3GPP1 TSG RAN WG1 **Tdoc TSG RAN WG1 13/99**

Draft report of the 1st WG1 meeting
21st-22nd January 1999 - Espoo , Finland

1. Opening of the meeting

The meeting was opened by the convenor (Y. Furuya, NEC) who welcomed the delegates for this first meeting of the WG1 group.

2. Approval of the agenda

The agenda was approved without modification.

3. Document structures and terms of reference

Tdoc RAN WG1 3/99, from ARIB, presented by the RAN convenor (A. Sasaki, ARIB) indicated that the ETSI and ARIB specifications have almost the same documentation structures and proposes to start from the ETSI documentation structure to initiate the merging process. The proposal was **approved**.

The status of ETSI documents describing the ETSI radio interface was presented by the secretary of the WG1 meeting (F. Gourgue, Alcatel). It was clarified that these documents still needed to be approved by ETSI SMG2, scheduled from the 25th to 29th January, before they could be officially provided to 3GPP.

The status of these documents, prepared by (M. Nasshan, Siemens), appears in the following table:

Number	Document title	Version(s) discussed	Version approved as
Xx.01	UTRA physical layer documentation plan	0.2.2	0.3.0
Xx.02	UTRA physical layer general description	0.3.0, 0.0.4	0.1.0
Xx.03	UTRA FDD, transport channels and physical channels	1.1.0, 1.2.0	1.3.0
Xx.04	UTRA FDD, multiplexing, channel coding and interleaving description	0.7.0, 0.7.1	0.8.0
Xx.05	UTRA FDD, spreading and modulation description Note: Channelization code assignment method as proposed by TTA was accepted. However it is not included in v0.5.0. Updated version will probably be 0.6.0	0.4.0, 0.5.0	(0.6.0)
Xx.06	UTRA FDD, radio transmission and reception	0.4.1	0.5.0
Xx.07	UTRA FDD, physical layer procedures	1.1.0, 1.2.0	1.2.0
Xx.08	UTRA FDD, additional features	0.2.0	0.3.0
Xx.09	UTRA TDD , transport channels and physical channels description	1.2.0	1.2.0
Xx.10	UTRA TDD, multiplexing, channel coding and interleaving description	0.4.3	0.5.0
Xx.11	UTRA TDD, spreading and modulation	1.0.0	1.0.0
Xx.12	UTRA TDD, radio transmission and reception	0.1.0	0.1.0
Xx.13	UTRA TDD, physical layer procedures description	0.4.0	0.5.0
Xx.14	UTRA TDD, additional features description	0.0.2	0.1.0
Xx.15	UTRA handover	0,2,0, 0.3.0	0.3.0
Xx.16	UTRA interoperability description	0.2.0	0.2.0
Xx.17	UTRA radio frequency (RF) system scenarios	N/A	1.0.0
Xx.18	UTRA layer 1 study items	0.4.0	0.4.1
Xx.19	UTRA link level simulation results	N/A	See xx.01
Xx.20	Collection of UTRA system level simulation results	N/A	See xx.01
Xx.21	UTRA User Equipment (UE) physical layer capability classes	0.0.4, 0.0.5	0.1.0

The overall ARIB time schedule was presented on slides by Mr Toyoshima. It is available in the last version of the Mobile Station specification on ARIB server www.arib.or.jp/IMT-2000/ARIB/Document under the filename Vol4_10_10.zip

The convenor invited, prior to the meeting, delegates to provide contributions identifying the similarities and differences among the draft technical documents of each proponents. The discussions were organised around the documents proposing such comparisons.

Tdoc TSG RAN WG1 9/99, by Nokia, is a proposal for merging ETSI and ARIB layer 1 documents.

