove the sentence in parentheses.

There was another comment regarding section 6.3 *Different scrambling/channelisation code usage* that though there is a statement of "USTS does not require any additional hardware." in this section it is not true.

☞ Chairman suggested changing it to "USTS requires a small amount of additional hardware".

Conclusion : Revision should be made reflecting the above suggestions from chairman. Next version will be v0.1.0 without revision mark. Revision can be found in **R1-01-0163**.

Hopefully by the end of the next meeting we will have the TR for RAN #11.

/ *** Coffee break 10: 38 - 11:05 *** /

(*2) Soft handover schemes for USTS, in which both original and target Node Bs are operated in USTS are discussed in this paper.

No comments were raised.

Chairman suggested that the text of this contribution would be incorporated in the TR v0.1.1 with revision marks.

(*3) 2 methods for improving the reliability of Timing Alignment Bit (TAB) in soft handover were presented in this paper. They are

- Allocation of higher power offset to TAB
- Increase of the transmission rate of TAB

Mr. Jussi Kahtava (Nokia) remarked that according to the latest USTS TR, the timing feed back to Node B had been changed from 20ms to 200ms. (See section 4.1.3.2) but TAB is still to be sent every 20ms which means UE can have 10 TABs in between making timing feed backs. By combining of these 10 TABs somehow it is possible to make more reliable TAB decision without having extra means proposed by this contribution.

But this corresponds to the second method proposed by this contribution because it had not been made known until this meeting that the feedback rate is to be changed from 20 msec to 200 msec. (See No. 100)

(*4) This is the revision of **R1-00-1160** which was reviewed in RAN WG1#17 meeting. In the reviewal in RAN WG1 #17 it was pointed out that this proposed method did not have any explicit improvement in code allocation efficiency if we chose the proper code allocation scheme for the comparison.

Samsung provided this paper in order to show what the improvement in code allocation efficiency really is by comparing with another OVSF code allocation scheme.

Chairman stated that still it is not quite clear what the benefit of this scheme is. (Situation has not changed at all since RAN WG1#17 meeting.)

There were no answers, no remarks made. Chairman concluded that this was noted.

8. Approval of the liaison statements as output from WG1

No.	Discussed Tdoc	Source	To/Cc	Title	Approved Tdoc	Notes
104	R1-01-0104	Philips Ericsson	R3 Cc:R4,R2	Answer LS to R1-00-1334 "RL timing adjustment by UTRAN"	R1-01-0135	No (*1) Comment <small>Day2 13:51</small>
105	R1-01-0101	Ericsson	R2	Answer to LS on Default configurations	R1-01-0101	(*2) <small>Day2 19:14</small>
106	R1-01-0064	Nokia	R2,R4 Cc:R3	RTD measurement in UTRAN	R1-01-0147	(*3) <small>Day3 12:34,Day4 16:25</small>
107	R1-01-0106	Nokia	R4	LS on compressed mode transmission gap length (TGL) 8	R1-01-0167	No (*4) Comment <small>Day4 11:41</small>
108	R1-01-0105	Panasonic	R2 Cc:R3	LS to PCH message length	R1-01-0105	(*5) <small>Day4 11:48</small>
109	R1-01-0090	Nortel	S4 Cc:R2	Reply LS on: "Liaison to 3GPP TSG RAN WG1 and 3GPP TSG RAN WG2 on the Efficiency of Packet-Switched Conversational Multimedia Service"	R1-01-0170	No (*6) Comment <small>Day4 14:20</small>
110	R1-01-0162	Nortel	R4 Cc:R2	LS on introduction of uplink power control at power control limits	R1-01-0171	(*7) <small>Day4 14:30</small>
111	R1-01-0069	Samsung	R2, R3	LS on DSCH TFCI Split Mode	R1-01-0172	(*8) <small>Day4 14:36</small>
112	R1-01-0143	Nortel	R4 Cc: R2,R3	LS on impact of compressed mode on DPCCCH gating benefits	R1-01-0173	(*9) <small>Day4 14:42</small>
113	R1-01-0148	Siemens	R2 Cc: R3	IPDL scheme for location services in TDD mode	R1-01-0174	(*10) <small>Day4 14:46</small>
114	R1-01-0154	Lucent, Nokia Nortel	R2 Cc:R4	Answer to LS R2-010205 (R1-01-0145) "Results of HSDPA Study Item AdHoc"	R1-01-0176	(*11) <small>Day4 16:23</small>
115	R1-01-0178	Ericsson Nokia Panasonic	R2	UE capability	R1-01-0178	No (*12) Comment <small>Day4 16:31</small>
116	R1-01-0165	Samsung	R2,R3,R4	LS on revision of TR 25.840 v2.1.0 on Terminal Power Saving Features	R1-01-0180	(*13) <small>Day4 16:47</small>

(*1) Mr. Matthew Baker (Philips) presented this LS.

