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Digitalne izboljġane brezvrviļ ne telekomunikacije (DECT) - Globalni sistem mobilnih komunikacij (GSM) - Dostop sistema DECT do javnih kopenskih mobilnih omreġij (PLMNs) za govorne aplikacije 3,1 kHz

Digital Enhanced Cordless Telecommunications (DECT); Global System for Mobile communications (GSM); DECT access to GSM Public Land Mobile Networks (PLMNs) for 3,1 kHz speech applications

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Contents

Foreword 5

1 Scope 7

2 Normative references 7

3 Definitions and abbreviations 10
3.1 Definitions 10
3.2 Abbreviations 10

4 How to use this TBR 11

5 Requirements 12
5.1 Network (NWK) layer features 12
5.2 Data Link Control (DLC) layer services 13
5.3 Medium Access Control (MAC) layer services 13
5.4 Application features 13
5.5 PHysical (PH) layer requirements 13

6 Test specification 14
6.1 Portable Part (PP) 14
6.1.1 NWK layer 14
6.1.1.1 Test suite structure 14
6.1.1.2 Test case index 15
6.1.2 DLC layer 17
6.1.3 MAC layer 17
6.1.4 PH layer 17
6.2 Fixed Part (FP) 17
6.2.1 NWK layer 18
6.2.1.1 Test suite structure 18
6.2.1.2 Test case index 19
6.2.2 DLC layer 21
6.2.3 MAC layer 21
6.2.4 PH layer 21

Annex A (normative): TBR Requirements Tables (TBR-RTs) 22

A.1 Introduction 22

A.2 Portable Part (PP) 23
A.2.1 Tables for PP NWK layer 23
A.2.1.1 Major Capabilities 23
A.2.1.1.1 Entities 23
A.2.1.1.2 CC features 24
A.2.1.1.3 MM features 25
A.2.1.1.4 LCE features 25
A.2.1.1.5 Procedures 26
A.2.1.2 Messages 28
A.2.1.2.1 Call control messages 28
A.2.1.2.2 Mobility management messages 30
A.2.1.2.3 Link control entity messages 30
A.2.2 Tables for PP DLC layer 31
A.2.3 Tables for PP MAC layer 31
A.2.4 Tables for PP PHL layer 31
A.2.5 Tables for PP Application requirements 31

A.3 Fixed Part (FP) 31
A.3.1 Tables for FP NWK layer 31
A.3.1.1 Major capabilities 31
A.3.1.1.1 Entities 31
A.3.1.1.2 CC features 32
A.3.1.1.3 MM features 33
A.3.1.1.4 LCE features 33
A.3.1.1.5 Procedures 34
A.3.1.2 Messages 36
A.3.1.2.1 Call control messages 36
A.3.1.2.2 Mobility management messages 37
A.3.1.2.3 Link control entity messages 38
A.3.2 Tables for FP DLC layer 38
A.3.3 Tables for FP MAC layer 38
A.3.4 Tables for FP PHL layer 38
A.3.5 Tables for FP application requirements 38

Annex B (informative): Bibliography 39

History 40

Foreword

This Technical Basis for Regulation (TBR) has been produced by the Digital Enhanced Cordless Telecommunications (DECT) Project of the European Telecommunications Standards Institute (ETSI).

Details of the Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI) may be found in EN 300 175, parts 1 - 8 [1] to [8].

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 83/189/EEC (as amended) laying down a procedure for the provision of information in the field of technical standards and regulations.

The present document is intended to become a Harmonized Standard as requested by the above mentioned mandate, the reference of which will be published in the Official Journal of the European Communities referencing the Council Directive on the approximation of the laws of the Member States concerning telecommunications terminal equipment, including the mutual recognition of their conformity (Directive 91/263/EEC, known as the "TTE Directive").

A common technical regulation may be established by the European Commission in accordance with the Directive.

Technical specifications relevant to the 91/263/EEC Directive are given in the TBR Requirements Tables (TBR-RTs) in annex A.

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1 Scope

This Technical Basis for Regulation (TBR) specifies the technical characteristics to be provided by terminal equipment which is capable of connection to a Global System for Mobile communications (GSM) Public Land Mobile Network (PLMN) and which uses Digital Enhanced Cordless Telecommunications (DECT) for network access. The cordless transmissions for such terminal equipment operate within the frequency band 1 880 - 1 900 MHz.

