Final draft ETSI EN 300 175-5 V2.3.0 (2010-02)

European Standard (Telecommunications series)

Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e80e5-396a-427f-bbbe-7227a3597df1/etsi-en-300-175-5-v2.3.1-2010-06

Reference
REN/DECT-000254-5

Keywords
DECT, IMT-2000, mobility, radio, TDD, TDMA

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)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/a3e30e5-37...-2010-06

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, please send your comment to one of the following services:
http://portal.etsi.org/chaircor/ETSI_support.asp

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 2010.
All rights reserved.

DECT™, **PLUGTESTS**™, **UMTS**™, **TIPHON**™, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.
3GPP™ is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.
LTE™ is a Trade Mark of ETSI currently being registered
for the benefit of its Members and of the 3GPP Organizational Partners.
GSM® and the GSM logo are Trade Marks registered and owned by the GSM Association.

Contents

Intellectual Property Rights 16

Foreword 16

1 Scope 17

2 References 17
2.1 Normative references 18
2.2 Informative references 22

3 Definitions, symbols and abbreviations 22
3.1 Definitions 22
3.2 Symbols and abbreviations 23

4 Overview of the NWK layer 26

5 Overview of procedures 28
5.1 General 28
5.2 Overview of Call Control (CC) 28
5.2.1 General 28
5.2.2 Call establishment 28
5.2.2.1 Call setup 28
5.2.2.2 Service negotiation 29
5.2.3 Call connect 29
5.2.4 Call information 29
5.2.5 Service change 30
5.2.6 Call release 30
5.3 Overview of Supplementary Services (SS) 30
5.3.1 General 30
5.3.2 Keypad protocol 31
5.3.3 Feature key management protocol 31
5.3.4 Functional protocol 31
5.4 Overview of Connection Oriented Message Service (COMS) 31
5.4.1 General 31
5.4.2 COMS establishment 32
5.4.3 Service negotiation 32
5.4.4 COMS connect 32
5.4.5 COMS data transfer 32
5.4.6 COMS suspend and resume 32
5.4.7 COMS release 33
5.5 Overview of ConnectionLess Message Service (CLMS) 33
5.5.1 Fixed length message service 33
5.5.2 Variable length message service 33
5.6 Overview of Mobility Management (MM) 33
5.6.1 General 33
5.6.2 Identity procedures 34
5.6.3 Authentication procedures 34
5.6.4 Location procedures 35
5.6.5 Access rights procedures 35
5.6.6 Key allocation procedure 35
5.6.7 Parameter retrieval procedure 35
5.6.8 Ciphering related procedure 36
5.6.9 External protocol information procedure 36
5.7 Overview of Link Control Entity (LCE) 36
5.7.1 General 36
5.7.2 Data Link Endpoint Identifier (DLEI) 36
5.7.3 Data link establishment 37
5.7.4 Data link re-establishment 37
5.7.5 Data link release 37

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e80e5-396a-427f-bbbc-7227a5e97df/etsi-en-300-175-5-v2.3.1-2010-06

