SLOVENSKI STANDARD
SIST EN 300 175-4 V1.6.1:2003

01-december-2003

Digitalne izboljšane brezvrvične telekomunikacije (DECT) – Skupni vmesnik (CI) – 4. del: Plast krmiljenja podatkovnih povezav (DCL)

Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: EN 300 175-4 Version 1.6.1

SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da263-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

ICS:

33.070.30	Digitalne izboljšane brezvrvične telekomunikacije (DECT)	Digital Enhanced Cordless Telecommunications (DECT)
35.100.20	Podatkovni povezovalni sloj	Data link layer

SIST EN 300 175-4 V1.6.1:2003 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

SIST EN 300 175-4 V1.6.1:2003

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

SIST EN 300 175-4 V1.6.1:2003

ETSI EN 300 175-4 V1.6.1 (2002-02)

European Standard (Telecommunications series)

Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

SIST EN 300 175-4 V1.6.1:2003

Reference
REN/DECT-000194-4

Keywords
DECT, radio

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

Important notice

Individual copies of the present document can be downloaded from:
http://www.etsi.org

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at
http://portal.etsi.org/tb/status/status.asp

If you find errors in the present document, send your comment to:
editor@etsi.fr

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2002.
All rights reserved.

SIST EN 300 175-4 V1.6.1:2003

Contents

Intellectual Property Rights 11

Foreword 11

1 Scope 12

2 References 12

3 Definitions, symbols and abbreviations 13
3.1 Definitions 13
3.2 Symbols and abbreviations 14

4 Data Link Control (DLC) layer overview 15
4.1 General 15
4.2 C-Plane services 16
4.3 U-plane services 16
4.4 Lower Layer Management Entity (LLME) 19

5 C-plane service characteristics 19
5.1 Data link service (LAPC+Lc) 19
5.1.1 General 19
5.1.2 LAPC types of operation 20
5.1.3 Establishment of information transfer modes 20
5.1.3.1 Data Link Identifier (DLI) 20
5.1.3.2 LAPC states 20
5.2 Broadcast service (Lb) 21

6 Frame structures for C-plane services 22
6.1 Data link service frame structure 22
6.1.1 General frame structure 22
6.1.2 Lc frame delimiting and transparency 23
6.1.3 Transmission order 23
6.1.4 Routing to logical channels 23
6.1.4.1 C_F/CL_F logical channel 23
6.1.4.2 C_S/CL_S logical channel 24
6.1.5 Invalid frames 24
6.2 Broadcast service frame structure 25
6.2.1 Standard frame structure 25
6.2.2 Extended frame structure 25

7 Elements of procedures and formats of fields for C-plane peer-to-peer communication 26
7.1 General 26
7.2 Address field formats 26
7.3 Address field parameters 26
7.3.1 REServed bit (RES) 26
7.3.2 Command Response (C/R) bit 26
7.3.3 SAPI field 27
7.3.4 New Link Flag (NLF) bit 27
7.3.5 LLN-field 27
7.3.6 Data Link Identifiers (DLI) 27
7.4 Control field formats 28
7.5 Control field parameters 28
7.5.1 Poll/Final (P/F) bit 28
7.5.2 Multiple frame operation variables and sequence numbers 29
7.5.2.1 Modulus 29
7.5.2.2 Send state Variable V(S) 29
7.5.2.3 Acknowledge state Variable V(A) 29
7.5.2.4 Send sequence Number N(S) 29

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416e-9be2-860299aeeb1e/sist-en-300-175-4-v1.6.1-2003

