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(Release 10)

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Smart Card Platform (SCP).

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

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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).

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Introduction

The present document defines the Card Application Toolkit (CAT) test conformance for the Terminal.

The aim of the present document is to ensure interoperability between an UICC and a Terminal independently of the respective manufacturer, card issuer or operator.

Application specific tests for applications residing on an UICC are specified in ETSI TS 131 124 [9].

1 Scope

The present document describes the technical characteristics and methods of test for testing the Card Application Toolkit implemented in Terminals for the UICC, in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [3] and ETSI ETS 300 406 [4].

The present document covers the minimum characteristics considered necessary in order to provide sufficient performance for Terminal and to prevent interference to other services or to other users.

It does not necessarily include all the characteristics which may be required by a user or subscriber, nor does it necessarily represent the optimum performance achievable.

The present document is part of the ETSI-series of technical specifications. The present document neither replaces any of the other ETSI technical specifications or ETSI related ETSs or ENs, nor is it created to provide full understanding of (or parts of) the NAA. The present document lists the requirements, and provides the methods of test for testing the Card Application Toolkit implemented in a Terminal for conformance to the ETSI standard.

For a full description of the system, reference should be made to all the ETSI technical specifications or ETSI related ETSs or ENs. Clause 2 provides a complete list of the ETSI technical specifications, ETSI related ETSs, ENs, and ETRs, on which this conformance test specifications is based.

If there is a difference between this present conformance document, and any other ETSI technical specification or ETSI related ETS or EN, then the other ETSI technical specification or ETSI related ETS or EN is to be considered the authoritative reference.

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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 reference document (including any amendments) applies.

- In the case of a reference to a TC SCP 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 http://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 102 223: "Smart Cards; Card Application Toolkit (CAT)".

[2] ISO/IEC 10646:2014: "Information technology -- Universal Coded Character Set (UCS)".

[3] ISO/IEC 9646-7 (1995): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".

[4] ETSI ETS 300 406 (1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[5] ETSI TS 124 008: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); LTE; Mobile radio interface Layer 3 specification; Core network protocols; Stage 3 (3GPP TS 24.008)".

[6] 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)".

[7] ISO/IEC 7816-3:2006: "Identification cards -- Integrated circuit cards -- Part 3: Cards with contacts -- Electrical interface and transmission protocols".

[8] ANSI TIA/EIA-41-D: "Cellular Radiotelecommunications Intersystem Operations (ANSI/TIA/EIA-41-D-97)".

[9] ETSI TS 131 124: "Universal Mobile Telecommunications System (UMTS); LTE; Mobile Equipment (ME) conformance test specification; Universal Subscriber Identity Module Application Toolkit (USAT) conformance test specification (3GPP TS 31.124)".

[10] Void.

[11] ETSI TS 101 267: "Digital cellular telecommunications system (Phase 2+); Specification of the SIM Application Toolkit for the Subscriber Identity Module - Mobile Equipment (SIM-ME) interface (3GPP TS 11.14 version 8.8.0 Release 1999)".

[12] ETSI TS 100 607-4: "Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 4: Subscriber Identity Module (SIM) application toolkit conformance test specification (3GPP TS 11.10-4)".

[13] ETSI TS 102 613: "Smart Cards; UICC - Contactless Front-end (CLF) Interface; Part 1: Physical and data link layer characteristics".

[14] ETSI TS 102 622: "Smart Cards; UICC - Contactless Front-end (CLF) Interface; Host Controller Interface (HCI)".

[15] ANSI/TIA/EIA-136-C: "TDMA Third Generation Wireless".

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 reference document (including any amendments) applies.

- In the case of a reference to a TC SCP 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] ETSI ETR 028: "Radio Equipment and Systems (RES); Uncertainties in the measurement of mobile radio equipment characteristics".

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3 Definitions and abbreviations

3.1 Terminal definition and configurations

The terminal definition and configurations specified in the present document apply.

3.2 Applicability

3.2.1 Applicability of the present document

The present document applies to a terminal equipment that supports the Card Application Toolkit optional feature according to ETSI TS 102 223 [1].

