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TECHNICAL SPECIFICATION

**Smart Cards;
UICC-Terminal interface;
Physical, electrical and logical test specification;
Part 2: UICC features
(Release 17)**

Reference

RTS/SET-001022302vh40

Keywords

LSE, LSI, SIM, smart card, testing, UICC

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

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The present document is part 2 of a multi-part deliverable covering the Test specification for the Terminal/Integrated Circuit Card (ICC) interface, as identified below:

Part 1: "Terminal features";

Part 2: "UICC features".

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 test cases for the UICC relating to the Terminal/UICC interface, as specified in ETSI TS 102 221 [1].

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

Application specific tests for applications residing on an UICC are specified in ETSI TS 131 121 [i.2].

1 Scope

The present document covers the minimum characteristics which are considered necessary for the UICC in order to provide compliance to ETSI TS 102 221 [1].

The present document specifies the test cases for:

- the electrical characteristics of the UICC;

- the initial communication establishment and the transport protocols;

- the communication layers between the UICC and the UICC-enabled terminal.

Test cases for the USB ICC relating to ETSI TS 102 221 [1] interface as well as test cases for SWP/HCI relating to ETSI TS 102 613 [19] and ETSI TS 102 622 [i.1] are out of scope of the present document.

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.

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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".

[2] ETSI TS 121 111: "Universal Mobile Telecommunications System (UMTS); LTE; 5G; USIM and IC card requirements (3GPP TS 21.111)".

[3] Void.

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

[5] ETSI TS 102 223: "Smart Cards; Card Application Toolkit (CAT)".

[6] Void.

[7] ISO/IEC 7810: "Identification cards -- Physical characteristics".

[8] ISO/IEC 7811-1: "Identification cards -- Recording technique -- Part 1: Embossing".

[9] ISO/IEC 7816-1: "Identification cards -- Integrated circuit cards -- Part 1: Cards with contacts -- Physical characteristics".

[10] ISO/IEC 7816-2: "Identification cards -- Integrated circuit cards -- Part 2: Cards with contacts -- Dimensions and location of the contacts".

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

[12]   ISO/IEC 7816-4: "Identification cards -- Integrated circuit cards -- Part 4: Organization, security and commands for interchange".

[13]   ETSI TS 102 600: "Smart Cards; UICC-Terminal interface; Characteristics of the USB interface".

[14]   Void.

[15]   Void.

[16]   ETSI TS 131 103: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; Characteristics of the IP Multimedia Services Identity Module (ISIM) application (3GPP TS 31.103)".

[17]   3GPP2 C.S0065: "cdma2000 Application on UICC for Spread Spectrum Systems".

NOTE: A derivative ARIB document can be downloaded at https://www.arib.or.jp/english/html/overview/doc/STD-T64v6_90/Specification/ARIB_STD-T64-C.S0065-Cv1.0.pdf.

[18]   Void.

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

[20]   Void.

[21]   Void.

[22]   Void.

[23]   JESD22-A101D.01: "Steady-state temperature-humidity bias life test".

[24]   ETSI TS 101 220: "Smart Cards; ETSI numbering system for telecommunication application providers".

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

[26]   ETSI TS 131 102: "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Characteristics of the Universal Subscriber Identity Module (USIM) application (3GPP TS 31.102)".

[27]   ETSI TS 102 484: "Smart Cards; Secure channel between a UICC and an end-point terminal".

2.2   Informative references

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

[i.2]   ETSI TS 131 121: "Universal Mobile Telecommunications System (UMTS); LTE; 5G; UICC-terminal interface; Universal Subscriber Identity Module (USIM) application test specification (3GPP TS 31.121)".

[i.3]   ETSI TS 102 671: "Smart Cards; Machine to Machine UICC; Physical and logical characteristics".

3   Definition of terms, symbols, abbreviations and formats

3.1   Terms

For the purposes of the present document, the terms given in ETSI TS 102 221 [1] apply.

3.2   Symbols

For the purposes of the present document, the symbols given in ETSI TS 102 221 [1] and the following apply:

I_{IH}	Input current (high level)
I_{IL}	Input current (low level)
I_{OH}	Output current (high level)
I_{OL}	Output current (low level)

3.3   Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 102 221 [1] apply.

3.4   Formats

3.4.1   Format of the table of optional features

The columns in Table 4.1 have the following meaning:

Column	Meaning
Option:	The optional feature supported or not by the implementation.
Status:	See clause 3.4.3 'Status and Notations'.
Release:	The Release column shows the number of the version the feature was introduced.
Support:	The support columns shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [4], are used for the support column in Table 4.1. 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:	The mnemonic column contains mnemonic identifiers for each item.

3.4.2   Format of the applicability table

The columns in Table 4.2a have the following meaning:

Column	Meaning
Test case:	The "Test case" column gives a reference to the test case number(s) detailed in the present document and required to validate the implementation of the corresponding item in the "Description" column.
Description:	In the "Description" column a short non-exhaustive description of the test case is found.
Test proc.:	The "Test proc." column provides the test procedure number

Column	Meaning
From Release:	The "From Release" column specifies the Release from which a test procedure is to be executed under the conditions specified in the "Applicability" column.
Up to Release:	The "Up to Release" column specifies the Release up which a test procedure is to be executed under the conditions specified in the "Applicability" column. Blank entries indicate the latest valid release at the time of publication of the present document.
Applicability:	The "Applicability" column provides information about the conditions under which a test should be carried out.
Support:	The "Support" column is blank in the proforma, and shall be completed by the manufacturer in respect of each particular requirement to indicate the choices, which have been made in the implementation.

The applicability of tests, defined in Table 4.2a and the conditions and options for the applicability of tests, defined in Table 4.2b, are formally expressed by the use of Boolean expression defined in the following clause.

3.4.3   Status and Notations

The "Rel-x Terminal" columns show the status of the entries as follows:

The following notations, defined in ISO/IEC 9646-7 [4], 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 a 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 a unique conditional status expression which is defined immediately following the table. For nested conditional expressions, the syntax "IF ... THEN (IF ... THEN ... ELSE...) ELSE ..." shall 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 shall 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.

3.4.4   Numbers and Strings

Table 3.1 describes the conventions used for decimal numbers, non-decimal numbers and strings.

Table 3.1: Convention of Numbering and Strings

Convention	Description
nnnnn	A decimal number, e.g. PIN value or phone number.
'b'	A single digit binary number.
'bbbbbbbb'	An 8-bit binary number.
'hh'	A single octet hexadecimal number.
'hh hh…hh'	A multi-octet hexadecimal number or string.
"SSSS"	Character string.
NOTE: If an 'X' is present in a binary or hexadecimal number, then that digit is "don't care".

3.4.5 Format of the conformance requirements tables

The conformance requirements tables contained in the present document have the following format and meaning:

Column Status	Meaning
Mandatory	This mandatory column contains the conformance requirement number (e.g. RQ04_0001).
Optional	This optional column is present when the containing clause sources conformance requirements from multiple clauses in the core specification. In this case, the cells in this column indicate the specific clause from the core specification from which the conformance requirement was sourced. If the conformance requirements are sourced from a single clause in the core specification, this column is not present.
Optional	This optional column is present when the table contains conformance requirements which are applicable to only a subset of the releases which are covered by the present document. In this case, the content of the cells indicates the release(s) to which the conformance requirement is applicable. Additionally, a cell being empty indicates that the conformance requirement is applicable to every release which is covered by the present document. Examples of the content of cells in this column are given below: <table><tr><td>Sample Content</td><td>Applicability of conformance requirement</td></tr><tr><td></td><td>All releases covered by the present document.</td></tr><tr><td>Rel-7 to Rel-8</td><td>Rel-7 to Rel-8 only.</td></tr><tr><td>Rel-9 upwards</td><td>Rel-9 up to the latest release which is covered by the present document.</td></tr><tr><td>Rel-7</td><td>Rel-7 only.</td></tr></table> The absence of this column indicates that all conformance requirements are applicable to every release which is covered by the present document.
Mandatory	This mandatory column contains the text of the conformance requirement.

4 Test environment

4.1 Table of optional features

The supplier of the implementation shall state the support of possible options in Table 4.1. See clause 3.4 for the format of Table 4.1.

Table 4.1: Options

Item	Option	Status	Release	Support	Mnemonic
1	ID-1 UICC	O.1	R99		O_ID1_UICC
2	Plug-in UICC	O.1	R99		O_PLUG_IN_UICC
3	Type 1 (i.e. UICC which always enters the negotiable mode after a warm reset)	O.2	R99		O_TYPE_1
4	Type 2 (UICC which always enters the specific mode after a warm reset)	O.2	R99		O_TYPE_2
5	T = 0	O.3	R99		O_T0
6	T = 1	O.3	R99		O_T1
7	Mono application UICC	O.4	R99		O_MONO_APP
8	Multi-application UICC	O.4	R99		O_MULTI_APP
9	Single verification capable UICC	O.5	R99		O_SINGLE_VER
10	Multi-verification capable UICC	O.5	R99		O_MULTI_VER
11	More than one logical channel supported	O	Rel-4		O_LOG_CHANS
12	More than two logical channels supported	O	Rel-4		O_LOG_CHANS_34
13	Shareable files	O	Rel-4		O_SHAREABLE
14	Non-shareable files	O	Rel-4		O_NON_SHAREABLE
15	GET CHALLENGE	O	Rel-4		O_GET_CHALLENGE
16	Mini-UICC	O.1	Rel-6		O_MINI_UICC
17	(F, D) = (512, 64)	O	Rel-6		O_F_D_512_64
18	Low impedance drivers	O	Rel-6		O_LOW_IMPEDANCE
19	BER-TLV structure EFs	O	Rel-6		O_BER_TLV_FILES

Item	Option	Status	Release	Support	Mnemonic
20	IC-USB according to ETSI TS 102 600 [13]	O	Rel-7		O_IC_USB
21	UICC-CLF according to ETSI TS 102 613 [19]	O	Rel-7		O_UICC_CLF
22	Secure Channel according to ETSI TS 102 484 [27]	O	Rel-7		O_SECURE_CHAN
23	Secured P2P APDU according to ETSI TS 102 484 [27]	O	Rel-7		O_SECURE_APDU
24	4FF UICC	O.1	Rel-11		O_4FF_UICC
25	eUICC	O	Rel-13		O_EUICC
26	LSIs supported	O	Rel-17		O_LSI
27	LSI configuration is pre-agreed	O	Rel-17		O_LSI_CONFIG_PRE_AGREED
28	LSI indication via T=1 NAD byte is supported	O	Rel-17		O_LSI_T1_NAD
29	Supports an additional logical UICC on an LSI which is not LSI 0	O	Rel-17		O_ADDITIONAL_LOGICAL_UICC
30	DF$_{TELECOM}$ available under MF	O	R99		O_DF_TELECOM
O.1	For UICCs supporting a form factor specified in ETSI TS 102 221 [1]: To identify the form factor of the UICC, one of item 1, item 2 or item 16 shall be selected.				
O.2	To identify the Type of the UICC, either item 3 or item 4 shall be selected.				
O.3	To identify protocols supported by the UICC, at least one of items 5 and 6 shall be selected.				
O.4	To identify whether the UICC is a mono application card or a multi-application card, either item 7 or item 8 shall be selected.				
O.5	To identify whether the UICC is a single verification capable UICC or a multi-verification UICC, either item 9 or item 10 shall be selected.				

4.2 Applicability table

Table 4.2a specifies the applicability of each test case to the device under test. See clause 3.4 for the format of Table 4.2a.

Table 4.2a: Applicability of tests

Test case	Description	Test proc.	From Release	Up to Release (see note)	Applicability	Support
6.2.1	Dimensions of the UICC card	1	Rel-9		M	
6.2.2	Temperature range for card operation	2	Rel-9		M	
6.3.1.1	Vcc - Voltage limits	1	Rel-9		M	
6.3.1.2	Vcc - Idle current limits	1	Rel-9		M	
6.3.1.3	Vcc - Current limits in CLK-stop-mode	1	Rel-9	Rel-11	M	
		2	Rel-12		M	
6.3.2.1	RST - Static operation	1	Rel-9		M	
6.3.3.1	VPP - Static operation	1	Rel-9		M	
		2	Rel-9		M	
6.3.4.1	CLK - Frequency and duty cycle	1	Rel-9		M	
6.3.4.2	Voltage and current	1	Rel-9		M	
6.3.5.1	I/O - Voltage and current	1	Rel-9		C018	
		2	Rel-9		C019	
		3	Rel-9		C020	
6.4.1.2	Supply voltage switching - Power consumption of the UICC during ATR	1	Rel-9	Rel-11	M	
		2	Rel-12		M	
6.4.1.3	Supply voltage switching - Application related electrical parameters	1	Rel-9		M	
6.4.2.1	ATR - Major capabilities	1	Rel-9		M	
6.4.2.2	ATR - Speed enhancement	1	Rel-9		M	
6.4.2.3	Global Interface bytes	1	Rel-9		M	
6.4.3	PPS procedure	1	Rel-9		M	
6.4.4	Reset procedures	1	Rel-9		M	
		2	Rel-9		M	
		3	Rel-9		C004	
		4	Rel-9		C005	
6.4.5	Clock stop mode	1	Rel-9		M	

Test case	Description	Test proc.	From Release	Up to Release (see note)	Applicability	Support
6.4.7	Error handling	1	Rel-9		C006	
6.5.2.1	Character Frame	1	Rel-9		M	
6.5.2.2	Transmission Protocol T = 0	1	Rel-9		C006	
6.5.2.3.1.2	T = 1 - Information field size	1	Rel-9		C007	
6.5.2.3.1.3	T = 1 - Character waiting integer	1	Rel-9		C007	
6.5.2.3.1.4	T = 1 - Character waiting time	1	Rel-9		C007	
6.5.2.3.1.5	T = 1 - Block guard time	1	Rel-9		C007	
6.5.2.3.1.7	T = 1 - Error detection code	1	Rel-9		C007	
6.5.2.3.2.1	T = 1 - Node address byte	1	Rel-9		C007	
6.5.2.3.2.3	T = 1 - Length	1	Rel-9		C007	
6.5.2.3.2.4	T = 1 - Information field	1	Rel-9		C007	
6.5.2.3.2.5	T = 1 - Epilogue field	1	Rel-9		C007	
6.5.2.3.3	T = 1 - Error free operation	1	Rel-9		C007	
6.5.2.3.4.1	T = 1 - Error Handling - Protocol initialization	1	Rel-9		C007	
6.5.2.3.4.2.1	T = 1 - Error Handling - Sending invalid blocks to the UICC	1	Rel-9		C007	
6.5.2.3.5	T = 1 - Chaining	1	Rel-9		C007	
6.5.3.1.2	Transportation of an APDU using T = 0 - Case 1	1	Rel-9		C006	
6.5.3.1.3	Transportation of an APDU using T = 0 - Case 2	1	Rel-9		C006	
6.5.3.1.4	Transportation of an APDU using T = 0 - Case 3	1	Rel-9		C006	
6.5.3.1.5	Transportation of an APDU using T = 0 - Case 4	1	Rel-9		C006	
6.5.3.1.6.1	Use of Procedure Bytes '61xx' and '6Cxx' - Case 2 Commands	1	Rel-9		C006	
6.5.3.2.2	Transportation of an APDU using T = 1 - Case 1	1	Rel-9		C007	
6.5.3.2.3	Transportation of an APDU using T = 1 - Case 2	1	Rel-9		C007	
6.5.3.2.4	Transportation of an APDU using T = 1 - Case 3	1	Rel-9		C007	
6.5.3.2.5	Transportation of an APDU using T = 1 - Case 4	1	Rel-9		C007	
6.6.2	UICC Application structure	1	Rel-9		M	
6.6.3.2.2	Transparent EF	1	Rel-9		M	
6.6.3.2.3	Linear fixed EF	1	Rel-9		M	
6.6.3.2.4	Cyclic EF	1	Rel-9		M	
6.6.5.1	SELECT by File Identifier Referencing	1	Rel-9		M	
6.6.5.2	SELECT by Path Referencing	1	Rel-9		M	
6.6.5.3	Short File Identifier	1	Rel-9		M	
6.6.6.1.1	SELECT by DF Name	1	Rel-9		M	
6.6.6.1.2	SELECT by partial DF Name	1	Rel-9		C009	
		3	Rel-9		C008	
6.6.6.2	Application session activation	1	Rel-9		M	
6.6.6.3	Application session termination	1	Rel-9		C008	
		3	Rel-9		M	
		4	Rel-9		M	
		5	Rel-9		C010	
6.6.6.4	Application session reset	1	Rel-9		M	
6.6.7	Reservation of file IDs	1	Rel-9		M	
		3	Rel-9		M	
6.6.8.1	No Logical Channel Support	1	Rel-9		C011	
6.6.8.2	Logical Channels - Basic Behaviour	1	Rel-9		C010	
		2	Rel-9		C012	
6.6.8.3	Opening a Logical Channel from the Basic Channel	1	Rel-9		C010	
6.6.8.4	Opening a Logical Channel from a Non-Basic Channel	1	Rel-9		C013	
6.6.8.5	Opening a Logical Channel on Non-Shareable Files	1	Rel-9		C014	

Test case	Description	Test proc.	From Release	Up to Release (see note)	Applicability	Support
6.6.8.6	Logical Channels and Shareable Files	1	Rel-9		C014	
		2	Rel-9		C015	
6.6.8.7	Logical channels - Command Interdependencies	1	Rel-9		C015	
6.6.8.8	Logical channels - Consistency of File Updates	1	Rel-9		C015	
6.7.2	Supported security features	1	Rel-9		C016	
		2	Rel-9		C017	
6.7.3	Security architecture	1	Rel-9		M	
		2	Rel-9		M	
6.7.4	Security environment	1	Rel-9		C016	
6.7.5	PIN definitions	2	Rel-9		C016	
		3	Rel-9		C017	
6.7.6	PIN and key reference relationship	1	Rel-9		C016	
		2	Rel-9		C017	
6.8.2	Mapping principles	1	Rel-9		M	
6.8.3.1	Status Conditions Returned by the UICC	1	Rel-9		M	
6.9.1.1	SELECT	1	Rel-9		C028	
		2	Rel-9		M	
6.9.1.2	STATUS	1	Rel-9		C028	
6.9.1.3	READ BINARY	1	Rel-9		M	
6.9.1.4	UPDATE BINARY	1	Rel-9		M	
6.9.1.5	READ RECORD	1	Rel-9		M	
		2	Rel-9		M	
		3	Rel-9		M	
6.9.1.6	UPDATE RECORD	1	Rel-9		M	
		2	Rel-9		M	
		3	Rel-9		M	
6.9.1.7	SEARCH RECORD	1	Rel-9		M	
		2	Rel-9		M	
		3	Rel-9		M	
		4	Rel-9		C007	
6.9.1.8	INCREASE	1	Rel-9		M	
6.9.1.9	VERIFY PIN	1	Rel-9		M	
		2	Rel-9		C010	
		3	Rel-9		M	
6.9.1.10	CHANGE PIN	1	Rel-9		M	
		2	Rel-9		C010	
6.9.1.11	DISABLE PIN	1	Rel-9		M	
6.9.1.12	ENABLE PIN	1	Rel-9		M	
6.9.1.13	UNBLOCK PIN	1	Rel-9		M	
		2	Rel-9		M	
		3	Rel-9		M	
		4	Rel-9		C010	
6.9.1.14	DEACTIVATE FILE	1	Rel-9		M	
6.9.1.15	ACTIVATE FILE	1	Rel-9		M	
6.9.1.18	GET CHALLENGE	1	Rel-9		C021	
6.9.1.19	MANAGE LSI	1	Rel-17		C024	
		2	Rel-17		C025	
		3	Rel-17		C025	
		4	Rel-17		C026	
		5	Rel-17		C026	
		6	Rel-17		C026	
		7	Rel-17		C026	
		8	Rel-17		C025	
		9	Rel-17		C025	
		10	Rel-17		C027	
		11	Rel-17		C027	
		12	Rel-17		C029	
6.9.2.1	RETRIEVE DATA	1	Rel-9		C022	
		2	Rel-9		C022	
		3	Rel-9		C022	

Test case	Description	Test proc.	From Release	Up to Release (see note)	Applicability	Support
6.9.2.2	SET DATA	1	Rel-9		C022	
		2	Rel-9		C022	
		3	Rel-9		C022	
		4	Rel-9		C022	
6.9.2.3	BER-TLV structure files	1	Rel-9		C022	
		2	Rel-9		C022	
		3	Rel-9		C022	
6.9.2.4	Logical channel interactions	1	Rel-9		C023	
		2	Rel-9		C023	
		3	Rel-9		C023	
6.10.1.1	GET RESPONSE	1	Rel-9		C006	
6.11	Application independent files	1	Rel-9		M	
NOTE:	Blank entries indicate the latest valid release at the time of publication of the present document.					