A DECT terminal equipment comprises two elements, referred to as a Fixed Part (FP) and Portable Part (PP). The objective of this TBR is to ensure air-interface interoperability between a FP and PP which follow the DECT/GSM interworking profile (IWP) (see note 2), where these parts are capable of 3,1 kHz telephony applications, and where the Fixed Part is connected to a GSM PLMN in order to provide GSM services (according to TBR 19 and TBR 20) over the DECT air-interface.

For functional parts of a FP, that are terminal equipment, which are declared to conform to the basic CTRs for DECT (see note 1) and to the DECT/GSM IWP, the requirements of this TBR shall apply, in addition to the attachment requirements for the appropriate GSM PLMN.

This TBR does not apply to FPs where they form a part of the GSM PLMN.

The requirements of this TBR are also applicable for the complete set of functionality of a PP declared to conform to the DECT/GSM IWP. For a PP, this TBR is in addition to the basic CTRs for DECT.

Where a feature is indicated as optional it need not to be provided, but where such a feature is provided, the FP and/or the PP shall conform to the requirements and tests of this TBR. This TBR is structured to allow type approval of the FP and PP as separate items. For each requirement in this TBR a test is given, including measurement methods where applicable. The terminal equipment may be stimulated to perform the tests by additional equipment if necessary.

NOTE 1: The basic CTRs for DECT are the general attachment requirements (CTR 6), requirements for telephony applications (CTR 10) and requirements of Generic Access Profile (CTR 22).

NOTE 2: In the respect of this TBR, the DECT/GSM inter-working profile is based on the provision of access mappings/inter-working requirements of ETS 300 370 [9] and the general description of services, capabilities and information flows of ETS 300 466 [26].

2 Normative references

This TBR incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this TBR only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2] EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".

[3] EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[4] EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[5] EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

[6] EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".

[7] EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

[8] EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".

[9] ETS 300 370: "Digital Enhanced Cordless Telecommunications / Global System for Mobile communications (DECT/GSM) inter-working profile; Access and mapping (Protocol/procedure description for 3,1 kHz speech service)".

[10] EN 300 444: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP)".

[11] ETS 300 476-1 (1996): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 1: Network (NWK) layer - Portable radio Termination (PT)".

[12] ETS 300 476-2 (1996): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 2: Data Link Control (DLC) layer - Portable radio Termination (PT)".

[13] ETS 300 476-3 (1996): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 3: Medium Access Control (MAC) layer - Portable radio Termination (PT)".

[14] ETS 300 476-4 (1996): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 4: Network (NWK) layer - Fixed radio Termination (FT)".

[15] ETS 300 476-5 (1996): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 5: Data Link Control (DLC) layer - Fixed radio Termination (FT)".

[16] ETS 300 476-6 (1996): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 6: Medium Access Control (MAC) layer - Fixed radio Termination (FT)".

[17] ETS 300 476-7 (1996): "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Protocol Implementation Conformance Statement (PICS) proforma; Part 7: Physical layer".

[18] ETS 300 474-1: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP); Profile requirement list and profile specific Implementation Conformance Statement (ICS) proforma; Part 1: Portable radio Termination (PT)".

[19] ETS 300 474-2: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP); Profile requirement list and profile specific Implementation Conformance Statement (ICS) proforma; Part 2: Fixed radio Termination (FT)".

[20] 91/263/EEC: "Council Directive of 29 April 1991 on the approximation of the laws of the Member States concerning telecommunications terminal equipment, including the mutual recognition of their conformity" (Terminal Directive).

[21] ETS 300 704-1: "Digital Enhanced Cordless Telecommunications/Global System for Mobile communications (DECT/GSM) Interworking Profile (IWP); Profile Implementation Conformance Statement (ICS); Part 1: Portable radio Termination (PT)".

[22] ETS 300 704-2: "Digital Enhanced Cordless Telecommunications/Global System for Mobile communications (DECT/GSM) Interworking Profile (IWP); Profile Implementation Conformance Statement (ICS); Part 2: Fixed radio Termination (FT)".

[23] TBR 6: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".

[24] TBR 10: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements; Telephony applications".

[25] TBR 22: "Radio Equipment and Systems (RES); Attachment requirements for terminal equipment for Digital Enhanced Cordless Telecommunications (DECT) Generic Access Profile (GAP) applications".