SIST EN 300 175-4 V1.6.1:2003

7.5.2.5 Receive state Variable V(R) 29
7.5.2.6 Receive sequence Number N(R) 29
7.5.3 Unacknowledged operation variables and sequence numbers 29
7.5.4 Supervisory and Unnumbered function bits S and U 30
7.6 Length indicator field format 30
7.7 Length indicator field parameters 30
7.7.1 Length indicator field extension bit; N 30
7.7.2 More data bit; M 30
7.7.3 Length parameter; L_I 31
7.7.4 Extended length parameter; L_{JJ} 31
7.7.5 Reserved bit; RES 31
7.8 Fill field format 31
7.9 Checksum field format 32
7.10 Checksum field parameters 32
7.11 Commands and responses 33
7.11.1 Information (I) command 33
7.11.2 Receive Ready (RR) command/response 34
7.11.3 Receive Not Ready (RNR) command/response 34
7.11.4 REJect (REJ) command/response 34
7.11.5 Set Asynchronous Balanced Mode (SABM) command 34
7.11.6 Disconnect Mode (DM) response 35
7.11.7 Unnumbered Information (UI) command 35
7.11.8 DISConnect (DISC) command 35
7.11.9 Unnumbered ACK (UA) response 35

8 Primitives 35
8.1 Primitive types 35
8.2 Primitives to the MAC layer (lower layer) 36
8.3 Primitives to the NWK layer (higher layer) 36
8.3.1 Parameter definitions 36
8.3.2 S-SAP primitives 37
8.3.2.1 DL_ESTABLISH primitive 37
8.3.2.2 DL_RELEASE primitive 38
8.3.2.3 DL_DATA primitive 38
8.3.2.4 DL_UNIT_DATA primitive 38
8.3.2.5 DL_SUSPEND primitive 38
8.3.2.6 DL_RESUME primitive 39
8.3.2.7 DL_ENC_KEY primitive 39
8.3.2.8 DL_ENCRYPT primitive 39
8.3.2.9 DL_SERVICE_MOD primitive 39
8.3.3 B-SAP primitives 40
8.3.3.1 DL_BROADCAST primitive 40
8.3.3.2 DL_EXPEDITED primitive 40
8.4 Primitives to the interworking unit 40
8.4.1 Parameter definitions 40
8.4.2 LU_X-SAP primitives 41
8.4.2.1 DL_U_DATA primitive 41
8.4.2.2 DL_U_UNIT_DATA primitive 41
8.4.2.3 DL_U_ERROR primitive 41

9 C-plane peer-to-peer procedures 42
9.1 General 42
9.2 Point to point acknowledged operation 42
9.2.1 Procedure for the use of the P/F bit 42
9.2.1.1 Class A acknowledged information transfer 42
9.2.1.2 Class B acknowledged information transfer 43
9.2.2 Use of LLN 43
9.2.2.1 Class A operation 43
9.2.2.2 Class B operation 43
9.2.3 Link establishment and information transfer in class A operation 43
9.2.3.1 Establishing class A operation 43
9.2.3.2 Class A acknowledged information transfer 44