Table 4.2b: Applicability of tests (conditions and options list)

C001	IF O_ID1_UICC THEN M ELSE N/A
C002	Void
C003	Void
C004	IF O_TYPE_1 THEN M ELSE N/A
C005	IF O_TYPE_2 THEN M ELSE N/A
C006	IF O_T0 THEN M ELSE N/A
C007	IF O_T1 THEN M ELSE N/A
C008	IF O_MULTI_APP THEN M ELSE N/A
C009	IF O_MONO_APP THEN M ELSE N/A
C010	IF O_LOG_CHANS THEN M ELSE N/A
C011	IF (NOT O_LOG_CHANS) THEN M ELSE N/A
C012	IF O_LOG_CHANS_34 THEN M ELSE N/A
C013	IF (O_LOG_CHANS_34 AND O_SHAREABLE) THEN M ELSE N/A
C014	IF (O_LOG_CHANS AND O_NON_SHAREABLE) THEN M ELSE N/A
C015	IF (O_LOG_CHANS AND O_SHAREABLE) THEN M ELSE N/A
C016	IF O_MULTI_VER THEN M ELSE N/A
C017	IF O_SINGLE_VER THEN M ELSE N/A
C018	IF (NOT O_F_D_512_64) THEN M ELSE N/A
C019	IF O_F_D_512_64 THEN M ELSE N/A
C020	IF O_LOW_IMPEDANCE THEN M ELSE N/A
C021	IF O_GET_CHALLENGE THEN M ELSE N/A
C022	IF O_BER_TLV_FILES THEN M ELSE N/A
C023	IF (O_BER_TLV_FILES AND O_LOG_CHANS AND O_SHAREABLE) THEN M ELSE N/A
C024	IF (O_LSI AND O_ADDITIONAL_LOGICAL_UICC) THEN M ELSE N/A
C025	IF (O_LSI AND O_LSI_T1_NAD AND NOT O_LSI_CONFIG_PRE_AGREED) THEN M ELSE N/A
C026	IF (O_LSI AND NOT O_LSI_CONFIG_PRE_AGREED) THEN M ELSE N/A
C027	IF (O_LSI AND O_UICC_CLF) THEN M ELSE N/A
C028	IF O_DF_TELECOM THEM M ELSE N/A
C029	IF (O_LSI AND (O_T0 OR O_T1)) THEN M ELSE N/A

4.3 Information provided by the device supplier

The device supplier shall provide information about the configurations of the UICC indicated in Table 4.3.

Table 4.3: UICC Configuration

Item	Description	Presence/Value	Status	Mnemonic
1	An LSI number on which an additional logical UICC is present.		O.1	LSI#_ADDITIONAL_LOGICAL_UICC
2	An LSI number on which an UICC-CLF interface is available to send MANAGE LSI (assign SWP).		O.2	LSI#_LSE_SUPPORTING_UICC-CLF
O.1	IF (O_LSI AND O_ADDITIONAL_LOGICAL_UICC) THEN M ELSE N/A.			
O.2	IF (O_LSI AND O_UICC_CLF) THEN M ELSE N/A.			
NOTE:	Configuration values shall be provided if the corresponding option is supported in Table 4.1.			

4.4 Test equipment

4.4.1 Overview

The test equipment shall provide a terminal simulator which is connected to the DUT during test procedure execution, unless otherwise specified.

With respect to the UICC, the terminal simulator shall act as a valid terminal according to ETSI TS 102 221 [1], ETSI TS 102 613 [19] and ETSI TS 102 600 [13], unless otherwise specified.

In particular, during test execution, the terminal simulator shall fulfil the electrical requirements and signalling conditions for all interface contacts as defined in ETSI TS 102 600 [13], ETSI TS 102 613 [19] and ETSI TS 102 221 [1].

4.4.2 Measurement/setting uncertainties

4.4.2.1 V_{CC}

The voltage level for V_{CC} (contact C1) of the UICC shall be adjustable between -0,5 V and 6,0 V to an accuracy of 1 % of the nominal V_{CC} voltage (e.g. 50 mV for class A operating conditions).

To be able to detect current spikes generated by the UICC, the terminal simulator shall be able to source current on the V_{CC} contact in the range -2 mA to 12 mA statically and to deliver charges of > 400 nAs without lowering the V_{CC} voltage for more than 10 % of V_{CC} nominal.

Indicated current values for power consumption measurements correspond to the average values formed over a period of 1 ms.

4.4.2.2 RST

The generated voltage level for RST (contact C2) of the UICC shall be adjustable between -0,5 V and 6,0 V to an accuracy of 1 % of the nominal V_{CC} voltage.

The rise and fall times shall be adjustable from 0 µs to 500 µs with an accuracy of 5 µs.

To check if the UICC accepts the minimum and maximum clock-cycle values, the beginning of the rising edge on RST shall be programmable from 1 clock-cycle to 50,000 clock-cycles after enabling the CLK-line.

4.4.2.3 CLK

The terminal simulator shall be able to generate square wave signals for the clock on the UICC, any of which can be a single-shot or continuous signal, in the range 1 MHz to 5 MHz.

It shall also provide control over the following parameters:

- The voltage levels for both high and low states shall be adjustable between -0,5 V and 6 V to an accuracy of 1 % of the nominal V_{CC} voltage.

- The duty cycle of the clock signal shall be adjustable between 40 % and 60 % to an accuracy of 1 % or 5 ns whichever the worst is.

- The rise and fall time to an accuracy of 1 % or 5 ns whichever is the worst.

NOTE: 5 ns = 2,5 % accuracy for f_{max} = 5 MHz.

4.4.2.4 I/O

The terminal simulator shall be able to generate I/O-Signals according to ETSI TS 102 221 [1].

The voltage levels for high and low states shall be adjustable between -0,5 V and 6,0 V to an accuracy of 1 % of the nominal V_{CC} voltage. The I/O line in transmission mode (high bit) shall be programmable between state A (active driven output) and state Z (I/O-voltage-driver inactive, current source I-I/O-high active).

It shall also provide control over the rise and fall time of 100 ns to 1 000 ns with an accuracy of 50 ns.

The terminal simulator shall be able to source and sink currents on the I/O contact in the range -20 µA to +20 µA in state high and 0 mA to -1 mA in state low (receiving mode) and shall be able to switch in transmission mode (outputting a high bit) between voltage and current driving mode.

The timing of the bitstream (jitter, guardtime, etu-value, etc.) on the I/O-Line shall be programmable with an accuracy of ≤ 0,01 etu or 2 clk-cycles whichever is the worst.

4.4.3 Precision force-inducing contacting device

This item of equipment shall be able to apply a prescribed and maintained level of force onto one or more contacts of the UICC. The range shall be between 0 and 0,5 N and accurate to 0,01 N.

4.4.4 Temperature controllable environment

This item of equipment shall be able to control, with an accuracy of 0,5 °C, the temperature of a chamber large enough to enclose the UICC and the card reader.

The range of temperature control shall be between -25 °C and +85 °C. To test UICCs supporting specific environmental conditions the controllable temperature range shall be increased accordingly. This requires:

- for temperature class A: -40 °C and +85 °C;

- for temperature class B: -40 °C and +105 °C;

- for temperature class C: -40 °C and +125 °C.

4.4.5 Temperature measuring device

This item of equipment shall be able to measure the temperature of a chamber to within 0,5 °C. The range of this device shall allow measurement of temperatures between -25 °C and +85 °C. Corresponding to the requirements for the temperature controllable environment, the temperature measuring device used to test UICCs supporting specific environmental conditions shall have a temperature range of -40 °C up to +125 °C according to the related temperature class definition.

4.4.6 Voltage measuring device

This item of equipment shall be able to measure static and transient voltages on any one of the contacts of the UICC. The measurable voltage range shall be between -2 V and +7 V to an accuracy of 1 % of the nominal V_{CC} voltage (e.g. 30 mV for class B operating conditions) with a timebase accuracy of ≤ 25 ns.

4.4.7 Precision measuring device

This item of equipment shall be able to measure both linear and radius of curvature dimensions to an accuracy of 0,01 mm.

4.4.8 Current measuring device

This item of equipment shall be able to supervise the current levels for any one of the contacts of the UICC.

The simulator shall be able to detect an over - or underload with a time resolution of ≤ 100 ns.

Channel	Minimum	Maximum	Resolution
$V_{CC\ high}$	-2 mA	+12,5 mA	125 µA
$V_{CC\ low}$	-2 mA	+12,5 mA	125 µA
$V_{CC\ Burst}$	12 mA	+250 mA	2,5 mA
RST/CLK - high state	-50 µA	+50 µA	1 µA
RST/CLK - low state	-250 µA	+250 µA	2,5 µA
I/O - high state	-50 µA	+50 µA	1 µA
I/O - low state	-1 500 µA	+1 500 µA	15 µA

4.4.9 Timing Measurements on contact I/O

To verify the timing of the I/O transmission from the UICC, the terminal simulator shall be able to measure the I/O-Bit-Timing in clk-cycles with an accuracy of ≤ 0,01 etu or 2 clk-cycles whichever is the worst.

4.4.10 Default conditions for DUT operation

Unless otherwise stated, the UICC shall be connected to a terminal simulator and the following default condition for the UICC operation apply:

- The voltage level for V_{CC} (contact C1) shall be set to 3,0 V.

- The voltage levels for CLK (contact C3) shall be set to 0 V and 3,0 V for low and high respectively.

- The clock frequency CLK (contact C3) shall be set to 5 MHz with duty cycle 50 %.

- The terminal simulator generated low transmission voltage level for I/O (contact C7) shall be set to 0 V and the current sources for high transmission and reception shall be set to -20 µA and +20 µA respectively.

- Any level 1 user verification requirement (PIN) on the UICC shall be enabled with three VERIFY PIN attempts and ten UNBLOCK PIN attempts remaining.

- Any level 2 user verification requirement (PIN2) on the UICC shall be enabled with three VERIFY PIN2 attempts and ten UNBLOCK PIN2 attempts remaining, if assigned.

- A Universal PIN on the UICC shall be enabled, if the DUT is a multi-verification capable UICC supporting the use of a Universal PIN.

4.5 Test execution

4.5.1 Parameter variations

Unless otherwise specified, all tests shall be carried out once for each combination of voltage class and transport protocol supported by the UICC in addition to the parameter variations specified individually for each test case.

Unless otherwise specified, all tests shall be carried out at a temperature of 25 °C.

4.5.2 Required application

4.5.2.1 Application requirements

Some of the test cases specified in the present document require a Network Access Application (NAA) residing on the UICC. The application shall support the required commands specified in ETSI TS 102 221 [1].

If possible NAAs defined by 3GPP or 3GPP2 should be used for this purpose. E.g.:

- a USIM application according to ETSI TS 121 111 [2];

- a ISIM application according to ETSI TS 131 103 [16];

- a CSIM application according to 3GPP2 C.S0065 [17].

4.5.2.2 Required application files

4.5.2.2.1 Requirements for file creation and update

To test functions and commands applications not providing suitable DFs and EFs shall contain the test files defined in this clause. These DFs and EFs shall be created within the selected NAA or in the generic application before any test case is executed. The files are used for testing purposes only and might be deleted afterwards.

Creating the test DFs and EFs requires the SET DATA, UPDATE BINARY and UPDATE RECORD commands to be supported and to operate properly. That implies that these generic commands, that are normally subject to test in the present document are required to work properly in order to set up the initial conditions required to test during.

The application specific parameter depending on the application that will be used shall be set according to the application specification listed in clause 4.5.2.1.

4.5.2.2.2 EF$_{TRANS\_1}$

This is a transparent EF for testing purposes, allowing pre-configured contents of up to 255 byte.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '6F 0A'. If different values are used provide them to the terminal simulator where required.

Identifier: '6F XX'		Structure: transparent		Conditional (see note)
File size: X bytes		Update activity: low		
Access Conditions:￼ READ PIN￼ UPDATE PIN￼ DEACTIVATE ADM￼ ACTIVATE ADM				
Bytes	Description		M/O	Length
1 to X	test contents		M	X bytes
NOTE: If no appropriate NAA file is available, this file is mandatory while a card is used for testing purposes.				

Configure the file as defined in the test case. If no specific coding is provided it is suggested to use the following data:

Byte:	1	2	3	4	5	6	7	8	9	10	11					
Hex:	A1	A2	A3	A4	A5	A6	A7	A8	A9	00	00					

4.5.2.2.3 EF_{LF_1}

This is a linear fixed EF for testing purposes, allowing pre-configured contents of up to 254 records with up to 255 bytes in length..

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '6F 0B'. If different values are used provide them to the terminal simulator where required.

Identifier: '6F XX'		Structure: linear fixed		Conditional (see note)
Record length: X bytes		Update activity: low		
Access Conditions: READ PIN UPDATE PIN DEACTIVATE ADM ACTIVATE ADM				
Bytes	Description		M/O	Length
1 to X	test contents		M	Xbytes
NOTE: If no appropriate NAA file is available, this file is mandatory while a card is used for testing purposes.				

Configure the file as defined in the test case. If no specific coding is provided it is suggested to use the following data:

1st record	'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0 A1 A2 FF A0 A1 A2 A3 A4 A5 A6'
2nd record	'B0 B1 B2 A0 A1 A2 A0 A1 A2 B0 B1 B2 FF B0 B1 B2 B3 B4 B5 B6'
3rd record	'B0 B1 B2 A0 A1 A2 B0 B1 B2 A0 A1 A2 FF C0 C1 C2 C3 C4 C5 C6'
4th record	'A0 A1 A2 B0 B1 B2 B0 B1 B2 B0 B1 B2 FF D0 D1 D2 D3 D4 D5 D6'

4.5.2.2.4 EF_{LF_2}

This is a second linear fixed EF for testing purposes, allowing pre-configured contents of up to 254 records with up to 255 bytes in length.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '6F 0C'. If different values are used, provide them to the terminal simulator where required.

Identifier: '6F XX'		Structure: linear fixed		Conditional (see note)
Record length: X bytes		Update activity: low		
Access Conditions: READ PIN UPDATE PIN DEACTIVATE ADM ACTIVATE ADM				
Bytes	Description		M/O	Length
1 to X	test contents		M	X bytes
NOTE: If no appropriate NAA file is available, this file is mandatory while a card is used for testing purposes.				

Configure the file as defined in the test case. If no specific coding is provided it is suggested to use the following data:

1st record	'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'
2nd record	'B0 B1 B2 A0 A1 A2 A0 A1 A2 B0'
3rd record	'B0 B1 B2 A0 A1 A2 B0 B1 B2 A0'
4th record	'A0 A1 A2 B0 B1 B2 B0 B1 B2 B0'

4.5.2.2.5 EF_CYCLIC

This is a cyclic EF for testing purposes, allowing pre-configured contents of up to 254 records with up to 254 bytes in length.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '6F 0D'. If different values are used, provide them to the terminal simulator where required.

Identifier: '6F XX'	Structure: cyclic		Conditional (see note)
Record length: X bytes		Update activity: low	
Access Conditions: 　　READ　　　　　　　　　PIN 　　UPDATE　　　　　　　PIN2 　　INCREASE　　　　　　PIN 　　DEACTIVATE　　　　ADM 　　ACTIVATE　　　　　　ADM			
Bytes	Description	M/O	Length
1 to X	test contents	M	X bytes
NOTE: If no appropriate NAA file is available, this file is mandatory while a card is used for testing purposes.			

Configure the file as defined in the test case. If no specific coding is provided it is suggested to use the following data:

1st record	'00 00 01'	(last updated record)
2nd record	'00 00 02'	
3rd record	'00 00 03'	
4th record	'00 00 XX'	with 'XX' to be set (first updated record)

4.5.2.2.6 DF on ADF (Application DF) level

A DF for testing purposes needs to be present as child directories of ADF used to execute the testing. The following DF needs to be created:

　　DF_SUBDIR 　　　'5F XX' (see note).

　　NOTE: 　　A file identifier not allocated to ensure that the File ID is not used by any other DF defined in any of the applications listed in clause 4.5.2.

　　　　　　The suggestion is to use '5F FA'. If different values are used, provide them to the terminal simulator where required.

Contents:

1st EF	EF_SUBTRANS
2nd EF	EF_SUBLF
3rd EF	EF_SUBCYC

4.5.2.2.7 EF_SUBTRANS

This is a transparent EF for testing purposes with fixed contents.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '4F FA'. If different values are used, provide them to the terminal simulator where required.

