

ETSI TS 102 412 V18.1.0 (2024-08)



Smart Cards; Smart Card Platform Requirements Stage 1 (Release 18)

(<https://standards.iteh.ai>)

Document Preview

[ETSI TS 102 412 V18.1.0 \(2024-08\)](https://standards.iteh.ai/catalog/standards/etsi/174c094f-94c8-4695-a9f8-564759bcb4ec/etsi-ts-102-412-v18-1-0-2024-08)

<https://standards.iteh.ai/catalog/standards/etsi/174c094f-94c8-4695-a9f8-564759bcb4ec/etsi-ts-102-412-v18-1-0-2024-08>

Reference

RTS/SET-R102412v10

Keywords

SIM, smart card, test, 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 the
[ETSI Search & Browse Standards](#) application.

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 on [ETSI deliver](#).

Users should be aware that the present document may be revised or have its status changed,
this information is available in the [Milestones listing](#).

If you find errors in the present document, please send your comments to
the relevant service listed under [Committee Support Staff](#).

If you find a security vulnerability in the present document, please report it through our
[Coordinated Vulnerability Disclosure \(CVD\)](#) program.

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	11
Foreword.....	11
Modal verbs terminology.....	12
Introduction	12
1 Scope	13
2 References	13
2.1 Normative references	13
2.2 Informative references.....	14
3 Definition of terms, symbols and abbreviations.....	15
3.1 Terms.....	15
3.2 Symbols.....	18
3.3 Abbreviations	18
4 Requirements.....	21
4.0 General	21
4.1 Run time environment timing constraints	22
4.1.1 Abstract (informative).....	22
4.1.2 Background (informative).....	22
4.1.2.1 Use case - Network authentication.....	22
4.1.3 Requirements	23
4.1.4 Interaction with existing features (informative).....	23
4.2 Launch Application feature	23
4.2.1 Abstract (informative).....	23
4.2.2 Background (informative).....	23
4.2.3 Requirements	24
4.2.4 Interaction with existing features (informative).....	24
4.3 Mapped file support on the UICC	24
4.3.1 Abstract (informative).....	24
4.3.2 Background (informative).....	25
4.3.3 Requirements	25
4.3.4 Interaction with existing features (informative).....	25
4.4 Extension of logical channels.....	25
4.4.1 Abstract (informative).....	25
4.4.2 Background (informative).....	25
4.4.2.1 Typical problem situation	25
4.4.2.2 Possible problem solution	26
4.4.2.3 Use cases	26
4.4.2.3.1 Use case - JSR 177 applications	26
4.4.2.3.2 Use case - PC connection	26
4.4.3 Requirements	26
4.4.3.1 General requirements	26
4.4.3.2 Backward compatibility requirements.....	26
4.4.4 Interaction with existing features (informative).....	26
4.5 Secure channel to secure local terminal interfaces	26
4.5.1 Abstract (informative).....	26
4.5.2 Background (informative).....	27
4.5.2.0 General	27
4.5.2.1 Use case - User interface.....	27
4.5.2.2 Use case - UICC as a control point for device management	28
4.5.2.3 Use case - DRM and distributed applications	29
4.5.2.4 Use case - Toolkit commands protection	30
4.5.3 Requirements	31
4.5.3.0 General	31
4.5.3.1 End point requirements	31
4.5.3.2 Integrity requirements	31