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

SIST EN 300 175-4 V1.6.1:2003

9.2.3.3 Transmission of class A I-frames 44
9.2.3.4 Reception of class A I-frames 45
9.2.3.5 Receiving acknowledgements 45
9.2.3.6 Waiting for acknowledgement 45
9.2.3.7 Release of class A operation 46
9.2.3.8 Re-establishment of class A operation 46
9.2.4 Establishing class B multiple frame operation 46
9.2.4.1 Overview 46
9.2.4.2 Class B multiple frame establishment procedures 47
9.2.4.3 Class B LLN assignment procedures 48
9.2.4.3.1 PT establishment 48
9.2.4.3.2 FT establishment 49
9.2.5 Link maintenance and information transfer in class B multiple frame operation 49
9.2.5.1 Transmitting I-frames 49
9.2.5.2 Receiving I-frames 50
9.2.5.2.1 P bit set to 1 50
9.2.5.2.2 P bit set to 0 50
9.2.5.3 Sending and receiving acknowledgements 50
9.2.5.3.1 Sending acknowledgements 50
9.2.5.3.2 Receiving acknowledgements 50
9.2.5.4 Receiving REJ-frames 51
9.2.5.5 Receiving RNR-frames 52
9.2.5.6 LAPC own receiver busy condition 53
9.2.5.7 Waiting acknowledgement 53
9.2.5.8 Appropriate supervisory frame 54
9.2.6 Release of class B multiple frame operation 54
9.2.7 Link suspension and resumption 55
9.2.7.1 Link suspension 55
9.2.7.1.1 Class B acknowledged suspend 55
9.2.7.1.2 Unacknowledged suspend 56
9.2.7.1.2.1 Class A 56
9.2.7.1.2.2 Class B 56
9.2.7.1.2.3 Class U 56
9.2.7.2 Class B link resumption 56
9.2.7.3 Connection handover 57
9.2.7.3.1 Class A connection handover 59
9.2.7.3.2 Class B connection handover 59
9.2.7.3.3 Expiry of connection handover timer 60
9.2.8 Re-establishment of class B multi-frame operation 60
9.2.8.1 Criteria for re-establishment 60
9.2.8.2 Procedure 61
9.2.9 Exception handling 61
9.2.9.1 General 61
9.2.9.2 Class B exception condition reporting and recovery 61
9.2.9.2.1 N(S) sequence error 62
9.2.9.2.2 N(R) sequence error 62
9.2.9.2.3 Timer recovery condition 62
9.2.9.2.4 Collision of identical transmitted and received commands 62
9.3 Unacknowledged operation 62
9.3.1 Use of LLN for unacknowledged information transfer 62
9.3.2 Class U link establishment 63
9.3.3 Unacknowledged information transfer 63
9.3.3.1 Transmission of unacknowledged information 63
9.3.3.2 Reception of unacknowledged information 63
9.3.4 Unacknowledged release 63
9.4 Broadcast operation 63
9.4.1 Normal operation 63
9.4.1.1 Procedure in the Fixed radio Termination (FT) 63
9.4.1.2 Procedure in the Portable radio Termination (PT) 64
9.4.2 Expedited operation 64
9.4.2.1 Procedure in the Fixed radio Termination (FT) 64
9.4.2.2 Procedure in the Portable radio Termination (PT) 64

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-160299accb1e/sist-en-300-175-4-v1-6-1-2003

SIST EN 300 175-4 V1.6.1:2003

9.5 MAC layer interfaces 64
9.5.1 MC-SAP 64
9.5.1.1 C-plane overview 64
9.5.1.2 C-plane service data procedures 65
9.5.1.3 U-plane service data 65
9.5.2 MB-SAP 66
9.5.2.1 C-plane service data procedures 66
9.5.2.2 U-plane service data 66
9.5.3 MA-SAP 66
9.5.3.1 Overview 66
9.5.3.2 Service data procedures 67

10 Management procedures 67
10.1 Lower Layer Management Entity (LLME) 67
10.2 MAC connection management 67
10.2.1 MAC connection set-up 67
10.2.2 MAC connection release 68
10.2.3 MAC connection modification 68
10.2.4 MAC connection identifiers 69
10.2.4.1 Overview 69
10.2.4.2 Advanced MAC Connection Identifiers (AMCI) 69
10.2.4.3 Basic MAC Connection Identifiers (BMCI) 70
10.2.4.4 MAC Connection Endpoint Identifier (MCEI) 70
10.2.5 Selection of logical channel (C_S or C_F) 70
10.3 DLC C-plane (LAPC) management 70
10.3.1 Provision of link signature 71
10.3.2 Routing of connection oriented links 71
10.3.3 Routing of connectionless links 71
10.4 DLC U-plane (LUX) management 71
10.4.1 U-plane establishment 71
10.4.2 U-plane release 72
10.4.3 U-plane suspend and resume 72
10.5 Connection handover management 72
10.6 Ciphering management 73
10.6.1 Ciphering management in cases where the NWK layer executes the ciphering related MM procedure 73
10.6.1.1 Providing a key to the MAC layer 73
10.6.1.2 Starting and stopping the ciphering 73
10.6.1.3 Connection handover 73
10.6.2 Ciphering management in cases where the NWK layer does not execute the ciphering related MM procedure 73