Identifier: 4F XX'	Structure: transparent	Conditional (see note)
File size: 6 bytes		Update activity: low

Access Conditions:		
READ	PIN	
UPDATE	PIN	
DEACTIVATE	ADM	
ACTIVATE	ADM	

Bytes	Description	M/O	Length
1 to 6	SUBTRANS test contents	M	6 bytes
NOTE: This file is mandatory while a card is used for testing purposes.			

Coding:

Byte:	1	2	3	4	5	6
Hex:	0A	0B	0C	0D	0E	0F

4.5.2.2.8 EF$_{SUBLF}$

This is a linear fixed EF for testing purposes with predefined contents.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '4F FB'. If different values are used, provide them to the terminal simulator where required.

Identifier: '4F XX'	Structure: linear fixed	Conditional (see note)
Record length: 10 bytes		Update activity: low

Access Conditions:		
READ	PIN	
UPDATE	PIN	
DEACTIVATE	ADM	
ACTIVATE	ADM	

Bytes	Description	M/O	Length
1 to 10	SUBLF test contents	M	10 bytes
NOTE: This file is mandatory while a card is used for testing purposes.			

Coding:

1st record	'A0 A1 A2 A3 A4 A5 A6 A7 A8 A9'
2nd record	'B0 B1 B2 B3 B4 B5 B6 B7 B8 B9'
3rd record	'C0 C1 C2 C3 C4 C5 C6 C7 C8 C9'

4.5.2.2.9 EF$_{SUBCYC}$

This is a cyclic EF for testing purposes with predefined contents.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '4F FC'. If different values are used, provide them to the terminal simulator where required.

Identifier: '4F XX'	Structure: cyclic	Conditional (see note)
Record length: 2 bytes	Update activity: low	

Access Conditions:		
READ	PIN	
UPDATE	PIN2	
INCREASE	PIN	
DEACTIVATE	ADM	
ACTIVATE	ADM	

Bytes	Description	M/O	Length
1 to 2	SUBCYC test contents	M	3 bytes
NOTE: This file is mandatory while a card is used for testing purposes.			

Coding:

1st record:	00	01	(last updated record)
2nd record:	00	02	
3rd record:	00	03	

4.5.2.2.10 EF_TRANS_2

This is a second transparent EF for testing purposes, allowing pre-configured contents of up to 255 byte.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

The suggestion is to use '6F 0E'. If different values are used provide them to the terminal simulator where required.

Identifier: '6F XX'	Structure: transparent	Conditional (see note)
File size: X bytes	Update activity: low	

Access Conditions:		
READ	PIN	
UPDATE	PIN	
DEACTIVATE	ADM	
ACTIVATE	ADM	

Bytes	Description	M/O	Length
1 to X	test contents	M	X bytes
NOTE: If no appropriate NAA file is available, this file is mandatory while a card is used for testing purposes.			

Configure the file as defined in the test case. If no specific coding is provided it is suggested to use the following data:

Byte:	1	2	3	4	5	6	7	8	9
Hex:	00	01	02	03	04	05	06	07	08

4.5.2.2.11 EF_BER-TLV_1

This is an EF with BER-TLV contents for testing purposes. For UICCs supporting BER-TLV structured EFs, it may be used in NAAs not having a specific BER-TLV EF defined.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

Identifier: 'XX XX'	Structure: BER-TLV		Conditional (see note)
	Update activity: low		

Access Conditions:
    READ   PIN
    UPDATE   PIN
    DEACTIVATE   ADM
    ACTIVATE ADM			

Bytes	Description	M/O	Length
1 to X	Data Object(s)	M	X bytes
NOTE:	If BER-TLV structured EFs are supported, but no appropriate NAA file is available, this file is mandatory while a card is used for testing purposes.		

Configure the file as defined in the test case. If no specific coding is provided it is suggested to use the following data objects:

Tag	Length field	Value
'81'	'02'	' '
'82'	'05 A0'	1 440 bytes: '80 0E 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D' repeated 90 times.
'83'	'00'	' ' - i.e. empty value.

EF$_{BER-TLV\_1}$ shall not contain the following data objects:

Tag
'86'

4.5.2.2.12 EF$_{BER-TLV\_2}$

This is a second EF with BER-TLV contents for testing purposes. For UICCs supporting BER-TLV structured EFs, it may be used in NAAs not having a specific BER-TLV EF defined.

A file identifier not allocated to ensure that the File ID is not used by any other EF defined in any of the applications listed in clause 4.5.2.

Identifier: 'XX XX'	Structure: BER-TLV		Conditional (see note)
	Update activity: low		

Access Conditions:
    READ   PIN
    UPDATE   PIN
    DEACTIVATE   ADM
    ACTIVATE ADM			

Bytes	Description	M/O	Length
1 to X	Data Object(s)	M	X bytes

4.5.2.3 Suggested NAA files

4.5.2.3.1 Usage of optional files

An option to prepare a UICC for testing according to the present document is to configure files existing on the NAA.

The following non-exhaustive list should help to identify suitable files:

generic	USIM				ISIM				CSIM			
	Name	SFI	avail.	length	Name	SFI	avail.	length	Name	SFI	avail.	length
EF_{TRANS_1}	EF_{LOCI}	0B	M	11	EF_{DOMAIN}	05	M	X	EF_{HOME_TAG}	-	M	X
	EF_{AD}	03	M	4+X	EF_{AD}	03	M	3+X	EF_{AD}	01	M	3+X
EF_{TRANS_2}	EF_{IMSI}	07	O	9	EF_{IMPI}	02	M	X	EF_{CSIM_ST}	02	M	X
EF_{LF_1}	EF_{FDN}	-	O	X+14	EF_{IMPU}	04	M	X	EF_{FDN}	-	O	X+14
	EF_{CCP2}	16	O	X≥15	-				EF_{CCP2}	12	O	X≥15
	EF_{SMS}	-	O	var.	EF_{SMS}	-	O	var.	EF_{SMS}	-	O	var.
EF_{LF_2}	EF_{ECC}	01	M	X+4	EF_{ARR}	06	M	X	EF_{MMSUP}	-	O	X
EF_{CYCLIC}	EF_{ACM}	O	O	X*3	-				EF_{COUNT}	-	M	X*2
	EF_{ICI}	14	O	X+28	-				EF_{ICI}	10	O	X+28
DF_{SUBDIR}	DF_{PHONEBOOK}				-				DF_{PHONEBOOK}			
EF_{SUBTRANS}					-							
EF_{SUBLF}	EF_{PBC}	YY	C	X*2	-							
EF_{SUBCYC}	EF_{OCI}	15	O	X+27	-							
EF_{BER-TLV_1}	EF_{MMDF}		O	X	EF_{IMSConfigData}		O	X	EF_{MMDF}		O	X
EF_{BER-TLV_2}	EF_{MML}		O	X	EF_{XCAPConfigData}		O	X	EF_{MML}		O	X
NOTE: EF_{COUNT} may only be used as EF_{CYCLIC} if the record length in the test is not pre-defined or fixed to three bytes.												

4.5.3 Security conditions

PIN is used as the synonym for all level 1 key references available on the card.

For each application available on the UICC under test conforming to ETSI TS 102 221 [1] a level 1 key reference as the user verification (PIN) shall be specified for usage during test execution. In addition the application may specify a level 2 key reference as a second user verification requirement (PIN2).

On multi-verification capable UICCs the application verification requirement may be replaced by the Universal PIN. If a Universal PIN is supported it may be used as PIN in test cases requiring a PIN verification.

4.5.4 Test procedure

The following statements are applicable to the test procedure clause for all test purposes contained within the present document:

- Where steps within a test procedure involve a terminal simulator sending one or more commands to the UICC, these commands are required to be correctly executed by the UICC, with the UICC responding with status condition of '90 00', unless otherwise stated in the test case.

- Where steps indicate that a terminal simulator shall select a particular DF or EF using an unspecified number of SELECT commands, the terminal simulator is to send the correct sequence of SELECT commands in order to select the required file ID from the current file ID (this may be achieved most easily by selecting from the MF down each time).

- Unless otherwise stated, the Le (P3) for all READ RECORD commands and Lc (P3) for all UPDATE RECORD commands sent by the terminal simulator is to be that of the record length of the EF currently selected. In the case where an EF is not currently selected, the length sent is to be 1 unless otherwise stated.

- Unless otherwise stated, the offset for all READ BINARY and UPDATE BINARY commands sent by the terminal simulator is to be '00 00'.

- Unless otherwise specified, when the T = 0 protocol is used, the necessary GET RESPONSE commands are assumed to be sent, or the same command header is assumed to be resent with P3 = L_{UICC} at the transport layer level in order to retrieve the available response data from the UICC.

- Unless otherwise stated, the length (Le) for all SELECT, STATUS and GET RESPONSE commands sent by the terminal simulator is to be such that all available data is read.

- Unless otherwise stated, the PIN and Unblock PIN presented for VERIFY PIN, CHANGE PIN, DISABLE PIN, ENABLE PIN and UNBLOCK PIN commands sent by the terminal simulator is to be correct.

- Unless otherwise stated, a SELECT command sent to the UICC to select an application shall indicate the application's AID, indicating in the command parameter that the application shall be activated.

- Unless otherwise stated, a SELECT command sent to the UICC is with P2 = '04', indicating that the FCP shall be returned.

- Unless otherwise stated, all RETRIEVE DATA commands sent to the UICC shall be with P2 indicating "current EF".

- Unless otherwise stated, all SET DATA commands sent to the UICC shall be with P2 indicating "current EF".

- Unless otherwise stated, all SET DATA commands sent to the UICC shall be sent with the maximum amount of data possible according to the data object being transmitted.

- Some other specifications which reference ETSI TS 102 221 [1] may add additional TLVs to the command data or response data of MANAGE LSI (configure LSIs). Therefore, if the UICC is implemented according to such a specification then, unless otherwise specified:

  - The test tool shall add suitable additional TLVs to the command data of MANAGE LSI (configure LSIs), after the '80' and (if present) '81' TLVs.

  - Additional TLVs may be present in the response data of MANAGE LSI (configure LSIs), after the '80' and (if present) '81' TLVs.

4.6 Pass criterion

A test shall only be considered as successful if the test procedure was carried out successfully under all parameter variations with the DUT respecting all conformance requirements referenced in the test procedure, taking into account any global UICC requirements specified in clause 4.5.4.

5 Conformance Requirements

5.1 Conformance requirement naming

This clause lists the requirements specified in ETSI TS 102 221 [1].

Requirements have only been extracted up to and including Rel-13 of ETSI TS 102 221 [1]. Requirements from Rel-14 and onwards of ETSI TS 102 221 [1] have not been extracted.

The following syntax has been used to define the unique RQ numbers.

RQ<XX>_<YY><ZZ>

XX: Main clause of the core specification in which the conformance requirement is listed.

YY: Subclause of the main clause in the core specification in which the conformance requirement is listed.

ZZ: Continuously increasing number starting with 1.

5.2 Physical characteristics

Reference: ETSI TS 102 221 [1], clause 4.

NOTE: All references given in the requirement description are related to text, figures or tables provided in ETSI TS 102 221 [1].

RQ number	Clause	REL	Description
RQ04_0001	4.0.0		The physical characteristics of all types of UICCs shall be in accordance with ISO/IEC 7816-1 [9] and ISO/IEC 7816-2 [10] unless otherwise specified by the present document.
RQ04_0002	4.0.1		The physical characteristics of the ID-1 UICC shall conform to ISO/IEC 7816-1 [9] and ISO/IEC 7816-2 [10].
RQ04_0003	4.0.1		The embossing of the ID-1 UICC shall be in accordance with ISO/IEC 7811-1 [8] and ISO/IEC 7816-3 [11]. The contacts of the ID-1 UICC shall be located on the front (embossed face, see ISO/IEC 7810 [7]) of the card.
RQ04_0004	4.0.2		The Plug-in UICC shall have a width of 25 mm, a height of 15 mm, a thickness the same as an ID-1 UICC and a feature for orientation.
RQ04_0005	4.0.2		For Plug-in UICCs Annex A of ISO/IEC 7816-2 [10] applies with the location of the reference points adapted to the smaller size. The three reference points P1, P2 and P3 measure 7,5 mm, 3,3 mm and 20,8 mm, respectively, from 0. The values in Figure 2 of ISO/IEC 7816-2 [10] are replaced by the corresponding values of Figure 4.1.
RQ04_0006	4.0.3		The Mini-UICC shall have a width of 15 mm, a height of 12 mm, a thickness the same as an ID-1 UICC and a feature for orientation.
RQ04_0007	4.0.3		For Mini-UICCs Annex A of ISO/IEC 7816-2 [10] applies with the location of the reference points adapted to the smaller size below Figure 4.2. The values in Figure 2 of ISO/IEC 7816-2 [10] are replaced by the corresponding values of Figure 4.2.
RQ04_0008	4.0.4	Rel-11 upwards	The 4FF shall have a width of 12,3 mm ± 0,1 mm and a height of 8,8 mm ± 0,1 mm, with a thickness range of 0,67 mm + 0,03 mm/-0,07 mm.
RQ04_0009	4.0.4	Rel-11 upwards	For 4FF UICCs Annex A of ISO/IEC 7816-2 [10] applies with the location of the reference points adapted to the smaller size defined in Figure 4.3. The values in Figure 2 of the ISO/IEC 7816-2 [10] are replaced by the corresponding values of Figure 4.3.
RQ04_0401	4.4		The standard temperature range for storage and full operational use shall be between -25 °C and +85 °C.
RQ04_0401b	4.4.1		If the UICC supports specific environmental conditions, the indication mechanism, as specified in ETSI TS 102 221 [1], shall be supported.
RQ04_0402	4.4.1.1		For a UICC supporting the specific UICC environmental condition Temperature class A, the temperature range for storage and full operational use shall be -40 °C to +85 °C ambient temperature.
RQ04_0403	4.4.1.1		For a UICC supporting the specific UICC environmental condition Temperature class B, the temperature range for storage and full operational use shall be -40 °C to +105 °C ambient temperature.
RQ04_0404	4.4.1.1		For a UICC supporting the specific UICC environmental condition Temperature class C, the temperature range for storage and full operational use shall be -40 °C to +125 °C ambient temperature.
RQ04_0405	4.4.1.2		A UICC supporting high humidity shall withstand the test conditions as described within JEDEC JESD 22-A101D.01 [23] with 1 000 hour duration.
RQ04_0501	4.5.1.2		If contacts C4 and C8 are provided by the UICC, they shall not be connected internally in the UICC if the UICC only contains a Telecom application and is not using these contacts for an additional interface. For 4FF these contacts may alternatively be connected to GND if the UICC is not using them for an additional interface.
RQ04_0502	4.5.1.2		Contact C6 shall not be bonded in the UICC for any function other than supplying VPP or when the UICC supports the optional interface defined in ETSI TS 102 613 [19].
NOTE: Some clause numbers were different in earlier releases of ETSI TS 102 221 [1].			

5.3 Electrical specifications of the UICC - Terminal interface

Reference: ETSI TS 102 221 [1], clause 5.

NOTE: All references given in the requirement description are related to text or tables provided in ETSI TS 102 221 [1].

RQ Number	Clause	REL	Description
RQ05_0001	5		V_{PP} shall not be supported by the 3 V and 1,8 V technology UICC.
RQ05_0002	5		The UICC shall properly operate if the clock duty cycle is between 40 % and 60 % of the period during stable operation. A clock cycle is defined at 50 % of V_{CC} from rising to rising edge or falling to falling edge.

RQ Number	Clause	REL	Description
RQ05_0003	5		The UICC shall operate as long as no pulse is shorter than 80 ns (which is 40 % of the shortest allowed clock period) when the terminal is switching clock frequencies.
RQ05_0004	5		When low impedance drivers are implemented on the I/O line, the I/O electrical circuit design shall insure that potential contention on the line will not result in any permanent damage of the terminal or the UICC.
RQ05_0101	5.1.1		The UICC shall properly operate whilst the supplied voltage is within the limits specified in Table 5.1 of ETSI TS 102 221 [1].
RQ05_0102	5.1.1		The current consumption of the UICC shall not exceed the value given in the tables in clause 6.2.2 of ETSI TS 102 221 [1] during the ATR (including activation and deactivation).
RQ05_0103	5.1.1		When the UICC is in idle state the current consumption of the UICC shall not exceed 200 µA at 1 MHz and 25 °C.
RQ05_0104	5.1.1		If clock stop mode is enabled, then the current consumption shall also not exceed 200 µA while the clock is stopped.
RQ05_0105	5.1.2		The RST contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.2 of ETSI TS 102 221 [1].
RQ05_0106	5.1.3		The UICC shall not require any programming voltage on VPP.
RQ05_0107	5.1.4		The CLK contact of the UICC shall properly operate whilst the duty cycle of the supplied clock signal is between 40 % and 60 % of the period during stable operation.
RQ05_0108	5.1.4		The CLK contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.3 of ETSI TS 102 221 [1].
RQ05_0108a	5.1.4		The UICC shall properly operate whilst the supplied clock (CLK) is of a frequency between 1 MHz and 5 MHz.
RQ05_0108b	5.1.4		When only the interface specified in the present document is activated, no "internal clock" shall be used in the UICC (see note 2).
RQ05_0109	5.1.5		The I/O contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.4 of ETSI TS 102 221 [1].
RQ05_0201	5.2.1		The UICC shall properly operate whilst the supplied voltage is within the limits specified in Table 5.5 of ETSI TS 102 221 [1].
RQ05_0202	5.2.1		When the UICC is in idle state, the current consumption of the UICC shall not exceed 200 µA at 1 MHz at +25 °C.
RQ05_0203	5.2.1	Rel-9 to Rel-11	When the UICC is in clock stop mode and no other interface is active, the current consumption shall not exceed 100 µA at +25 °C.
RQ05_0203a	5.2.1	Rel-12 upwards	When the UICC is in clock stop mode and no other interface is active, the current consumption shall not exceed 200 µA at +25 °C if the UICCs are indicating that they require an increased idle current in clock-stop-mode by "UICC increased idle current", and 100 µA at +25 °C for other UICCs.
RQ05_0204	5.2.1		Void.
RQ05_0205	5.2.2		The RST contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.6 of ETSI TS 102 221 [1].
RQ05_0206	5.2.3		The UICC shall properly operate whilst the supplied clock (CLK) is of a frequency between 1 MHz and 5 MHz.
RQ05_0207	5.2.3		When only the interface specified in the present document is activated, no "internal clock" shall be used in the UICC (see note 2).
RQ05_0208	5.2.3		The UICC shall properly operate if the duty cycle is between 40 % and 60 % of the period during stable operation.
RQ05_0209	5.2.3		The CLK contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.7 of ETSI TS 102 221 [1].
RQ05_0210	5.2.4		The I/O contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.8 of ETSI TS 102 221 [1].
RQ05_0301	5.3.1		The UICC shall properly operate whilst the supplied voltage is within the limits specified in Table 5.9 of ETSI TS 102 221 [1].
RQ05_0302	5.3.1		When the UICC is in idle state, the current consumption of the UICC shall not exceed 200 µA at 1 MHz at +25 °C.
RQ05_0303	5.3.1	Rel-9 to Rel-11	When the UICC is in clock stop mode and no other interface is active, the current consumption shall not exceed 100 µA at +25 °C.
RQ05_0303a	5.3.1	Rel-12 upwards	When the UICC is in clock stop mode and no other interface is active, the current consumption shall not exceed 200 µA at +25 °C if the UICCs are indicating that they require an increased idle current in clock-stop-mode by "UICC increased idle current", and 100 µA at +25 °C for other UICCs.
RQ05_0304	5.3.2		The RST contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.10 of ETSI TS 102 221 [1].
RQ05_0309	5.3.3		The UICC shall properly operate whilst the supplied clock (CLK) is of a frequency between 1 MHz and 5 MHz.
RQ05_0305	5.3.3		When only the interface specified in the present document is activated, no "internal clock" shall be used in the UICC (see note 2).