This is the answer liaison to **R1-00-1334** (R3-002726) in which RAN WG3 asked RAN WG1 how often a Radio Link Timing adjustment procedure might be required and whether RAN WG1 considers that the current WG3 solution, whereby a RL is deleted and established again, is sufficient for R99. R1-00-1334 was reviewed in RAN WG1 #17 meeting and T-doc **R1-00-1423** was allocated for the answer. Eventually the answer was not presented in RAN WG1#17. Now the answer was drafted in R1-01-0104 based on the discussion on the e-mail reflector.

*Current WG3 solution is adequate for release99 but RAN WG1 would like to ask RAN WG3 to consider implementing a RL adjustment procedure for a **future release**.*

(*2) Mr. Dirk Gerstenberger (Ericsson) presented this LS.

(For the background information, see No.5)

In the draft LS the value of "8dB" was proposed for the example of dpccch-PowerOffset but it was removed because it is considered very huge step size. Instead chairman suggested to put "range" in the following sentence.

*"RAN1 believes that it would be feasible to use a granularity **and range** requiring less bits for the parameter than currently used."*

/***/ Day2 ended at 19:14 ***/

(*3) Mr. Jussi Kahtava (Nokia) presented this LS.

The draft LS was reviewed on Day 3. (See No.90) Mr. Jussi Kahtava (Nokia) presented revised version R1-01-0147 on Day4 and it was approved.

(*4) Mr. Ville Steudle (Nokia) presented this LS. This was based on the discussion of **R1-01-0077** (See No.12)

(*5) Mr. Hidetoshi Suzuki (Panasonic) presented this LS. This was based on the discussion of **R1-01-0056**. (See No.10)

Mr. Serge Willenegger (Qualcomm) remarked that it should be confirmed in this LS that there are no cases where consecutive frames carrying PCH would need to be received by UE.

(Because this was the point we discussed in Day1.)

(*6) Ms. Sarah Boumendil (Nortel) presented this LS in behalf of Ms. Evelyne Le Strat (Nortel).

This is the answer LS to **R1-01-0029** (S4-000700R) which was reviewed on Day 1. (See No.1)

(*7) Ms. Sarah Boumendil (Nortel) presented this LS. This was based on the discussion of **R1-01-0115**. (See No. 97)

A small discussion was made regarding the first sentence in 4th paragraph that this could give the impression that there is already problem (impact) on the radio resource management.

*During RAN WG1#18, it was discussed in [3] that simply replacing the release 99 UE behaviour at power control limits by the proposal contained in [2] **could have some impact on the radio resource management**.*

Chairman suggested that "could" had better be replaced by "might".

(*8) This LS is based on the discussion of **R1-00-1269** which was discussed in RAN WG1#17 meeting.

Now this current LS is asking RAN WG2 and RAN WG3 view whether we should study the enhancement on hard split to support variable bit length TFCI for DCHs and DSCHs as a Rel4/5 issue. Chairman stated that we should put it as Rel-5 issue instead of putting Rel-4/5 issue because it is pretty late if we asked guidance of something to be studied for release 4.

- (*9) Ms. Sarah Boumendil (Nortel) presented this LS. This was based on the discussion of **R1-01-0039** and **R1-01-0114**. (See No. 81 and No.82)

Chairman suggested that some phrase like "in the current concept" would better be put before the sentence of *DPCCH gating cannot be used during these periods between compressed frames.* in the second paragraph because we are not talking something specified in the current specifications.

- (*10) Mr. Siegfried Bär (Siemens) presented this LS. This was based on the discussion of **R1-01-0014**. (See No. 89) Chairman suggested that following sentence had better be added to the last so as not to give an impression that we are talking about some kind of no-go features.

"RAN WG1 hopes to be able to solve the remaining concerns in RAN WG1#19."

- (*11) This is the answer liaison statement to **R1-01-0145** (R2-010205) which arrived at RAN WG1 and reviewed on Day 3. (See No. 57). To each of 5 questions RAN WG2 raised in their LS, RAN WG1 answer was provided. Chairman remarked that the answer for question 4 should be modified as follows.