4.5.3.3	Confidentiality requirements.....	31
4.5.3.4	Authentication requirements	32
4.5.3.5	Audit/Compliance requirements	32
4.5.3.6	Policy requirements.....	32
4.5.3.7	Transport Protocol requirements	32
4.5.4	Interaction with existing features (informative).....	32
4.5.4.1	Logical Channels.....	32
4.5.4.2	CAT access over a modem interface	32
4.6	Authenticate command longer than 255 bytes.....	32
4.6.1	Abstract (informative).....	32
4.6.2	Background (informative).....	33
4.6.2.1	Use case - EAP packet exchange	33
4.6.3	Requirements	33
4.6.3.1	General requirements	33
4.6.3.2	Backward compatibility requirements.....	33
4.6.4	Interaction with existing features (informative).....	33
4.7	CAT mechanisms to indicate the bearer connection status	33
4.7.1	Abstract (informative).....	33
4.7.2	Background (informative).....	33
4.7.2.1	Use case - Availability of network bearers	33
4.7.2.2	Use case - Network connection temporarily lost.....	34
4.7.2.3	Use case - Availability of local bearers.....	34
4.7.3	Requirements	34
4.7.3.1	Requirement 1 - Network bearer connection status	34
4.7.3.2	Requirement 2 - Local bearer connection status	34
4.7.4	Interaction with existing features (informative).....	34
4.8	New UICC-Terminal interface	34
4.8.1	Abstract (informative).....	34
4.8.2	Background (informative).....	35
4.8.2.0	General	35
4.8.2.1	Use case - Multimedia file management	35
4.8.2.2	Use case - MMI on UICC	35
4.8.2.3	Use case - Real-time multimedia data encryption/decryption.....	35
4.8.2.4	Use case - Storage of terminal applications on the UICC	35
4.8.2.5	Use case - Direct and indirect UICC connection to a PC	35
4.8.2.6	Use case - Web server on Smart Card.....	36
4.8.2.7	Use case - Antivirus on UICC.....	36
4.8.2.8	Use case - Big phonebook management from the UICC.....	36
4.8.2.9	Use case - Reduce personalization time	36
4.8.2.10	Use case - generic TCP/IP connectivity	36
4.8.3	Requirements	36
4.8.3.1	General requirements	36
4.8.3.2	Backward compatibility requirements.....	37
4.8.4	Interaction with existing features (informative).....	37
4.9	UICC based application acting as a server	37
4.9.1	Abstract (informative).....	37
4.9.2	Background (informative).....	38
4.9.3	Requirements	38
4.9.4	Interaction with existing features (informative).....	38
4.10	API for applications registered to a Smart Card Web Server	38
4.10.1	Abstract (informative).....	38
4.10.2	Background (informative).....	38
4.10.2.0	General	38
4.10.2.1	Registration of an application to the SCWS.....	39
4.10.2.2	Data exchange between SCWS and application.....	39
4.10.2.3	Issuing Proactive Commands	39
4.10.3	Requirements	39
4.10.4	Interaction with existing features (informative).....	39
4.11	Specific UICC environmental conditions	40
4.11.1	Abstract (informative).....	40
4.11.2	Background (informative).....	40
4.11.2.0	General	40