11 U-plane service characteristics 74
11.1 General 74
11.2 LU1 TRansparent UnProtected service (TRUP) 74
11.3 LU2 Frame RELay service (FREL) 75
11.3.1 General 75
11.3.2 Checksum operation 76
11.3.3 Segmentation and transmission class 76
11.3.4 Data transmission 77
11.3.4.1 Send side procedure 77
11.3.4.2 Receive side procedure 77
11.4 LU3 Frame SWItching service (FSWI) 77
11.5 LU4 Forward Error Correction service (FEC) 78
11.6 LU5 Basic Rate Adaption service (BRAT) 78
11.6.1 Overview 78
11.6.2 Protected service operation 79
11.6.2.1 General 79
11.6.2.2 Data buffering and initial rate adaptation 80
11.6.2.3 Multi-channel set multiplexing 81
11.6.2.4 Segmentation of Multiplexed Data Units (MDU) 82
11.6.2.5 Frame sequencing and addition of control and fill octets 83
11.6.2.6 Frame transmission 84

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1.6.1-2003

SIST EN 300 175-4 V1.6.1:2003

11.6.3 Unprotected service operation 84
11.6.3.1 General 84
11.6.3.2 Data buffering and initial rate adaption 85
11.6.3.3 Multi-channel set multiplexing 85
11.6.3.4 Segmentation of MDUs 86
11.6.3.5 Frame transmission 86
11.7 LU6 Secondary Rate AdapTion (SRAT) service 87
11.7.1 General 87
11.8 LU16 ESCape Service (ESC) 88
11.8.1 General 88
11.9 LU7 64 kbit/s data bearer service 88
11.9.1 General 88
11.9.2 Physical layer service 88
11.9.3 MAC layer service 89
11.9.4 DLC layer service 89
11.9.4.1 Architectural model 89
11.9.4.1.1 Transmit (Tx) frame buffering 89
11.9.4.1.2 Receive (Rx) frame buffering 89
11.9.4.2 Automatic-Repeat-Request (ARQ) and Forward Error Control (FEC) 89
11.9.4.2.1 Control field 91
11.9.4.2.1.1 Format control parameter coding 91
11.9.4.2.1.2 Offset variable V(O) 92
11.9.4.2.1.3 Time variables $V_n(T)$ 92
11.9.4.2.1.4 Offset number N(O) 92
11.9.4.2.1.5 Send state variable V(S) 92
11.9.4.2.1.6 Acknowledge state variable V(A) 93
11.9.4.2.1.7 Send sequence number N(S) 93
11.9.4.2.1.8 Receive state variable V(R) 93
11.9.4.2.1.9 Receive sequence number N(R) 93
11.9.4.2.2 Information field 93
11.9.4.2.3 ARQ checksum 93
11.9.4.3 Procedures for normal operation 94
11.9.4.3.1 Establishment and synchronization procedures 94
11.9.4.3.2 Active phase 96
11.9.4.3.2.1 Transmitting frames (first time transmission) 96
11.9.4.3.2.2 Re-transmitting frames 96
11.9.4.3.2.3 Receiving frames 96
11.9.4.3.2.4 Sending acknowledgements 97
11.9.4.3.2.5 Receiving acknowledgements 97
11.9.4.3.3 Release 97
11.9.4.4 Exceptional procedures 97
11.9.4.4.1 Invalid frame condition 97
11.9.4.4.2 Establishment 98
11.9.4.4.3 Transmitting frames 98
11.9.4.4.4 Receiving frames 98
11.9.4.4.5 Sending acknowledgements 98
11.9.4.4.6 Forwarding of received data 98
11.9.4.4.7 N(R) sequence error 98
11.9.4.4.8 N(O) sequence error 98
11.9.4.4.9 N(S) sequence error 99
11.9.4.4.10 Format error 99
11.9.4.4.11 Abnormal release 99
11.9.4.4.12 Implicit reset 99
11.9.5 Network layer service 100
11.9.5.1 LCE service 100
11.9.5.2 CC service 100
11.10 LU8 service 100
11.10.1 Physical layer service 100
11.10.2 MAC layer service 100
11.10.3 DLC layer service 100
11.11 LU9 - Unprotected Rate Adaption for V series Equipment (RAVE) Service 101

