ETSI TS 102 223 V16.0.0 (2024-02)



Smart Cards;
Card Application Toolkit (CAT)
(Release 16)

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

Reference
RTS/SET-T102223vg00

Keywords
embedded, SIM, smart card, UICC

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 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from:
https://www.etsi.org/standards-search

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

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
https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx

If you find errors in the present document, please send your comment to one of the following services:
https://portal.etsi.org/People/CommiteeSupportStaff.aspx

If you find a security vulnerability in the present document, please report it through our
Coordinated Vulnerability Disclosure Program:
https://www.etsi.org/standards/coordinated-vulnerability-disclosure

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.
No recommendation as to products and services or vendors is made or should be implied.
No representation or warranty is made that this deliverable is technically accurate or sufficient or conforms to any law and/or governmental rule and/or regulation and further, no representation or warranty is made of merchantability or fitness for any particular purpose or against infringement of intellectual property rights.
In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.
The content of the PDF version shall not be modified without the written authorization of ETSI.
The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2024.
All rights reserved.

Contents

Intellectual Property Rights 12
Foreword 12
Modal verbs terminology 13
1 Scope 14
2 References 14
2.1 Normative references 14
2.2 Informative references 17
3 Definition of terms, symbols and abbreviations 17
3.1 Terms 17
3.2 Symbols 19
3.3 Abbreviations 19
4 Overview of CAT 21
4.0 Introduction 21
4.1 Profile download 21
4.2 Proactive UICC 21
4.3 Data download to UICC 22
4.4 Menu selection 22
4.5 Call control by network access application 22
4.6 Void 22
4.7 Event download 22
4.8 Security 23
4.9 Multiple card 23
4.10 Timer expiration 23
4.11 Bearer Independent Protocol 23
4.12 Description of the access technology indicator mechanism 23
4.13 Tag allocation guidelines 24
4.14 Description of the network search mode mechanism 24
4.15 CAT operation in reduced capability terminals 24
4.16 CAT over the modem interface 24
4.17 CAT facilities provided by eCAT clients 25
4.18 Negotiation of Poll Interval 26
4.19 Void 26
5 Profile download 26
5.1 Procedure 26
5.2 Structure and coding of TERMINAL PROFILE 26
5.3 Definition of display parameters in profile download 35
5.3.0 Overview 35
5.3.1 Number of characters supported down the terminal display 35
5.3.2 Number of characters supported across the terminal display 35
5.3.3 Display can be resized 35
5.3.4 Text wrapping 35
5.3.5 Text scrolling 35
5.3.6 Width reduction when in a menu 35
5.3.7 Text attributes 36
6 Proactive UICC 36
6.1 Introduction 36
6.2 Identification of terminal support 39
6.3 General procedure 39
6.4 Proactive UICC commands and procedures 39
6.4.1 DISPLAY TEXT 39
6.4.2 GET INKEY 41
6.4.3 GET INPUT 42
6.4.4 MORE TIME 44

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/sist/...-ts-102-223-v16.0.0-2024-02