RQ Number	Clause	REL	Description
RQ05_0306	5.3.3		The UICC shall properly operate if the duty cycle is between 40 % and 60 % of the period during stable operation.
RQ05_0307	5.3.3		The CLK contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.11 of ETSI TS 102 221 [1].
RQ05_0308	5.3.4		The I/O contact of the UICC shall properly operate whilst the supplied electrical characteristics are within the limits specified in Table 5.12 of ETSI TS 102 221 [1].
NOTE 1: RQ05_0102 is implicitly validated by testing RQ06_0202.			
NOTE 2: RQ05_0108b, RQ05, 0207 and RQ05_0305 are not tested, since it is not possible to observe the use/non-use of an "UICC internal clock".			

5.4 Initial communication establishment procedures

Reference: ETSI TS 102 221 [1], clause 6.

> NOTE: All references given in the requirement description are related to text or tables provided in ETSI TS 102 221 [1].

RQ Number	Clause	REL	Description
RQ06_0201	6.2.1		The supply voltage class shall be indicated in the ATR by the UICC (TAi, i > 2).
RQ06_0202	6.2.2	Rel-9 to Rel-11	The maximum power consumption of the UICC during ATR it is specified in Tables 6.2a and 6.2b. The UICC power consumption during ATR shall conform to the voltage class indicated in the ATR.
RQ06_0203	6.2.3	Rel-9 to Rel-11	The power consumption of the UICC is restricted to the values indicated in Tables 6.2a and 6.2b until an application is selected or an alternative interface using optional contacts is activated by the terminal.
RQ06_0204	Void		Void.
RQ06_0205	6.2.3	Rel-12 upwards	Applications may specify their own maximum power consumption values, up to the maximum specified in Table 6.3.
RQ06_0206	6.2.3		If an application does not indicate its consumption, the terminal shall assume the maximum application power consumption is as specified in Table 6.4 or within the limit given in the TERMINAL CAPABILITY command.
RQ06_0207	6.2.2	Rel-12 upwards	The maximum power consumption of the UICC during ATR shall not exceed the minimum power supplied by the terminal during a UICC session as defined in Table 6.4.
RQ06_0208	6.2.3	Rel-12 upwards	The power consumption of the UICC after ATR is restricted to the values indicated in Table 6.4.
RQ06_0301	6.3		T = 15 global interface parameters shall be returned by the UICC.
RQ06_0302	6.3.1		The historical bytes indicate to the external world how to use the card. The information carried by the historical bytes of the UICC follows ISO/IEC 7816-4 [12].
RQ06_0303	6.3.1		The category indicator is the first byte sent by the UICC. Its value shall be '80' which means that the historical bytes are coded in COMPACT-TLV data objects.
RQ06_0304	6.3.1		The first information sent by the card shall be the "card data service" data object. This data object is introduced by tag '31'.
RQ06_0305	6.3.1		The second information sent by the card shall be the "card capabilities" data object. This data object is introduced by tag '73'.
RQ06_0306	6.3.2		The terminal and the UICC shall at least support (F,D) = (512,8) and (512,16) in addition to (372,1), the default values.
RQ06_0307	6.3.2		When this additional Di value is supported, the interface shall meet the additional requirements specified in Table 6.6, regardless of the operating conditions used.
RQ06_0308	6.3.3		The content and coding of the first TAi (i > 2) after T = 15 is defined in ISO/IEC 7816-3 [11] (see note 2).
RQ06_0309	6.3.3		The content and coding of the first TBi (i > 2) after T = 15 shall be as indicated in Table 6.7.
RQ06_0310	6.3		The ATR is the first string of bytes sent from the UICC to the terminal after a reset has been performed. The ATR is defined in ISO/IEC 7816-3 [11] (see note 2).
RQ06_0401	6.4		The terminal and the UICC shall support the PPS procedure in order to use transmission parameters other than the default values.
RQ06_0402	6.4		The interpretation of these parameters is according to ISO/IEC 7816-3 [11] and to the first TBi (i > 2) after T = 15 in the ATR as defined in Table 6.7 in clause 6.3.3.
RQ06_0403	6.4	Rel-17 upwards	The coding for PPS2 is identical to that of the first TBi (i > 2) after T = 15. The value selected depends upon the features supported by the terminal. The content of PPS2 is coded the same way as the first TBi (i > 2) after T = 15.
RQ06_0501	6.5.1		The Cold Reset is performed according to of ISO/IEC 7816-3 [11] and the UICC shall enter the negotiable mode.

RQ Number	Clause	REL	Description
RQ06_0502	6.5.1		After a Cold Reset, the security status shall be reset.
RQ06_0503	6.5.2		The Warm Reset is performed according to of ISO/IEC 7816-3 [11] and the UICC shall enter either the negotiable or the specific mode. If the UICC enters the specific mode, it shall present the same protocol and interface parameters (Fi, Di) as in the session prior to the Warm Reset.
RQ06_0504	6.5.2		Respond with an identical ATR after every Warm Reset issued within the same session regardless of what application was active.
RQ06_0505	6.5.2		After a Warm Reset, the security status shall be reset.
RQ06_0506	6.5.3		A type 1 UICC shall always enter the negotiable mode after a Warm Reset.
RQ06_0507	6.5.3		A type 2 UICC shall always enter the specific mode after a Warm Reset.
RQ06_0601	6.6		The UICC shall support the Clock Stop procedure as defined in this clause. The clock stop mode is indicated in TAi (i > 2) in T = 15 in the ATR, see ISO/IEC 7816-3 [11].
RQ06_0602	6.6		If the UICC supports any other operating conditions even together with class A, clock stop mode shall be supported and the indication shall be set accordingly.
RQ06_0701	6.7		The bit/character duration and sampling time specified in ISO/IEC 7816-3 [11] are valid for all communications.
RQ06_0801	6.8		For the UICC the error detection and character repetition procedure is mandatory for all communications using T = 0.
RQ06_0901	6.9		For compatibility with existing terminals, UICCs that are used in applications where the supply voltage class indication is based on the STATUS response procedure (see clause 6.2.3) shall support this procedure in addition to the supply voltage class indication in the ATR as defined in the present document.
NOTE 1: Void.			
NOTE 2: This requirement is not tested as it is outside the scope of the present document.			

5.5 Transmission protocols

Reference: ETSI TS 102 221 [1], clause 7.

> NOTE: All references given in the requirement description are related to text or tables provided in ETSI TS 102 221 [1].

RQ Number	Clause	Description
RQ07_0001	7	The UICC shall support either T = 0 or T = 1 or both protocols. The protocols shall be supported as specified in the present document.
RQ07_0101	7.1	Both protocols T = 0 and T = 1 shall use the physical layer and character frame as defined in clause 7.2.1.
RQ07_0201	7.2.1	Before the transmission of a character, the I/O line shall be in state H. A character consists of 10 consecutive bits: 1 start bit in state L, 8 bits, which comprise the data byte and 1 even parity checking bit. The parity bit is set, in a way, that there is an even number of bits set to '1' including the parity bit in the character frame.
RQ07_0202	7.2.1	The receiver shall confirm the existence of a start bit before 0,7 etu (receiver time). Then the subsequent bits shall be received at intervals of (n + 0,5 ± 0,2) etu (n being the rank of the bit). The start bit is bit 1.
RQ07_0203	7.2.1	Within a character, the time from the leading edge of the start bit to the trailing edge of the nth bit is (n ± 0,2) etu.
RQ07_0204	7.2.1	The interval between the leading edges of the start bits of two consecutive characters comprises the character duration (10 ± 0,2) etu, plus a guardtime. Under error free transmission, during the guardtime both the UICC and the terminal shall be in reception mode (I/O line in state H), unless specified otherwise.
RQ07_0205	7.2.1	The data shall always be passed over the I/O line with the most significant byte first. The order of bits within a byte (that is, whether the least significant or most significant bit is transferred first) shall be specified in character TS returned in the answer to reset.
RQ07_0206	7.2.1.1	During the transmission state the transmitter shall drive the I/O line to the desired level using the low impedance driver, with the exception of the error indication period, e.g. character guardtime of T = 0.
RQ07_0207	7.2.1.1	After reception of the last character in a command or response sequence when the communication direction is changed, the entity that is in turn to transmit, terminal or UICC, shall drive the I/O line to the high level using the low impedance driver during the interface inactivity period During clock stop the terminal shall drive the I/O line to high state.
RQ07_0208	7.2.2.1	The minimum interval between the leading edge of the start bits of two consecutive characters shall be at least 12 etu.

RQ Number	Clause	Description
RQ07_0209	7.2.2.1	The maximum interval between the start leading edge of any character sent by the UICC and the start leading edge of the previous character sent either by the UICC or the terminal is the WWT. The value of the WWT shall not exceed $960 \times WI \times Fi/f$.
RQ07_0210	7.2.2.3	When the UICC has received the command header, a response containing a procedure byte or a status byte shall be sent to the terminal.
RQ07_0211	7.2.2.3	Both the terminal and the UICC shall be able to keep track of the direction of the data flow and who has the access to the I/O-line. A normal ending of a command shall be indicated by SW1 SW2 = '90 00'.
RQ07_0212	7.2.2.4	The error detection and correction procedure is mandatory for T = 0 protocol except for the terminal during the ATR-procedure.
RQ07_0213	7.2.2.4	The error is indicated on the I/O line, which is set to state L at $(10,5 \pm 0,2)$ etu after the leading edge of the start bit for the character. The I/O line shall be in state L for a maximum of 2 etu and a minimum of 1 etu. The transmitter shall check the I/O line for parity error indication at $(11 \pm 0,2)$ etu starting from the leading edge of the start bit, in the character being transmitted.
RQ07_0214	7.2.2.4	If the UICC or terminal as receiver detects a parity error in a character just received, it shall set the I/O line to state L at $(10,5 \pm 0,2)$ etu after the leading edge of the start bit for the character for a maximum of 2 etu to indicate the error to the sender (see Figure 7.2).
RQ07_0215	7.2.2.4	If the transmitter detects an error indication at $(11 \pm 0,2)$ etu starting from the leading edge of the start bit, in the character being transmitted, the character shall be sent again after a minimum delay of 2 etu.
RQ07_0216	7.2.3	The protocol may be initiated as follows: • after an ATR due to a cold reset; • after an ATR due to a warm reset; • after a successful PPS exchange.
RQ07_0217	7.2.3.1.1	The default value of the IFSC is 32 bytes another value may be indicated in TA3 of the ATR. The maximum value of the IFSD is 254 bytes.
RQ07_0218	7.2.3.1.2	CWI is used to calculate CWT and shall be in the range from 0 to 5. The value is set in bits b4 to b1 in TB3. CWT is defined as the maximum delay between the leading edges of two consecutive characters in the block.
RQ07_0219	7.2.3.1.5	The delay between the last character of a block received by the UICC and the first character of the next block sent from the UICC shall be in the interval: • BGT < delay < BWT.
RQ07_0220	7.2.3.1.7	The parameter TCi in the ATR is used to define which error detection code to use. LRC shall be used (b1 = 0). All other bits in TCi are RFU and shall be set to 0.
RQ07_0221	7.2.3.2	Table 7.3: Block frame structure. The prologue field is divided into the following three mandatory fields: • Node ADdress byte (NAD), 1 byte; • Protocol Control Byte (PCB), 1 byte; • Length (LEN), 1 byte. The prologue field and the epilogue field are mandatory. The Information field is optional.
RQ07_0222	7.2.3.2.1.1	Table 7.4: Node address byte. Since b8 and b4 are not used, they shall be coded as '0'. Below is the structure of the NAD-byte. In the first block sent from the terminal, a logical connection is set up based on the addresses in SAD and DAD. Subsequent blocks with an NAD containing the same pair of addresses are associated with the same logical connection. Only the default value SAD = DAD = 0 shall be supported. All other combinations are RFU.
RQ07_0223	7.2.3.2.1.2	In the T = 1 protocol the following three different types of blocks are supported: • Information block (I-block): which is used to transfer command and response APDUs; • Receive-ready block (R-block): which is used to transfer acknowledgements; • Supervisory block (S-block): which is used to send control information. Tables 7.5 to 7.9 present the coding of the PCB for each block-type, starting with the I-block.
RQ07_0224	7.2.3.2.1.3	The length byte codes the number of bytes in the Information field of the block. The number of bytes in the information field may vary in the range from 0 byte to 254 bytes, depending on the type of block.
RQ07_0225	7.2.3.2.1.3	The value LEN = '00' indicates that the information field is absent and the value 'FF' is RFU.
RQ07_0226	7.2.3.2.2	The epilogue field contains the Error Detection Code-byte (EDC), which transfers the error detection code of the transmitted block.
RQ07_0227	7.2.3.2.2	The LRC as defined in ISO/IEC 7816-3 [11] shall be used.

RQ Number	Clause	Description
RQ07_0228	7.2.3.2.3	Block notations: • I-block; • R-block; • S-block.
RQ07_0229	7.2.3.3	The first block sent to the UICC shall be either an I-block with N(S) = 0 or an S-block.
RQ07_0230	7.2.3.3	If a sender S sends I(Ns (S), 0), the block is acknowledged by the receiver R with an I(Nr (S), M). The contents of I(Nr (S)) indicate data transfer data and that the receiver is ready to receive the next block from the sender.
RQ07_0231	7.2.3.3	If a sender S sends an I(Ns(S), 1) it should be acknowledged by the receiver R with R(Nr(R)), where Ns(S) ≠ Nr(R), to indicate that the received block was correct and that the receiver is ready to receive the next block.
RQ07_0232	7.2.3.3	The UICC might need more than BWT to process the previously received block, an S(WTX request) is sent by the UICC. The terminal shall acknowledge with an S(WTX response). The new allocated time starts at the leading edge of the last character of the S(WTX response).
RQ07_0233	7.2.3.3	To change the value of IFSD, the terminal sends an S(IFS request). The request shall be acknowledged by the UICC with an S(IFS response) with the same INF. The new IFSD is assumed to be valid as long as no new S(IFS request) has been received by the UICC.
RQ07_0234	7.2.3.3	When the receiver has received the number of characters as indicated in the value of the LEN and EDC the receiver returns the right to send.
RQ07_0235	7.2.3.4	Resynchronization of the protocol may be attempted at three consecutive levels. If one level is unsuccessful, then the next level is tried. For the UICC, the three levels are: • Retransmission of blocks. • Use of S(RESYNCH response). • Without action by the terminal, the UICC becomes unresponsive.
RQ07_0236	7.2.3.4.1	But if the terminal fails to receive an error-free block, in the beginning of the protocol, a maximum of two more successive attempts to receive the block is allowed before resetting or a deactivation of the card takes place.
RQ07_0237	7.2.3.4.1	When the protocol has been initiated and the first block received by the UICC is invalid, the UICC responses with an R(0).
RQ07_0238	7.2.3.4.1	If the terminal fails to receive an error-free block during a card-session, a maximum of two further attempts is allowed before an S(RESYNCH request) is sent.
RQ07_0239	7.2.3.4.2	When an I-block has been sent and a BWT time-out occurs or an invalid block has been received (with the terminal), an R-block is sent, which request with its N(R) for the expected I-block with N(S) = N(R).
RQ07_0240	7.2.3.4.2	When an R-block was sent and an invalid block is received or BWT time-out, the R-block shall be resent.
RQ07_0241	7.2.3.4.2	When an S(…request) has been sent and either a BWT time-out occurs or the received response is not an S(…response), the S(…request) shall be resent (see note 2).
RQ07_0242	7.2.3.4.2	But if an S(…response) has been sent and either an invalid block is received or a BWT time-out, an R-block shall be sent (see note 1).
RQ07_0243	7.2.3.4.2	When the UICC sends an S(IFS request) and receives an invalid block, the S(IFS request) shall be resent maximum one extra time to receive an S(IFS response). After the second failure to receive an S(IFS response), the UICC shall stay in reception mode (see note 2).
RQ07_0244	7.2.3.5	The value of the M-bit in the PCB byte of the I-block controls the chaining function according to: • M = 0, the block is not chained to the next block; • M = 1, the block is chained to the next block, which shall be an I-block. When a receiver receives a more-data I-block, an R(N(R)) shall be sent. N(R) = N(S) of the expected I-block. At least one chained block should follow. A physical error, e.g. buffer overrun, in the UICC can cause an error in a chaining process. To abort a chain an S(ABORT request) can be sent by either the sender or the receiver. The request shall be answered with an S(ABORT response). When the S(ABORT response) has been received an R-block may be sent to either the terminal or the UICC to give back the right to send to either.
RQ07_0245	7.2.3.5.1	When the UICC is the receiver, the UICC shall accept a sequence of chained I-blocks sent from the terminal. The length of each block shall be equal to the value of IFSC except for the last block whose length can be any value in the range of 0 to IFSC.
RQ07_0246	7.2.3.5.1	When the UICC is the sender, all I-blocks of a chain shall have LEN ≤ IFSD bytes per block.
RQ07_0247	7.2.3.5.1	When the UICC is the receiver and receives block with LEN > IFSC, the block shall be rejected and acknowledged with an R-block with bits b1 to b4 in the PCB having a value of 2.
RQ07_0248	7.2.3.1.7	WTX shall be used to ask for more time to process a command.
RQ07_0249	7.2.3.2.1.4	Table 7.10: Information field.