5.7.6 Data link suspend and resume 37
5.7.7 Queuing of messages 38
5.7.8 Request paging 38

6 Message functional definitions 38
6.1 Overview of message structures 38
6.1.1 Messages 38
6.1.2 Information elements 39
6.2 Message summaries 39
6.2.1 Summary of CC messages 39
6.2.2 Summary of CISS messages 40
6.2.3 Summary of COMS messages 40
6.2.4 Summary of CLMS messages 40
6.2.5 Summary of MM messages 41
6.2.6 Summary of LCE messages 41
6.3 S-FORMAT message functional contents 42
6.3.1 S-FORMAT message overview 42
6.3.2 CC-messages 42
6.3.2.1 {CC-SETUP} 42
6.3.2.2 {CC-INFO} 44
6.3.2.3 {CC-SETUP-ACK} 45
6.3.2.4 {CC-CALL-PROC} 46
6.3.2.5 {CC-ALERTING} 47
6.3.2.6 {CC-CONNECT} 48
6.3.2.7 {CC-CONNECT-ACK} 49
6.3.2.8 {CC-RELEASE} 49
6.3.2.9 {CC-RELEASE-COM} 50
6.3.2.10 {CC-SERVICE-CHANGE} 51
6.3.2.11 {CC-SERVICE-ACCEPT} 52
6.3.2.12 {CC-SERVICE-REJECT} 52
6.3.2.13 {CC-NOTIFY} 53
6.3.2.14 {IWU-INFO} 53
6.3.3 SS-messages (call related and call independent) 54
6.3.3.1 {FACILITY} 54
6.3.3.2 {HOLD} 54
6.3.3.3 {HOLD-ACK} 55
6.3.3.4 {HOLD-REJECT} 55
6.3.3.5 {RETRIEVE} 55
6.3.3.6 {RETRIEVE-ACK} 56
6.3.3.7 {RETRIEVE-REJECT} 56
6.3.3.8 {CISS-REGISTER} 57
6.3.3.9 {CISS-RELEASE-COM} 57
6.3.4 COMS-messages 58
6.3.4.1 {COMS-SETUP} 58
6.3.4.2 {COMS-INFO} 58
6.3.4.3 {COMS-ACK} 59
6.3.4.4 {COMS-CONNECT} 59
6.3.4.5 {COMS-RELEASE} 60
6.3.4.6 {COMS-RELEASE-COM} 60
6.3.4.7 {COMS-NOTIFY} 61
6.3.5 CLMS-message 61
6.3.5.1 {CLMS-VARIABLE} 61
6.3.6 MM-messages 62
6.3.6.1 {ACCESS-RIGHTS-ACCEPT} 62
6.3.6.2 {ACCESS-RIGHTS-REJECT} 62
6.3.6.3 {ACCESS-RIGHTS-REQUEST} 63
6.3.6.4 {ACCESS-RIGHTS-TERMINATE-ACCEPT} 63
6.3.6.5 {ACCESS-RIGHTS-TERMINATE-REJECT} 64
6.3.6.6 {ACCESS-RIGHTS-TERMINATE-REQUEST} 64
6.3.6.7 {AUTHENTICATION-REJECT} 65
6.3.6.8 {AUTHENTICATION-REPLY} 65
6.3.6.9 {AUTHENTICATION-REQUEST} 66

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e89e5-396a-427f-bbbe-7227a3597df1/etsi-en-300-175-5-v2.3.1-2010-02

6.3.6.10 {CIPHER-REJECT} 66
6.3.6.11 {CIPHER-REQUEST} 67
6.3.6.12 {CIPHER-SUGGEST} 67
6.3.6.13 {DETACH} 67
6.3.6.14 {IDENTITY-REPLY} 68
6.3.6.15 {IDENTITY-REQUEST} 69
6.3.6.16 {KEY-ALLOCATE} 69
6.3.6.17 {LOCATE-ACCEPT} 70
6.3.6.18 {LOCATE-REJECT} 70
6.3.6.19 {LOCATE-REQUEST} 71
6.3.6.20 {MM-INFO-ACCEPT} 72
6.3.6.21 {MM-INFO-REJECT} 72
6.3.6.22 {MM-INFO-REQUEST} 73
6.3.6.23 {MM-INFO-SUGGEST} 74
6.3.6.24 {TEMPORARY-IDENTITY-ASSIGN} 74
6.3.6.25 {TEMPORARY-IDENTITY-ASSIGN-ACK} 75
6.3.6.26 {TEMPORARY-IDENTITY-ASSIGN-REJ} 75
6.3.6.27 {MM-IWU} 76
6.3.6.28 {MM-NOTIFY} 76
6.3.7 LCE-messages 77
6.3.7.1 {LCE-PAGE-RESPONSE} 77
6.3.7.2 {LCE-PAGE-REJECT} 77
6.4 B-FORMAT message functional contents 78
6.4.1 B-FORMAT message overview 78
6.4.2 {LCE-REQUEST-PAGE} 78
6.4.3 {CLMS-FIXED} 79