6.4.5 PLAY TONE 44
6.4.6 POLL INTERVAL 45
6.4.7 REFRESH 45
6.4.8 SET UP MENU 47
6.4.9 SELECT ITEM 48
6.4.10 SEND SHORT MESSAGE 49
6.4.11 Void 50
6.4.12 Void 50
6.4.13 SET UP CALL 50
6.4.14 POLLING OFF 51
6.4.15 PROVIDE LOCAL INFORMATION 51
6.4.16 SET UP EVENT LIST 52
6.4.17 PERFORM CARD APDU 52
6.4.18 POWER OFF CARD 53
6.4.19 POWER ON CARD 53
6.4.20 GET READER STATUS 54
6.4.21 TIMER MANAGEMENT 54
6.4.22 SET UP IDLE MODE TEXT 55
6.4.23 RUN AT COMMAND 55
6.4.24 SEND DTMF 56
6.4.25 LANGUAGE NOTIFICATION 57
6.4.26 LAUNCH BROWSER 57
6.4.27 OPEN CHANNEL 58
6.4.27.1 OPEN CHANNEL related to CS bearer 58
6.4.27.2 OPEN CHANNEL related to packet data service bearer 60
6.4.27.3 OPEN CHANNEL related to local bearer 62
6.4.27.4 OPEN CHANNEL related to Default (network) Bearer 63
6.4.27.5 OPEN CHANNEL related to UICC Server Mode 64
6.4.27.6 OPEN CHANNEL related to Terminal Server Mode 65
6.4.28 CLOSE CHANNEL 66
6.4.29 RECEIVE DATA 67
6.4.30 SEND DATA 68
6.4.31 GET CHANNEL STATUS 70
6.4.32 SERVICE SEARCH 70
6.4.33 GET SERVICE INFORMATION 70
6.4.34 DECLARE SERVICE 71
6.4.35 SET FRAMES 71
6.4.36 GET FRAME STATUS 72
6.4.37 RETRIEVE MULTIMEDIA MESSAGE 73
6.4.38 SUBMIT MULTIMEDIA MESSAGE 73
6.4.39 DISPLAY MULTIMEDIA MESSAGE 74
6.4.40 ACTIVATE 75
6.4.41 CONTACTLESS STATE CHANGED 76
6.4.42 COMMAND CONTAINER 76
6.4.43 ENCAPSULATED SESSION CONTROL 76
6.4.44 Void 76
6.5 Common elements in proactive UICC commands 76
6.5.1 Command number 76
6.5.2 Device identities 77
6.5.3 Alpha identifier 77
6.5.4 Icon identifiers 77
6.5.5 Text Attribute 77
6.5.6 Frame identifier 77
6.6 Structure of proactive UICC commands 78
6.6.0 Foreword 78
6.6.1 DISPLAY TEXT 78
6.6.2 GET INKEY 78
6.6.3 GET INPUT 79
6.6.4 MORE TIME 79
6.6.5 PLAY TONE 80
6.6.6 POLL INTERVAL 80
6.6.7 SET-UP MENU 81

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

6.6.8 SELECT ITEM 81
6.6.9 SEND SHORT MESSAGE 82
6.6.10 Void 82
6.6.11 Void 82
6.6.12 SET UP CALL 82
6.6.13 REFRESH 83
6.6.14 POLLING OFF 83
6.6.15 PROVIDE LOCAL INFORMATION 83
6.6.16 SET UP EVENT LIST 84
6.6.17 PERFORM CARD APDU 84
6.6.18 POWER OFF CARD 84
6.6.19 POWER ON CARD 84
6.6.20 GET READER STATUS 84
6.6.21 TIMER MANAGEMENT 84
6.6.22 SET UP IDLE MODE TEXT 85
6.6.23 RUN AT COMMAND 85
6.6.24 SEND DTMF COMMAND 85
6.6.25 LANGUAGE NOTIFICATION 86
6.6.26 LAUNCH BROWSER 86
6.6.27 OPEN CHANNEL 87
6.6.27.1 OPEN CHANNEL related to CS bearer 87
6.6.27.2 OPEN CHANNEL related to packet data service bearer 88
6.6.27.3 OPEN CHANNEL related to local bearer 89
6.6.27.4 OPEN CHANNEL related to Default (network) Bearer 90
6.6.27.5 OPEN CHANNEL related to UICC Server Mode 90
6.6.27.6 OPEN CHANNEL related to Terminal Server Mode 91
6.6.28 CLOSE CHANNEL 91
6.6.29 RECEIVE DATA 91
6.6.30 SEND DATA 92
6.6.31 GET CHANNEL STATUS 92
6.6.32 SERVICE SEARCH 92
6.6.33 GET SERVICE INFORMATION 92
6.6.34 DECLARE SERVICE 93
6.6.35 SET FRAMES 93
6.6.36 GET FRAMES STATUS 94
6.6.37 RETRIEVE MULTIMEDIA MESSAGE 94
6.6.38 SUBMIT MULTIMEDIA MESSAGE 94
6.6.39 DISPLAY MULTIMEDIA MESSAGE 95
6.6.40 ACTIVATE 95
6.6.41 CONTACTLESS STATE CHANGED 95
6.6.42 COMMAND CONTAINER 95
6.6.43 ENCAPSULATED SESSION CONTROL 96
6.6.44 Void 96
6.7 Command results 96
6.8 Structure of TERMINAL RESPONSE 98
6.8.0 Overall coding 98
6.8.1 Command details 100
6.8.2 Device identities 100
6.8.3 Result 100
6.8.4 Duration 100
6.8.5 Text string 100
6.8.6 Item identifier 101
6.8.7 Local information 101
6.8.8 Call control requested action 102
6.8.9 Result data object 2 102
6.8.10 Card reader status 102
6.8.11 Card ATR 102
6.8.12 R-APDU 102
6.8.13 Timer identifier 102
6.8.14 Timer value 102
6.8.15 AT Response 102
6.8.16 Text string 2 103