RQ Number	Clause	Description
RQ07_0301	7.3.1.1.1	On receipt of the command header the UICC, under normal processing, shall return status to the Transport Layer of the terminal.
RQ07_0302	7.3.1.1.1	On receipt of the command header the UICC, under abnormal processing, shall return status to the Transport Layer of the terminal.
RQ07_0303	7.3.1.1.1	The UICC shall analyse the T = 0 command header to determine whether it is processing a case 1 command or a case 2 command requesting all data up to the maximum length available.
RQ07_0304	7.3.1.1.2	On receipt of the command header the UICC, under normal processing shall return data and status to the Transport Layer of the terminal.
RQ07_0305	7.3.1.1.2	On receipt of the command header the UICC, under abnormal processing shall return status only to the Transport Layer of the terminal.
RQ07_0306	7.3.1.1.3	On receipt of the command header, if the UICC: a) returns a procedure byte, the Transport Layer of the terminal shall send the data portion of the conditional body of the C-APDU to the UICC under the control of procedure bytes returned by the UICC; b) returns status, the Transport Layer of the terminal shall discontinue processing the command.
RQ07_0307	7.3.1.1.3	If the processing was not discontinued, the UICC shall return status following receipt of the conditional body of the C-APDU and completion of processing the command.
RQ07_0308	7.3.1.1.3	On receipt of status from the UICC, the Transport Layer of the terminal shall discontinue processing the command.
RQ07_0309	7.3.1.1.4	On receipt of the command header, if the UICC: a) returns a procedure byte, the Transport Layer of the terminal shall send the data portion of the conditional body of the C-APDU to the UICC under the control of procedure bytes returned by the UICC; b) returns status, the Transport Layer of the terminal shall discontinue processing of the command.
RQ07_0310	7.3.1.1.4	If processing was not discontinued, following receipt of the conditional body of the C-APDU, the UICC: a) under normal processing, shall return procedure bytes '61xx' to the Transport Layer of the terminal requesting the Transport Layer of the terminal to issue a GET RESPONSE command to retrieve the data from the UICC; b) under abnormal processing, shall return status only to the Transport Layer of the terminal.
RQ07_0311	7.3.1.1.4	On receipt of the procedure bytes or status returned in, if the UICC: a) returned '61xx' procedure bytes, the Transport Layer of the terminal shall send a GET RESPONSE command header to the UICC with P3 set to a value less than or equal to the value contained in the 'xx' byte of '61xx' procedure bytes; b) returned status that indicates a warning ('62xx' or '63xx'), or which is application related ('9xxx' but not '9000'), the Transport Layer of the terminal shall send a GET RESPONSE command with Le = '00'; c) returned status other than that described, the Transport Layer of the terminal shall discontinue processing of the command.
RQ07_0312	7.3.1.1.4	If processing was not discontinued, the GET RESPONSE command shall be processed according to the rules for case 2 commands.
RQ07_0313	7.3.1.1.5.1	If the UICC receives a case 2 command header and Le = '00' (with Luicc < 256 bytes) or Le > Luicc, under normal processing it shall return procedure bytes '6C Luicc' instructing the Transport Layer of the Terminal to immediately re-send the command header with P3 = Luicc.
RQ07_0314	7.3.1.1.5.1	If the UICC receives a case 2 command header and Le = '00' (with Luicc < 256 bytes) or Le > Luicc, under abnormal processing it shall return status indicating a warning or error condition (but not SW1 SW2 = '90 00').
RQ07_0315	7.3.1.1.5.1	If the UICC receives a case 2 command header and Le = '00' (with Luicc = 256 bytes) or Le = Luicc, under normal processing it shall return data of length Le (= Luicc) under the control of the INS, $\overline{INS}$, or '60' procedure bytes followed by the associated status or procedure bytes '61xx'.
RQ07_0316	7.3.1.1.5.1	If the UICC receives a case 2 command header and Le = '00' (with Luicc = 256 bytes) or Le = Luicc, under abnormal processing it shall return status indicating a warning or error condition (but not SW1 SW2 = '90 00').
RQ07_0317	7.3.1.1.5.1	If the UICC receives a case 2 command header and Le < Luicc, under normal processing it shall return data of length Le under the control of the INS, $\overline{INS}$ or '60' procedure bytes followed by procedure bytes '61xx'.
RQ07_0318	7.3.1.1.5.1	If the UICC receives a case 2 command header and Le < Luicc, under abnormal processing it shall return status indicating a warning or error condition (but not SW1 SW2 = '90 00').

RQ Number	Clause	Description

RQ07_0319	7.3.1.1.5.2	If the UICC receives a case 4 command, after processing the data sent with the C-APDU, it shall return:
		  a) procedure bytes '61 xx' instructing the transport layer of the terminal to issue a GET RESPONSE command with a maximum length of 'xx'; or
		  b) status indicating a warning or error condition (but not SW1 SW2 = '90 00').

RQ07_0320	7.3.2	If the UICC returns a status which indicates:
		  • a warning ('62XX' or '63XX');
		  • an application condition ('9XXX');
		  • or a successful execution of the command ('9000');
		  • then it shall also return data (if available) associated with the processing of the command. No data shall be returned with any other status.
		The contents of the INF of the I-block are mapped onto the R-APDU without change and returned to the application layer of the terminal.

RQ07_0321	7.3.2.1	The response received from the INF in the I-block is mapped unchanged to the R-APDU.
RQ07_0322	7.3.2.2	The R-APDU consists of either the INF of the I-block or the concatenation of the INF of successive I-blocks all received in the same response, which all shall be chained.
RQ07_0323	7.3.2.1 7.3.2.2	The INF of the I-block is mapped to the R-APDU without any changes.
RQ07_0324	7.3.2.3	The C-APDU shall be mapped to the INF of the I-Block and the received response from the INF in the I-Block shall be mapped to R-APDU according to Figure 7.12 in ETSI TS 102 221 [1].
RQ07_0325	7.3.2.4	The response consists of either the INF of an I-block received in the response or the concatenation of INF of successive I-blocks in response, which all shall be chained.
RQ07_0326	7.3.1.1	Normal status on completion of processing a command is indicated if the UICC returns status words '9000' to the transport layer of the terminal.
RQ07_0327	7.3.1.1	The status returned by the UICC shall relate to the most recently received command. Where a GET RESPONSE command is used to complete the processing of a case 2 or case 4 command, any status returned by the UICC after receipt of the GET RESPONSE command shall relate to GET RESPONSE command, not to the case 2 or case 4 command which it completes.
RQ07_0401	7.4	Both command and response messages may contain data. Thus, four cases shall be managed by the transmission protocols via the transport layer, as shown in Table 7.11 (Definition of cases for data in APDUs) (see note 3).
RQ07_0402	7.4	Each step in an Application Layer exchange consists of a command-response pair, where the Application Layer of the terminal sends a command to the UICC via the Transport Layer of the terminal, and the UICC processes it and sends a response to Application Layer of terminal using the Transport Layer of the UICC and the Transport Layer of the terminal (see note 3).
NOTE 1: This requirement is not tested as it is not possible to force the UICC to issue a WTX request.		
NOTE 2: This requirement shall not be tested as it is not possible to meet the test criteria.		
NOTE 3: This requirement are tested for each UICC commands described in clause 6.8.		

5.6 Application and file structure

Reference: ETSI TS 102 221 [1], clause 8.

RQ Number	Clause	REL	Description
RQ08_0101	8.1		All applications are uniquely identified by application identifiers that are obtained from EF$_{DIR}$. These application identifiers are used to select the application.
RQ08_0102	8.1		EF$_{DIR}$, EF$_{PL}$ and EF$_{ICCID}$ are all mandatory and reside directly under the Master File.
RQ08_0103	8.1		DF$_{TELECOM}$ is optional. If present it resides under the MF and use the reserved FID '7F 10'.
RQ08_0201	8.2.1		A Dedicated File (DF) allows for a functional grouping of files. It can be the parent of DFs and/or EFs. DFs are referenced by file identifiers (see note).
RQ08_0202	8.2.1		An Application DF (ADF) is a particular DF that contains all the DFs and EFs of an application (see note).
RQ08_0203	8.2.2.1		An EF with a transparent structure consists of a sequence of bytes. When reading or updating, the sequence of bytes to be acted upon is referenced by a relative address (offset), which indicates the start position (in bytes), and the number of bytes to be read or updated.
RQ08_0204	8.2.2.1		The first byte of a transparent EF has the relative address '00 00'. The data length is indicated in the SELECT response of the EF.

RQ Number	Clause	REL	Description
RQ08_0205	8.2.2.2		An EF with linear fixed structure consists of a sequence of records all having the same (fixed) length. The first record is record number 1. The length of a record as well as this value multiplied by the number of records are indicated in the SELECT response of the EF.
RQ08_0206	8.2.2.2		There are several methods to access records within an EF of this type: • absolutely using the record number; • when the record pointer is not set it shall be possible to perform an action on the first or the last record by using the NEXT or PREVIOUS mode; • when the record pointer is set it shall be possible to perform an action on this record, the next record (unless the record pointer is set to the last record) or the previous record (unless the record pointer is set to the first record); • by identifying a record using pattern search.
RQ08_0207	8.2.2.2		If an action following selection of a record is aborted (e.g. due to an unsuccessful execution of a command), then the record pointer shall remain set at the record at which it was set prior to the action.
RQ08_0208	8.2.2.2		It is not possible, at present, to have more than 254 records in a file of this type, and each record cannot be greater than 255 bytes.
RQ08_0209	8.2.2.3		When all records have been used for storage, then the next storage of data shall overwrite the oldest information. An EF with a cyclic structure consists of a fixed number of records with the same (fixed) length. In this file structure there is a link between the last record (n) and the first record. When the record pointer is set to the last record n, then the next record is record 1. Similarly, when the record pointer is set to record 1, then the previous record is record n. The last updated record containing the newest data is record number 1, and the oldest data is held in record number n.
RQ08_0210	8.2.2.3		For update operations only PREVIOUS record shall be used. For reading operations, the methods of addressing are Next, Previous, Current and Record Number.
RQ08_0211	8.2.2.3		If an action following selection of a record is aborted (e.g. due to an unsuccessful execution of a command), then the record pointer shall remain set at the record at which it was set prior to the action.
RQ08_0212	8.2.2.3		It is not possible, at present, to have more than 254 records in a file of this type, and each record cannot be greater than 254 bytes.
RQ08_0213	8.2.2.4		A BER-TLV structure EF is seen at the interface as a set of data objects accessible by commands for handling data objects. The type of data objects in the EF is BER-TLV. A tag can only appear once in an EF.
RQ08_0301	8.3		A File IDentifier (FID) is used to address or identify a specific file. The FID consists of two bytes and shall be coded in hexadecimal notation. FIDs shall be subject to the following conditions: • the FID shall be assigned at the time of creation of the file concerned; • no two files under the same parent shall have the same ID; • the immediate children of the current DF, the parent DF or the immediate children of the parent DF shall not have the same FID.
RQ08_0302	8.3		A path is a concatenation of FIDs. The path starts from MF or the current DF, and ends with the identifier of the file itself. The order of the FIDs is always in the direction from father to child.
RQ08_0303	8.3		A Short File Identifier (SFI) is coded as 5 bits valued in the range from 1 to 30. No two files under the same parent shall have the same SFI.
RQ08_0304	8.3		A DF name is coded on 1 to 16 bytes. The DF name is the AID and shall be unique within a card.
RQ08_0305	8.3		The reserved FID '7FFF' can be used as a FID for the ADF of the current active application on a given logical channel.
RQ08_0401	8.4		After the UICC activation and the Answer To Reset (ATR), the Master File (MF) is implicitly selected and becomes the current directory.
RQ08_0402	8.4.1		Selecting a DF, an ADF or the MF sets the current directory. After such a selection there is no current EF. Selecting an EF sets the current EF and the current directory remains the DF, ADF or MF, which is the parent of this EF. The current EF is always a child of the current directory.
RQ08_0403	8.4.1		Only the ADF of the current application can be selected by FID.
RQ08_0404	8.4.1		Any application specific command shall only be operable if it is specific to the Current Directory.

RQ Number	Clause	REL	Description
RQ08_0405	8.4.1		The following files may be selected, by File IDentifier (FID) referencing, from the last selected file: • any file which is an immediate child of the current directory; • any DF which is an immediate child of the parent of the current DF; • the parent of the current directory; • the current DF; • the ADF of the current active application; • the MF.
RQ08_0406	8.4.1		Table 8.1.
RQ08_0407	8.4.2		Table 8.2.
RQ08_0408	8.4.2		In the case of 'select by path from MF", the terminal may use the special file-id '7FFF' (see clause 8.3) at the beginning of the path. It indicates that the path begins at the ADF of the current active application on this logical channel. The following restrictions apply: • In the case of "select by path from MF", the terminal shall not use the file identity of the MF (i.e. '3F00') at the beginning of the path. • In the case of "select by path from current DF", the terminal shall not use the special file-ID '7FFF' at the beginning of the path. • In the case of "select by path from MF" or "select by path from current DF", the terminal shall not use the file identity of the current DF. • In the case of "select by path from MF" or "select by path from current DF", the terminal shall not use an empty data field.
RQ08_0409	8.4.3		Any EF within a DF can be implicitly selected without giving a SELECT command by applying one of the following commands at the DF or ADF level and giving a Short File Identifier (SFI) as a part of the command: • READ BINARY; • UPDATE BINARY; • READ RECORD; • UPDATE RECORD; • INCREASE; • SEARCH RECORD; • RETRIEVE DATA; or • SET DATA.
RQ08_0410	8.4.3		Support of SFI for a specific file is indicated if the FCP of the file contains a TLV DO with tag '88'. If the length is 0 it indicates that the file does not support referencing by SFI. If the TLV DO is not present in the FCP it indicates that the 5 least significant bits of the FID are used as SFI.
RQ08_0411	8.4.3		When the READ RECORD command contains a valid SFI, it sets the file as the current EF and resets the current record pointer. Subsequent records are read with the READ RECORD command without SFI.
RQ08_0412	8.4.3		When the UPDATE RECORD command contains a valid SFI, it sets the file as the current EF and resets the current record pointer. Subsequent records are updated with the UPDATE RECORD command without SFI.
RQ08_0413	8.4.3		When the INCREASE command contains a valid SFI, it sets the file as the current EF and resets the current record pointer. Subsequent records are increased with the INCREASE command without SFI.
RQ08_0414	8.4.3		When the SEARCH RECORD command contains a valid SFI, it sets the file as the current EF and resets the current record pointer. Subsequent records are searched with the SEARCH RECORD command without SFI.
RQ08_0415	8.4.3		When the RETRIEVE DATA command contains a valid SFI, it sets the file as the current EF and resets the current tag pointer. If segmentation over several APDUs is used to retrieve long structures, subsequent RETRIEVE DATA commands shall be used without SFI.
RQ08_0416	8.4.3		When the SET DATA command contains a valid SFI, it sets the file as the current EF and resets the current tag pointer. If segmentation over several APDUs is used to set long structures, subsequent SET DATA commands shall be used without SFI.
RQ08_0501	8.5		An application may be either explicitly or implicitly referenced. An application is activated by explicit selecting it with the AID. This sets the application's ADF as the current ADF. A current ADF can be referenced by FID with the implicit reference value '7FFF'.
RQ08_0502	8.5.1.1		A selectable application, represented in the UICC by the AID, shall be referenced by a DF name coded on 1 byte to 16 bytes. Each name shall be unique within a UICC. A DF name can be used in the SELECT command to select a selectable application.

RQ Number	Clause	REL	Description
RQ08_0503	8.5.1.2		If several applications starting with the same byte content in the AID are present on the card, the application selected is depending upon the value specified in P2. The interpretation of next, previous and first is to be specified by the application. The application that is selected using these parameters shall match the partial DF name provided in the SELECT command.
RQ08_0504	8.5.1.2		A selectable application can also be selected using a partial DF name (when P1 = '04') using the P2 parameters first and only occurrence, next, previous or last as defined in ISO/IEC 7816-4 [12]. In this case, the DF name is right truncated. If the "last" option is indicated in P2, the selected application is the last active application matching the partial DF name, even if it was during a previous card session. Selection of an application using a partial DF name is optional for mono application cards, but a multi-application card shall support it. The card shall indicate the support of this feature in the "card service data" and the "card capabilities" compact-TLV objects of the ATR historical bytes as specified in ISO/IEC 7816-4 [12]. If the UICC does not support selection with partial DF name, the UICC shall respond with an appropriate response (e.g. command parameters not supported '6A86').
RQ08_0505	8.5.2		The verification status of the application PIN is updated according to the application's session activation procedure, as specified by the application.
RQ08_0506	8.5.2		The application session is initiated when the terminal sends a SELECT command, with the application's AID, indicating in the command parameters that the application shall be activated. After having selected the application the UICC evaluates the security environment for this application. The SE is set according to the verification requirements for the application see Table 9.1. The verification status of the application PIN is updated according to the application's session activation procedure, as specified by the application. There can only be one active selectable application session on a given logical channel. Therefore, in order to activate a new selectable application session in parallel to another, a new logical channel shall be opened.
RQ08_0507	8.5.3		An application may have a session termination procedure to be performed before the application is terminated. This procedure shall be described in the application specification. Before this procedure is executed, the terminal may send to the UICC a specific STATUS command indicating that the termination procedure of the application will start. After this termination procedure has been executed the terminal and the application are in a well-defined state. The verification status of the application PIN is updated according to the application's session termination procedure, as specified by the application.
RQ08_0508	8.5.3		An application session is then terminated if any of the following events occur on each logical channel that the application session has been activated on: • Implicitly; if a SELECT by DF name command with an AID different from the currently active application is performed by the UICC, indicating in the command parameters that this new application shall be activated. • Explicitly; if the application is reselected using the SELECT by DF name command with the AID corresponding to the currently active application, and indicating in the command parameters that the application shall be closed; The current directory, current EF and current application are the same as after the ATR on logical channel zero. If the logical channel is closed. An application session is also terminated when the terminal performs a reset of the UICC.
RQ08_0509	8.5.4		An application is reset if the application is reselected using the SELECT by DF name command with the AID corresponding to the currently active application, indicating in the command parameters that the application shall be activated.
RQ08_0510	8.5.4		Reset initializes the application session activation procedure. The security status of the application is updated according to the application's session activation procedure, as specified by the application.
RQ08_0601	8.6		The following ADF is reserved for operational use (implicit FID for the current ADF): • '7F FF'.

