

Source: TSG RAN
Title: 3GPP Radio Interface Specifications (Section 5.x.3 - TDD)
Document for: Approval
Agenda Item: 6.5.3

3GPP Radio Interface Specifications will be incorporated by reference in ITU-R's Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000" (IMT.RSPC) at the 18th Meeting of ITU-R Task Group 8/1 in Helsinki, Finland, on 25 October - 5 November 1999.

This document provides a proposed contribution for Section 5.x.3 of IMT.RSPC ('Reference from External Material') on the TDD component of the radio interface under development in 3GPP which will be provided to Task Group 8/1 in October 1999. A companion contribution, submitted to ITU-R TG 8/1 as information document, will contain in CD-ROM format the complete set of agreed 3GPP Specifications; this would ensure that the 3GPP Specifications are available for consultation, discussion, adoption etc at the Helsinki meeting.

The proposed contribution, consisting of Summary, Annex containing the body of the contribution, and attachment (titles and short synopsis of 3GPP specifications relevant for the TDD component) is attached. This has to be sent to Task Group 8/1 by October, 15.

Based on the outcome of the meeting between ITU and SDO representatives (Geneva, 20-21 September 1999 [1]), it is also proposed to send the attached contribution to all Organizational Partners and to ask them to fill in the tables with the relevant references and to forward it to ITU-R TG 8/1 in time for the opening of the meeting.

Reference:

[1] Report of the meeting between the ITU and representatives of External Organizations in preparation of the terrestrial component of recommendation IMT.RSPC (TSGR#5(99)497).

[3GPP MEMBER, OR ADMINISTRATION][#]
3GPP RADIO INTERFACE SPECIFICATIONS
(SECTION 5.X.3 OF IMT.RSPC - TDD)

Summary

This document contains material on the 3GPP Radio Interface Specifications relevant for the TDD component as agreed by 3GPP TSG RAN in October.

This should be incorporated in the "Recommendations" section (5.x.3, Extract from External Material) of Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000" (IMT.RSPC).

As outlined in a companion contribution, this document is structured in two subsections termed 3GPP TDD and TD-SCDMA, respectively. Please refer to the companion contribution for further details.

Another companion contribution, submitted to ITU-R TG 8/1 as information document, contains in CD-ROM format the complete set of agreed 3GPP Specifications for consultation. They can also be downloaded from: www.3gpp.org

Annex: 1
Attachment: 2 to Annex 1

[#] This contribution was developed in 3GPP TSG RAN

ANNEX

Introduction

This document contains in Attachment 1 titles and short synopsis of the of the 3GPP IMT-2000 Radio Interface Specifications relevant for the TDD component agreed by 3GPP TSG RAN in October 1999, for incorporation in the "Recommendations" section (5.x.3, Extract from External Material) of Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000" (IMT.RSPC).

Proposal

The material on the 3GPP Radio Interface Specifications contained in Attachment 1 should be incorporated in the "Recommendations" section (5.x.3, Extract from External Material) of Draft New Recommendation "Detailed Specifications of the Radio Interfaces of IMT-2000" (IMT.RSPC).

Attachment 1 to Annex 1

25.200 Series

25.201 Physical layer – general description

This specification describes the documents being produced by the 3GPP TSG RAN WG1. This specification gives also general description of the physical layer of the UTRA air interface.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.221 Physical channels and mapping of transport channels onto physical channels (TDD)

This specification describes the characteristics of the Layer 1 transport channels and physical channels in the TDD mode of UTRA. The main objectives of the document are to be a part of the full description of the UTRA Layer 1, and to serve as a basis for the drafting of the actual technical specification (TS).

* The relevant SDOs will make their reference material available from their Web site.

¹ Approved technical Specification upon which SDO deliverables will be based.

² This part will contain technical Standards and has to be completed before RA2000.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.222 Multiplexing and channel coding (TDD)

This 3GPP Report describes multiplexing, channel coding and interleaving for UTRA Physical Layer TDD mode.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.223 Spreading and modulation (TDD)

This document establishes the characteristics of the spreading and modulation in the TDD mode. The main objectives of the document are to be a part of the full description of the Layer 1, and to serve as a basis for the drafting of the actual technical specification (TS).