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/sist/ce87c4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

6.8.17 Channel data 103
6.8.18 Channel status 103
6.8.19 Channel data length 103
6.8.20 Bearer description 103
6.8.21 Buffer size 103
6.8.22 Total display duration 103
6.8.23 Service Availability 103
6.8.24 Service Record 104
6.8.25 Other address (local address) 104
6.8.26 Frames Information 104
6.8.27 SA template 104
6.8.28 eCAT sequence number 104
6.8.29 Encrypted TLV list 104
6.8.30 MAC 104
6.8.31 DNS server address 104
6.9 Proactive UICC session and terminal display interaction 105
6.10 Handling of unknown, unforeseen and erroneous messages 105
6.10.1 General 105
6.10.2 Message too short 105
6.10.3 Missing minimum information 105
6.10.4 Unknown Tag value 106
6.10.5 Unexpected Tag value 106
6.10.6 Length errors 106
6.10.7 Contents not understood 106
6.10.8 Extended length data objects 106
6.11 Proactive commands versus possible terminal response 106
6.12 CAT session timeout 112

7 ENVELOPE commands 112
7.1 Void 112
7.2 Menu selection 112
7.2.0 Description 112
7.2.1 Procedure 112
7.2.2 Structure of ENVELOPE (MENU SELECTION) 112
7.3 Call Control by NAA 113
7.3.1 Call Control by NAA 113
7.3.1.1 Procedure for mobile originated calls 113
7.3.1.2 Void 113
7.3.1.3 Indication to be given to the user 114
7.3.1.4 Interaction with Fixed Dialling Number (FDN) 114
7.3.1.5 Support of Barred Dialling Number (BDN) service 115
7.3.1.6 Structure of ENVELOPE (CALL CONTROL) 115
7.4 Timer expiration 117
7.4.1 Description 117
7.4.2 Structure of ENVELOPE (TIMER EXPIRATION) 117
7.5 Event download 118
7.5.0 Overview 118
7.5.1 MT call event 118
7.5.1.1 Procedure 118
7.5.1.2 Structure of ENVELOPE (EVENT DOWNLOAD - MT call) 118
7.5.2 Call connected event 119
7.5.2.1 Procedure 119
7.5.2.2 Structure of ENVELOPE (EVENT DOWNLOAD - call connected) 119
7.5.3 Call disconnected event 120
7.5.3.1 Procedure 120
7.5.3.2 Structure of ENVELOPE (EVENT DOWNLOAD - call disconnected) 120
7.5.4 Location status event 121
7.5.4.1 Procedure 121
7.5.4.2 Structure of ENVELOPE (EVENT DOWNLOAD - Location status) 121
7.5.5 User activity event 122
7.5.5.1 Procedure 122
7.5.5.2 Structure of ENVELOPE (EVENT DOWNLOAD - User activity) 122

iTeh Standards (https://standards.iteh.ai) Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/sist/...-etsi-ts-102-223-v16-0-0-2024-02