4.11.2.1	Use case - Automotive service	40
4.11.2.2	Use case - Remote monitoring camera.....	40
4.11.2.3	Use case - Remote stock monitoring for vending machines	40
4.11.2.4	Use case - Online electronic advertising board.....	40
4.11.3	Considerations (informative)	40
4.11.4	Requirements	41
4.11.4.1	Requirement 1: Temperature range	41
4.11.4.2	Requirement 2: Humidity.....	41
4.11.5	Interaction with existing features (informative).....	41
4.12	Introduction of high density memory technology in UICC	41
4.12.1	Abstract (informative).....	41
4.12.2	Background (informative).....	41
4.12.2.1	Use case - Enhanced UICC features.....	41
4.12.3	Requirements	42
4.12.4	Interaction with existing features (informative).....	42
4.13	Power supply indication mechanism	42
4.13.1	Abstract (informative).....	42
4.13.2	Background (informative).....	42
4.13.2.1	Use case - Generic situation	42
4.13.2.2	Use case - USIM application with toolkit applications	43
4.13.3	Requirements	43
4.13.3.1	General Requirements.....	43
4.13.3.2	Backward compatibility requirements.....	43
4.13.4	Interaction with existing features (informative).....	43
4.14	Internet Connectivity up to UICC applications	43
4.14.1	Abstract (informative).....	43
4.14.2	Use Cases (informative).....	44
4.14.2.0	General	44
4.14.2.1	Use Case - Card OTA management	44
4.14.2.2	Use Case - User local access from the terminal to a card server.....	44
4.14.2.3	Use Case - Remote access to an identity server in the card	45
4.14.2.4	Use Case - User access from a locally connected device to a card service	45
4.14.3	Requirements	45
4.14.4	Interaction with existing features (informative).....	45
4.15	Contactless UICC services	45
4.15.1	Abstract (informative).....	45
4.15.2	Background (informative).....	45
4.15.2.0	General	45
4.15.2.1	Use case - Access.....	46
4.15.2.1.1	System aspects of use case	46
4.15.2.1.2	UICC role in use case	46
4.15.2.2	Use case - Tickets	47
4.15.2.2.0	General	47
4.15.2.2.1	System aspects of throughput ticketing scenario	48
4.15.2.2.2	System aspects of high priced ticketing scenario	48
4.15.2.2.3	UICC role in use case	48
4.15.2.3	Use case - Digital rights	49
4.15.2.3.1	System aspects of contactless digital rights.....	49
4.15.2.3.2	UICC role in use case	49
4.15.2.4	Use case - Payment application.....	50
4.15.2.5	Use case - Loyalty application	51
4.15.2.6	Use case - Health care application	52
4.15.2.7	Use case - Retail.....	52
4.15.2.7.1	System aspects of the use case	52
4.15.2.7.2	UICC role in the use case	52
4.15.2.8	Consideration about multiple applications in peer to peer mode	52
4.15.2.8.1	System aspects of multiple applications in peer to peer mode	52
4.15.2.8.2	Service discovery in peer to peer mode	53
4.15.2.8.3	Application connection in peer to peer mode	53
4.15.2.8.4	Customer care in peer to peer mode	53
4.15.2.9	Considerations about the P2P technology	53
4.15.2.10	Consideration about multiple HCI Hosts in card emulation mode.....	54

4.15.3	Requirements	54
4.15.3.1	Physical interface requirements	54
4.15.3.2	Multi-protocol concurrent operation requirements	54
4.15.3.3	Contactless communication modes requirements	55
4.15.3.4	Compatibility with existing contactless systems requirements	55
4.15.3.5	Parameters to be transported by the CLFIP requirements	55
4.15.3.6	Application integration requirements	55
4.15.3.7	Terminal and user interaction requirements	55
4.15.3.8	Interoperability requirements	56
4.15.3.9	RFID requirements	56
4.15.3.10	P2P mode requirements	56
4.15.3.10.1	General P2P requirements	56
4.15.3.10.2	P2P application management requirements	57
4.15.4	Interaction with existing features (informative)	58
4.16	Administration of the Smart Card Web Server	58
4.16.1	Abstract (informative)	58
4.16.2	Background (informative)	58
4.16.3	Requirements	59
4.16.4	Interaction with existing features (informative)	59
4.17	Confidential Application Services	59
4.17.1	Abstract (informative)	59
4.17.2	Background (informative)	59
4.17.2.1	Use case 1: Mobile TV services	59
4.17.2.2	Use case 2: Banking Services	60
4.17.2.3	Use case 3: Contactless Applications	62
4.17.2.4	Use case 4: Mobile Virtual Network Operator services	62
4.17.3	Requirements	63
4.17.3.0	General	63
4.17.3.1	Confidential application environment	63
4.17.3.2	Administration by Card issuer	64
4.17.3.2.1	Third party area environment administration	64
4.17.3.2.2	Third party area creation	64
4.17.3.2.3	Third party area policy definition	64
4.17.3.3	Administration by Third party	65
4.17.3.4	Service Operator specific requirements	65
4.17.4	Interaction with existing features (informative)	65
4.18	UICC for Machine-to-Machine (M2M) applications	66
4.18.1	Abstract (informative)	66
4.18.2	Use Cases (informative)	66
4.18.2.1	Use case - Track and Trace	66
4.18.2.1.0	General	66
4.18.2.1.1	Use case - Emergency Call	67
4.18.2.1.2	Use case - Fleet Management	67
4.18.2.1.3	Use case - Theft Tracking	68
4.18.2.2	Use case - Monitoring	68
4.18.2.2.0	General	68
4.18.2.2.1	Use case - Metering/Prepaid delivery of utilities (water, gas, electricity)	68
4.18.2.2.2	Use case - Person/Animal protection	69
4.18.2.2.3	Use case - Object protection	70
4.18.2.3	Use case - Transaction	70
4.18.2.3.1	Use case - POS terminals (Point of Sale terminals)	70
4.18.2.4	Use case - Control	71
4.18.2.4.1	Use case - Controlling vending machines	71
4.18.2.4.2	Use case - Controlling production machines	71
4.18.2.5	Use case - Consumer devices	72
4.18.3	Requirements	72
4.18.3.0	General	72
4.18.3.1	General M2M UICC Requirements	72
4.18.3.1.0	General	72
4.18.3.1.1	Specific requirements related to definition of classes	72
4.18.3.1.2	Example for a possible class system (informative)	72
4.18.3.2	MFF Requirements	73