RQ Number	Clause	REL	Description
RQ08_0602	8.6		The following Dedicated File IDs are reserved for operational use by UICC: • '7F10' (DF_TELECOM), '7F20'(DF_GSM), '7F21'(DF_DCS1800), '7F23'(DF_FP-CTS)'; • '7F11' (DF_CD); • '7F22' (DF_IS-41); • 7F24'(DF_TIA/EIA-136); • '7F25'(DF_TIA/EIA-95). • '7F2X', where X ranges from '6' to 'F'. For information: • '7F31' (DF_iDEN) is used in the iDEN specification. • '7F80' (DF_PDC) is used for the Japanese PDC specification. • '7F90' (DF_TETRA) is used for the TETRA specification. reserved under '7F10': • '5F50'(DF_GRAPHICS); '5F3A'(DF_PHONEBOOK); '5F3B' (DF_MULTIMEDIA), • '5F3C' (DF_MMSS).
RQ08_0603	8.6		The following Elementary File Ids shall be reserved for operational use by UICC: • '6F 2X', '6F 3X', '6F 4X' in '7F 10' and '7F 2X'; • '4F YX', where Y ranges from '2' to 'F' in all 2nd level DFs; • '2F05', '2F06' and '2F 1X' in the MF '3F 00'; Operational use ISO/IEC 7816-4 [12]: • '2F00' EF_DIR, '2F01' EF_ATR in the MF '3F00'. In all the above, X ranges, unless otherwise stated, from '0' to 'F'.
RQ08_0604	8.6		The following Dedicated File IDs shall be reserved for administrative use by UICC: • '7F 4X', '5F1X' and '5F2X'. This REQ shall not be tested as the administrative functionality is outside the scope of the present document.
RQ08_0605	8.6	Rel-9 to Rel-11	The following Elementary File Ids shall be reserved for administrative use by UICC: • '6F XX' in the DFs '7F 4X'; '4F XX' in the DFs '5F 1X', '5F2X'; • '6F 1X' in the DFs '7F 10', '7F 20', '7F 21'; • '4F 1X' in all 2nd level DFs; • '2F EX' in the MF '3F 00'. This REQ shall not be tested as the administrative functionality is outside the scope of the present document.
RQ08_0606	void		Void.
RQ08_0607	8.6	Rel-12 upwards	The following Elementary File IDs shall be reserved for administrative use by UICC: • '6F XX' in the DFs '7F 4X'; '4F XX' in the DFs '5F 1X', '5F2X'; • '6F 1X' in the DFs '7F 10', '7F 20', '7F 21'; • '4F 1X' in all 2nd level DFs; • '2F EX' in the MF '3F 00'.; '2F07' EF_ENV-CLASSES (specified in ETSI TS 102 671 [i.3]). This REQ shall not be tested as the administrative functionality is outside the scope of the present document.
RQ08_0701	8.7		A UICC which supports logical channels indicates it in the ATR, together with the assignment methods and maximum number of logical channels it supports. The UICC supporting logical channels shall support: at least one channel in addition to the basic channel; and logical channel number assignment by the UICC.
RQ08_0702	8.7		In order to be accessed from several logical channels at the same time, a given file (EF, DF, ADF) shall be indicated as "shareable" in its file descriptor.
RQ08_0703	8.7		A logical channel is opened by using a MANAGE CHANNEL command, in which the card assigns a channel number and returns it in the response.
RQ08_0704	8.7		The logical channel remains open until it is explicitly closed by a MANAGE CHANNEL command, or if the UICC is deactivated.
RQ08_0705	8.7		When the open function is performed from the basic channel, then after a successful open, the MF shall be implicitly selected as the current DF. When the open function is performed from a logical channel which is not the basic one, then after a successful open, the current DF of the logical channel from which the command was issued shall be selected as the current DF. In both cases, no current EF is selected in the new logical channel.
RQ08_0706	8.7		Once a new channel is opened, the current DF and the current EF are independent per each logical channel.
RQ08_0707	8.7		If the MANAGE CHANNEL command is performed on a DF or ADF that is not shareable, the card shall respond with an appropriate error message. The response shall indicate that the command is not allowed. No new channel is opened.

RQ Number	Clause	REL	Description
RQ08_0801	8.8		A file (EF, DF or ADF) can be accessed (selected, read, updated, deleted, deactivated, activated, increased, searched, etc.) concurrently by different applications: • by terminal applications through different logical channels; • by UICC-based applications such as remote file management and toolkit applications.
RQ08_0802	8.8		If a file is indicated as shareable, then applications may perform authorized operations on the file independently of whether or not the file is the current file of any other application. A consequence of the first rule is that if changes to a shareable file are permitted by the file's security conditions, then the file can be changed by one application while it is currently selected and being used by a second application. Descriptions of individual commands include the details of behaviour interaction in the shareable case.
RQ08_0803	8.8		If a file is indicated as not-shareable and is the current file of one application, then another application cannot perform any operation on the file regardless of authorization. A consequence of the second rule is that an application acquires exclusive access to a not-shareable file by successfully selecting it. Access by any other application, including an attempt to select the file, shall return the status word '6985' (Conditions of use not satisfied).
RQ08_0804	8.8		For the purpose of this clause, concurrent access to a file by two executing instances of a single application is considered to be accessed by two different applications.
RQ08_0901	8.9		Support of secure channels is optional for the terminal and the UICC. The support by the UICC is indicated in the ATR.
RQ08_0902	8.9		Logical channel 0 cannot be a secure channel for application to application secure channel.
RQ08_0903	8.9		A secure channel is created by first opening a logical channel, and then securing the channel using the MANAGE SECURE CHANNEL command.
RQ08_0904	8.9		A Platform to Platform APDU secure channel shall only be allowed on logical channel 0. Logical channel use shall be allowed within a Platform to Platform secure channel. All commands other than MANAGE SECURE CHANNEL, TRANSACT DATA and GET RESPONSE are secured by using a Platform to Platform secure channel, including proactive commands.
RQ08_0905	8.9		For the application-to-application secure channel, a UICC application shall be selected by one of the following mechanisms: • a UICC application becomes explicitly selected before the MANAGE SECURE CHANNEL - Establish SA - Master SA command; or • a UICC application becomes implicitly selected upon successful completion of a MANAGE SECURE CHANNEL - Establish SA - Master SA command.
RQ08_1001	8.10		If the UICC supports the UICC-CLF interface as defined in ETSI TS 102 613 [19], this interface shall be assigned to at most one LSE.
NOTE: This requirement shall not be tested as the SELECT function requires the file ID in order to select the files.				

5.7 Security features

Reference: ETSI TS 102 221 [1], clause 9.

RQ Number	Clause	Description
RQ09_0100	9.1	A multi-verification capable UICC conforming to the present document shall, from the security context point of view, support more than one level 1 user verification requirement (PIN). The specific key reference for the level 1 PIN is specified by each application in accordance with 9.3. A multi-verification capable UICC shall support the use of a universal PIN. A multi-verification capable UICC shall support access rules defined in security attributes indicated in tag '8B' (i.e. referenced to expanded format).
RQ09_0101	9.1	A single verification capable UICC shall, from the security context point of view, support one level 1 user verification requirement (PIN) as defined in Table 9.3.
RQ09_0102	9.1	The coding of the level 1 and level 2 user verification requirement shall be according to Table 9.3.
RQ09_0201	9.2	In order to perform commands other than SELECT and STATUS/GET RESPONSE, the security condition for the file shall be met.

RQ Number	Clause	Description
RQ09_0202	9.2	If the UICC cannot determine the access condition for the requested access to a file, then the requested access to this file shall not be granted and the card shall return an error status word '6982' (Security status not satisfied).
RQ09_0203	9.2.4	The content of each AM byte (in compact format) or AM_DO (in expanded format) shall be unique within the same access rule.
RQ09_0204	9.2.4	SC_DOs OR and relations shall contain at least two access conditions.
RQ09_0205	9.2.4	An access rule can be indicated in the FCP in one of the following ways: • Tag '8C' Security attributes: Compact format. • Tag 'AB' Security attributes: Expanded format. • Tag '8B' Security attributes: Referenced to expanded format.
RQ09_0206	9.2.5	The compact format is indicated by tag '8C' in the FCP. In the compact format an access rule consists of an AM byte and one or more SC bytes as defined in ISO/IEC 7816-4 [12].
RQ09_0207	9.2.5	The AM byte conveys two types of information. The interpretation of the AM byte itself (coded on b8), and the number of SC bytes following, this is equal to the number of bits set to '1' in bits b7 to b1 in the AM byte. If b8 in the AM byte is set to '0' the interpretation of bits b7 to b1 is as defined in ISO/IEC 7816-4 [12]. If b8 in the AM byte is set to '1' the usage of bits b7 to b4 is proprietary.
RQ09_0208	9.2.5	When multiple sets of an AM byte and one or more corresponding SC bytes are present in the value field they present an OR condition.
RQ09_0209	9.2.6	The structure of the security attribute in expanded format is as follows: <table><tr><td>Tag</td><td>Length</td><td>AM_DO tag</td><td>AM_DO</td><td>SC_DO tag</td><td>SC_DO</td><td>AM_DO tag</td><td>AM_DO</td><td>SC_DO tag</td><td>SC_DO</td></tr><tr><td>'AB'</td><td></td><td>See ISO/IEC 7816-4 [12]</td><td></td><td>See ISO/IEC 7816-4 [12]</td><td></td><td>See ISO/IEC 7816-4 [12]</td><td></td><td>See ISO/IEC 7816-4 [12]</td><td></td></tr></table>
RQ09_0210	9.2.7	The structure of the access rule referencing DO is as follows: <table><tr><td>Tag</td><td>Length</td><td>Value</td></tr><tr><td>'8B'</td><td>'03'</td><td>File ID, record number.</td></tr><tr><td>'8B'</td><td>'02' + n x '02'</td><td>File ID, SE IDn1, Record number X, SE IDn2, Record number Y, etc.</td></tr></table>
RQ09_0211	9.2.7	The option with the SE ID referencing shall be used in an application where several security environments exist.
RQ09_0301	9.3.1	A multi-application capability UICC shall support the use of SE00 and SE01 in order to allow application verification requirement to be replaced by the Universal PIN.
RQ09_0302	9.3.1	Table 9.1 of the ETSI TS 102 221 [1]: PIN mapping into SE.
RQ09_0303	9.3.1	The Security Environment when no application is active on a given logical channel (SE_No_Active_Application) is set as follows: all application PINs assigned on the UICC are considered as APPL_PIN; if at least one of the application PINs is disabled, the SE is SE#00 except for the case where the Universal PIN is enabled but the default usage qualifier (see clause 9.5.2) is set to "do not use" as defined in Table 9.1 (DUUP).
RQ09_0304	9.3.1	This Security Environment is valid under the MF and under its child DFs/EFs as long as no application is active.
RQ09_0305	9.3.1	The Security Environment when an application is active on a given logical channel (SE_Active_Application) is determined as in Table 9.1 with the APPL_PIN being the Application PIN of the active application. This Security Environment is valid under the ADF/MF and their child DFs/EFs.
RQ09_0306	9.3.2	A UICC supporting logical channels has the security environment set during the application activation and is valid for the logical channel on which the application is activated. The security environment remains the same on this logical channel until a new application is selected or the status of the PIN status DO has changed, i.e. the application or universal PIN status has been changed from disabled to enabled or vice versa.
RQ09_0307	9.3.2	The security environment of an application running on a logical channel is inherited when a new channel is opened from the non-basic channel. It is evaluated as after the ATR and set as the SE_No_Active_Application when the new channel is opened from the basic channel.
RQ09_0308	9.3.2	Any command issued on a logical channel affecting the SE setting only affects the SE on the channel where the command was issued and other channels with inherited security from this channel. The SE change on a channel with inherited security also changes the SE on the channel from which the security status was inherited.
RQ09_0401	9.4.1	The Universal PIN is a global access condition that has been assigned a key reference value '11'. This key reference value shall not be used for anything else but to indicate the Universal PIN.
RQ09_0402	9.4.1	A multi-application UICC according to the present document shall support the usage of a Universal PIN.

RQ Number	Clause	Description
RQ09_0403	9.4.1	If an application allows the use of the Universal PIN as replacement PIN, the Universal PIN shall be part of the access condition for this application on a multi-application UICC that complies to the present document.
RQ09_0404	9.4.1	In case of a single verification capable UICC the Universal PIN shall not be used.
RQ09_0405	9.4.1	The Universal PIN does not belong to any application, e.g. its verification status cannot be reset by the application activation or termination procedures.
RQ09_0406	9.4.2	The application PIN allows access to any file on the UICC where it is referenced in the access rules. i.e. this PIN has global access rights with respect to files.
RQ09_0407	9.4.2	All operations performed on a PIN (enable/disable/replace) covering several ADFs/DFs affects the applications where the PIN is used and the access rules where the corresponding key reference is used.
RQ09_0408	9.4.3	A local PIN is a PIN that uses a local key reference which is only valid within the ADF/DF where it is indicated in the FCP. It means that 2 ADFs can use the same local key reference number with two different values and two different status (enabled, disabled, verified, blocked), one for each ADF.
RQ09_0409	9.4.3	A local PIN shall be indicated in the FCP of child DFs. A local PIN is defined as level 2 in Table 9.2 and coded as defined in Table 9.3.
RQ09_0410	9.4.3	A local PIN referenced in an ADF or a DF, which is not $DF_{TELECOM}$, does not give access to $DF_{TELECOM}$.
RQ09_0411	9.4.3	An ADF shall use one application PIN and zero, one or more local PIN(s).
RQ09_0412	9.4.3	An ADF using at least one local PIN shall have one local PIN paired with application PIN. Table 9.3 indicates how application PINS and local PINs shall be paired (the global key reference '01' is paired with the local key reference '81', the global key reference '02' is paired with the local key reference '82', etc.).
RQ09_0413	9.4.3	If replacement of the application PIN by the Universal PIN is authorized, the ADF shall also use the Universal PIN.
RQ09_0414	9.4.3	A local PIN can be assigned to any DF. In this case, a key reference indicating a second application PIN as defined in Table 9.3 shall be used.
RQ09_0415	9.4.4	The PIN status of local PINs exists within the ADF/DF where it is specified.
RQ09_0416	9.4.4	The PIN status of the Universal PIN, application PINs, and local PIN is independent from the logical channels. This means that when a PIN is verified in one logical channel, it is also verified in all other channels. Also when a PIN is enabled in one logical channel it is enabled in all other channels.
RQ09_0501	9.5.1	Access condition mapping, using SC_DOs, is done using the expanded format with the entries coded as CRT values, i.e. tag 'A4' is used. The CRT is a constructed TLV DO containing a usage qualifier TLV DO (tag '95') and a Key reference TLV DO (tag '83').
RQ09_0502	9.5.1	The usage of a key reference shall be in accordance with the group definition in Table 9.2.
RQ09_0503	9.5.1	A key reference shall only be assigned for the purpose as it is defined in Table 9.3, e.g. a level 1 key reference is always to be used for an application or a set of applications that share the same access conditions. A level 2 key reference is only valid within the ADF/DF where it is indicated.
RQ09_0504	9.5.1	A single verification capable UICC (from the security context point of view) shall use key reference '01' as PIN and key reference '81' as PIN2.
RQ09_0505	9.5.1	A multi-verification capable UICC shall use key references in the range of '01' to '08' as PIN and may use key references in the range from '81' to '88' as PIN2.
RQ09_0506	9.5.1	Multiple applications (from the security context point of view) on a UICC shall not share any key references except for key reference '11', which is used as the universal PIN.
RQ09_0507	9.5.2	The status of a PIN that is used by an application for user verification is stored in the PS Template DO and shall be indicated in the FCP in a response to the SELECT or STATUS command issued at the application/DF level. The PIN status information is indicated in the FCP in the PS template DO using tag 'C6'. The PS template DO conveys two types of data, first the PS_DO indicated by tag '90' that indicates the status of the PIN(s) enabled/disabled. The PS_DO is followed by one or more key reference data objects indicated by tag '83'. Table 9.5: PS Template DO structure
RQ09_0508	9.5.2	The usage qualifier data object indicated by tag '95' is mandatory for the universal PIN and optional for other PINs. This usage qualifier indicates whether an enabled PIN needs to be verified for access. If there is no usage qualifier, or if the associated data object is empty, in front of a key reference, this indicates that this key reference does not support this feature, and it shall always be verified if enabled.
RQ09_0509	9.5.2	The content of the PS_DO usage qualifier is defined in Table 9.4. From Table 9.4, the value to be used for user PIN verification is '08'.

Table 9.5: PS Template DO structure (within RQ09_0507):

PS Template DO Tag	L	PS-DO Tag	L	V PS-byte(s)	Key-reference tag	L	V	Key-reference tag	L	V
'C6'		'90'			'83'	'01'		'83'	'01'	

RQ Number	Clause	Description
RQ09_0510	9.5.2	The default usage qualifier of the Universal PIN after the ATR is set to "do not use" if all application PINs are enabled or if at least one of the applications where the application PIN is disabled has the Universal PIN usage qualifier set to "do not use".

5.8 Structure of commands and responses

Reference: ETSI TS 102 221 [1], clause 10.

RQ Number	Clause	Description
RQ10_0101	10.1.1	The UICC shall support the CLA defined in Table 10.3 and Table 10.4a.
RQ10_0102	10.1.1	An application on a UICC supporting logical channels utilizing secure messaging shall either exclude the class byte from the signature calculation for the message verification or set it to a default value.
RQ10_0103	10.1.2	Table 10.5: Coding of Instruction Byte of the Commands for a telecom application.
RQ10_0104	10.1.6	If Le is present in the command APDU, the data field of the response APDU is expected to consist of Le bytes.
RQ10_0105	10.1	Table 10.2: Cases of C-APDUs.
RQ10_0201	10.2.1.1	Table 10.7: Status byte coding - normal processing.
RQ10_0202	10.2.1.2	Table 10.8: Status byte coding - postponed processing.
RQ10_0203	10.2.1.3	Table 10.9: Status byte coding - warnings.
RQ10_0204	10.2.1.4	Table 10.10: Status byte coding - execution errors.
RQ10_0205	10.2.1.5	Table 10.11: Status byte coding - checking errors.
RQ10_0206	10.2.1.5.1	Table 10.12: Status byte coding - functions in CLA not supported.
RQ10_0207	10.2.1.5.2	Table 10.13: Status byte coding - command not allowed.
RQ10_0208	10.2.1.5.3	Table 10.14: Status byte coding - wrong parameters.
RQ10_0209	10.2.1.6	Table 10.15: Status byte coding - application errors.
RQ10_0210	10.2.2	Table 10.16: Commands and status words.
RQ10_0301	10.3	The MANAGE CHANNEL command shall be used to open and close a logical channel. The channel number is assigned by the UICC.