3.2.2 Applicability of the individual tests

Table A.1 lists the optional features for which the supplier of the implementation states the support.

3.2.3 Applicability to terminal equipment

The applicability to terminal equipment specified in table B.1 in clause 3.4 of the present document applies, unless otherwise specified.

Terminals, which require a specific NAA to be present on the UICC, are to be tested according to the specific Card Application Toolkit enabled NAA dependent test specification (e.g. ETSI TS 131 124 [9] for USIM application, ETSI TS 100 607-4 [12] for SIM application). If there is no test specification defined for a specific Card Application Toolkit enabled NAA, terminals may be tested according to the present document. In this case, the simulated UICC is to include the specific NAA application, but the configuration and additional requirements of the specific Card Application Toolkit enabled NAA are out of scope in the present document.

3.2.4 Definitions

3.2.4.1 Format of the table of optional features

Option

The optional feature supported or not by the implementation.

Support Answer notation

The support columns is to be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [3], are used for the support column in the tables below.

Y or y	supported by the implementation
N or n	not supported by the implementation
N/A, n/a or -	no answer required (allowed only if the status is N/A, directly or after evaluation of a conditional status)

Mnemonic column

The Mnemonic column contains mnemonic identifiers for each item.

3.2.4.2 Format of the applicability table

The applicability of every test in table B.1 is formally expressed by the use of Boolean expression defined in the following clause.

The columns in table B.1 have the following meaning:

- In the "Item" column a local entry number for the requirement in the table is given.
- In the "Description" column a short non-exhaustive description of the requirement is found.
- The "Release" column gives the Release applicable and onwards, for the item in the "Description" column.
- The "Test Sequence(s)" column gives a reference to the test sequence number(s) detailed in the present document and required to validate the implementation of the corresponding item in the "Description" column.
- For a given Release, the corresponding "Rel X Terminal" column lists the tests required for a Terminal to be declared compliant to this Release.
- The "Support" column is blank in the proforma, and is to be completed by the manufacturer in respect of each particular requirement to indicate the choices, which have been made in the implementation.
- The "Terminal Profile" column gives a reference to the corresponding bit that needs to be present in the Terminal Profile.

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3.2.4.3 Status and notations

The "Release X Terminal" columns show the status of the entries as follows:

The following notations, defined in ISO/IEC 9646-7 [3], are used for the status column:

M	mandatory - the capability is required to be supported.
O	optional - the capability may be supported or not.
N/A	not applicable - in the given context, it is impossible to use the capability.
X	prohibited (excluded) - there is a requirement not to use this capability in the given context.
O.i	qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies an unique group of related optional items and the logic of their selection which is defined immediately following the table.
Ci	conditional - the requirement on the capability ("M", "O", "X" or "N/A") depends on the support of other optional or conditional items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF... THEN (IF... THEN... ELSE...) ELSE..." is to be used to avoid ambiguities.

References to items

For each possible item answer (answer in the support column) there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns are to be discriminated by letters (a, b, etc.), respectively.

EXAMPLE: A.1/4 is the reference to the answer of item 4 in table A.1.

3.3 Table of optional features

Support of Card Application Toolkit is optional for Terminal. However, if a Terminal states conformance with a specific SCP release, it is mandatory for the Terminal to support all functions of that release, as stated in table A.1.

The support of letter classes, which specify mainly Terminal hardware dependent features, is optional for the Terminal and may supplement the Card Application Toolkit functionality described in the present document. If a Terminal states conformance to a letter class, it is mandatory to support all functions within the respective letter class.

The supplier of the implementation is to state the support of possible options in table A.1.