Tdoc TSG RAN WG1 5/99, by Ericsson, makes a similar proposal, indicating it was already presented during the 3GPP kick off meeting in December.
(F. Ovesjo, Ericsson) indicated that documents based on XX06, XX12, XX17 should be maintained by WG4 and were thus not proposed to be part of the WG1 tree structure. This proposition was **accepted** by the group.
(G. Romano, CSELT) asked for a document collecting simulation results similar to those in XX19 and XX20. (F. Ovesjo, Ericsson) proposed not to maintain system simulation results (i.e. XX20) considered as not being something to be specified. (E. Le Strat, Nortel) replied that technical reports containing this kind of information would however be helpful (in particular link level simulations). The question was raised whether system level simulations should be maintained by WG1 or RAN.
(Chairman) WG1 task is to make specifications and the maintenance of this kind of documents should be considered out of this group, at TSG level.
(k. Gosse, Motorola) XX18 is not going to become a specification, but it should maintained by this group. It was mentioned during the 10th ETSI L1 meeting that it might become a Technical Report (according to ETSI definition)
(E. Le Strat, Nortel) this is an official, document that should be maintained (as a technical report coming on top of specifications ?).
There was a discussion about the opportunity to maintain this document as an attachment or a standalone document. The principle to have a standalone document, but not a specification, was **accepted**, the exact status being for further discussion.

(S. Bang, ETRI) indicated that TTA intended to submit the global CDMA2 proposal to 3GPP, and announced a document pointing out the commonalities and differences between the technologies proposed by ARIB, ETSI and TTA.

Tdoc TSG RAN WG1 3/99, by ARIB was re-introduced by (Motizuki, NEC), indicated that they considered ETSI and ARIB documentation structures as being quite close and that they would agree with the Ericsson proposal made during the 3GPP quick-off meeting and reflected in Tdoc RAN WGA 5/99.

Tdoc TSG RAN WG1 9/99 was used as a reference to define a convergence path. It was updated during the meeting as **Tdoc TSG RAN WG1 14/99**.

Tdoc TSG RAN WG1 4/99, by Panasonic, analyses the differences between the TDD of ARIB and of UTRA.
(Chairman) asked confirmation that ARIB has been working to include the joint detection (JD) in its TDD concept. (?, Panasonic) confirmed indicating that it should be part of the ARIB concept but as a non mandatory feature.
(Chairman) are there some specificities in the ARIB proposal that would preclude an operation in line with ETSI description? (Siemens) the first step of the group is to identify the differences, the merging should be done in a second step.
(M. Nasshan, Siemens) the main difference between ETSI and ARIB in that respect is that the ETSI system is optimised for JD in UTRA, but this is not the case for ARIB.
(chairman) the difference in concept might make a piece by piece merging difficult (Siemens) confirmed that part of the TDD merging should be difficult because of the difference in the underlying concepts.
(K. Mayes, Vodafone) it would be of interest to look at the environment for which FDD and TDD are rather likely to be used and to optimise each of them accordingly.

(Chairman) a way to hasten the merging is to create ad hoc groups to address the places were major differences have been identified. Two specific editors are be needed for each of them (one from ETSI, the other from ARIB). [The precise task of these groups and their work procedure is described with Tdoc 15/99, later in this report]

Two categories of ad hoc groups were identified, in line with the breakdown proposed in Tdoc 9/99:

Topics of 1st category ad hocs (for the larger subjects possibly spanning over several parts of the specifications):
- TDD: Siemens (ETSI, major editor), Panasonic (ARIB)
- Table 1, raw 2: SCH code multiplexed for ETSI, time multiplexed for ARIB. Nokia (ETSI) NTT DoCoMo (ARIB, major editor)
- Table 1, RACH, Ericsson (ETSI, major editor), NTT DoCoMo (ARIB)
- Table 2, raw 1, harmonisation of channel multiplexing, Siemens (ETSI), NTT DoCoMo (ARIB, major editor)
- Table 2, raws 2 and 3, channel coding and interleaving, HNS (ETSI, major editor), Fujitsu (ARIB)
- Table 4, raw 10, Downlink Tx diversity, Nokia (ETSI, major editor), Samsung (ARIB)

Topics of 2nd category ad hocs (for smaller issues to be resolved)
- Table 1, raws 3 and 4 + Table 3 raw 1, burst format, slot structure, spreading factor, gain factor, Ericsson (ETSI), NEC (ARIB, major editor)
- Table 2, raw 6 + Table 5 raws 1 & 4, HO preparation, including slotted mode, France Telecom (ETSI, major editor), Mitsubishi (ARIB)
- Table 4, raw1, closed loop power control, Nortel (ETSI, major editor), NEC (ARIB)
- Table 3, raws 3 and 4, differences in spreading and scrambling, both for UL and DL, Ericsson (ETSI), Panasonic (ARIB, major editor)