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

SIST EN 300 175-4 V1.6.1:2003

11.11.1 Overview 101
11.11.1.1 FU9 frame structure 101
11.11.1.1.1 General frame structure 101
11.11.1.1.2 FU9 buffering procedures 102
11.11.1.1.3 Connection handover 102
11.11.1.1.4 Transmission order 102
11.11.2 Alignment signal management 102
11.11.2.1 General 102
11.11.2.2 Procedures 103
11.11.3 V.24 Signalling 104
11.11.3.1 General 104
11.11.3.2 Transmitter procedures 104
11.11.3.3 Receiver procedures 104
11.11.4 Rate Coding 104
11.11.4.1 General 104
11.11.4.2 Transmitter procedures 105
11.11.4.3 Receiver procedures 105
11.11.5 DECT Independent Clocking (DIC) 106
11.11.5.1 General 106
11.11.5.2 Measurement of phase differences 106
11.11.5.3 Compensation control rules 107
11.11.5.3.1 General 107
11.11.5.3.2 Optimizing error resilience 107
11.11.5.3.2.1 Procedure for conveying state changes 107
11.11.5.3.2.2 Procedure for executing positive and negative compensation 107
11.11.6 Information field 108
11.11.6.1 General 108
11.11.6.2 User data rates 108
11.11.6.3 Information field filling rule 108
11.11.7 Primitives 109
11.12 LU10 Enhanced Frame RELay (EFREL) Service 110
11.12.1 General 110
11.12.2 Segmentation and transmission class 110
11.12.3 Data transmission 111
11.12.3.1 Send side procedures 111
11.12.3.2 Receive side procedure 111
11.13 LU11 service 111
11.13.1 Physical layer service 111
11.13.2 MAC layer service 111
11.13.3 DLC layer service 112

12 Frame structures for U-plane services 112
12.1 General 112
12.2 FU1 frame structure 113
12.2.1 General frame structure 113
12.2.2 FU1 buffering procedures 113
12.2.3 Minimum delay (speech) operation 114
12.2.4 Connection handover 114
12.2.5 Transmission order 114
12.3 FU2 frame structure 114
12.3.1 General frame structure 114
12.3.2 FU2 buffering procedures 115
12.3.3 Connection handover 115
12.3.4 Transmission order 115
12.4 FU3 frame structure 116
12.4.1 General frame structure 116
12.4.2 FU3 buffering procedures 116
12.4.3 Connection handover 117
12.4.4 Transmission order 117
12.5 FU4 frame structure 117
12.5.1 General frame structure 117
12.5.2 FU4 buffering procedures 118

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1.6.1-2003

SIST EN 300 175-4 V1.6.1:2003

12.5.3 Connection handover 118
12.5.4 Transmission order 118
12.6 FU5 frame structure....119
12.6.1 General frame structure 119
12.6.2 FU5 buffering procedures....120
12.6.3 Connection handover 120
12.6.4 Transmission order 120
12.7 FU6 frame structure....120
12.7.1 General frame structure 120
12.7.2 FU6 buffering procedures....121
12.7.3 Connection handover 121
12.7.4 Transmission order 121
12.8 FU7 frame structure....121
12.9 FU8 frame structure....122
12.10 FU9 frame structure....122
12.11 FU10 frame structure....122
12.11.1 General frame structure 122
12.11.2 FU10 buffering procedures....123
12.11.3 Connection handover 123
12.11.4 Transmission order 123