Therefore, it is well understood that the architecture will support multiple transport channels on a single CCTrCH for HS-DSCH

Mr. Amitabha Ghosh (Motorola) remarked regarding the answer for question 3 that the following sentence should be removed because it is already mentioned in the TR.

Also, variable TTI is well suited for fat-pipe scheduling techniques such as those enabled by the Downlink Shared Channel. This remark was agreed.

Chairman stated that the text proposal for RAN WG2 TR contained in **R1-01-0144** (See No. 76) should be put in the LS.

There were no other comments and LS was approved as amended.

Chairman suggested to attach the RAN WG1 TR to this LS before sending it to RAN WG2. Since revised TR (**R1-01-0177**) was not available in the meeting, this LS shall be sent by the secretary after the R1-01-0177 is made available on the e-mail reflector.

- (*12) After offline discussion, Panasonic, Ericsson and Nokia reached conclusion. The conclusion was summarized in this LS. This LS also contains a small proposed CR for TS 25.306 (CR 25.306-001).

Chairman remarked in responding to the comment from Mr. Serge Willenegger (Qualcomm) that in case there are comments/problems on this topic later, of course we will come back to this again and make a discussion in the next meeting.

- (*13) Chairman remarked that following 2 bullet points should be removed because they had been removed from the revised TR. (See No.87)

- Include the results showing the impact of compressed mode on battery life enhancement
- Include the comments on the implementation dependency of UE battery life enhancement

Meeting closed at 17:08

9. WG1 meeting schedule in year 2000 -2002(Tentative)

Meeting	Year	Month	Date	Location	Hosts
RAN WG1 #10	2000	January	18-21	China	Nokia
RAN WG1 #11	2000	February	29 – March 3	USA	TIP1
RAN #7	2000	March	13-15	Madrid, Spain	
RAN WG1 #12	2000	April	10-13	Korea	TTA
RAN WG1 #13	2000	May	22-25	Tokyo, Japan	NTT DoCoMo
RAN #8	2000	June	21-23	Dusseldorf, Germany	
RAN WG1 #14	2000	July	4-7	Finland	Nokia
RAN WG1 #15	2000	August	22-25	Germany	Siemens
RAN #9	2000	September	20-22	Hawaii	
RAN WG1 #16	2000	October	10-13	Pusan, Korea	Samsung, LGIC
RAN WG1 #17	2000	November	21-24	Stockholm, Sweden	Ericsson
RAN #10	2000	December	6-8	Bangkok, Thailand	Unisys
RAN WG1 #18	2001	January	15-18	U.S.A. Boston	North American Friends of 3GPP
RAN WG1 #19	2001	February	27 – March 2	U.S.A. Lasvegas	Motorola
RAN #11	2001	March	13-16	Palm Springs, CA U.S.A.	North American Friends of 3GPP
Physical Ad Hoc	2001	April	5-6 (?)	Sophia Antipolis with R2	
RAN WG1 #20	2001	May	21-25 (5days)	Cheju ?, Korea withR2,3	Samsung
RAN #12	2001	June	12-15	Stockholm, Sweden	Ericsson
RAN WG #21	2001	June	26-29	Paris, France	Nortel(tentative)
RAN WG #22	2001	August	27-31	T.B.D.	Host needed
RAN #13	2001	September	18-21	Beijing, China	Lucent, CWTS
RAN WG #23	2001	October	8-12	T.B.D.	Host needed
RAN WG #24	2001	November	19-23	T.B.D.	Host needed
RAN #14	2001	December	11-14	Kyoto, Japan	ARIB, TTC
RAN #15	2002	March	5-8	(Korea)	TTA
RAN #16	2002	June	4-7	(Europe)	Motorola
RAN #17	2002	September	3-6	(France)	Alcatel
RAN #18	2002	December	3-6	(U.S.A.)	North American Friends of 3GPP

Annex A : List of approved CRs (Approved in RAN WG1 #18 meeting)

1. TS 25.211

No.	Spec	CR	Rev	R1 T-doc	Subject	Cat	Source	Ref.	V_old	V_new
1	25.211	091	-	R1-01-0034	DSCH reading indication	F	Ericsson	18-11	3.5.0	3.6.0