Table A.1: Options

Item	Option	Status	Support	Mnemonic
1	Capability Configuration parameter	M		O_Cap_Conf
2	Sustained text	M		O_sust_text
3	UCS2 coding scheme for Entry	O		O_Ucs2_Entry
4	Extended Text String	M		O_Ext_Str
5	Help information	O		O_Help
6	Icons	O		O_Icons
7	Class A: Dual Slot	O		O_Dual_Slot
8	Detachable reader	O		O_Detach_Rdr
9	Class B: RUN AT	O		O_Run_At
10	Class C: LAUNCH BROWSER	O		O_LB
11	Class D: Soft keys	O		O_Soft_key
12	Class E: B.I.P related to CSD	O		O_BIP_CSD
13	Screen sizing parameters	O		O_Scr_Siz
14	Screen Resizing	O		O_Scr_Resiz
15	UCS2 coding scheme for Display	O		O_Ucs2_Disp
16	Terminal supporting GPRS	O		O_GPRS
17	Terminal supporting UDP	O		O_UDP
18	Terminal supporting TCP	O		O_TCP
19	Redial in Set Up Call	O		O_Redial

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Item	Option	Status	Support	Mnemonic
20	Terminal decision to respond with "No response from user" in finite time	O		O_D_NoResp
21	Class E: B.I.P related to GPRS	O		O_BIP_GPRS
22	Terminal supporting Called Party Subaddress	O		O_CP_Subaddr
23	Immediate response	O		O_Imm_Resp
24	Variable Timeout	O		O_Duration
25	Void			
26	Class F: B.I.P related to local bearer	O		O_BIP_Local
27	BlueTooth Support	O		O_BT
28	IrDA Support	O		O_IrDA
29	RS232 Support	O		O_RS232
30	USB Support	O		O_USB
31	WML Browser Support	O		O_WML
32	XHTML Browser Support	O		O_XHTML
33	HTML Browser Support	O		O_HTML
34	CHTML Browser Support	O		O_CHTML
35	Class G: Battery Data	O		O_Batt
36	Class H: Multimedia Call support	O		O_Xmedia_Call
37	Class I: Frame support	O		O_Frames
38	Class J: Multimedia Support	O		O_MMS
39	Void			
40	Void			
41	UCS2 in Cyrillic	O		O_UCS2_Cyrillic
42	UCS2 in Chinese	O		O_UCS2_Chinese
43	UCS2 in Katakana	O		O_UCS2_Katakana
44	Text attributes - Alignment left	O		O_TAT_AL
45	Text attributes - Alignment center	O		O_TAT_AC
46	Text attributes - Alignment right	O		O_TAT_AR
47	Text attributes - Font size normal	O		O_TAT_FSN
48	Text attributes - Font size large	O		O_TAT_FSL
49	Text attributes - Font size small	O		O_TAT_FSS
50	Text attributes - Style normal	O		O_TAT_SN
51	Text attributes - Style bold	O		O_TAT_SB
52	Text attributes - Style italic	O		O_TAT_SI
53	Text attributes - Style underlined	O		O_TAT_SU
54	Text attributes - Style strikethrough	O		O_TAT_SS
55	Text attributes - Style text foreground colour	O		O_TAT_STFC
56	Text attributes - Style text background colour	O		O_TAT_STFB
57	Terminal supporting "+CGMI" in combination with Run AT Command	O		O_+CGMI
58	Class E: Terminal supports TCP, UICC in Server Mode	O		O_TCP_UICC_ServerMode
59	Terminal supports selection of default item in Select Item	O		O_Select_Item_Default_Item
60	Preferred buffer size supported by the terminal for Open Channel command is greater than 0 byte and less than 65535 bytes	O		O_BUFFER_SIZE
61	Class E: Terminal supports TCP, Terminal in Server Mode	O		O_TCP_Terminal_ServerMode
62	Class E: Terminal supports UDP, Terminal in Server Mode	O		O_UDP_Terminal_ServerMode
63	Class K: Terminal Applications	O		O_Terminal_Applications
64	Class L: Proactive command: ACTIVATE	O		O_Activate
65	Class M: Event download: HCI connectivity event	O		O_HCI_Connectivity_Event
66	Class O: Broadcast Network Information	O		O_Broadcast_Network
67	Terminal supports display capability	C001		O_ No_Type_ND
68	Terminal supports keypad	C001		O_No_Type_NK
69	Terminal supports audio alerting	C001		O_No_Type_NA
70	Terminal supports speech call	C001		O_No_Type_NS
71	Terminal supports multiple languages	C001		O_No_Type_NL

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