13 Elements of procedures and formats of fields for U-plane peer-to-peer communication 124
13.1 General 124
13.2 Address elements....124
13.2.1 Address field format 124
13.2.2 Address field parameters 124
13.3 Length indicator elements....125
13.3.1 Length indicator field format 125
13.3.1.1 Length indicator field format for all services except LU10 125
13.3.1.2 Length indicator field format for service LU10 125
13.3.2 Length indicator field parameters 126
13.3.2.1 Length indicator field parameters for all services except LU10....126
13.3.2.2 Length indicator field parameters for LU10 service 127
13.3.2.2.1 Meaning of the more (M) bit 127
13.4 Sequence number elements 128
13.4.1 Send sequence number format 128
13.4.2 Send sequence number parameters 128
13.4.3 Receive sequence number format 128
13.4.4 Receive sequence number parameters 129
13.5 Fill elements - Fill field format 129

14 U-plane peer-to-peer procedures 129
14.1 General 129
14.2 Frame transmission principles....130
14.2.1 Sequence numbering....130
14.2.2 Acknowledgements....130
14.2.2.1 Sending acknowledgements 130
14.2.2.2 Receiving acknowledgements 130
14.2.3 Transmission classes....130
14.2.3.1 Class 0: No LU_X retransmission or sequencing....131
14.2.3.2 Class 1: no LU_X retransmission....131
14.2.3.3 Class 2: variable throughput, maximum delay LU_X retransmission....131
14.2.3.4 Class 3: fixed throughput LU_X retransmission 131
14.2.4 Operation parameter negotiation....132
14.3 Frame transmission procedures 132
14.3.1 General....132
14.3.2 Class 0 procedures 132
14.3.2.1 Sending side procedure 132
14.3.2.2 Receiving side procedure 133
14.3.3 Class 1 procedures 133
14.3.3.1 Sending side procedure 133

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416e-9be2-800299acc01e/sist-en-300-175-4-v1-6-1-2003

SIST EN 300 175-4 V1.6.1:2003

14.3.3.2 Receiving side procedure 133
14.3.4 Class 2 procedures 134
14.3.4.1 Sending side procedure 134
14.3.4.2 Receiving side procedure 136
14.3.5 Class 3 procedures 137
14.3.5.1 Sending side procedure 137
14.3.5.2 Receiving side procedure 138

Annex A (normative): System parameters 140

A.1 LAPC timer values 140

A.2 U-plane timer values 141

A.3 Constants 141
A.3.1 Retransmission counter (N250) 141
A.3.2 Maximum number of CHO attempts (N251) 141

Annex B (normative): Checksum algorithms 142

B.1 Arithmetic conventions 142

B.2 Coding algorithm 142

B.3 Decoding algorithm 142

B.4 Some examples 143

Annex C (informative): MAC connection states 144

Annex D (normative): Mapping of agreed channel rates to MCS sizes 145

D.1 Protected class operation 145

D.2 Unprotected class operation 146

Annex E (informative): Bibliography 147

History 148

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

SIST EN 300 175-4 V1.6.1:2003

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://webapp.etsi.org/IPR/home.asp).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Digital Enhanced Cordless Telecommunications (DECT).

The present document is part 4 of a multi-part deliverable covering the Common Interface (CI) for the Digital Enhanced Cordless Telecommunications (DECT), as identified below:

Part 1: "Overview";

Part 2: "Physical Layer (PHL)";

Part 3: "Medium Access Control (MAC) layer";

Part 4: "Data Link Control (DLC) layer";

Part 5: "Network (NWK) layer";

Part 6: "Identities and addressing";

Part 7: "Security features";

Part 8: "Speech coding and transmission".

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

Further details of the DECT system may be found in TR 101 178 [14] and ETR 043 [15].

National transposition dates	
Date of adoption of this EN:	1 February 2002
Date of latest announcement of this EN (doa):	31 May 2002
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 November 2002
Date of withdrawal of any conflicting National Standard (dow):	30 November 2002

SIST EN 300 175-4 V1.6.1:2003

1 Scope

The present document gives an introduction and overview of the complete Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI).

The present document specifies the Data Link Control (DLC) layer. The DLC layer is Part 4 of the DECT CI standard and layer 2b of the DECT protocol stack.