5.9 Commands

Reference: ETSI TS 102 221 [1], clause 11.

RQ Number	Clause	REL	Description
RQ11_0101	11.1.1.1		SELECT Input: File ID, application ID, path or empty. • Output: If the selected file is the MF, a DF, or an ADF: File ID, total file size, PIN status and other application specific data. • If the selected file is an EF: File ID, file size, total file size, access conditions, invalidated/not invalidated indicator, structure of EF, length of the records in case of linear fixed structure or cyclic structure and reserved and maximum file size in case of BER-TLV structure.
RQ11_0102	11.1.1.2		Table 11.1: Coding of P1.
RQ11_0103	11.1.1.2		Table 11.2: Coding of P2.
RQ11_0104	11.1.1.2		If P1 = '00' and the data field is empty, then P2 shall be set to '0C' ('No data returned'). Then the MF is set as the Current Directory.
RQ11_0105	11.1.1.3		The value part of the FCP template data object consists of data objects, as shown in clause 11.1.1.3.1. It is mandatory for data objects to be provided in the order given in the description of each response.
RQ11_0106	11.1.1.3.1		Table 11.3: Response for MF, DF, or ADF with FCP template.
RQ11_0107	11.1.1.3.2		Table 11.4: Response for an EF with FCP template.
RQ11_0108	11.1.1.4.2		For a BER-TLV structure EF, the structural information shall include any administrative overhead that is required to store the TLV objects in the file.
RQ11_0109	11.1.1.4.2		If a reserved file size according to clause 11.1.1.4.6.6 is defined for the file, any memory space, that is allocated for the file accordingly, but is currently not used, shall be included in the total file size.
RQ11_0110	11.1.1.4.3		The record length shall be present if a record structured file (i.e. for linear fixed or cyclic files) is selected. In this case it indicates the length the records on 2 bytes. Most significant byte comes first in the value field.

RQ Number	Clause	REL	Description
RQ11_0111	11.1.1.4.3		The number of records shall be present if a record structured file (i.e. for linear fixed or cyclic files) is selected. In this case it indicates the number of records on 1 byte.
RQ11_0112	11.1.1.4.6.1		Table 11.6: UICC characteristics byte. If b1 is coded '0', the clock may be stopped only if the mandatory condition b3 = '1' (i.e. stop at high level) or b4 = '1' (i.e. stop at low level) is fulfilled. If all 3 bits are coded '0', then the clock shall not be stopped.
RQ11_0113	11.1.1.4.6.4		For BER-TLV structured EF this value shall be the maximum amount of bytes that is available in the EF for the next TLV object to be created. This shall include the space required for the tag and the length field. If a maximum file size is defined for the file, it shall not be exceeded, if an object is created with the indicated available size.
RQ11_0114	11.1.1.4.6.6		The value shall include administrative overhead (if any) that is required to store TLV objects, but not the structural information for the file itself.
RQ11_0115	11.1.1.4.6.7		The value shall include administrative overhead (if any) that is required to store TLV objects, but not the structural information for the file itself. Thus, the actually usable file size calculated according to clause 11.1.1.4.1 may be smaller.
RQ11_0116	11.1.1.4.6.8		If an application uses this mechanism [TERMINAL CAPABILITY] it shall be used as specified in the present document.
RQ11_0117	11.1.1.4.7.1		There shall be a SC byte present for each bit set to '1' in the AM byte except for b8.
RQ11_0118	11.1.1.4.8		If the length of the TLV is 1, the SFI value is indicated in the 5 most significant bits (bits b8 to b4) of the TLV value field. In this case, bits b3 to b1 shall be set to 0.
RQ11_0119	11.1.1.4.10		The usage qualifier DO indicates if the key reference data object (PIN) following it is to be used for verification or not. If this data object is present it shall precede the key reference data object it is associated with.
RQ11_0120	11.1.2.1		Input: None. Output: One of the following: • FCP of the current directory. • The DF name TLV Data Object of the currently selected application. • No data returned.
RQ11_0121	11.1.2.2		Table 11.8: Coding of P1.
RQ11_0122	11.1.2.2		Table 11.9: Coding of P2.
RQ11_0123	11.1.3.1		This function [READ BINARY] shall only be performed if the READ access condition for this EF is satisfied.
RQ11_0124	11.1.3.1		Input: Relative address and the length of the string. Output: String of bytes.
RQ11_0125	11.1.3.1		Table 11.10: Coding of P1.
RQ11_0126	11.1.4.1		This function [UPDATE BINARY] shall only be performed if the UPDATE access condition for this EF is satisfied.
RQ11_0127	11.1.4.1		Input: Relative address and the length of the string. String of bytes. Output: None.
RQ11_0128	11.1.4.2		Table 11.10: Coding of P1. Coding of parameter P1 and P2 are identical to the coding of P1 and P2 in the READ BINARY command.
RQ11_0129	11.1.5.1		This function shall only be performed if the READ access condition for this EF is satisfied.
RQ11_0130	11.1.5.1		The record pointer shall not be changed by an unsuccessful READ RECORD function.
RQ11_0131	11.1.5.1		Four modes are defined: CURRENT, ABSOLUTE, NEXT, PREVIOUS.
RQ11_0132	11.1.5.1		Input: Mode, record number (ABSOLUTE mode only) and the length of the record. Output: The record.
RQ11_0133	11.1.5.2		Table 11.11: Coding of P2.
RQ11_0134	11.1.6.1		This function (UPDATE RECORD) shall only be performed if the UPDATE access condition for this EF is satisfied. The record pointer shall not be changed by an unsuccessful UPDATE RECORD function.
RQ11_0135	11.1.6.1		Four modes are defined of which only PREVIOUS is allowed for cyclic files: CURRENT, ABSOLUTE, NEXT, PREVIOUS.
RQ11_0136	11.1.6.1		Input: Mode, record number (ABSOLUTE mode only) and the length of the record. The data used for updating the record. Output: None.
RQ11_0137	11.1.6.2		Coding of parameter P2 is identical to the coding of P2 in READ RECORD command.

RQ Number	Clause	REL	Description
RQ11_0138	11.1.6.1		If the mode is CURRENT, the record pointer shall not be affected.
RQ11_0139	11.1.6.1		If the mode is ABSOLUTE, the record given by the record number shall be updated.
RQ11_0140	11.1.6.1		If the mode is ABSOLUTE, the record pointer shall not be affected.
RQ11_0141	11.1.6.1		If the mode is NEXT, the record pointer shall be incremented before the function is performed and the pointed record shall be updated.
RQ11_0142	11.1.6.1		If the mode is NEXT, and the record pointer has not previously been set within the selected EF, the first record shall be updated and the record pointer shall be set to this record.
RQ11_0143	11.1.6.1		If the mode is NEXT, and the record pointer addresses the last record, the record pointer shall not change and no record shall be updated.
RQ11_0144	11.1.6.1		If the mode is PREVIOUS, the record pointer shall be decremented before the function shall be performed and the pointed record shall be updated.
RQ11_0145	11.1.6.1		If the mode is PREVIOUS, and the record pointer has not previously been set within the selected EF, the last record shall be updated and the record pointer set to this record.
RQ11_0146	11.1.6.1		If the mode is PREVIOUS, the EF is a linear fixed, and the record pointer addresses the first record, the record pointer shall not change and no record shall be updated.
RQ11_0147	11.1.6.1		If the mode is PREVIOUS and the EF is a cyclic file, the oldest record shall be updated, the record pointer set to this record, and this record shall become the first record.
RQ11_0148	11.1.9.1.1		The security status set as a result of the verification is valid regardless on which logical channel the verification is performed.
RQ11_0149	11.1.9.1.1		The verification process is subject to the following conditions being fulfilled: • PIN is not disabled; • PIN is not blocked.
RQ11_0150	11.1.9.1.1		If the access condition for a function to be performed on the last selected file is PIN, then a successful verification of the relevant PIN is required prior to the use of the function on this file unless the PIN is disabled.
RQ11_0151	11.1.9.1.1		If the PIN presented is correct, the number of remaining PIN attempts for that PIN shall be reset to its initial value 3.
RQ11_0152	11.1.9.1.1		If the PIN presented is false, the number of remaining PIN attempts for that PIN shall be decremented, regardless on which logical channel the VERIFY PIN command was issued. The UICC shall return SW1 SW2 = '63C2' after the first false PIN presentation. The UICC shall return SW1 SW2 = '63C1' after the second consecutive false PIN presentation, not necessarily in the same card session. After the third consecutive false PIN presentation, not necessarily in the same card session, the respective PIN shall be blocked and the UICC shall return SW1 SW2 = '63C0'. Any subsequent VERIFY PIN command applied to this blocked PIN shall then return SW1 SW2 = '6983'. The access condition can never be fulfilled until the UNBLOCK PIN function has been successfully performed on the respective PIN.
RQ11_0153	11.1.9.1.1		Input: Indication PIN. Output: None.
RQ11_0154	11.1.9.1.2		This function (VERIFY PIN) is performed whether or not the relevant PIN is disabled or blocked (e.g. by 3 consecutive wrong PIN presentations). Input: Empty. Output: None.
RQ11_0155	11.1.9.1.2		The VERIFY PIN command is sent to the UICC with parameter P2 indicating the PIN for which the retry counter value is to be retrieved with an empty data field. The number of retries, if any, is indicated in the response by SW1 SW2 = '63CX', where X indicates the number of retries left. A VERIFY PIN command with empty data field applied to a blocked PIN shall return SW1 SW2 = '63C0' or SW1 SW2 = '6983'.
RQ11_0156	11.1.9.1.3		Table 11.15: Coding of P2.
RQ11_0157	11.1.10.1		The Change PIN command is used to initiate the comparison of the verification data with the PIN, and then to conditionally replace the existing PIN with the new PIN sent to the UICC in the command. Once successfully changed on a logical channel, the new value is immediately available to all channels. Input: Indication of PIN, old PIN, new PIN. Output: None.

RQ Number	Clause	REL	Description
RQ11_0158	11.1.10.1		This function assigns a new value to the relevant PIN subject to the following conditions being fulfilled: • PIN is not disabled; • PIN is not blocked.
RQ11_0159	11.1.10.1		If the old PIN presented is correct, the number of remaining PIN attempts for that PIN shall be reset to its initial value 3 and the new value for the PIN becomes valid.
RQ11_0160	11.1.10.1		If the old PIN presented is false, the number of remaining PIN attempts for that PIN shall be decremented and the value of the PIN is unchanged. After 3 consecutive false PIN presentations, not necessarily in the same card session, the respective PIN shall be blocked and the access condition can never be fulfilled until the UNBLOCK PIN function has been performed successfully on the respective PIN.
RQ11_0161	11.1.11.1		The verification of the alternative global key reference shall be performed instead of the application PIN verification to get access to the application.
RQ11_0162	11.1.11.1		The UICC shall perform a validation of the SE after the successful execution of this command as the current SE may have changed and this shall affect the access to files.
RQ11_0163	11.1.11.1		The access rules for the application have to cater for the case that an alternative global key reference replaces the application PIN. It is the responsibility of the application to specify this.
RQ11_0164	11.1.11.1		The successful execution of this function has the effect that files protected by PIN are now accessible as if they were marked "ALWAYS", except in the case where the alternative global key reference is to be used as a replacement for the disabled PIN. In this case the access condition for files containing only a reference to the disabled PIN is the alternative global key reference. For files having more than one global key reference indicated in the access rules the access condition is "ALWAYS" after disabling on of the key references used in the access rules. Input: PIN. Output: None.
RQ11_0165	11.1.11.1		The function DISABLE PIN shall not be executed by the selected application when PIN is already disabled or blocked.
RQ11_0166	11.1.11.1		Every application has to specify whether this function is applicable to all PINs defined for the application.
RQ11_0167	11.1.11.1		If the PIN presented is correct, the number of remaining PIN attempts shall be reset to its initial value 3 and PIN shall be disabled.
RQ11_0168	11.1.11.1		If the PIN presented is false, the number of remaining PIN attempts shall be decremented and PIN remains enabled. After 3 consecutive false PIN presentations, not necessarily in the same card session, the PIN shall be blocked and the access condition can never be fulfilled until the UNBLOCK PIN function has been successfully performed on PIN.
RQ11_0169	11.1.11.1		Table 11.16: Coding of P1.
RQ11_0170	11.1.12.1		If an alternative global key reference has been used as a replacement for the application PIN, the usage of the alternative global key reference as a replacement shall be disabled upon enabling the PIN for which the alternative global key reference has been a replacement (setting the usage qualifier in the PS_DO template data object for the alternative global key reference to do not use = '00').
RQ11_0171	11.1.12.1		The UICC shall perform a validation of the SE after the successful execution of this command as the current SE may have changed and this shall affect the access to files.
RQ11_0172	11.1.12.1		The function ENABLE PIN shall not be executed by the selected application when PIN is already enabled or blocked.
RQ11_0173	11.1.12.1		Every application shall specify whether this function is applicable to all PINs defined for the application.
RQ11_0174	11.1.12.1		If the PIN presented is correct, the number of remaining PIN attempts shall be reset to its initial value 3 and PIN shall be enabled.
RQ11_0175	11.1.12.1		If the PIN presented is false, the number of remaining PIN attempts shall be decremented and PIN remains disabled. After 3 consecutive false PIN presentations, not necessarily in the same card session, PIN shall be blocked and may optionally be set to "enabled". Once blocked, the PIN can only be unblocked using the UNBLOCK PIN function. If the PIN is blocked and "disabled", the access condition shall remain granted. If the PIN is blocked and "enabled", the access condition can never be fulfilled until the UNBLOCK PIN function has been successfully performed on PIN.

RQ Number	Clause	REL	Description
RQ11_0176	11.1.12.1		The Enable PIN command is used to switch on the requirement to compare the PIN verification data with the PIN reference data. It is the reverse function of DISABLE PIN. Input: PIN. Output: None.
RQ11_0177	11.1.13.1.1		This function is used to reset the PIN retry counter to its initial value and then to conditionally set a new PIN value. This function may be performed whether or not the relevant PIN is blocked (e.g. by 3 consecutive wrong PIN presentations). This unblocking process is subject to the following condition being fulfilled: UNBLOCK PIN is not blocked. Input: Indication PIN, the UNBLOCK PIN and the new PIN. Output: None.
RQ11_0178	11.1.13.1.1		If the UNBLOCK PIN presented is correct, the value of the PIN, presented together with the UNBLOCK PIN, is assigned to that PIN, the number of remaining UNBLOCK PIN attempts for that UNBLOCK PIN is reset to its initial value 10 and the number of remaining PIN attempts for that PIN is reset to its initial value 3. After a successful unblocking attempt the PIN is enabled and the relevant access condition level is satisfied the new PIN value is available for all channels.
RQ11_0179	11.1.13.1.1		If the presented UNBLOCK PIN is false, the number of remaining UNBLOCK PIN attempts for that UNBLOCK PIN, regardless on which logical channel the UNBLOCK PIN command was issued, shall be decremented. The UICC shall return SW1 SW2 = '63C9', '63C8', …, '63C1' for up to the ninth consecutive false UNBLOCK PIN presentation, not necessarily in the same card session. After the tenth consecutive false UNBLOCK PIN presentation, not necessarily in the same card session, the respective UNBLOCK PIN shall be blocked and the UICC shall return SW1 SW2 = '63C0'.
RQ11_0180	11.1.13.1.1		Any subsequent UNBLOCK PIN command applied to this blocked UNBLOCK PIN shall then return SW1 SW2 = '6983'.
RQ11_0181	11.1.13.1.1		A false UNBLOCK PIN shall have no effect on the status of the respective PIN itself.
RQ11_0182	11.1.13.1.2		The UNBLOCK PIN command with empty data field is used to retrieve the UNBLOCK PIN retry counter from the UICC. This function may be performed whether or not the relevant PIN is blocked (e.g. by 3 consecutive wrong PIN presentations) and whether or not the UNBLOCK PIN is blocked. Input: Empty. Output: None.
RQ11_0183	11.1.13.1.2		The UNBLOCK PIN command is sent to the UICC with parameter P2 indicating the PIN for which the UNBLOCK PIN retry counter value is to be retrieved with an empty data field. The number of retries, if any, is indicated in the response by SW1 SW2 ='63CX', where X indicates the number of retries left.
RQ11_0184	11.1.13.1.2		An UNBLOCK PIN command with empty data field applied to a blocked UNBLOCK PIN shall return SW1 SW2 = '63C0' or SW1 SW2 = '6983'.
RQ11_0185	11.1.14.1		This function initiates a reversible deactivation of an EF. After a DEACTIVATE FILE function the respective flag in the file LCSI_DO shall be changed accordingly. Input: File ID, path or empty. Output: None.
RQ11_0186	11.1.14.1		This function shall only be performed if the DEACTIVATE FILE access condition for the EF is satisfied.
RQ11_0187	11.1.14.1		In case of successful execution of the command, the EF on which the command was applied becomes the current EF.
RQ11_0188	11.1.14.1		After an unsuccessful execution, the current EF and current DF shall remain the same as prior to the execution.
RQ11_0189	11.1.14.1		A deactivated file shall no longer be available within the selected application for any function except for the SELECT and the ACTIVATE FILE functions.
RQ11_0190	11.1.14.2		Table 11.17: Coding of P1.
RQ11_0191	11.1.15.1		This function reactivates a deactivated EF. After an ACTIVATE FILE function the respective flag in the file LCSI_DO shall be changed accordingly. Input: File ID, path or empty. Output: None.
RQ11_0192	11.1.15.1		In case of successful execution of the command, the EF on which the command was applied becomes the current EF.
RQ11_0193	11.1.15.1		After an unsuccessful execution, the current EF and current DF shall remain the same as prior the execution.