4.18.3.3	Requirements for additional MFFx	73
4.18.4	Interaction with existing features (informative).....	73
4.19	Location based services for broadcast technology	74
4.19.1	Abstract (informative).....	74
4.19.2	Use Cases (informative).....	74
4.19.3	Requirement for retrieving location information for broadcast technology.....	74
4.19.4	Interaction with existing features (informative).....	74
4.20	Terminals with reduced functionality.....	74
4.20.1	Abstract (informative).....	74
4.20.2	Use case (informative).....	74
4.20.2.1	Use case - Data card.....	74
4.20.3	Requirements	75
4.20.4	Interaction with existing features (informative).....	75
4.21	Digital Rights Management.....	75
4.21.1	Abstract (informative).....	75
4.21.2	Use cases (informative)	75
4.21.2.0	General	75
4.21.2.1	Use case - Transfer of protected contents and rights by using a UICC	75
4.21.2.2	Use case - Provisioning of rights in the UICC	76
4.21.2.3	Use case - Direct rendering of DRM-protected content by using the UICC	76
4.21.2.4	Use case - Pre-loading of rights by using the UICC	76
4.21.3	Requirements	76
4.21.4	Interaction with existing features (informative).....	76
4.22	Multicast dataflow in UICC	77
4.22.1	Abstract (informative).....	77
4.22.2	Use cases (informative)	77
4.22.2.1	Use case - Broadcast data services.....	77
4.22.2.2	Use case - Mobile TV related services.....	77
4.22.3	Requirement for multicast dataflow (subscription and dataflow reception)	77
4.22.4	Interaction with existing features (informative).....	77
4.23	New type of data storage and access	78
4.23.1	Abstract (informative).....	78
4.23.2	Background (informative).....	78
4.23.2.0	General	78
4.23.2.1	Use case - Taking a picture from the terminal, storing it on the UICC and retrieving it.....	78
4.23.2.2	Use case - Storing and protecting data through operator portal	78
4.23.2.3	Use case - Storing a service description	78
4.23.2.4	Use case - Managing multimedia content via UICC to a remote server.....	78
4.23.2.5	Use case - Partitioning UICC memory.....	79
4.23.2.6	Use case - UICC content depending on user authentication	79
4.23.2.7	Use case - Migration to a USB UICC without ICCD class	79
4.23.3	Requirements	79
4.23.3.1	Data storage and structure requirements	79
4.23.3.2	Data protection requirements	79
4.23.3.3	Local and remote access requirements	80
4.23.4	Interaction with existing features (informative).....	80
4.24	CAT access over a modem interface	80
4.24.1	Abstract (informative).....	80
4.24.2	Background (informative).....	81
4.24.2.0	General	81
4.24.2.1	Use case - Extending CAT to the connected entity capabilities.....	81
4.24.2.2	Use case - Using CAT for data acquisition and control in an M2M device	81
4.24.2.3	Use case - Addition of CAT support by adding a CAT extender device	81
4.24.3	Requirements	82
4.24.3.1	General requirements	82
4.24.3.2	Connected device registration requirements	82
4.24.3.3	Legacy support requirements	82
4.24.3.4	Extended support requirements.....	84
4.24.3.5	CAT over modem-client interface requirements.....	84
4.24.3.6	Connected entity termination requirements	84
4.24.3.7	Security requirements.....	85
4.24.4	Interaction with existing features (informative).....	85