7.5.6 Idle screen available event 123
7.5.6.1 Procedure 123
7.5.6.2 Structure of ENVELOPE (EVENT DOWNLOAD - Idle screen available) 123
7.5.7 Card reader status event 124
7.5.7.1 Procedure 124
7.5.7.2 Structure of ENVELOPE (EVENT DOWNLOAD - Card reader status) 124
7.5.8 Language selection event 124
7.5.8.1 Procedure 124
7.5.8.2 Structure of ENVELOPE (EVENT DOWNLOAD - Language selection) 125
7.5.9 Browser termination event 125
7.5.9.1 Procedure 125
7.5.9.2 Structure of ENVELOPE (EVENT DOWNLOAD - Browser termination) 125
7.5.10 Data available event 126
7.5.10.1 Procedure 126
7.5.10.2 Structure of ENVELOPE (EVENT DOWNLOAD - Data available) 126
7.5.11 Channel status event 127
7.5.11.1 Procedure 127
7.5.11.2 Structure of ENVELOPE (EVENT DOWNLOAD - Channel status) 127
7.5.12 Access Technology Change Event 128
7.5.12.1 Procedure 128
7.5.12.2 Structure of ENVELOPE (EVENT DOWNLOAD - Access Technology Change) 128
7.5.13 Display parameters changed event 129
7.5.13.1 Procedure 129
7.5.13.2 Structure of ENVELOPE (EVENT DOWNLOAD - Display parameters changed) 129
7.5.14 Local Connection event 129
7.5.14.1 Procedure 129
7.5.14.2 Structure of ENVELOPE (EVENT DOWNLOAD - Local Connection) 130
7.5.15 Network Search Mode Change Event 130
7.5.15.1 Procedure 130
7.5.15.2 Structure of ENVELOPE (EVENT DOWNLOAD - Network Search Mode Change) 131
7.5.16 Browsing status event 131
7.5.16.1 Procedure 131
7.5.16.2 Structure of ENVELOPE (EVENT DOWNLOAD - Browsing status) 131
7.5.17 Frames Information changed event 132
7.5.17.1 Procedure 132
7.5.17.2 Structure of ENVELOPE (EVENT DOWNLOAD - Frames Information changed) 132
7.5.18 HCI connectivity event 133
7.5.18.1 Procedure 133
7.5.18.2 Structure of ENVELOPE (EVENT DOWNLOAD - HCI connectivity event) 133
7.5.19 Contactless state request 133
7.5.19.1 Procedure 133
7.5.19.2 Structure of ENVELOPE(EVENT DOWNLOAD - Contactless state request) 134
7.5.20 Profile Container 134
7.5.20.1 Procedure 134
7.5.20.2 Structure of ENVELOPE (EVENT DOWNLOAD - Profile Container) 135
7.5.21 Void 136
7.5.22 Poll Interval Negotiation 136
7.5.22.1 Procedure 136
7.5.22.2 Structure of ENVELOPE (EVENT DOWNLOAD – Poll Interval Negotiation) 137
7.6 MMS Transfer Status 137
7.6.1 Procedure 137
7.6.2 Structure of ENVELOPE (MMS Transfer Status) 138
7.7 MMS notification download 138
7.7.0 Introduction 138
7.7.1 Procedure 139
7.7.2 Structure of ENVELOPE (MMS notification download) 139
7.8 Terminal Applications 140
7.8.1 Description 140
7.8.2 Structure of ENVELOPE (TERMINAL APPLICATIONS) 140
7.9 Envelope Container 141
7.9.1 Description 141
7.9.2 Structure of ENVELOPE (ENVELOPE CONTAINER) 141

ETSI Standards (Preview only) Document Preview
https://standards.iteh.ai/catalog/standards/etsi/ac7e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

7.10 Service List Retrieval 142
7.10.1 Description 142
7.10.2 Structure of ENVELOPE (SERVICE LIST) 143

8 COMPREHENSION-TLV data objects 143
8.0 Introduction 143
8.1 Address 143
8.2 Alpha identifier 144
8.3 Subaddress 145
8.4 Capability configuration parameters 145
8.5 Void 145
8.6 Command details 145
8.7 Device identities 151
8.8 Duration 152
8.9 Item 153
8.10 Item identifier 153
8.11 Response length 153
8.12 Result 154
8.12.0 Overall structure and coding 154
8.12.1 Void 155
8.12.2 Additional information for terminal problem 156
8.12.3 Additional information for network problem 156
8.12.4 Void 156
8.12.5 Void 156
8.12.6 Void 156
8.12.7 Void 156
8.12.8 Additional information for interaction with call control 156
8.12.9 Additional information for MultipleCard commands 157
8.12.10 Additional information for launch browser problem 157
8.12.11 Additional information for Bearer Independent Protocol 157
8.12.12 Additional information for Frames commands 158
8.12.13 Additional information for SUBMIT and RETRIEVE MULTIMEDIA MESSAGE 158
8.13 3GPP- SMS TPDU 159
8.14 Void 159
8.15 Text string 159
8.15.0 Object structure 159
8.15.1 Coding of text in unpacked format 159
8.15.2 Coding of text in packed format 159
8.15.3 Coding of text in 16 bits UCS2 alphabet format 159
8.16 Tone 160
8.17 Void 161
8.18 File list 161
8.19 Location information 162
8.20 IMEI 162
8.21 Help request 162
8.22 Network measurement results 162
8.23 Default text 162
8.24 Items next action indicator 162
8.25 Event list 163
8.26 Cause 164
8.27 Location status 164
8.28 Transaction identifier 165
8.29 Void 165
8.30 Call control requested action 165
8.31 Icon identifier 165
8.32 Item icon identifier list 166
8.33 Card reader status 167
8.34 Card ATR 168
8.35 C-APDU 168
8.36 R-APDU 168
8.37 Timer identifier 169
8.38 Timer value 169