2. TS 25.214

No.	Spec	CR	Rev	R1 T-doc	Subject	Cat	Source	Ref.	V_old	V_new
1	25.214	142	1	R1-01-0112	Uplink power control in compressed mode	F	Philips	18-27	3.5.0	3.6.0
2	25.214	144	-	R1-01-0052	Removal of the power balancing algorithm from TS 25.214	F	NEC	18-13	3.5.0	3.6.0
3	25.214	145	-	R1-01-0053	Clarification of Nid parameter – when SSDT and uplink	F	NEC, Telecom	18-14	3.5.0	3.6.0
4	25.214	146	-	R1-01-0085	Clarification of closed loop transmit diversity mode 1 and	F	Motorola	18-15	3.5.0	3.6.0

3. TS 25.215

No.	Spec	CR	Rev	R1 T-doc	Subject	Cat	Source	Ref.	V_old	V_new
1	25.215	079	2	R1-01-0107	Correction of the observed time difference to GSM	F	Nokia	18-28	3.5.0	3.6.0
2	25.215	081	-	R1-01-0071	Removal of UE SIR measurement	F	Ericsson	18-17	3.5.0	3.6.0

4. TS 25.221

No.	Spec	CR	Rev	R1 T-doc	Subject	Cat	Source	Ref.	V_old	V_new
1	25.221	037	1	R1-01-0019	Bit Scrambling for TDD	F	Siemens	18-20	3.5.0	3.6.0
2	25.221	039	1	R1-01-0111	Corrections of PUSCH and PDSCH	F	Siemens	18-30	3.5.0	3.6.0
3	25.221	040	-	R1-01-0021	Alteration of SCH offsets to avoid overlapping midamble	F	Siemens	18-31	3.5.0	3.6.0
4	25.221	041	-	R1-01-0022	Clarifications & Corrections for TS25.221	F	Siemens	18-32	3.5.0	3.6.0

5. TS 25.222

No.	Spec	CR	Rev	R1 T-doc	Subject	Cat	Source	Ref.	V_old	V_new
1	25.222	051	1	R1-01-0019	Bit Scrambling for TDD	F	Siemens	18-21	3.5.0	3.6.0
2	25.222	054	-	R1-01-0023	Corrections & Clarifications for TS25.222	F	Siemens	18-33	3.5.0	3.6.0

6. TS 25.224

No.	Spec	CR	Rev	R1 T-doc	Subject	Cat	Source	Ref.	V_old	V_new
1	25.224	036	-	R1-01-0153	DTX and Special Burst Scheduling	F	InterDigital	18-35	3.5.0	3.6.0
2	25.224	037	-	R1-01-0073	RACH random access procedure	F	InterDigital	18-34	3.5.0	3.6.0
3	25.224	045	-	R1-01-0016	Introduction of closed-loop Tx diversity for the PDSCH and	F	Siemens	18-19	3.5.0	3.6.0
4	25.224	046	-	R1-01-0017	Corrections of TDD power control sections	F	Siemens	18-25	3.5.0	3.6.0

7. TS 25.225

No.	Spec	CR	Rev	R1 T-doc	Subject	Cat	Source	Ref.	V_old	V_new
1	25.225	023	-	R1-01-0107	Correction of the observed time difference to GSM	F	Nokia	18-29	3.5.0	3.6.0

(*1) Total 18 CRs were approved in RAN WG1#18 meeting. One CR for TS 25.306 was approved and sent to RAN WG2 (See No. 115)

(*2) CR number for the CR contained in R1-01-0017 has been changed from 031 to 046 by the secretary because there was a contradiction between T-doc subject and actual CR number put in the cover sheet. CR database is also suggesting that it should be 046. If Siemens can clarify which is correct, it will be appreciated, though...

(*3) R1-01-0111 CR 25.221-039 needs to be revised. (See No.18, 30)