4.25	UICC-Terminal applications and services over USB	85
4.25.1	Abstract (informative).....	85
4.25.2	Background (informative).....	85
4.25.2.1	Use case - Migration of existing services over IP	85
4.25.2.2	Use case - End-user interaction.....	86
4.25.2.3	Use case - Integration of UICC services into terminal user interface	86
4.25.2.4	Use case - Access status of communication services	86
4.25.2.5	Use case - Access to specific terminal hardware.....	86
4.25.2.6	Use case - Interaction between terminal and UICC applications	87
4.25.3	Requirements	87
4.25.3.1	General framework requirements.....	87
4.25.3.2	Framework service discovery and management requirements.....	87
4.25.3.3	Interaction between UICC and terminal applications requirements.....	88
4.25.3.4	Framework security requirements	88
4.25.3.5	User Interface requirements	88
4.25.3.6	Device interaction requirements.....	89
4.25.3.7	Network related requirements	89
4.25.3.8	Specific Services requirements	89
4.25.3.9	Backwards compatibility requirements	89
4.25.4	Interaction with existing features (informative).....	89
4.26	Integration of a UICC in a Mobile Broadband Notebook	89
4.26.1	Abstract (informative).....	89
4.26.2	Background (informative).....	90
4.26.2.1	Architecture considerations.....	90
4.26.2.2	Use cases	90
4.26.2.2.1	Authentication	90
4.26.2.2.2	Mass storage for MNO content	91
4.26.2.2.3	Mass storage for user content	91
4.26.2.2.4	Cryptographic services	91
4.26.2.2.5	Web services.....	91
4.26.2.2.6	Secure execution environment.....	92
4.26.2.2.7	Device management	92
4.26.2.3	Security considerations	92
4.26.3	Requirements	92
4.26.3.1	Generic requirements	92
4.26.3.2	Security requirements.....	93
4.26.3.3	Security policy related requirements.....	93
4.26.4	Interaction with existing features (informative).....	93
4.27	Fourth UICC Form Factor	93
4.27.1	Abstract (informative).....	93
4.27.2	Background (informative).....	93
4.27.2.0	General	93
4.27.2.1	Use Case - Introduction of new devices that can support UICC	93
4.27.2.2	Use Case - Slimmer mobile devices.....	93
4.27.2.3	Use Case - Enhanced end user experience	94
4.27.3	Technical Solution Selection Criteria	94
4.27.4	Requirements	94
4.28	Name resolution mechanism for the UICC	94
4.28.1	Abstract (informative).....	94
4.28.2	Use Cases (informative).....	95
4.28.2.0	General	95
4.28.2.1	Use Case - Card OTA management	95
4.28.2.2	Use Case - Access to a payment server.....	95
4.28.3	Requirements	95
4.28.4	Interaction with existing features (informative).....	95
4.29	UICC Access Optimization	96
4.29.1	Abstract (informative).....	96
4.29.2	Background (informative).....	96
4.29.3	Requirements	96
4.30	Mechanism for monitoring the wear of a UICC.....	96
4.30.1	Abstract (informative).....	96
4.30.2	Use cases (informative)	96