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.224 Physical layer procedures description (TDD)

The present document describes the Physical Layer Procedures in the TDD mode of UTRA.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						

Standard²							

25.225 Physical layer – Measurements (TDD)

This 3GPP Telecommunication Specification TS contains the description of the measurements done at the UE and network in order to support operation in idle mode and connected mode for TDD mode.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.300 Series

25.301 Radio Interface Protocol Architecture

The present document shall provide an overview and overall description of the UE-UTRAN radio interface protocol architecture. Details of the radio protocols will be specified in companion documents.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.302 Services provided by the Physical Layer

The present document is a technical specification of the services provided by the physical layer of UTRA to upper layers.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.303 Interlayer Procedures in Connected Mode

This document includes informative interlayer procedures to perform the required tasks.

This document attempts to provide a comprehensive overview of the different states and transitions within the connected mode of a UMTS terminal.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.304 UE procedures in Idle Mode

The present document shall describe the overall idle mode process for the UE and the functional division between the non-access stratum and access stratum in the UE. The UE is in idle mode when the connection of the UE is closed on all layers, e.g. there is neither an MM connection nor an RRC connection.

This document presents also examples of inter-layer procedures related to the idle mode processes and describes idle mode functionality of a dual mode UMTS/GSM UE.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.321 Medium Access Control (MAC) Protocol Specification

The scope of this description is the specification of the MAC protocol.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.322 Radio Link Control (RLC) Protocol Specification

The scope of this description is to describe the RLC protocol.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.331 Radio Resource Control (RRC) Protocol Specification

The scope of this specification is to describe the Radio Resource Control protocol for the 3GPP radio system. The scope of this Specification contains also the information to be transported in a transparent container between source RNC and target RNC in connection to SRNC relocation.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.400 Series

25.401 UTRAN Overall Description

This document describes the overall architecture of the UTRAN, including internal interfaces and assumptions on the radio and Iu interfaces.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.410 UTRAN Iu Interface: General Aspects and Principles

The present document is an introduction to the 25.41x series of Technical Specifications that define the Iu interface for the interconnection of Radio Network Controller (RNC) component of the UTRAN to the Core Network.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.411 UTRAN Iu interface Layer 1

The present document specifies the standards allowed to implement Layer 1 on the I_u interface. The specification of transmission delay requirements and O&M requirements are not in the scope of this document.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.412 UTRAN Iu interface signalling transport

The present document specifies the standards for user data transport protocols and related signalling protocols to establish user plane transport bearers.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.413 UTRAN Iu Interface: RANAP Signalling

Specifies the signalling between the CN and the UTRAN over the Iu interface.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						

Standard²							

25.414 UTRAN Iu interface data transport & transport signalling

The present document specifies the standards for user data transport protocols and related signalling protocols to establish user plane transport bearers.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.415 UTRAN Iu interface user plane protocols

This Technical Specification defines the protocols being used to transport and control over the Iu interface, the Iu User Data Streams.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.420 UTRAN Iur Interface: General Aspects and Principles

The present document is an introduction to the TSG RAN TS 25.42x series of Technical Specifications that define the Iur Interface. It is a logical interface for the interconnection of two Radio Network Controller (RNC) components of the UTRAN.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.421 UTRAN Iur interface Layer 1

The present document specifies the standards allowed to implement Layer 1 on the I_{ur} interface. The specification of transmission delay requirements and O&M requirements are not in the scope of this document.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.422 UTRAN Iur interface signalling transport

The present document specifies the standards for user data transport protocols and related signalling protocols to establish user plane transport bearers.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.423 UTRAN Iur Interface: RNSAP Signalling

The present document specifies the radio network layer signalling procedures between RNCs in UTRAN.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.424 UTRAN Iur interface data transport & transport signalling for Common Transport Channel data streams

This document shall provide a description of the UTRAN RNS-RNS (Iur) interface Data Transport and Transport Signalling for Common Transport Channel data streams.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.425 UTRAN Iur interface user plane protocols for Common Transport Channel data streams

This document shall provide a description of the UTRAN RNS-RNS (Iur) interface user plane protocols for Common Transport Channel data streams.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.426 UTRAN Iur & Iub interface data transport & transport signalling for DCH data streams

The scope of this Technical Specification is to specify the transport bearers for the DCH data streams on UTRAN Iur and Iub interfaces. The corresponding Transport Network Control plane is also specified. The physical layer for the transport bearers is outside the scope of this TS.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.427 UTRAN Iur & Iub interface user plane protocol for DCH data streams

This document shall provide a description of the UTRAN Iur and Iub interfaces user plane protocols for Dedicated Transport Channel data streams.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue

Specification¹						
Stand ard²						

25.430 UTRAN Iub Interface: General Aspects and Principles

The present document is an introduction to the TSG RAN TS 25.43x series of UMTS Technical Specifications that define the Iub Interface. The Iub interface is a logical interface for the interconnection of NodeB and Radio Network Controller (RNC) components of the UTRAN.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Stand ard²						

25.431 UTRAN Iub interface Layer 1

The present document specifies the standards allowed to implement Layer 1 on the I_{ub} interface. The specification of transmission delay requirements and O&M requirements is not in the scope of this document.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Stand ard²						

25.432 UTRAN Iub interface signalling transport

The present document specifies the signalling transport related to NBAP signalling to be used across the Iub Interface. The Iub interface is a logical interface for the interconnection of NodeB and Radio Network Controller (RNC) components of the UTRAN. The radio network control signalling between these nodes is based on the NodeB application part (NBAP).

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue

Specification¹						
Standard²						

25.433 UTRAN Iub Interface: NBAP Signalling

The present document specifies the standards for NBAP specification to be used over Iub Interface.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.434 UTRAN Iub interface data transport & transport signalling for Common Transport Channel data streams

This document shall provide a description of the UTRAN RNC-Node B (Iub) interface Data Transport and Transport Signalling for CCH data streams.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.435 UTRAN Iub interface user plane protocols for Common Transport Channel data streams

This document shall provide a description of the UTRAN RNC-Node B(Iub) interface user plane protocols for Common Transport Channel data streams.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						

Stand ard²							

25.442 UTRAN Implementation Specific O&M Transport

The present document specifies the transport of implementation specific O&M signalling between Node B and the Management Platform in case that the transport is routed via the RNC.

	Doc. Number	Vers ion	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Stand ard²						

25.100 Series

25.102 UE Radio transmission and reception (TDD)

This document establishes the minimum RF characteristics of the TDD mode of UTRA for the User Equipment (UE).

	Doc. Number	Vers ion	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Stand ard²						

25.103 RF parameters in support of Radio Resource Management

This Technical Specification shall describe RF parameters and Requirements for the Radio Resource Management.

	Doc. Number	Vers ion	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Stand ard²						

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25.105 BTS Radio transmission and reception (TDD)

This document establishes the minimum RF characteristics of the TDD mode of UTRA.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.142 Basestation conformance testing (TDD)

The present document specifies the Radio Frequency (RF) test methods and conformance requirements for UTRA Base Transceiver Stations (BTS) operating in the TDD mode. These have been derived from, and are consistent with, the core UTRA specifications specified in the requirements reference subclause of each test.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.113 Basestation EMC³

The present document covers the assessment of basestations and associated ancillary equipment in respect of ElectroMagnetic Compatibility (EMC).

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

³ This Specification does not include the antenna port immunity and emissions.

23.108 Mobile Radio Interface Layer 3 specification Core Network Protocols stage 2

This specification shall specify the procedures used at the radio interface for Call Control (CC), Mobility Management (MM) and Session Management (SM). It shall hold examples of the structured procedures.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

23.110 UMTS Access Stratum; Services and Functions

This document shall be the basis of the detailed specifications of the protocols which rule the information flows, both control and user data, between the Access Stratum and the parts of UMTS outside the Access Stratum, and of the detailed specifications of the UTRAN. These detailed specifications are to be found in other Technical Specifications.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

23.022 Functions related to Mobile Stations (MS) in idle mode and group receive mode

This specification shall give an overview of the tasks undertaken by a Mobile Station (MS) when in idle mode, that is, switched on but not having a dedicated channel allocated, e.g. not making or receiving a call, or when in group receive mode, that is, receiving a group call or broadcast call but not having a dedicated connection. It also describes the corresponding network functions.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						

Stand ard²							

24.007 Mobile Radio Interface Signalling Layer 3 - General Aspects

This Technical Specification (TS) defines the principal architecture of layer 3 and its sublayers on the GSM Um interface, i.e. the interface between Mobile Station (MS) and network; for the CM sublayer, the description is restricted to paradigmatic examples, call control, supplementary services, and short message services for non-GPRS services. It also defines the basic message format and error handling applied by the layer 3 protocols.

	Doc. Number	Vers ion	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Stand ard²						

24.008 Mobile Radio Interface Layer 3 specification; Core Network Protocols-Stage 3

This specification shall specify the procedures used at the radio interface for Call Control (CC), Mobility Management (MM) and Session Management (SM).

