

Source: TSG RAN
Title: Radio Interface Specifications for IMT-2000
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Agenda Item: 7

The attached contribution is intended to be submitted to the next meeting of ITU-R Task Group 8/1 (Fortaleza, Brazil, 8-19 March 1999) by Individual Member.

Task Group 8/1 is defining the Recommendations for International Mobile Telecommunications 2000 (IMT-2000). The work of Task Group 8/1 is at a critical point. At its Brazil meeting it plans to finalise its Recommendation on "Key Characteristics for the IMT-2000 Radio Interfaces (IMT.RKEY)", and to lay the foundations for the detailed IMT-2000 radio interface specifications in its Preliminary Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000 (IMT.RSPC)", due for completion in November 1999.

This is therefore an opportune, perhaps unique, time for 3GPP to guide and steer the work of Task Group 8/1. Even material of a preliminary nature will be extremely valuable.

This contribution provides the draft radio interface specifications structure for UTRA, for submission to ITU-R Task Group 8/1 as an example to facilitate the development of the IMT-2000 Radio Interface Recommendation IMT.RSPC.

The contribution proposes that the 3GPP structure for the radio interface specifications be adopted as a basis for the structure of ITU-R's Preliminary Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000 (IMT.RSPC)".

3GPP is encouraged to support the work of ITU-R Task Group 8/1 by providing as much specification material as possible, perhaps extending to the scopes and even detailed content of the specification items included here.

RADIO INTERFACE SPECIFICATIONS FOR IMT-2000

1 INTRODUCTION

This document provides draft radio interface specifications for UTRA, based on the current activity within 3GPP TSG RAN. These are submitted to ITU-R Task Group 8/1 to facilitate the development of the Preliminary Draft New Recommendation “Detailed Specifications of Radio Interfaces of IMT-2000 (IMT.RSPC)”.

It is recognized that not all Specifications listed in this document may be relevant for ITU-R TG 8/1. However, 3GPP TSG RAN believes it would be helpful as a basis for discussion in TG 8/1 to contribute with the complete set of Specifications structure. 3GPP is developing a complete set of Specifications for the Radio Access Network including signalling.

The information is preliminary, a more complete version will be available in April 1999.

The purpose of the contribution is to indicate the structure that 3GPP is using to develop its specifications for the radio interfaces, which has now been accepted by SDOs in all 3 regions. In Section 2 the 3GPP RAN TSG specification structure is shown, and in Appendix A the most recent version of the S1 and S2 specifications can be found. These specifications shows the present detailed level and status of the work performed in 3GPP RAN TSG today. It is proposed that this structure is adopted as a basis for the structure of the Preliminary Draft New Recommendation “Detailed Specifications of Radio Interfaces of IMT-2000 (IMT.RSPC)”, with incorporation of material to an appropriate level of detail to be determined by ITU-R Task Group 8/1.

2 RADIO INTERFACE SPECIFICATIONS STRUCTURE

S1

S1.01 Physical layer – general description

S1.02 UE capabilities

S1.11 Transport channels and physical channels (FDD)

S1.12 Multiplexing and channel coding (FDD)

S1.13 Spreading and modulation (FDD)

S1.14 Physical layer procedures (FDD)

S1.21 Transport channels and physical channels (TDD)

S1.22 Multiplexing and channel coding (TDD)

S1.23 Spreading and modulation (TDD)

S1.24 Physical layer procedures (TDD)

¹ This contribution was developed in 3GPP TSG RAN

S1.31 Measurements

S2

S2.01 Radio Interface Protocol Architecture

S2.02 Services provided by the Physical Layer

S2.03 UE functions and Interlayer Procedures in Connected Mode

S2.04 UE functions related to Idle Mode

S2.21 Medium Access Control (MAC) Protocol Specification

S2.22 Radio Link Control (RLC) Protocol Specification

S2.31 Radio Resource Control (RRC) Protocol Specification

S3

S3.01 (UT)RAN Overall Description

S3.10 Iu Interface: General Aspects and Principles

S3.11 Iu interface Layer 1

S3.12 Iu interface signalling transport

S3.13 Iu interface RANAP signalling

S3.14 Iu interface data transport & transport signalling

S3.15 Iu interface CN-RAN user plane protocols

S3.20 Iur Interface: General Aspects and Principles

S3.21 Iur interface Layer 1

S3.22 Iur interface signalling transport

S3.23 Iur interface RNSAP signalling

S3.24 Iur interface data transport & transport signalling for CCH data streams

S3.25 Iur interface user plane protocols for CCH data streams

S3.26 Iur & Iub interface data transport & transport signalling for DCH data streams

S3.27 Iur & Iub interface user plane protocol for DCH data streams

S3.30 Iub Interface: General Aspects and Principles

S3.31 Iub interface Layer 1

S3.32 Iub interface signalling transport

S3.33 Iub interface RBAP signalling

S3.34 Iub interface data transport & transport signalling for CCH data streams

S3.35 Iub interface user plane protocols for CCH data streams

S4

S4.01A Radio transmission and reception UE FDD

S4.01B Radio transmission and reception BS FDD

S4.02A Radio transmission and reception UE TDD

S4.02B Radio transmission and reception BS TDD

S4.03 RF parameters in support of Radio Resource Management

S4.11 Basestation conformance testing FDD

S4.12 Basestation conformance testing TDD

S4.13 Basestation EMC²

3 PROPOSALS

- The ITU's Preliminary Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000 (IMT.RSPC)" should complement, not subsume, standards developed by external SDOs and partnership projects. RSPC should incorporate appropriate SDO and partnership project material, preferably by reference.
- Radio interface specifications based on material developed by the SDOs would seem to offer the best opportunity for the ITU. This would enable successful and timely completion of IMT.RSPC, bearing in mind the considerable amount of detailed specification already undertaken within the SDOs and partnership projects, the ambitious timescales for completion of RSPC, the availability of expert resources and the intention of some countries to deploy IMT-2000 by 2001.
- Task Group 8/1 is encouraged to review and adopt this radio interface specification structure as a basis for the Preliminary Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000 (IMT.RSPC)".

APPENDIX A:

The most recent version of the S1, S2, and S4 specifications developed within the 3GPP RAN TSG.

[www.3gpp.org/Documents/TSG_RAN/TSG_RAN/TSGR_02/Docs/pdfs

S1 docs: 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 135

S2 docs: 142, 143, 144, 145, 146, 147, 148

S4 docs: 114, 115, 119, 117]

² This Specification does not include the antenna port immunity and emissions.