7 S-FORMAT message structures 79
7.1 Overview 79
7.2 Protocol Discrimination (PD) element 80
7.3 Transaction Identifier (TI) element 80
7.4 Message type element 81
7.4.1 Messages for CC 82
7.4.2 Messages for SS 82
7.4.3 Messages for COMS 82
7.4.4 Messages for CLMS 83
7.4.5 Messages for MM 83
7.4.6 Messages for LCE 83
7.5 Other information elements 84
7.5.1 Coding rules 84
7.5.2 Extensions of codesets 86
7.5.3 Locking shift procedure 86
7.5.4 Non-locking shift procedure 87
7.5.5 Display and keypad elements 87
7.5.6 Repeated elements 87
7.6 Fixed length information elements 88
7.6.1 Summary 88
7.6.2 Sending complete, delimiter request and use TPUI 88
7.6.3 Repeat indicator 89
7.6.4 Basic service 89
7.6.5 Single display 90
7.6.6 Single keypad 90
7.6.7 Release reason 90
7.6.8 Signal 92
7.6.9 Timer restart 93
7.6.10 Test hook control 93
7.7 Variable length information elements 93
7.7.1 Summary 93
7.7.2 Allocation type 95
7.7.3 Alphanumeric 95
7.7.4 Auth type 96
7.7.5 Call attributes 98

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e80e5-396a-427f-bbbe-7227a3597df1/etsi-en-300-175-5-v2.3.1-2010-06

7.7.6 Call identity 101
7.7.7 Called party number 101
7.7.8 Called party subaddress 102
7.7.9 Calling party number 103
7.7.10 Cipher info 104
7.7.11 Connection attributes 105
7.7.12 Connection identity 108
7.7.13 Duration 109
7.7.14 End-to-end compatibility 110
7.7.15 Facility 113
7.7.16 Feature activate 113
7.7.17 Feature indicate 115
7.7.18 Fixed identity 117
7.7.19 Identity type 118
7.7.20 Info type 119
7.7.21 InterWorking Unit (IWU) attributes 120
7.7.22 IWU packet 125
7.7.23 IWU to IWU 126
7.7.24 Key 128
7.7.25 Location area 128
7.7.26 Multi-display 129
7.7.27 Multi-keypad 130
7.7.28 NetWorK (NWK) assigned identity 130
7.7.29 Network parameter 131
7.7.30 Portable identity 133
7.7.31 Progress indicator 137
7.7.32 RAND 137
7.7.33 Rate parameters 138
7.7.34 Reject reason 139
7.7.35 RES 140
7.7.36 RS 141
7.7.37 Segmented info 141
7.7.38 Service change info 142
7.7.39 Service class 143
7.7.40 Setup capability 144
7.7.41 Terminal capability 145
7.7.42 Transit delay 150
7.7.43 Window size 151
7.7.44 ZAP field 151
7.7.45 Escape to proprietary 152
7.7.46 Model identifier 152
7.7.47 MMS Generic Header 153
7.7.48 MMS Object Header 153
7.7.49 MMS Extended header 154
7.7.50 Time-Date 154
7.7.51 Ext h/o indicator 156
7.7.52 Authentication Reject Parameter 157
7.7.53 Calling party Name 157
7.7.54 Codec List 158
7.7.55 Events notification 159
7.7.56 Call information 163

8 B-FORMAT message structures 166
8.1 General 166
8.2 LCE request paging messages 166
8.2.1 Short format message 167
8.2.2 Full format message 168
8.2.3 Long format message 169
8.2.4 Message elements 170
8.2.4.1 LCE paging header 170
8.2.4.2 Info fields (Full format) 171
8.2.4.3 Default setup behaviour 172

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e80e5-396a-427f-bbbe-7227a3597dff/etsi-en-300-175-5-v2.3.1-2010-06

8.2.4.4 Address elements in collective or group ringing 174
8.3 CLMS-FIXED messages 174
8.3.1 General message structure 174
8.3.2 Message elements 175
8.3.3 Standard message structures 177
8.3.3.1 General 177
8.3.3.2 Messages using 4-bit characters 177
8.3.3.3 Messages using 8-bit characters 177