4.30.2.1	Use case - Remote management of wear index information	96
4.30.2.2	Use case - New communication modules in cars	97
4.30.2.3	Use case - Automatic detection of memory defects	97
4.30.3	Requirements	97
4.31	Mechanism to suspend the UICC	97
4.31.1	Abstract (informative).....	97
4.31.2	Use cases (informative)	97
4.31.3	Requirements	97
4.31.3.1	Power requirements.....	97
4.31.3.2	Toolkit requirements	98
4.31.3.3	Security requirements.....	98
4.31.3.4	Backward compatibility requirements.....	98
4.32	UWB services.....	98
4.32.1	Abstract (informative).....	98
4.32.2	Background (informative).....	98
4.32.2.1	General	98
4.32.2.2	Use case - Retail.....	98
4.32.2.3	Use case - Transport.....	99
4.32.2.4	Use case - Automotive	99
4.32.2.5	Use case - Object tracking.....	99
4.32.2.6	Use case - Building access	99
4.32.2.7	Use case - Ticketing.....	99
4.32.3	Requirements	99
4.33	Multiplexed logical interfaces over one single physical interface.....	100
4.33.1	Abstract (informative).....	100
4.33.2	Background (informative).....	100
4.33.2.1	Typical problem situation	100
4.33.2.2	Use cases	100
4.33.2.2.1	Use case - Dual SIM application using a single eUICC	100
4.33.3	Requirements	101
4.33.3.1	Interface requirements.....	101
4.33.3.2	Interface management requirements	101
4.33.3.3	Logical SE lifecycle requirements	101
4.33.3.4	Security requirements.....	101
4.33.3.5	Backward compatibility requirements.....	102
4.34	UICC electrical operating conditions	102
4.34.1	Abstract (informative).....	102
4.34.2	Background (informative).....	102
4.34.2.1	General	102
4.34.2.2	Use case - Mobile terminal	102
4.34.3	Considerations (informative).....	102
4.34.4	Requirements	102
4.34.4.1	Requirements for 1,2 V operating conditions	102
4.35	I3C Interface for the UICC.....	102
4.35.1	Abstract (informative).....	102
4.35.2	Background (informative).....	103
4.35.2.1	General	103
4.35.2.2	Use case - Mobile terminal integration	103
4.35.2.3	Use case - Improved performances	103
4.35.2.4	Use case - Support of contactless.....	103
4.35.3	Void	103
4.35.4	Requirements	103
4.35.4.1	I3C interface support.....	103
4.35.4.2	Requirements for the I3C interface	104

Annex A (informative):	Requirement numbering scheme.....	105
-------------------------------	--	------------

Annex B (normative):	Test configuration state	106
-----------------------------	---------------------------------------	------------

B.1	Overview (informative).....	106
-----	-----------------------------	-----

B.2	Usage of test configuration state (informative).....	106
-----	--	-----

B.2.1	Usage - Test functionality available	106
-------	--	-----

B.2.2

Usage - Test functionality not available

106

B.3

Requirements for the test configuration state

107

Annex C (informative):

Features traceability matrix

108

Annex D (informative):

Change history

111

History

113

iTeh Standards

(<https://standards.iteh.ai>)

Document Preview

[ETSI TS 102 412 V18.1.0 \(2024-08\)](https://standards.iteh.ai/catalog/standards/etsi/174c094f-94c8-4695-a9f8-564759bcb4ec/etsi-ts-102-412-v18-1-0-2024-08)

<https://standards.iteh.ai/catalog/standards/etsi/174c094f-94c8-4695-a9f8-564759bcb4ec/etsi-ts-102-412-v18-1-0-2024-08>

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.

Foreword

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

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.

Introduction

The present document specifies the requirements for Release 7 onwards of the TC SET.

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

[ETSI TS 102 412 V18.1.0 \(2024-08\)](#)

<https://standards.iteh.ai/catalog/standards/etsi/174c094f-94c8-4695-a9f8-564759bcb4ec/etsi-ts-102-412-v18-1-0-2024-08>

1 Scope

The present document specifies the additional requirements for Release 7 onwards of the TC SET with respect to earlier releases.

The present document covers all the Stage 1 requirements which are not covered by other TC SET stage 1 documents.

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.

The following referenced documents are necessary for the application of the present document.