Annex B The Participants List

Title	last	First	Company	Telephone	Fax	Email	Status	Rep Partner
Mr.	Agrawal	Avneesh	QUALCOMM	+1 408-557-	+1 408-557-	aagrwal@qualcomm	3GPPMEMBE	ETSI
Mr.	Aksentijevic	Mirko	NOKIA Corporation	+358 9 511	+358 9 511	mirko.aksentijefic@no	3GPPMEMBE	ETSI
Mr.	Aspray	David Lee	Hutchinson 3G	07811 964006		dave.aspray@hutchin		
Mr.	Baeder	Uwe	Rohde & Schwarz	49 89 41 29	49 89 41 29	uwe.bader@rsd.rohd	IMR	ETSI
Mr.	Baer	Siegfried	Siemens AG	49 5341 906	49 5341 906	siegfried.baer@sal.si	IMR	ETSI
Mr.	Baker	Matthew	Philips	44 0 1293	44 0 1293	bakemp2@prl.resear	IMR	ETSI
Dr.	Barberis	Sergio	CSELT	39 011	39 011	sergio.barberis@cse	IMR	ETSI
Mr.	BILLY	NICOLAS	ALCATEL France	+33 1 30 77 30	+33 1 30 77 94	nicolas.billy@alcatel.f	3GPPMEMBE	ETSI
Ms.	Boumendil	Sarah	NORTEL	+33 1 39 44 58	+33 1 39 44 50	boumendi@nortelnet	3GPPMEMBE	ETSI
Dr.	Brothers	Reginald	ENVOY Networks	-11238	-10882	rbrothers@envoynetw	MISCELLAN	
Mr.	Burkert	Frank	SIEMENS AG	4.9897225434	4.9897224649	Frank.Burkert@Mch.	3GPPMEMBE	ETSI
Mr.	Chambers	Peter	Roke Manor	+44 1744 83		peter.chambers@rok		ETSI
Mr.	Chambers	Peter	Roke Manor	44 0 1794 833	4 0 1794	peter.chambers@rok	IMR	ETSI
Dr.	Cheng	Fang-Chen	Lucent Technologies	+2 973 448	+2 973 448	fcc@lucent.com	3GPPMARK_	UMTSF
Dr.	CHENG	JUN	HuaWei Technologies	-6541477	-6543969	chengjun@huawei.co		
Dr.	Corden	Ian	Lucent Technologies	+44 1 973 448	+44 1 973 448	icorden@lucent.com	3GPPMEMBE	ETSI
Mrs.	Czapla	Liliana	Interdigital	631 622 4358	631 622 4001	liliana.czapla@interdi		
Mr.	Da Rocha	Alexandre	Alcatel	33 1 55 66 78	33 1 55 66 77	alexandre.darocha@a	IMR	ETSI
	Dahlman	Erik	Ericsson	+46 8 7641377	+46 8	erik.dahlman@era.eri	IMR	ETSI
Mrs.	De Benedittis	Rossella	SIEMENS ICN S.p.A	+39 024 388	+39 024 388	Rossella.DeBenedittis	3GPPMEMBE	ETSI
Mr.	Dick	Steve	Interdigital	631 622 4298	631 622 4298	jennifer.pontrelli@inte	IMR	ETSI
Mr.	Dong	Chen	Siemens	86 10	86 10 64 32	dong.chen@pek1.sie	IMR	ETSI
Mr.	Fabien	Jean-Aicard	Motorola Inc.	+1 602 732	+1 602 732	p28842@email.mot.c	3GPPMEMBE	T1
Dr.	Falaki	Hamid	Lucent Technologies	44 1793	44 1793 88324	hfalaki@lucent.com	IMR	ETSI
Mr.	Fukui	Noriyuki	Mitsubishi Electric	+81 467 41	+81 467 41	fukui@isl.melco.co.jp	IMR	ARIB
Mr.	Futakata	Toshiyuki	NTT DoCoMo	81 468 40	81 468 40	futakata@wsp.yrp.ntt	IMR	ARIB
Mr.	Gerstenberger	Dirk	ERICSSON L.M.	+46 58 533	+46 8 404	dirk.gerstenberger@e	3GPPMEMBE	ETSI
Dr.	Ghosh	Amitabha	Motorola Inc.	+1 847 632	+1 847 435	ga0047@email.mot.c	3GPPMEMBE	T1
Mr.	Gopalakrishnan	Nandu	Lucent	973-884-64877		ngopal@lucent.com	IMR	ETSI