9 Call Control (CC) procedures 177
9.1 General 177
9.2 Call Control (CC) states 180
9.2.1 States at PT 180
9.2.1.1 State T-00: "NULL" 180
9.2.1.2 State T-19: "RELEASE PENDING" 180
9.2.1.3 State T-10: "ACTIVE" 180
9.2.1.4 State T-01: "CALL INITIATED" 180
9.2.1.5 State T-02: "OVERLAP SENDING" 180
9.2.1.6 State T-03: "CALL PROCEEDING" 180
9.2.1.7 State T-04: "CALL DELIVERED" 180
9.2.1.8 State T-06: "CALL PRESENT" 180
9.2.1.9 State T-07: "CALL RECEIVED" 180
9.2.1.10 State T-08: "CONNECT PENDING" 180
9.2.2 States at FT 181
9.2.2.1 State F-00: "NULL" 181
9.2.2.2 State F-19: "RELEASE PENDING" 181
9.2.2.3 State F-10: "ACTIVE" 181
9.2.2.4 State F-01: "CALL-INITIATED" 181
9.2.2.5 State F-02: "OVERLAP SENDING" 181
9.2.2.6 State F-03: "CALL PROCEEDING" 181
9.2.2.7 State F-04: "CALL DELIVERED" 181
9.2.2.8 State F-06: "CALL PRESENT" 181
9.2.2.9 State F-07: "CALL RECEIVED" 181
9.2.3 Optional states (PT and FT) 182
9.2.3.1 States T-22 and F-22: "OVERLAP RECEIVING" 182
9.2.3.2 States T-23 and F-23: "INCOMING CALL PROCEEDING" 182
9.3 Call establishment procedures 182
9.3.1 PT initiated call establishment (outgoing call) 182
9.3.1.1 Call request 182
9.3.1.2 Call accept or reject 183
9.3.1.3 Selection of lower layer resources 183
9.3.1.4 Connection of U-plane 184
9.3.1.5 Overlap sending 184
9.3.1.6 Call proceeding 185
9.3.1.7 Call confirmation 185
9.3.1.8 Call connection 186
9.3.1.9 Expiry of timer <CC.04> 186
9.3.2 FT initiated call establishment (incoming call) 186
9.3.2.1 Call request 186
9.3.2.2 Call accept or reject 187
9.3.2.3 Selection of lower layer resources 187
9.3.2.4 Connection of U-plane 188
9.3.2.5 Overlap receiving 188
9.3.2.6 Call proceeding 188
9.3.2.7 Call confirmation 188
9.3.2.8 Call connection 188
9.3.2.9 Sending of <<TERMINAL-CAPABILITY>> 189
9.3.2.10 Expiry of timer <CC.04> 189
9.4 Call information procedures 189
9.5 Call release procedures 189
9.5.1 Normal call release 189
9.5.2 Abnormal call release 190

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e89e5-396a-427f-bb8e-7227855f2ff1/etsi-en-300-175-5-v2.3.1-2010-06

9.5.3 Release collisions 191
9.6 Service change procedures 191
9.6.1 General 191
9.6.2 Change of Bandwidth parameters (including changes in connection type) 192
9.6.3 Service rerouting 192
9.6.4 NWK layer service suspension and resumption 192
9.6.5 Modulation scheme change 193
9.7 NWK layer Packet mode procedures 193
9.7.1 General 193
9.7.2 PT initiated access 194
9.7.3 FT initiated access 194
9.7.4 NWK layer suspend and resume 194
9.7.4.1 General 194
9.7.4.2 C-plane NWK layer suspend and resume 195
9.7.4.3 U-plane NWK layer suspend and resume 195
9.8 Emergency call procedure 195
9.9 Segmentation of information in CC procedures 196

