TSG-RAN Working Group 1 meeting #1
ESpoo 21st - 22nd January 1999

TSGW1#1(99)005

Agenda Item:

Source: **Ericsson**

Title: **Proposal for TSG RAN WG1 specification structure**

Document for:

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1 Introduction

At the ETSI STC SMG2 meeting #28 in Dresden, a document was produced with proposed specification structure for UTRA. The document was approved and sourced SMG2 [1]. Based on that document, a specification series proposal was presented to the TSG RAN #1 meeting in Sophia Antipolis [2]. In this document the relevant TSG RAN WG1 documents as proposed in [2] are listed and the contents and scope of each specification document is elaborated. The result is a proposal of documents for the physical layer specification series, to be created and edited by WG1 during 1999. It is also proposed that the baseline documents for the specification series are the XX-documents used in ETSI SMG2.

2 Specification structure proposal

2.1 WG1 general documents

S1.01 Physical layer – general description

- Describes the contents of the L1 documents (S1 series)
- Where to find information
- General description of L1
- Based on XX.01 "UMTS physical layer documentation plan" and XX.02 “UTRA physical layer – general description”

S1.02 UE capabilities

- Describes the capabilities of the UE
- Not clear if this belongs in TSG RAN WG1, but information is vital to TSG RAN WG1
- Based on XX.21 "UTRA mobile station physical layer capability classes"

2.2 WG1 FDD mode documents

S1.11 Transport channels and physical channels (FDD)

- Specifies the different transport channels that exist
- Which physical channels exist
- What is the structure of each physical channel, slot format etc.
- Relative timing between different physical channels in the same link, and relative timing between uplink and downlink
- Mapping of data onto the physical channels
- Based on XX.03 “UTRA FDD, Transport and physical channels description”

S1.12 Multiplexing and channel coding (FDD)

- Coding and multiplexing of transport channels into CCTrCHs
- Specifies channel coding alternatives
- Specifies coding for Layer 1 control information, such as TFCI

- Specifies the different interleavers
- How is rate matching done
- Multiplexing
- Based on XX.04 " UTRA FDD, multiplexing, channel coding and interleaving description"

S1.13 Spreading and modulation (FDD)

- Specifies the spreading (channelization plus scrambling)
- Generation of channelization and scrambling codes
- Generation of RACH preamble codes
- Generation of SCH synchronization codes
- Pulse-shaping filtering
- Modulation and pulse shaping
- RF channel arrangements
- Based on: XX.05 "UTRA FDD, spreading and modulation description" and parts of XX.06 "UTRA FDD, Radio transmission and reception description"

S1.14 Physical layer procedures (FDD)

- Power control procedures
- Random access procedure
- Paging procedure
- Based on: XX.07 "UTRA FDD, physical layer procedures description"

S1.15 Measurements (FDD)

- Specifies the measurements that L1 is to perform
- Reporting of measurements to higher layers and network
- Handover measurements, idle-mode measurements etc.
- Based on XX.15 "UTRA handover"

2.3 WG1 TDD mode documents

S1.21 Transport channels and physical channels (TDD)

- Defines transport channels
- Defines physical channels, structure and contents
- Timing relationship between physical channels
- Mapping of data to the physical channels
- Based on XX.09 "UTRA TDD, Transport and physical channels description"

S1.22 Multiplexing and channel coding (TDD)

- Specifies channel coding
- Interleaving
- Rate matching
- Multiplexing
- Based on XX.10 " UTRA TDD, multiplexing, channel coding and interleaving description"

S1.23 Spreading and modulation (TDD)

- Specifies data modulation
- Spreading
- Generation of codes
- RF channel arrangements
- Based on XX.11 "UTRA TDD, spreading and modulation description" and parts of XX.12 "UTRA TDD, Radio transmission and reception description"

S1.24 Physical layer procedures (TDD)

- BS synchronisation

- DCA
- Timing advance
- Power control procedures
- Idle mode tasks
- Based on XX.13 “UTRA TDD, physical layer procedures description”

S1.25 Measurements (TDD)

- Specifies the measurements that L1 is to perform
- Reporting of measurements to higher layers and network
- Handover measurements, idle-mode measurements etc.
- Based on XX.15 "UTRA handover"

References

[1] Tdoc SMG2 551/98, "Proposal of UTRA standard specification series", source SMG2.

[2] 3GPP/TSGR#1(98)-003, "Proposed specification structure for the Radio Access Network TSG", source Ericsson.