Title	last	First	Company	Telephone	Fax	Email	Status	Rep Partner
Mr.	Grieco	Don	Interdigital	631 622 4102	631 622 0100	Donald.Grieco@inter	IMR	ARIB
	Griguer	Marc	France Telecom R&D	+33 1 45 29 55	+33 1 45 29 64	marc.griguer@francet	3GPPMEMBE	ETSI
Mr.	GUILBAUD	Michael	ALCATEL France	33155666589	33155664450	michael.guilbaud@art	3GPPMEMBE	ETSI
Dr.	Gumussoy	Murat	Matsushita	+44 1635		murat.gumussoy@mc		
Mr.	Hallam-Baker	Nick	SYMBIONICS Ltd	+44 1223	+44 1223	nhb@symbionics.co.u	3GPPMEMBE	ETSI
Mr.	Heinle	Frank	Philips	49 911 2001	49 911 2001	Frank.Heinle@philips.	IMR	ETSI
Mr.	Herczog	Pascal	TTP	+44 1763	+44 1763	pascal.herczog	3GPPMEMBE	ETSI
Mr.	Hillier	Adrian	TTP	+44 1763	+44 1763	adrian.hillier@tppcom.	3GPPMEMBE	ETSI
Dr.	Hoehn	Volker	Mannesmann	49 211 533	49 211 533	Volker.hoehn@d2priv	IMR	ETSI
	Hoeynck	Andreas	SIEMENS AG	4.9303862305	4.9303862555	andreas.hoeynck@ic	3GPPMEMBE	ETSI
Ms.	Hu	Jinling	CATT		+86 10	hujl@tdscdma.com	3GPPORG_R	CWTS
Mr.	Huang	Howard	Lucent Technologies	732-888-7187	732-888-0920	hchuang@lucent.com	IMR	
Dr.	Hwang	Seung-Hoon	LGE	82 31 450	82 31 450	shwang@lgic.co.kr	IMR	TTA
	Ian	Corden	Lucent Technologies	+1 973 448		icorden@lucent.com	3GPPMEMBE	ETSI
Mr.	Ikeda	Shinobu	ETSI	+33 4 92 94 42	+33 4 93 65 28	shinobu.ikeda@etsi.fr	3GPPORG_R	ETSI
Mr.	Ito	Kenji	Siemens K.K	+81 3 5423	+81 3 5423	kenji.ito@skk.siemens	3GPPMEMBE	ARIB
Mr.	Itoh	Katsutoshi	SONY Corporation	+81 3 5782	+81 3 5782	kitoh@wtlab.sony.co.j	3GPPMEMBE	ARIB
Mr.	Jechoux	Bruno	Mitsubishi Electric	33 2 99 84 26	33 2 99 84 21	jechoux@tcl.ite.mee.c	IMR	ETSI
Dr.	Khan	Farooq	Lucent Technologies	732-949-5984	732-949-1504	fkhan1@lucent.com		
Mr.	Kiernan	Brian	INTERDIGITAL	+1 610 878	+1 610 878	brian.kiernan@interdi	3GPPMEMBE	ETSI
Mr.	Kim	Young Sam	LG Electronics	82 31 450	82 31 450	yskim03@lgic.co.kr	IMR	TTA
Mr.	Kim	Bonghoe	LG Electronics	82 31 450	82 31 450	bong@lgic.co.kr	IMR	TTA
Mr.	Kinjo	Shigenori	Texas Instruments	81 298 50	81 298 50	kinjo@ti.com	IMR	ARIB
Dr.	Kowalewski	Frank	Siemens	49 5341 906	49 5341 906	frank.kowalewski@sal	IMR	ETSI
Dr.	Kwon	Sung Lark	LGE	82 31 450	82 31 450	sdkwon@lgic.co.kr	IMR	TTA
Mr.	Lai	Jie	Wiscom Technologies	732 340 9285	732 340 9566	jlai@wiscomtech.com	IMR	
Mr.	Lax	Alex	3G.COM (UK) LTD	+44 1225 789	+44 1225 789	alax@cellular3g.com	3GPPMEMBE	ETSI
Mr.	Le Pezennec	Yannick	VODAFONE Group	+44 1635 332	+44 1635 528		3GPPMEMBE	ETSI
Ms.	Le Strat	Evelyne	NORTEL EUROPE	+33 1 39 44 53	+33 1 39 44 50	elestrat@nortelnetwor	3GPPMEMBE	ETSI
Dr.	Lee	Jeho	LG Electronics Inc.	82 31 450	82 31 450	jeholee@lgic.co.kr	IMR	TTA
Dr.	Lee	Jinsock	Telecom Modus	44 1372 804	44 1372 804	jinssock.lee@t-	IMR	ETSI