10 Supplementary Services procedures 197
10.1 General 197
10.2 Keypad protocol 198
10.3 Feature key management protocol 198
10.4 Functional protocol 199
10.4.1 Separate messages approach 199
10.4.1.1 Hold procedures 199
10.4.1.2 Retrieve procedures 199
10.4.1.3 Auxiliary states for hold and retrieve 200
10.4.2 Common information element approach 200
10.4.2.1 Call Related Supplementary Services (CRSS) procedures 200
10.4.2.2 Call Independent Supplementary Services (CISS) procedures 200
10.4.2.2.1 Transport of CISS 200
10.4.2.3 Connectionless Supplementary Service (CLSS) procedure 201
10.5 Co-existence of multiple protocols 201
10.6 Application protocols 202
10.6.1 DECT standard functional supplementary services 202
10.6.2 DECT specific supplementary services 203
10.6.2.1 Queue management 203
10.6.2.2 Indication of subscriber number 203
10.6.2.3 Control of echo control functions 204
10.6.2.4 Cost information 204

11 Connection Oriented Message Service (COMS) 205
11.1 General 205
11.2 COMS states 205
11.2.1 States at PT 205
11.2.1.1 State TS-0: "NULL" 205
11.2.1.2 State TS-1: "CONNECT PENDING" 205
11.2.1.3 State TS-2: "RELEASE PENDING" 205
11.2.1.4 State TS-3: "ACTIVE" 205
11.2.2 States at FT 205
11.2.2.1 State FS-0: "NULL" 205
11.2.2.2 State FS-1: "CONNECT PENDING" 205
11.2.2.3 State FS-2: "RELEASE PENDING" 205
11.2.2.4 State FS-3: "ACTIVE" 206
11.3 COMS establishment procedures 206
11.3.1 PT initiated COMS establishment 206
11.3.1.1 COMS request 206
11.3.1.2 COMS connection 206
11.3.2 FT initiated COMS establishment 207
11.3.2.1 COMS request 207
11.3.2.2 COMS connection 207
11.4 COMS data transfer procedures 207

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e89e5-396a-427f-bbfe-7227a3557df1/etsi-en-300-175-5-v2.3.1-2010-02

11.4.1 Procedure at the sending side 207
11.4.2 Procedure at the receiving side 208
11.5 COMS NWK layer suspend and resume procedures 209
11.6 COMS release procedures 209
11.6.1 Normal COMS release 209
11.6.2 Release collisions 209

12 ConnectionLess Message Service (CLMS) 210
12.1 General 210
12.2 CLMS states 210
12.3 CLMS message transmission procedures 210
12.3.1 Fixed length messages 210
12.3.1.1 Procedure in the Fixed radio Termination (FT) 210
12.3.1.2 Procedure in the Portable radio Termination (PT) 211
12.3.2 Variable length messages 211
12.3.2.1 Procedure at the sending side 211
12.3.2.2 Procedure at the receiving side 211
12.3.2.3 Restrictions for portable side initiated messages 212

13 Mobility Management (MM) procedures 212
13.1 General 212
13.2 Identity procedures 213
13.2.1 Procedure for identification of PT 213
13.2.2 Procedure for temporary identity assignment 214
13.3 Authentication procedures 215
13.3.1 Authentication of a PT 215
13.3.2 Authentication of the user 217
13.3.3 Authentication of a FT 217
13.4 Location procedures 218
13.4.1 Location registration 218
13.4.2 Detach 220
13.4.3 Location update 220
13.5 Access rights procedure 221
13.5.1 Obtaining the access rights 221
13.5.2 Termination of access rights 222
13.5.3 Modification of access rights 224
13.6 Key allocation procedure 224
13.7 Parameter retrieval procedure 225
13.8 Ciphering related procedure 227
13.9 External protocol information procedure 229
13.9.1 Procedure for external protocol information initiated by the FT 229
13.9.2 Procedure for external protocol information initiated by the PT 230
13.9.3 Segmentation of information in MM procedures 230