- [1] [ETSI TS 102 221](#): "Smart Cards; UICC-Terminal interface; Physical and logical characteristics (Release 7)".
- [2] [ETSI TS 102 223](#): "Smart Cards; Card Application Toolkit (CAT) (Release 6)".
- [3] Void.
- [4] Void.
- [5] Void.
- [6] [ISO/IEC 7816-4](#): "Identification cards -- Integrated circuit cards -- Part 4: Organization, security and commands for interchange".
- [7] [Trusted Computing Group \(2011\)](#): "TPM Main - Part 1 Design Principles - Specification Version 1.2".
- [8] [ISO/IEC 14443 \(all parts\)](#): "Cards and security devices for personal identification -- Contactless proximity objects".
- [9] [ISO/IEC 18092](#): "Information technology -- Telecommunications and information exchange between systems -- Near Field Communication -- Interface and Protocol (NFCIP-1)".
- [10] [ISO/IEC 15693 \(all parts\)](#): "Cards and security devices for personal identification -- Contactless vicinity objects".
- [11] [ETSI EN 300 468](#): "Digital Video Broadcasting (DVB); Specification for Service Information (SI) in DVB systems".
- [12] [ETSI EN 302 304](#): "Digital Video Broadcasting (DVB); Transmission System for Handheld Terminals (DVB-H)".
- [13] Void.
- [14] [OMA-AD-SRM-V1_0-20090310-A](#): "OMA Secure Removable Media Architecture".

- [15] [OMA-RD-SRM-V1_0-20090310-A](#): "OMA Secure Removable Media Requirements".
- [16] [ETSI TS 102 241](#): "Smart Cards; UICC Application Programming Interface (UICC API) for Java Card™ (Release 8)".
- [17] [ETSI TS 127 007](#): "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; AT command set for User Equipment (UE) (3GPP TS 27.007 Release 9)".
- [18] [ETSI TS 102 613](#): "Smart Cards; UICC - Contactless Front-end (CLF) Interface; Physical and data link layer characteristics".
- [19] [ETSI TS 102 622](#): "Smart Cards; UICC - Contactless Front-end (CLF) Interface; Host Controller Interface (HCI)".
- [20] [ISO/IEC 18000 \(all parts\)](#): "Information technology -- Radio frequency identification for item management".
- [21] [ETSI TS 102 483](#): "Smart cards; UICC-Terminal interface; Internet Protocol connectivity between UICC and terminal (Release 8)".
- [22] Void.
- [23] [ETSI TS 102 484](#): "Smart Cards; Secure channel between a UICC and an end-point terminal".
- [24] [ETSI TS 102 600](#): "Smart Cards; UICC-Terminal interface; Characteristics of the USB interface".
- [25] [ETSI TS 102 671](#): "Smart Cards; Machine to Machine UICC; Physical and logical characteristics".
- [26] [GlobalPlatform](#): "Requirements for NFC Mobile: Management of Multiple Secure Elements v1.0".
- [27] NFC Forum: "[Controller Interface \(NCI\) Technical Specification](#)".
- [28] [IEEE 802.15.4™-2020](#): "IEEE Standard for Low-Rate Wireless Networks".
- [29] [IEEE 802.15.4z™-2020](#): "IEEE Standard for Low-Rate Wireless Networks -- Amendment 1: Enhanced Ultra Wideband (UWB) Physical Layers (PHYs) and Associated Ranging Techniques".
- [30] [ETSI TS 103 818](#): "Smart Secure Platform (SSP); I3C® interface".
- [31] [MIPI® Alliance](#): "Specification for I3C® BasicSM - Improved Inter Integrated Circuit Version 1.1.1".
- [32] [ETSI TS 103 713](#): "Smart Secure Platform (SSP); SPI interface".
- [33] [ISO/IEC 7816-3](#): "Identification cards -- Integrated circuit cards -- Part 3: Cards with contacts - Electrical interface and transmission protocols".

2.2 Informative 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.

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

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] GSMA: "Pay-Buy-Mobile, Business Opportunity Analysis, Public White Paper", version 1.0, November 2007.