Title	last	First	Company	Telephone	Fax	Email	Status	Rep Partner
Mr.	Lee	Ju Ho	Samsung Electronics	+82 342 779	+82 342 779	juhiolee@samsung.co		
Mr.	Li	Chenguang	CATT	-62306507	-62304625	licg@pub.tdscdma.co	3GPPORG_R	CWTS
Mr.	Li	Feng	CATT	-62306540	-62304625	lifeng@pub.tdscdma.	3GPPORG_R	CWTS
Dr.	Li	Gang	Lucent Technologies	1 973 386	1 973 386	gangli@lucent.com		
Mr.	Lindberg	Stefan	ERICSSON L.M.	+46 8 7575784	+45 8 4043700	Stefan.Lindberg@era.	3GPPMEMBE	ETSI
Mr.	Ljung	Rickard	TELIA AB	+46 40 10 51	+46 40 30 70	rickard.m.ljung@telia.	3GPPMEMBE	ETSI
Mr.	Love	Robert	Motorola			QA2178@email.mot.c		
Dr.	Makihira	Tsuneichi	Mitsubishi Electric Co.	+81 6 6495	+81 6 6495	makihira@cew.melco.	3GPPMEMBE	ARIB
Mr.	Malmstrom	Fredrik	Ericsson	46 70 697 84	46 46 23 16 50	Fredrik.malmstrom@	IMR	ETSI
Dr.	Mardani	Reza	Lucent Technologies	973 448 5249	973 448 5260	rezamardani@lucent.		
Mr.	Meiling	Axel	SIEMENS AG	+49 30 386	+49 30 386	axel.meiling@icn.sie	3GPPMEMBE	ETSI
Mr.	Meyer	Jan	Lucent Technologies	49 89 95086	49 89 95086	jefmeyer@lucent.com	IMR	ETSI
Dr.	Meyers	Martin	Lucent	973-386-4507		mmeyers@lucent.co	3GPPMEMBE	ETSI
Mr.	Mochizuki	Takashi	NEC Corporation				3GPPMEMBE	ARIB
Dr.	MONTALBANO	Giuseppe	PHILIPS	+33 (0)4 92 96	+33 (0)4 92 96	Giuseppe.Montalbano	3GPPMEMBE	ETSI
Mr.	Moon	Yongsuk	Samsung Electronics	82 31 280	82 31 280	ysmoon@samsung.c	IMR	TTA
Dr.	Moshavi	Shimon	Intel Corp (DSPC)	972 3 531	972 3 532	shimon.moshavi@inte	IMR	ETSI
Mr.	Oestreich	Stefan	SIEMENS AG	+49 89 7222	+49 89 7222	stefan.oestreich@icn.	3GPPMEMBE	ETSI
Mr.	Okumura	Yukihiko	NTT DoCoMo	+81 468 40	+81 468 40	okumura@mlab.yrp.nt	3GPPMEMBE	ARIB
Mr.	Owoye	G. Manny	Motorola Inc.	+011 815 884	+011 815 884	W18384@email.mot.c	3GPPMEMBE	T1
Mr.	Pace	Alessandro	Telecom Italia Mobile	39 335 633	39 06 39	apace@mail.tim.it	IMR	ETSI
Mr.	Palese	Carlo	St Microelectronics	39 095 740	39 095 740	carlo.palese@st.com	IMR	
Mr.	Pecen	Mark	MOTOROLA Ltd	+1 847 523	+1 847 523	wlmp17@email.mot.c	3GPPMEMBE	ETSI
Mr.	Pesach	Golan	UMTS Forum	-813769	-9053546	pgolan@orange.co.il	MISCELLAN	
Dr.	Pollakowski	Olaf	SIEMENS AG	+49 30 386	+49 30 386	olaf.pollakowski@icn.	3GPPMEMBE	ETSI
Dr.	Ponnekanti	Seshiah	Fujitsu Europe	44 20 8606	44 20 8606	S.Ponnekanti@fujitsu.	IMR	
Dr.	Purat	Marcus	SIEMENS AG	+49 30 386	+49 30 386		3GPPMEMBE	ETSI
Mr.	Ribuffo	Michael	LayerOne Wireless	+01 (631) 592-	+01 (631) 592-	m.ribuffo@layer-		
Mr.	Rudolf	Marian	Mitsubishi Electric	33 2 99 84 11	33 2 99 84 21		IMR	ARIB
Dr.	Rudrapatna	Ashok	Lucent Technologies	1 973 386	1 973 386	arudrapatna@ieee.or	IMR	
Mr.	Sadowsky	John	Intel Corporation	480 554 0842	480 554 2241	John.Sadowsky@intel	IMR	ETSI