14 Link Control Entity (LCE) procedures 231
14.1 General 231
14.2 Connection oriented link control procedures 232
14.2.1 Link establishment 232
14.2.2 Direct PT initiated link establishment 232
14.2.3 Indirect (paged) FT initiated link establishment 233
14.2.4 Direct FT initiated link establishment 234
14.2.5 Link maintenance 235
14.2.6 Link suspend and resume 235
14.2.6.1 Link suspend 235
14.2.6.2 Link resume 236
14.2.7 Link release 236
14.2.7.1 NLR notification without "partial release" as release reason 236
14.2.7.2 NLR notification with "partial release" as release reason 237
14.3 Connectionless link control procedures 237
14.3.1 Message routing 237
14.3.2 Broadcast announce procedure 237
14.3.3 LCE paging codes for connectionless service 238
14.4 Procedure for collective and group ringing 238

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e80e5-396a-42cf-abbe-7227a3597dff/etsi-en-300-175-5-v2.3.1-2010-06

14.5 LCE paging procedures for DPRS 239
14.5.1 DPRS initial setup paging 239
14.5.1.1 Assumptions for Short paging format or for Full format with IPUI 239
14.5.1.2 Coding for Full paging format with TPUI 239
14.5.2 DPRS Resume paging 240
14.5.2.1 Assumptions for Short paging format or for Full format with IPUI 240
14.5.2.2 Coding for Full paging format with TPUI 240
14.5.2.3 LCE Resume Procedure description 240
14.5.3 Special cases 241
14.5.3.1 Rule for DPRS Class 1 devices 241
14.5.3.2 Rule for backcompatibility with former A/B 1 devices 241

15 Management procedures 241
15.1 Lower Layer Management Entity (LLME) 241
15.2 Service mapping and negotiation 242
15.2.1 General 242
15.2.2 Prioritized list negotiation 242
15.2.3 Exchanged attribute negotiation 242
15.2.4 Operating parameter negotiation 243
15.2.5 Peer attribute negotiation 243
15.3 Service modification procedures 244
15.4 Resource management 244
15.5 Management of MM procedures 244
15.6 Call ciphering management 245
15.7 External Handover 246
15.7.1 Handover candidate procedures 246
15.7.1.1 General 246
15.7.1.2 Handover candidate indication 246
15.7.1.3 Handover candidate retrieval 247
15.7.1.4 Target FP selection 247
15.7.2 Handover reference procedure 248
15.7.2.1 General 248
15.7.2.2 Handover reference indication 248
15.7.2.3 Handover reference retrieval 248
15.7.3 External handover suggested by FP 248
15.7.4 NWK layer set up procedure 249
15.7.4.1 Handover request 249
15.7.4.2 Handover confirm 249
15.7.4.3 Handover accept 249
15.7.4.4 Handover reject 249
15.7.4.5 Release of old connection 249
15.7.4.6 Handover Fall Back 250
15.7.5 U-plane handling 250
15.7.6 Ciphering procedure 251
15.7.7 Interaction with location registration 251
15.8 Test management procedures 251
15.8.1 Test call back procedure 252
15.8.2 Test hook control procedures 252
15.8.3 Upper tester procedure 252
15.9 Application assistance procedures 253
15.9.1 DECT Identity Resolution (Retrieval) Procedure 253
15.9.1.1 FT (or HyP) initiated Connectionless Identity Resolution procedure 253
15.9.1.2 PT initiated Connectionless Identity Resolution procedure 254
15.9.1.3 Connection oriented Identity Resolution procedure 254
15.9.2 Application Address Resolution (Retrieval) Procedure 254
15.9.3 Application Parameter Allocation Procedure 254
15.9.3.1 FT initiated application parameter allocation procedure 254
15.9.3.2 PT initiated application parameter allocation procedure 255
15.9.4 Application parameter information procedure 255
15.9.4.1 FT initiated connection oriented Application parameter information procedure 255
15.9.4.2 PT initiated connection oriented Application parameter information procedure 255
15.9.4.3 FT initiated connectionless Application parameter information procedure 256

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e89e5-396a-427f-bbbe-7227a3597df1/etsi-en-300-175-5-v2.3.1-2010-02

15.9.4.4 PT initiated connectionless Application parameter information procedure 256
15.9.5 Application Parameter Indication procedure 256