[26] ETS 300 466: "Digital European Cordless Telecommunications/Global System for Mobile Communications (DECT/GSM) interworking profile; General description of service requirements; Functional capabilities and information flows".

[27] ETS 300 494-2: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP); Profile Test Specification (PTS); Part 2: Profile Specific Test Specification (PSTS) - Portable radio Termination (PT)".

[28] ETS 300 702-2: "Digital Enhanced Cordless Telecommunications/Global System for Mobile telecommunications (DECT/GSM) interworking profile; Part 2: Profile Specific Test Specification (PSTS) Portable radio Termination (PT)".

[29] ETS 300 702-3: "Digital Enhanced Cordless Telecommunications/Global System for Mobile telecommunications (DECT/GSM) interworking profile; Part 3: Profile Specific Test Specification (PSTS) Fixed radio Termination (FT)".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this TBR, the definitions given in ETS 300 370 [9], EN 300 444 [10] and EN 300 175, Parts 1 to 7 [1] to [7] apply.

3.2 Abbreviations

For the purposes of this TBR, the following abbreviations apply:

AC	Authentication Code
ARI	Access Rights Identity (see PARI, SARI and TARI)
ATS	Abstract Test Suite
BCD	Binary Coded Decimal
BSC	GSM Base Station Controller
Cat	Category
CC	Call Control
CCITT	(The) International Telegraph and Telephone Consultative Committee
CI	Common Interface
CK	Cipher Key
CTR	Common Technical Regulation
DAM DA	DECT Authentication Module DECT Application
DAM	DECT Authentication Module
DCK	Derived Cipher Key
DECT	Digital Enhanced Cordless Telecommunications
DLC	Data Link Control
DSAA	DECT Standard Authentication Algorithm
DTMF	Dual Tone Multi-Frequency
FP	Fixed Part
FT	Fixed radio Termination
GAP	Generic Access Profile
GOP	GSM Operator code
GSM	Global System for Mobile Communications
ICS	Implementation Conformance Statement
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IPEI	International Portable Equipment Identity
IPUI	International Portable User Identity
ISDN	Integrated Services Digital Network
ISO	International Organization for Standardization
IUT	Implementation Under Test
IWU	Inter-Working Unit
IXIT	Implementation eXtra Information for Testing
K	authentication Key
LCE	Link Control Entity
LLME	Lower Layer Management Entity
LLN	Logical Link Number
MAC	Medium Access Control
MAP	GSM Mobile Application Part
MM	Mobility Management
MS	Mobile Station
MSB	Most Significant Bit
MSC	Mobile Switching Center
NLF	New Link Flag
NWK	NetWorK
OSI	Open Systems Interconnection
PA	Portable Application
PARI	Primary Access Rights Identity
PARK	Portable Access Rights Key
PE	Portable Equipment
PH	PHysical
PICS	Protocol Implementation Conformance Statement

PIXIT	Protocol Implementation eXtra Information for Testing
PLMN	Public Land Mobile Network
PP	Portable Part
PSTN	Public Switched Telephone Network
PSTS	Profile Specific Test Specification
PT	Portable radio Termination
PTS	Profile Test Specification
PUN	Portable User Number
PUT	Portable User Type
RAND	A RANDom challenge issued by a FP
RES	A RESponse calculated by a PP
RFP	Radio Fixed Part
RFPI	Radio Fixed Part Identity
RS	A value used to establish authentication session keys
SARI	Secondary Access Rights Identity
SIM/DAM GA	Subscriber Identity Module/DECT Authentication Module, GSM Application
SRES	A GSM specific authentication response calculated by the GSM SIM or the DAM GA
SUT	System Under Test
TARI	Tertiary Access Rights Identity
TBR	Technical Basis for Regulation
TBR-RT	TBR Requirements Table
TMSI	Temporary Mobile Subscriber Identity
TPUI	Temporary Portable User Identity
TS	Test System
TSS&TP	Test Suite Structure & Test Purposes

4 How to use this TBR

This TBR contains one set of tables for the PP and one set of tables for the FP. Each set of tables is divided into subsets depending on the particular DECT layer. Each set of tables comprises:

- a test suite structure table;
- a test case index table;
- a TBR-RT feature table;
- a TBR-RT procedure table;
- a messages/frames table.

If a particular feature, procedure or message specified in EN 300 175, parts 1 to 8 [1] to [8] is not listed in any table it shall be considered as out of scope of this TBR and not required to be tested.