Title	last	First	Company	Telephone	Fax	Email	Status	Rep Partner
	Sampath	Ashwin	Lucent Technologies	+1 732 949	+1732 949	asampath@lucent.co	3GPPMEMBE	ETSI
Miss	Sapienza	Marzia	St Microelectronics	39 095 740	39 095 740	marzia.sapienza@st.c	IMR	
Mr.	Sato	Masanori	SONY Corporation	-10903	-10917	msato@wtlab.sony.co	3GPPMEMBE	ARIB
Mr.	Sauvage	Nicolas	TTP	+44 1763 266	+44 1763 261	nicolas.sauvage@ttpc	3GPPMEMBE	ETSI
Mr.	Savaglio	Frank	NEC	61 3 9264	61 3 9264	Franks@icpdd.neca.n	IMR	ARIB
Mr.	Secord	Normon	NORTEL	+1 613 765	+1 613 765	nsecord@nortelnetwo	3GPPMEMBE	ETSI
Mr.	Seki	Hiroshi	Fujitsu Laboratories	81 44 754	81 44 754	hseki@jpfujitsu.com	IMR	ARIB
Mr.	Senninger	Christian	SIEMENS AG	+49 89 722	+49 89 722	christian.senninger@	3GPPMEMBE	ETSI
Mr.	Spaling	Gerke	ERICSSON L.M.	+31 53 4505	+31 53 4505	Gerke.Spaling@eln.er	3GPPMEMBE	ETSI
Dr.	Stefan	Bahrenburg	Siemens	86 10	86 10 64 32	stefan.bahrenburg@p	IMR	ETSI
Mr.	Stuedle	Ville	NOKIA Corporation	+358 50 307	+358 10 505	ville.stuedle@nokia.c	3GPPMEMBE	ETSI
Dr.	Su	Hsuan-Jung	Lucent Technologies	732-949-5277	732-949-1504	hjsu@lucent.com		
Mr.	Suzuki	Hidetoshi	Matsushita	+81 468 40	+81 468 40	hidetoshi.suzuki@yrp.		
Mr.	Takano	Michiaki	Mitsubishi Electric	81 468 47	81 468 47	m_takano@csc.melco	IMR	ARIB
Mr.	Tarkiainen	Mika	NOKIA Corporation	+358	+358	mika.tarkiainen@nmp	3GPPMEMBE	ETSI
	Tarkiainen	Markku	NOKIA Corporation	+358 50 518	+358 10 505	markku.tarkiainen@n	3GPPMEMBE	ETSI
Dr.	Tatesh	Said	Lucent Technologies	+44 1793 883	+44 1793 883	statesh@lucent.com	3GPPMEMBE	ETSI
Mr.	Toskala	Antti	Nokia	358 9 51130	358 9 51130	Antti.toskala@nokia.c	IMR	ETSI
Mr.	Usuda	Masafumi	NTT DoCoMo Inc.	81 468 40	81 468 40	usuda@wsp.nttdoco	IMR	ARIB
Ms.	Wang	Jingyu	CATT	86 10 623 044	86 10	wangjy@catt.ac.cn	IMR	CWTS
Mr.	Wengertter	Christian	PANASONIC	+49 6103 766	+49 6103 766	wengertter@panasoni	3GPPMEMBE	ETSI
Mr.	Wenk	Carl	InterDigital	631 622 4144	631 622 0100	carl.wenk@interdigital	IMR	ETSI
Mr.	Whitehead	James	AT&T	+1 425 580	+1 425 580	jim.whitehead@attws.		
Mr.	Wiedmann	Ralf	SIEMENS AG	+49 89 722	+49 89 722	ralf.wiedmann@mch.	3GPPMEMBE	ETSI
Dr.	Yan	Aiguo	Analog Devices	781-937-1479	731-937-1051	aiguo.yan@analog.co		ETSI
Mr.	Yang	Guiliang	CATT	+86 10	+86 10	yanggl@pub.tdscdma	3GPPORG_R	CWTS
Mr.	YU	HAN IL	Samsung Electronics	-7716	-7788	hiyu@samsung.co.kr		
Mr.	Zack	Rafael	Intel Corp	972 3 531 531	972 3 532	rati.zack@intel.com	IMR	ETSI
Mr.	Zelmer	Donald E.	Bellsouth Cellular	+1 404 249	+1 404 249	don_zelmer@bscc.bls	3GPPMEMBE	T1
	ZHANG	SEN LIN	BT Cellnet	+44 1473	+44 1473	senlin.zhang@bt.com	3GPPMEMBE	ETSI