16 Primitives 257
16.1 Primitive types 257
16.2 Primitives to lower layer (DLC layer) 257
16.3 Primitives to IWU 257
16.3.1 Parameter definitions 257
16.3.2 MNCC primitives 258
16.3.2.1 MNCC_SETUP primitive 259
16.3.2.2 MNCC_SETUP_ACK primitive 259
16.3.2.3 MNCC_REJECT primitive 260
16.3.2.4 MNCC_CALL_PROC primitive 260
16.3.2.5 MNCC_ALERT primitive 261
16.3.2.6 MNCC_CONNECT primitive 261
16.3.2.7 MNCC_RELEASE primitive 262
16.3.2.8 MNCC_FACILITY primitive 262
16.3.2.9 MNCC_INFO primitive 263
16.3.2.10 MNCC_MODIFY primitive 263
16.3.2.11 MNCC_HOLD primitive 263
16.3.2.12 MNCC_RETRIEVE primitive 264
16.3.2.13 MNCC_IWU_INFO primitive 264
16.3.3 MNSS primitives 264
16.3.3.1 MNSS_SETUP primitive 264
16.3.3.2 MNSS_FACILITY primitive 265
16.3.3.3 MNSS_RELEASE primitive 265
16.3.4 MNCO primitives 265
16.3.4.1 MNCO_SETUP primitive 266
16.3.4.2 MNCO_CONNECT primitive 266
16.3.4.3 MNCO_INFO primitive 266
16.3.4.4 MNCO_ACK primitive 266
16.3.4.5 MNCO_RELEASE primitive 267
16.3.4.6 MNCO_REJECT primitive 267
16.3.5 MNCL primitives 267
16.3.5.1 MNCL_UNITDATA primitive 267
16.3.6 MM primitives 268
16.3.6.1 MM_IDENTITY primitive 268
16.3.6.2 MM_IDENTITY_ASSIGN primitive 268
16.3.6.3 MM_AUTHENTICATE primitive 269
16.3.6.4 MM_LOCATE primitive 269
16.3.6.5 MM_DETACH primitive 269
16.3.6.6 MM_ACCESS_RIGHTS primitive 270
16.3.6.7 MM_ACCESS_RIGHTS_TERMINATE primitive 270
16.3.6.8 MM_KEY_ALLOCATE primitive 270
16.3.6.9 MM_INFO primitive 271
16.3.6.10 MM_CIPHER primitive 271
16.3.6.11 MM_IWU primitive 271

17 Handling of error and exception conditions 272
17.1 Protocol discrimination error 272
17.2 Message too short 272
17.3 Transaction identifier error 272
17.3.1 Illegal and unsupported transaction identifier value 272
17.3.2 Transaction identifier procedural errors and exception conditions 272
17.3.2.1 Unknown active CC call 272
17.3.2.2 Unknown active CISS call 273
17.3.2.3 Unknown active COMS call 273
17.3.2.4 Unknown active CLMS call 273
17.3.2.5 Unknown active MM transaction 273
17.3.2.6 Unknown active LCE transaction 273
17.3.3 Call Resource Contention 273
17.4 Message type or message sequence errors 274

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
http://standards.iteh.ai/catalog/standards/sist/bf4e89e5-396a-527b-bbb7-7227a3597df1/etsi-en-300-175-5-v2.3.1-2010-06

17.4.1 CC message error....274
17.4.2 CISS message error....274
17.4.3 COMS or CLMS message error....274
17.4.4 MM message error....274
17.4.5 LCE message error....274
17.5 General information element errors....274
17.5.1 Information element out of sequence....274
17.5.2 Duplicated information elements....275
17.6 Mandatory information element errors....275
17.6.1 Mandatory information element missing in CC messages....275
17.6.2 Mandatory information element content error in CC messages....275
17.6.3 Mandatory information element error in COMS or CLMS messages....275
17.6.4 Mandatory information element error in MM messages....276
17.6.5 Mandatory information element error in LCE messages....276
17.7 Non-mandatory information element errors....276
17.7.1 Unrecognized information element....276
17.7.2 Non-mandatory information element content error....276
17.8 Data link reset....277
17.9 Data link failure....277