The two following subjects will not be considered within the scope of an ad hoc group, but a contact person will be in charge to address it:
- FAUSCH and shared channel

(ARIB) indicated that it did not study FAUSCH and shared channels yet and needs to analyse the purpose and advantages of them before deciding whether they are needed.
Contact persons: FAUSCH: T. Moulsley (moulsley@prl.research.philips.com)
Shared channel: K. Rikkinen (kari.rikkinen@nmp.nokia.com)

(B. Schuffenecker, France Telecom + Chairman answer): the purpose of these groups is not to introduce brand new ideas but to merge existing ones. (M. Nasshan) for clarification issues recently presented at ETSI but still open after the last L1 meeting should be allowed for discussion during this 3GPP process (e.g. interleavers or Turbo Codes). (Chairman) introduction of new schemes is still possible, but convergence issues will be considered in priority. (E. Le Strat, Nortel) existing proposals for Turbo Codes for instance will be documented, and from that point only proposals going in the direction of convergence will be considered.
(D. Cheeseman, InterDigital) can we confirm that ideas in XX18 are not excluded, as well as ideas without which the system would not work are not excluded ? (Chairman) **confirmed**.

(K. Mayes, Vodafone) can you confirm that contributions that improve the description and detail the concepts already included in the documentation would be welcomed at any time ? (Chairman) **confirmed**.

Tdoc TSG RAN WG1 12/99, by TTA analyses similarities and differences between ARIB, ETSI and TTA and proposes that the three are considered during the merging process.
(Chairman) the considered TTA technologies are already in ETSI or ARIB documents. TTA can thus contribute by participating to the Ad Hoc groups. **Accepted** by (S. Bang, ETRI)

The issue of terminology will be handled by each subgroup within the scope of its work.

Tdoc TSG RAN WG1 7/99, by TSG RAN convenor, proposes a process for specification alignment.
(E. Le Strat, Nortel) we should agree on a general scheme to proceed with a couple of cases for the content of a section:
- ➔ content in both ETSI and ARIB proposals
- ➔ content in only one of the proposals. (Vodafone) for clarification, if an item only is in the ETSI or ARIB proposal, is it included with or without square brackets in the alignment process? This issue was considered more generally within the scope of the editing policy.

An editing policy was proposed as **Tdoc TSG RAN WG1 17/99**. It was slightly amended and the **approved** version will be released as **Tdoc TSG RAN WG1 18/99**.

The nomination of editors of S1 documents was done during the meeting (**note for the draft minutes**: the list of Emails for the contacts below is not complete and involved companies are invited to send the corresponding information to frederic.gourgue@alcatel.fr by end-January for inclusion in the final minutes):

Document	Main editor + Email	2nd editor + Email
S1.01	Nokia antti.toskala@ntc.nokia.com	NEC
S1.02	Samsung	NEC-UK
S1.11	Ericsson	Texas Instrument
S1.12	Fujitsu	Nokia anu.virtanen@ntc.nokia.com
S1.13	Siemens	LSIlogic
S1.14	NTT DoCoMo	Ericsson
S1.15	Nortel elestrat@nortelnetworks.com	LGIC jschoi@lginfocomm.com
S1.21	Panasonic	Vodafone Keith.mayes@vf.vodafone.co.uk
S1.22	Nokia jussi.kahtava@nmp.nokia.com	Panasonic
S1.23	Siemens	Ericsson
S1.24	Siemens	Panasonic
S1.25	Nortel elestrat@nortelnetworks.com	LGIC jschoi@lginfocomm.com

(T. Moulsley, Philips) reminded that one of the ETSI purpose was to seek for the maximum of commonalities between FDD and TDD and asked whether this policy should be maintained within 3GPP. It was **confirmed** by the meeting.