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/sist/3c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

8.39 Date-time and time zone 170
8.40 AT command 170
8.41 AT response 170
8.42 BC repeat indicator 171
8.43 Immediate response 171
8.44 DTMF string 171
8.45 Language 171
8.46 Void 171
8.47 Browser identity 172
8.48 URL 172
8.49 Bearer 172
8.50 Provisioning file reference 173
8.51 Browser termination cause 173
8.52 Bearer description 173
8.53 Channel data 174
8.54 Channel data length 174
8.55 Buffer size 174
8.56 Channel status 175
8.57 Card reader identifier 176
8.58 Other Address 176
8.59 UICC/terminal interface transport level 177
8.60 AID 177
8.61 Access technology 177
8.62 Display parameters 178
8.63 Service record 179
8.64 Device filter 180
8.65 Service search 181
8.66 Attribute information 182
8.67 Service availability 183
8.68 Remote entity address 184
8.69 ESN 184
8.70 Network access name 184
8.71 CDMA-SMS TPDU 184
8.72 Text attribute 184
8.73 Item text attribute list 185
8.74 IMEISV 185
8.75 Network search mode 185
8.76 Battery State 186
8.77 Browsing status 186
8.78 Frame Layout 186
8.79 Frames Information 187
8.80 Frame identifier 188
8.81 MEID 188
8.82 Multimedia Message Reference 188
8.83 Multimedia Message Identifier 188
8.84 Multimedia Message Transfer status 189
8.85 MM Content Identifier 189
8.86 Multimedia Message Notification 189
8.87 Last Envelope 189
8.88 Registry application data 190
8.89 Activate descriptor 191
8.90 Broadcast Network information 191
8.91 Contactless state request 193
8.92 Contactless functionality state 193
8.93 Extended registry application data 194
8.94 eCAT client profile 194
8.95 eCAT client identity 194
8.96 Encapsulated envelope type 195
8.97 Call control/Poll Interval Negotiation result 195
8.98 eCAT sequence number 195
8.99 Encrypted TLV list 196
8.100 MAC 196

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d7/etsi-ts-102-223-v16-0-0-2024-02

8.101 SA template 197
8.102 CAT service list 198
8.103 Refresh enforcement policy 200
8.104 DNS Server Address 200
8.105 Supported radio access technologies 200
8.106 Void 201
8.107 Application specific refresh data 201

9 Tag values 201
9.0 Introduction 201
9.1 BER-TLV tags in terminal to UICC direction 201
9.2 BER-TLV tags in UICC to terminal direction 201
9.3 COMPREHENSION-TLV tags in both directions 201
9.4 Type of command and next action indicator 202

10 Allowed type of command and device identity combinations 203

11 Void 204

Annex A (normative): Support of CAT by terminal equipment 205

Annex B (informative): Example of DISPLAY TEXT proactive UICC command 207

Annex C (normative): Structure of CAT communications 208

Annex D (informative): Terminal display in proactive UICC session 209

Annex E (informative): Help information feature processing 210

Annex F (informative): Monitoring of events 211

Annex G (normative): Support of multiple card operation 212

Annex H (informative): Multiple card proactive command examples 213

Annex I (informative): Bearer independent protocol proactive command examples 214

Annex J (informative): WAP terminology 219

Annex K (informative): Use of CAT bearer independent protocol for local links Bluetooth® case 220

K.0 Foreword 220
K.1 Service search command 220
K.2 Get service information command 220
K.3 OPEN CHANNEL command 220

Annex L (informative): Bluetooth® service discovery protocol 223

L.0 Overview 223
L.1 Service attribute 224

Annex M (informative): Use of CAT bearer independent protocol for local links, server case 225

Annex N (informative): Browsing terminology 226

Annex O (informative): Use of USAT Bearer independent protocol for local links IrDA case 227