Annex A (normative): System parameters....278

A.1 CC timers....278
A.2 SS timers....279
A.3 COMS timers....279
A.4 CLMS timer....280
A.5 MM timers....280
A.6 LCE timers....283
A.7 NWK layer constants....284
A.8 Restart....284

Annex B (normative): CC state transition tables....285

B.1 CC state transitions at PT side....285
B.1.1 CC state table at PT side....285
B.1.2 CC transition procedures at PT side....286
B.2 CC state transitions at FT side....288
B.2.1 CC state table at FT side....288
B.2.2 CC transition procedures at FT side....288

Annex C (informative): DLC states as viewed by the LCE....291

Annex D (normative): DECT standard character sets....292

D.1 General....292
D.2 DECT standard 8-bit characters....292
D.2.1 General....292
D.2.2 Control codes....293
D.2.3 Standard IA5 codes....294
D.2.4 extended codes and escape to alternative character sets....294
D.3 DECT standard 4-bit characters....294

Annex E (normative): Default coding of information elements....295

E.1 Default coding of <<IWU-ATTRIBUTES>> and <CALL-ATTRIBUTES>> information elements for basic speech....295

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bf4e80e5-396a-4bff-bbbc-722f3597dcf1/etsi-en-300-175-5-v2.3.1-2010-06

E.2 Default coding of <<IWU-ATTRIBUTES>>, <<CALL-ATTRIBUTES>> and <<CONNECTION-ATTRIBUTES>> information elements for wideband speech 295
E.2.1 Default setup attributes for basic service wideband speech 296

Annex F (normative): Broadcast attributes coding 297

F.1 Higher layer capabilities 297

F.2 Extended higher layer capabilities 298

F.3 Extended higher layer capabilities (part 2) 298

Annex G (normative): Use of <<IWU-PACKET>> and <<IWU-TO-IWU>> information elements 300

G.1 General 300

G.2 Sending of <<IWU-PACKET>> elements 300
G.2.1 CC and MM use of <<IWU-PACKET>> 300
G.2.2 COMS and CLMS use of <<IWU-PACKET>> 300
G.2.3 Rejection of <<IWU-PACKET>> elements 300

G.3 Use of <<IWU-TO-IWU>> elements 301
G.3.1 Sending of <<IWU-TO-IWU>> elements 301
G.3.2 Rejection of <<IWU-TO-IWU>> elements 301

Annex H (normative): Transaction identifier flags (TIF) assignment in MM procedures 302

H.1 General 302

H.2 Nested procedures 302

H.3 Stand alone procedures 303
H.3.1 Location update procedure 303
H.3.2 Location registration procedure with temporary identity assignment 303
H.3.3 PT initiated cipher switching 304
H.3.4 Key allocation 304

H.4 External protocol information procedure 305

Annex I (normative): Distributed communications 306

I.1 Introduction 306

I.2 General requirements 306
I.2.1 DCDL-net 306
I.2.2 Subscription 306
I.2.3 Communication 307

I.3 Procedure description 308
I.3.1 HyP Identities 308
I.3.2 Membership Access Rights Allocation 308
I.3.3 Re-initialization of membership access rights 309
I.3.4 Members Data Transfer 309
I.3.5 Presence/Absence Indication 311
I.3.6 Bandwidth management 311
I.3.7 Direct Link Establishment 312
I.3.8 Indirect Link Establishment 313
I.3.9 MASTER management 314
I.3.9.1 MASTER assign 314
I.3.9.2 MASTER Change 314
I.3.9.3 DCDL-net System bearer management 314
I.3.10 Common Subscription Database management 315
I.3.10.1 IdN 315
I.3.10.2 RFPI, PARK and PLI 315
I.3.10.3 IPUI 316
I.3.10.4 TPUI and LAL 316

iTeh STANDARD PREVIEW
(standards.iteh.ai)
Full standard:
https://standards.iteh.ai/catalog/standards/sist/bff4e80e-5996a-427f-bbbe-2227a3597df1/etsi-en-300-175-5-v2.3.1-2010-02