Tdoc TSG RAN WG1 6/99 , by Ericsson, is a work plan proposal for WG1 to get a set of specification by end-99. The creation and update of each S1 document, as defined in Tdoc WG1 5/99, is done in three phases:

1) finalisation of the identified tasks
2) approval of the document by TSG RAN (version 1.0.0)
3) final specification end-99 (Release 99)

(Sasaki, ARIB+answer from F. Ovesjo, Ericsson) the main part of the work should be up to version 1.0.0 of the documents. Some extra works is then possible to obtain to the Release state but it should not be the main task.

Tdoc TSG RAN WG1 16/99, by ARIB, indicates that Japan plans to start IMT-2000 service in the spring 2000 and needs for this reason a set of specifications around the spring 1999. For this reason the approved first draft of 3GPP specifications is requested for April 1999 so that ARIB can produce its first version of specifications in due time.

Tdoc TSG RAN WG1 15/99, proposed a guideline for the temporary ad hoc meetings introduced above.
(E. Le Strat, Nortel) expressed the concern that provisions should be taken to avoid parallel ad hoc meetings so that interested persons should be able to participate to all of the ad hocs they are interested in.
She expressed concerns in addition of a mix in the document between temporary Ad hoc meetings with a lifetime of roughly one month, and Ad hocs of a longer lifetime. She indicated in addition that the Ad hoc meeting announcements should be made at least 3 weeks in advance to meet the 3GPP work procedure and that Ad hoc meetings should not be a Sunday or a Friday to come before a WG1 starting a Monday.
(F. Ovesjo) confirmed that the paper only deals with temporary ad hocs and do not propose a working procedure for other kinds of Ad hocs.

The following **agreement** was obtained for the temporary ad hocs:

- Temporary Ad-hocs identified cease to exist at the end of the next WG1 meeting
- The Temporary ad-hoc can meet during the WG1 meeting, if needed. If they meet they should meet in the same location as WG1, the setting of the meeting dates for the WG1 meeting should therefore take into account the fact that there could be such ad-hoc group meetings
- The ad-hoc meetings shall not meet in parallel to the plenary meeting
- The ad-hoc meetings can met in parallel under the following conditions
  - ➔ ad-hocs requiring the same expertise should not meet in parallel
  - ➔ such ad-hocs (service multiplexing and channel coding on one side and TDD, Handover on another) have already been identified but this is not an exhaustive list
- The schedule of the ad-hoc meetings should be known in advance and best included with the draft agenda and schedule of the WG1 meeting, hence sent 3 weeks in advance and subject to discussion

4. Next meetings

- WG1#2 (22nd?) 23rd-25th February, Tokyo
  22nd for Ad Hocs
- RAN 1st-5th March, Dallas
- WG1#3 22nd-26th March (provisional), Host expected, contact chairman
- WG1#4 19th-21st April (provisional), Host expected, contact chairman
- Joint RAN 22nd-23rd April (provisional)
  same venue as WG1#4

5. LS from other groups

Tdoc TSG RAN WG1 8/99, LS from ITU-R TG8/1 proposes 3 actions for WG1:

- complete key characteristics at the February meeting to meet the ITU-R TG8/1 deadline of March. It was **decided** to include a specific WG1agenda item to ensure that it is met
- review the documentation provided by ITU. The chairman asked for a volunteer to prepare a report for next WG1
- consider the TG8/1 time schedule when developing WG1 work plan. The point will be considered during the 2nd WG1 meeting when the work plan issues will be addressed..

Tdoc TSG RAN WG1 19 & 20/99, LS by WG2, presents the status of WG2 work. It presents the agreed document structure as well as a work plan to produce the deliverables. The next meeting dates are announced as well. WG2 expects WG1 to comment on these elements. It stresses in particular that the document S2.02 is linked to the work of WG1 and requests comments on the considered approval date for this document.

6. Miscellaneous

The chairman reminded that the WG1 chairman election will be held during next meeting, probably the second day. He thanked the delegates for their participation and closed the meeting.