The procedures currently described are for the call control of circuit-switched connections, session management for GPRS services, mobility management and radio resource management for circuit-switched and GPRS services.

	Doc. Number	Vers ion	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Stand ard²						

24.011 Point-to-Point (p-t-p) Short Message Service (SMS); Support on Mobile Radio Interface Layer 3

This Specification specifies the procedures used across the mobile radio interface by the signalling layer 3 function Short Message Control (SMC) and Short Message Relay function (SM-RL) for both circuit switched GSM and GPRS.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

24.012 Short Message Cell Broadcast; Support on Mobile Radio Interface Layer 3

This document describes how the Short Message Service Cell Broadcast (SMSCB) is supported over the mobile radio interface.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

23.060 General Packet Radio Service (GPRS) Service description; Stage 2

This document shall provide a general overview over the GPRS Architecture as well as a more detailed overview of the MS - Core Network protocol architecture. Details of the protocols will be specified in companion documents.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

24.022 Radio Link Protocol (RLP) for Data and Telematic Services on the (MS-BSS) Interface and the Base Station System - Mobile-services Switching Centre (BSS-MSC) Interface

This Specification shall specify the Radio Link Protocol (RLP) for data transmission over the 3GPP UMTS PLMN. RLP covers the Layer 2 functionality of the ISO OSI Reference Model (IS 7498). It is based on ideas contained in IS 3309, IS 4335 and IS 7809 (HDLC of ISO) as well as CCITT X.25 and

Q.92x (LAP-B and LAP-D of CCITT, respectively.) RLP has been tailored to the special needs of digital radio transmission. RLP provides to its users the OSI Data Link Service (IS 8886).

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

24.010 Mobile Radio Interface Layer 3 - Supplementary Services Specification - General Aspects

In this specification the general aspects of the specification of supplementary services at the layer 3 radio interface shall be given. Details will be specified in other documents.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

24.080 Mobile radio Layer 3 Supplementary Service specification - Formats and coding

This Technical Specification shall contain the coding of information necessary for support of supplementary service operation on the mobile radio interface layer 3. Details will be specified in other documents

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

25.990 Vocabulary

This document is a collection of terms, definitions and abbreviations related to the baseline documents defining 3GPP objectives and systems framework. This document provides a tool for further work on 3GPP technical documentation and facilitates their understanding.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

21.100 Series

21.111 USIM and IC Card Requirements

This document defines the requirements of the USIM (Universal Subscriber Identity Module) and the IC card (UICC) for 3GPP. These are derived from the service and security requirements defined in the respective 3GPP specifications developed by 3GPP TSG-SA1 and TSG-SA3. The document is the basis for the detailed specification of the USIM and the UICC, and the interface to the 3GPP terminal.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

23.000 Series

23.038 Alphabets & Language specific information

This TS defines the language-specific requirements for 3GPP terminals, including character coding

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

23.040 Technical realisation of SMS Point to Point

This TS describes the point-to-point Short Message Service (SMS) for 3GPP.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

23.041 Technical realisation of Cell Broadcast Service

This TS describes the point-to-multipoint Cell Broadcast Service (CBS) for 3GPP.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

23.042 Compression algorithm for SMS

This TS describes the compression algorithm for text messaging services in 3GPP.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

27.000 Series

27.005 Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE - DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)

This TS defines three interface protocols for control of SMS functions within a GSM mobile telephone from a remote terminal via an asynchronous interface.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue

Specification¹						
Standard²						

27.007 AT command set for 3G User Equipment (UE)

This TS specifies a profile of AT commands and recommends that this profile be used for controlling Mobile Equipment (ME) functions and GSM network services from a Terminal Equipment (TE) through Terminal Adaptor (TA)

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

27.010 Terminal Equipment to User Equipment (TE-UE) multiplexer protocol

This TS defines a multiplexing protocol between a mobile station and an external data terminal for the purposes of enabling multiple channels to be established for different purposes (e.g. simultaneous SMS and data call).

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						
Standard²						

27.103 Wide Area Network Synchronisation

This specification provides a definition of a Wide Area Synchronisation protocols. The synchronization protocol is based upon IrMC Level 4.

	Doc. Number	Version	Status	Issued Date	Location*	Any IPR issue
Specification¹						

Stand ard²							

3.X.3.Y SDO's Complete System Specification

<u>SDO</u>	<u>Location</u>

Attachment 2 to Annex 1

[Include the relevant material on TD-SCDMA].