O.0 Foreword 227
O.1 Service Search command 227
O.2 Get Service Information command 227

iTeh Standards
(https://standards.iteh.ai)
Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

O.3 OPEN CHANNEL command....227

Annex P (informative): IrDA Information Access Service....230

Annex Q (informative): IrDA IAS class name and associated parameters....231

Annex R (informative): Example of Frames usage....232

Annex S (normative): Support of CAT by Terminals with reduced feature capabilities....234

Annex T (normative): Default routing for CAT over the modem interface....237

T.0 Supported facilities....237

T.1 Default routing mechanism....238

T.2 Combination rules for terminal profiles....239

Annex U (informative): Example of eCAT usage....240

Annex V (informative): Change history....243

History....248

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

Intellectual Property Rights

Essential patents

IPRs essential or potentially essential to normative deliverables may have been declared to ETSI. The declarations pertaining to these essential IPRs, if any, are 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 (https://ipr.etsi.org/).

Pursuant to the ETSI Directives including the ETSI IPR Policy, no investigation regarding the essentiality of IPRs, 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.

Trademarks

The present document may include trademarks and/or tradenames which are asserted and/or registered by their owners. ETSI claims no ownership of these except for any which are indicated as being the property of ETSI, and conveys no right to use or reproduce any trademark and/or tradename. Mention of those trademarks in the present document does not constitute an endorsement by ETSI of products, services or organizations associated with those trademarks.

DECT™, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members. **3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners. **GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

BLUETOOTH® is a trademark registered and owned by Bluetooth SIG, Inc.

iTeh Standards
(https://standards.iteh.ai)
Document Preview

Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Secure Element Technologies (SET).

ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

It is based on work originally done in the 3GPP in TSG-terminals WG3.

The contents of the present document are subject to continuing work within TC SET and may change following formal TC SET approval. If TC SET modifies the contents of the present document, it will then be republished by ETSI with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 0 early working draft;
  - 1 presented to TC SET for information;
  - 2 presented to TC SET for approval;
  - 3 or greater indicates TC SET approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

iTeh Standards
(https://standards.iteh.ai)
Document Preview

ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02

1 Scope

The present document defines the interface between the UICC and the terminal, and mandatory terminal procedures, specifically for "NAA Card Application Toolkit".

The Card Application Toolkit (CAT) is a set of generic commands and procedures for use by the ICC, irrespective of the access technology of the network. Within the scope of the present document, the UICC refers here to an ICC which supports at least one application in order to access a network. This application is called here Network Access Application (NAA).

The ICC is considered as a platform, which is either based on ETSI TS 102 221 [1] or ETSI TS 102 600 [38], here called "3G platform" or ETSI TS 151 011 [8], here called "2G platform".

NAA can be:

- a USIM application, as defined in ETSI TS 131 102 [6], which can reside only on a 3G platform;
- a SIM application, as defined in ETSI TS 151 011 [8], which can reside either on a 3G or a 2G platform;
- a TSIM application, as defined in ETSI TS 100 812 [i.2], which can reside only on a 3G platform;
- a ISIM application, as defined in ETSI TS 131 103 [36], which can reside only on a 3G platform;
- a CSIM application, as defined in 3GPP2 C.S0065-B [53];
- an R-UIM application, as defined in 3GPP2 C.S0023-D [30]; or
- other applications residing on a 3G platform or a 2G platform. Specifying the interface is to ensure interoperability between an ICC and a terminal independently of the respective manufacturers and operators.

The present document specifies as well mechanisms in order to expand the generic set of commands and procedures by access technology specific ones.

The present document defines:

- the commands;
- the application protocol;
- the mandatory requirements on the ICC and terminal for each procedure.

The present document does not specify any aspects related to the administrative management phase. Any internal technical realization of either the ICC or the terminal are only specified where these reflect over the interface. The present document does not specify any of the security algorithms that may be used.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- In the case of a reference to a TC SET document, a non-specific reference implicitly refers to the latest version of that document in the same Release as the present document.

Referenced documents which are not found to be publicly available in the expected location might be found at https://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

iTeh Standards (https://standards.iteh.ai) Document Preview
ETSI TS 102 223 V16.0.0 (2024-02)
https://standards.iteh.ai/catalog/standards/etsi/ac1e353c-ce87-4e02-87bf-6f992a3555d2/etsi-ts-102-223-v16-0-0-2024-02