Annex 1
Participants list

Aaltonen Janne	Nokia	Finland
Agin Pascal	Alcatel	France
Antweiler Markus	Synopsys	Germany
Bishop Craig	Samsung	UK
Bradley Wayne	Prairie Com	USA
Byeong Woo Lim	Shinsegi Telecom Inc	Korea
Cardiff Barry	Nokia	UK
Chambers Peter	RM Research	UK
Chang Soo Park	Samsung	South Korea
Cheeseman David	Interdigital Com	UK
Choi Jinsung	LGTCE	South Korea
Cioci Sergio	Italtel	Italy
Corden Ian	Lucent	UK
Cyne Dominique	Mitsubishi MCRD	France
De Benedittis Rossella	Italtel	Italy
El-Saigh Amer	Vodafone	UK
Eroz Mustafa	Hughes	USA
Feyfant Patrick	Siemens	France
Fievet Bertrand	Bouygues Telecom	France
Folacci Paul	TI	France
Furuya Yukitsuna	NEC	Japan
Gauthier Catherine	Nortel	France
Gosse Karine	Motorola	France
Gourgue Frederic	Alcatel	France
Hallam-Baker Nick	Symbionics	UK
Hammons Roger	Hughes	USA
Heinle Frank	Philips	Germany
Henriksson Anders	Telia	Sweden
Hikuma Akihiro	DoCoMo	France
Hoehn Volker	Mannesmann Mobil	Germany
Horobin Stuart	Anritsu	UK
Hyeon Woo Lee	Samsung	South Korea
Il Gyu Kim	Vodafone	UK
Ito Kenji	Siemens	Japan
Jansen Michel	Ericsson	Sweden
Jürgensen Jens-Uwe	Sony	Germany
Kasapidis Makis	Panasonic	UK
Kato Osamu	Panasonic	Japan
Kinjo Shigenori	TI	Japan
Kistowski Dirk	T-Mobil	Germany
Kottkamp Meik	Siemens	Germany
Kowalewski Frank	Bosch	Germany
Le Dantec Claude	Canon	France
Le Strat Evelyne	Nortel	France
Mangold Peter	Bosch	Germany
Maucksch Thomas	Rohde & Schwarz	Germany
Mauthe Gerd	LSI Logic	Germany
Mayes Keith	Vodafone	UK
Mellein Heinz	Rohde&Schwarz	Germany
Meyer Jan	Lucent	Germany
Meyer Klaus	AMD	Germany

Mochizuki Takashi	NEC	Japan
Mohebbi Behzad	Fujitsu	UK
Moulsley Tim	Philips	UK
Nakamura Takehiro	DoCoMo	Japan
Nasshan Markus	Siemens	Germany
Okumura Yukihiko	DoCoMo	Japan
Okuyama Nobutaka	LSI Logic	Japan
Ostreich Stefan	Siemens	Germany
Ovesjö Fredrik	Ericsson	Sweden
Özlütürk Fatih	Interdigital Com	USA
Park Joong-Hoo	Samsung	South Korea
Park Kyung	Dacom	Korea
Pehkonen Kari	Nokia Mobile Com	Japan
Perrin Jean- Hugues	Alcatel	France
Plechinger Jörg	Siemens	Germany
Rikkinen Kari	Nokia	Finland
Romano Giovanni	CSELT	Italy
Rudolf Marian	Mitsubishi	France
Sasaki Akio	ARIB	Japan
Schnare Dirk	E-PLUS	Germany
Schneider Michael	Siemens	Germany
Schuffenecker	France Telecom	France
Seidel Eiko	Panasonic	Germany
Seung Chan Bang	ETRI	South Korea
Shin Sung-Hyuk	InterDigital	USA
Sun Feng-Wen	Hughes	USA
Tae Joong Kim	ETRI	South Korea
Thornberg Magnus	Nippon Ericsson	Japan
Tong Wen	Nortel	?
Toyoshima Shigeru	ARIB	Japan
Truelove Stephen	NEC Technologies	UK
Ukonmaanaho Mauri	Nokia	Japan
Ulrich Thomas	Siemens	Germany
Valentini Luca	TIM	Italy
Voyer Nicolas	Mitsubishi	France
Whinnett Nick	Motorola	France
Wilde Andreas	Ericsson	Japan
Willenegger Serge	Qualcomm Europe	Switzerland
Wolls Patricia	Telecom Modus	UK
Yoshida Satoshi	VLSI Tec.	France
Yoshinori Tanaka	Fujitsu Lab.	Japan
Zerbini Ezio	Marconi Com.	Italy