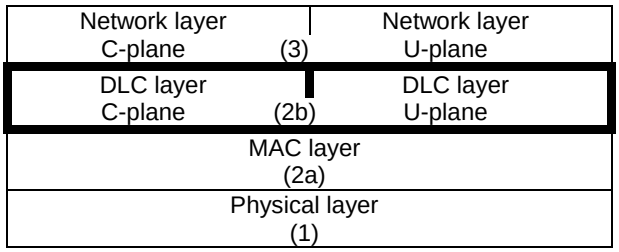

Figure 1.1

Two planes of operation are specified for this DLC (sub)layer. These planes are called the Control plane (C-plane) and the User plane (U-plane).

The C-plane is mostly concerned with the DECT signalling aspects. It provides a reliable point-to-point service that uses a link access protocol to offer error protected transmission of Network (NWK) layer messages. The C-plane also provides a separate point-to-multipoint (broadcast) service (Lb).

The U-plane is only concerned with end-to-end user information. This plane contains most of the application dependent procedures of DECT. Several alternative services (both circuit-mode and packet-mode) are defined as a family of independent entities. Each service provides one or more point-to-point U-plane data links, where the detailed characteristics of those links are determined by the particular needs of each service. The defined services cover a wide range of performance, from "unprotected with low delay" for speech applications to "highly protected with variable delay", for local area network applications.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/393da265-4e23-416c-9be2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

The present document uses the layered model principles and terminology as described in ITU-T Recommendation X.200 [11] and ITU-T Recommendation X.210 [12].

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

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

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

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

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

SIST EN 300 175-4 V1.6.1:2003

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

[6] ETSI TS 144 006: "Digital cellular telecommunications system (Phase 2+); Mobile Station - Base Station System (MS - BSS) interface; Data Link (DL) layer specification".

[7] ITU-T Recommendation Q.920 (1993): "ISDN user-network interface data link layer - General aspects".

[8] ITU-T Recommendation Q.921: "ISDN user-network interface - Data link layer specification".

[9] ITU-T Recommendation V.42 (1996): "Error-correcting procedures for DCEs using asynchronous-to-synchronous conversion".

[10] ITU-T Recommendation V.110 (1996): "Support by an ISDN of data terminal equipments with V-Series type interfaces".

[11] ITU-T Recommendation X.200 (1994): "Information technology - Open Systems Interconnection - Basic Reference Model: The basic model".

[12] ITU-T Recommendation X.210 (1993): "Information technology - Open Systems Interconnection - Basic Reference Model: Conventions for the definition of OSI services".

[13] ISO/IEC 8073 (1997): "Information technology - Open Systems Interconnection - Protocol for providing the connection-mode transport service".

[14] ETSI TR 101 178: "Digital Enhanced Cordless Telecommunications (DECT); A High Level Guide to the DECT Standardization".

[15] ETSI ETR 043: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Services and facilities requirements specification".

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3 Definitions, symbols and abbreviations

SIST EN 300 175-4 V1.6.1:2003
https://standards.iteh.ai/catalog/standards/sist/595da263-4e23-410c-98e2-860299accb1e/sist-en-300-175-4-v1-6-1-2003

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

bearer handover: See EN 300 175-1 [1].

C-plane: See EN 300 175-1 [1].

cluster: See EN 300 175-1 [1].

connection handover: See EN 300 175-1 [1].

Connectionless mode (C/L): See EN 300 175-1 [1].

Connection Oriented mode (C/O): See EN 300 175-1 [1].

Cordless Radio Fixed Part (CRFP): See EN 300 175-1 [1].

DLC broadcast: See EN 300 175-1 [1].

DLC data link (DLC link): See EN 300 175-1 [1].

DLC frame: See EN 300 175-1 [1].

double duplex bearer: See EN 300 175-1 [1].

Fixed radio Termination (FT): See EN 300 175-1 [1].

flow control: See EN 300 175-1 [1].