RQ Number	Clause	REL	Description
RQ11_0194	11.1.15.1		This function shall only be performed if the ACTIVATE FILE access condition for the EF is satisfied.
RQ11_0195	11.1.15.2		P1: As specified for the DEACTIVATE command (see clause 11.1.14.2).
RQ11_0196	11.1.16.1		An appropriate application shall be selected in the UICC before issuing this command.
RQ11_0197	11.1.16.1		The EVEN instruction code can be used when the challenge data provided by the terminal is not TLV encapsulated data and the length of the challenge data provided by the terminal is less than 256 bytes. Input: Challenge data. Output: Authentication and ciphering data.
RQ11_0198	11.1.16.1		The support of the ODD instruction code is application specific. It is used when challenge and response data is TLV encapsulated regardless of their length. Terminals and UICCs that do not support applications requiring TLV format do not have to support AUTHENTICATE command with ODD instruction code. The authentication data and the authentication response data are encapsulated in BER-TLV objects structured as defined in clause 11.3 using tag '73' for BER-TLV structured data and tag '53' otherwise.
RQ11_0199	11.1.16.1		The first AUTHENTICATE APDU is sent with P1 indicating "First block of authentication data". Following AUTHENTICATE APDUs are sent with P1 indicating "Next block of authentication data". As long as the UICC has not received all segments of the authentication data it shall answer with SW1 SW2 '63 F1'. When all segments of the authentication data are received, the UICC answer with SW1 SW2 '62 F3'. Input: Authentication data encapsulated in a BER-TLV data object. Output: None.
RQ11_01100	11.1.16.1		The authentication response data is retrieved from the UICC using one or more separate AUTHENTICATE APDUs with the same chaining mechanism as for the authentication data. The UICC performs the segmentation of the data, and the terminal the concatenation of the response data. The first AUTHENTICATE APDU is sent with P1 indicating "First block of authentication response data". When the UICC receives this first AUTHENTICATE APDU with P1 indicating "First block of authentication response data", it shall perform the command and calculate the authentication response. Following AUTHENTICATE APDUs are sent with P1 indicating "Next block of authentication response data". As long as the UICC has not sent all segments of the authentication response data it shall answer with SW1 SW2 '62 F1'. When all segments of the authentication response data are sent, the UICC shall answer with SW1 SW2 '90 00'. Input: None. Output: Authentication response data encapsulated in a BER-TLV data object.
RQ11_01101	11.1.16.1		The terminal may issue an AUTHENTICATE APDU indicating "retransmit previous block of authentication data" or "retransmit previous block of authentication response data".
RQ11_01102	11.1.16.2		Table 11.18: Coding of P2.
RQ11_01103	11.1.16.2		Table 11.18a: Coding of P1.
RQ11_01104	11.1.17.1		This command opens and closes logical channels. The open function opens a new logical channel other than the basic channel '0'. Input: None. Output: None; or the channel number of the logical channel assigned by the UICC.
RQ11_01105	11.1.17.1		The UICC shall support channel number assignment by the UICC.
RQ11_01106	11.1.17.1		If the TERMINAL CAPABILITY command with the tag '81' (Extended logical channels terminal support) is not sent by the terminal then the UICC shall not open more than 3 logical channels in addition to the basic channel.
RQ11_01107	11.1.17.1		The UICC shall first assign channel numbers in the range 1 to 3 before assigning the extended logical channels number (i.e. from 4 to 19).
RQ11_01108	11.1.17.1		The close function explicitly closes a logical channel. When a channel has been successfully closed, the channel can be reassigned. The basic logical channel '0' is always available and cannot be closed.
RQ11_01109	11.1.17.2		Table 11.20: Coding of P2.

RQ Number	Clause	REL	Description
RQ11_01110	11.1.18.1		This function is used to create a random number. The generated random number is associated with the logical channel specified in the GET CHALLENGE command CLA. The maximum length of the random number returned by the UICC is specified by the Le parameter in the command parameters data. Input: None. Output: Random number.
RQ11_01111	11.1.18.1		The validity of the random number is at least for the next command, on the same logical channel, following the GET CHALLENGE command if not specified differently by the application. The random number referenced is always the latest generated on the logical channel specified in the CLA by the command referencing the usage of a generated random number.
RQ11_01112	11.1.19.1		This function is used to inform the UICC about terminal capability. Input: Terminal capabilities. Output: None.
RQ11_01113	11.1.19.2.1		Terminals supporting applications requiring more power than the minimum power supply as defined in Table 6.4 shall issue the TERMINAL CAPABILITY command with a terminal power supply TLV object during a new card session before the first application selection
RQ11_01114	11.1.19.2.2		Terminals supporting more logical channels than the standard logical channels shall indicate it to the UICC by issuing the TERMINAL CAPABILITY command with an extended logical channels terminal support TLV object during a new card session before the first application selection. a UICC implemented according to the present document shall interpret any extended logical channels terminal support TLV as if it was sent with zero length.
RQ11_01115	11.1.19.2.3		UICC implemented according to the present document shall ignore any additional bytes in the TLV.
RQ11_01116	11.1.19.2.3		The additional interfaces support is indicated by tag '82' within the constructed TLV object.
RQ11_01117	11.1.20.1		This command can chain successive blocks of command data, if present, with a maximum size of 255 bytes each, required for one operation using P2 to indicate the first/next block. The terminal performs the segmentation of the data, and the UICC the concatenation of the data. The first MANAGE SECURE CHANNEL APDU is sent with P2 indicating "First block of command data". Following MANAGE SECURE CHANNEL APDUs are sent with P2 indicating "Next block of command data". As long as the UICC has not received all segments of the command data it shall answer with SW1 SW2 '63 F1'. When all segments of the command data are received and if the command produces a response, the UICC shall answer with SW1 SW2 '62 F3'.
RQ11_01118	11.1.20.1		The command response data is retrieved from the UICC using one or more separate MANAGE SECURE CHANNEL APDUs with the same chaining mechanism as for the command data. The UICC performs the segmentation of the data, and the terminal the concatenation of the response data. The first MANAGE SECURE CHANNEL APDU is sent with P2 indicating "First block of response data". Following MANAGE SECURE CHANNEL APDUs are sent with P2 indicating "Next block of response data". As long as the UICC has not sent all segments of the response data it shall answer with SW1 SW2 '62 F1'. When all segments of the response data are sent, the UICC shall answer with SW1 SW2 '90 00'.
RQ11_01119	11.1.20.2.1		If this command is sent via any existing secure channel, then the endpoints returned shall be the end points that are currently available at the UICC end of this secure channel.
RQ11_01120	11.1.20.2.1		If there are endpoints available on the UICC, then an "Endpoint information" TLV shall be present for each available endpoint.
RQ11_01121	11.1.20.2.1		If the remaining Response is greater than 255 Bytes then the next 255 bytes shall be returned and the SW1 SW2 shall be set to "More data available".
RQ11_01122	11.1.20.2.1		If the remaining Response is less than or equal to 255 bytes then all of the bytes shall be returned and SW1 SW2 shall be set to "normal ending of command".
RQ11_01123	11.1.20.2.2		The UICC shall return the following data encapsulated in tag '73'.
RQ11_01124	11.1.20.2.2		Coding of UICC_ID: This shall be a unique value that identifies that UICC. This shall be the ICCID as defined for EF$_{ICCID}$.
RQ11_01125	11.1.20.2.2		If the Endpoint Secure channel capability indicates support of TLS then the endpoint port number shall be the hex coded value of the TCP port to be used else this shall be set to 'FFFF'.

RQ Number	Clause	REL	Description
RQ11_01126	11.1.20.2.2		Coding of the Endpoint identifier value: The endpoint identifier shall be the AID value of the application that hosts the endpoint. See ETSI TS 101 220 [24].
RQ11_01127	11.1.20.3.2		Coding of Terminal_ID: This shall be a unique value that identifies that terminal. This may be the IMEI as defined in ETSI TS 124 008 [25].
RQ11_01128	11.1.20.3.2		This shall be a unique value that identifies that UICC. This shall be the ICCID as defined for EF$_{ICCID}$.
RQ11_01129	11.1.20.3.2		This shall be the AID of the application in that UICC that hosts the UICC endpoint. See ETSI TS 101 220 [24].
RQ11_01130	11.1.20.5.2		Coding of Algorithm and Integrity BER-TLV, tag '89': Only one bit shall be indicated.
RQ11_01131	11.1.20.5.2		The data container size set by the terminal shall be less or equal to the value indicated in the BER-TLV object returned with Tag '82' returned by the Retrieve UICC Endpoints command.
RQ11_01132	11.1.20.5.2		In the TRANSACT DATA command the session number shall be associated with the Endpoint data container size for the secure channel started with this command.
RQ11_01133	11.1.20.6.1		Failure to terminate one or more Security Association(s) shall be indicated with an error status word.
RQ11_01134	11.1.20.6.1		In case the MAC provided by the terminal is incorrect, the UICC shall indicate the error by returning SW1 SW2 '98 62'.
RQ11_01135	11.1.20.6.1		Attempts to terminate a non-existing Security Association shall be indicated with a success status word.
RQ11_01136	11.1.20.6.2		The command data shall contain either a Master_SA TLV only or a list of Connection_SA TLVs associated to the same MSA.
RQ11_01137	11.1.21.1		If the UICC successfully receives the last block then SW1 SW2 shall indicate 'Data transaction ongoing'.
RQ11_01138	11.1.21.1		If the UICC has been requested to send a block to the terminal, b3 in P1 is set to '0', and this is not the last block to be retrieved to the terminal, then SW1 SW2 shall indicate 'More data blocks pending'.
RQ11_01139	11.1.21.1		If the UICC indicates a proactive command the terminal can send a command like STATUS that allows SW1 SW2 to be '91 XX' in a different session. The interrupted transaction is resumed afterwards.
RQ11_01140	11.1.21.2		Table 11.30: Coding of P1 - Session control.
RQ11_01141	11.1.21.2		Table 11.33: SW2 of '92 XX'.
RQ11_01142	11.1.21.2		Response data shall be encoded within TLV objects with the same tag and format as the one used in the data in the TRANSACT DATA APDU command.
RQ11_01143	11.1.7.1		This function (SEARCH RECORD) shall only be performed if the READ access condition for this EF is satisfied.
RQ11_01144	11.1.7.1		The search starts: • either at the first byte of the record(s) (simple search); or • from a given offset in the record(s); or from the first occurrence of a given byte in the record(s).
RQ11_01145	11.1.7.1		If one or more matches are found the record pointer shall be set to the first record where the search pattern was found.
RQ11_01146	11.1.7.1		Input: Search mode (simple/enhanced), Offset, Pattern. Output: Either none, if Le is empty or no matches where found; or at most the number of record(s) number(s) defined in Le.
RQ11_01147	11.1.7.2		Table 11.12: Coding of P2.
RQ11_01148	11.1.7.2		Table 11.13: Coding of the first byte of the search indication for enhanced search mode.
RQ11_01149	11.1.8.1		This function can only be used if this EF has an INCREASE access condition assigned and this condition is fulfilled. The INCREASE access condition is indicated in the access rules using AM_DO tag '84'. Tag '84' indicates that the INS code for the INCREASE command is indicated as the value in the TLV object (instruction code '32'). The INCREASE command can only be used on files that refer to an access rule where this INS code is indicated as part of the rule.
RQ11_01150	11.1.8.1		The function does not perform the increase if the result would exceed the maximum value of the record (represented by all bytes set to 'FF').
RQ11_01151	11.1.8.1		Input: Value to be added. Output: Value of the increased record. Value which has been added.
RQ11_01152	11.1.8.2		Table 11.14: Coding of P1.

RQ Number	Clause	REL	Description
RQ11_01153	11.1.25.1	Rel-17 upwards	A MANAGE LSI (reset LSE) APDU shall result in the selection and the resetting of the LSE on the indicated LSI and shall be equivalent to a warm reset for a UICC not supporting LSEs. The LSI may or may not have been selected already before the MANAGE LSI (reset LSE) command is received. If T = 1 is supported, the selection of an LSI may alternatively be performed using the NAD byte, see ETSI TS 102 221 [1], clause 7.2.3.2.1.1.
RQ11_01154	11.1.25.1	Rel-17 upwards	Unless the LSI configuration is pre-agreed, MANAGE LSI (configure LSIs) shall be used to setup the LSI configuration before sending a command on an LSI different from 0 or a different MANAGE LSI command.
RQ11_01155	11.1.25.1	Rel-17 upwards	See ETSI TS 102 221 [1], clause 11.1.25.2 command data for configure LSIs if T=1 NAD selection is supported, then: Tag for LSI options supported by the terminal (tag '81') with configuration "1: LSI indication via NAD byte supported / used"
RQ11_01156	11.1.25.1	Rel-17 upwards	See ETSI TS 102 221 [1], clause 11.1.25.2 command data for configure LSIs if T=1 NAD selection is supported, then: Tag for LSI options supported by the terminal (tag '81') with configuration "0: LSI indication via NAD byte not supported / not used"
RQ11_01157	11.1.25.1	Rel-17 upwards	See ETSI TS 102 221 [1], clause 11.1.25.2 command data for configure LSIs if the TLV for the LSI options is absent in the command or in the response, it shall be interpreted as all bits being set to 0.
RQ11_01158	11.1.25.1	Rel-17 upwards	The highest LSI in the response shall not be greater than the highest LSI value proposed by the terminal in the command.
RQ11_01159	11.1.25.1	Rel-17 upwards	If both the terminal and the UICC support LSI indication via NAD byte, this option shall be used in the card session.
RQ11_01160	11.1.25.1	Rel-17 upwards	The terminal can retrieve the LSE that is currently assigned to handle the communication over the UICC-CLF interface using the MANAGE LSI (retrieve SWP) command.
RQ11_01161	11.1.25.2	Rel-17 upwards	For retrieve SWP, the response shall contain the LSI of the LSE that has the UICC-CLF interface assigned.
RQ11_01162	11.1.25.2	Rel-17 upwards	For reset LSE and assign SWP, the response data shall contain the ATR of the LSE.
RQ11_01163	11.1.25.2	Rel-17 upwards	For reset LSE and assign SWP, if the NAD byte is used to select the LSI, the command shall be sent on the LSI indicated by P2.
RQ11_0201	11.2.1.1		This function is used by the terminal to transmit its CAT capabilities to the applications present on the UICC. Input: Terminal profile, the structure of the data is defined in ETSI TS 102 223 [5]. Output: None.
RQ11_0202	11.2.2.1		This function is used to transfer CAT information from the UE to the UICC. Input: The structure of the data is defined in ETSI TS 102 223 [5]. Output: The structure of the data is defined in ETSI TS 102 223 [5].
RQ11_0203	11.2.3.1		This function is used to transfer a proactive command from the UICC to the terminal (e.g. from a CAT application). Input: None. Output: Data string containing a proactive command for the terminal (e.g. a CAT command).
RQ11_0204	11.2.4.1		This function is used to transfer from the terminal to the UICC the response to a previously fetched proactive command (e.g. a CAT command). Input: • Data string containing the response. Output: • None.
RQ11_0301	11.3		Tags of the context-specific class, coded on one to three bytes, shall be used for the TLV objects, i.e. tags shall be taken out of the following ranges: • '80' to '9E' and '9F 1F' to '9F 7F' and '9F 81 XX' to '9F FF XX' with 'XX' from '00' to 7F' for primitive objects; and • 'A0' to 'BE' and 'BF 1F' to 'BF 7F' and 'BF 81 XX' to 'BF FF XX' with 'XX' from '00' to 7F' for constructed objects.
RQ11_0302	11.3		Tags contained in the value part of a constructed BER-TLV object shall not be included in the tag list. Tag '5C' shall not be considered as an allocated tag.
RQ11_0303	11.3		Even though the files are referred to as BER TLV structured files and the UICC internal encoding may be according to the BER, the length coding of the TLV objects used with the commands in this clause shall use the DER encoding defined here.

RQ Number	Clause	REL	Description
RQ11_0304	11.3		The UICC shall answer with "more data available" or "more data expected" on any but the last block.
RQ11_0305	11.3		Any interleaved command that modifies the current EF or the current tag pointer shall abort an uncompleted data object transfer.
RQ11_0306	11.3.1		A successful APDU indicating "First Block" sets the current tag pointer and shall abort an uncompleted data object transfer. This applies for all tags defined in this clause, even if the new tag is the same as the previous one.
RQ11_0307	11.3.1		The current tag pointer and its associated context (e.g. current offset in the data object) shall not be changed by an APDU resulting in an error status word.
RQ11_0308	11.3.1		For the second and all following blocks the terminal may issue a SET or RETRIEVE DATA command indicating "retransmit previous block". The setting "retransmit previous block" is only allowed if the previous command did not result in an error status word.
RQ11_0309	11.3.1.1		This function shall only be performed if the READ access condition for this EF is satisfied.
RQ11_0310	11.3.1.1		If the requested TLV object does not exist in the EF, the UICC shall answer with "referenced data not found".
RQ11_0311	11.3.1.1		If a current tag pointer associated with a SET DATA operation processed by another application points to the requested TLV object, the UICC shall answer with "conditions of use not satisfied".
RQ11_0312	11.3.1.1		If the tag of the object is not in the range specified in the present document, the UICC shall answer with "incorrect parameters in the data field".
RQ11_0313	11.3.1.1		The status word sent by the card after a successful RETRIEVE DATA command is '62F1' or '62F2' if more data is available.
RQ11_0314	11.3.1.1		Once a data object was fully retrieved, any subsequent RETRIEVE DATA command on this data object with parameter P2 set to "Next Block" shall be rejected with the status word '6A86'.
RQ11_0315	11.3.1.1		The tags of not yet completed SET DATA operations processed by other applications shall also be included in the list.
RQ11_0316	11.3.1.2		Table 11.35: Coding of P2 => check command and response data.
RQ11_0317	11.3.2.1		If P2 indicates "first block", this command creates a new data object in the current BER-TLV structure EF or replaces an already existing data object with the same tag or deletes a data object.
RQ11_0318	11.3.2.1		Space that is freed by such an operation shall be available for new objects.
RQ11_0319	11.3.2.1		This command shall only be performed if the UPDATE access condition for this EF is satisfied.
RQ11_0320	11.3.2.1		If the length requested is not available, then the card shall return '6A84'.
RQ11_0321	11.3.2.1		If a current tag pointer associated with a SET or RETRIEVE DATA operation processed by another application points to the requested TLV object, the UICC shall answer with "conditions of use not satisfied".
RQ11_0322	11.3.2.1		When a SET DATA command is successfully executed, the UICC shall return '9000' if it had received all expected data.
RQ11_0323	11.3.2.1		It shall return '63F1' or '63F2' if data as indicated in the length of the TLV object is still missing.
RQ11_0324	11.3.2.1		A data object transfer is successfully completed when the number of bytes received matches the length indicated for the data object. After that, any subsequent SET DATA command on this data object with parameter P2 set to "Next block" shall be rejected with the status word '6A86'.
RQ11_0325	11.3.2.1		When a data object transfer is aborted, the data object with this tag shall no longer be available in the EF.
RQ11_0326	11.3.2.1		If the data sent with this command is greater than the length of the value field of the BER-TLV data object, the card shall return status word '6700', the data object is not updated and the data object transfer is not completed.
RQ11_0327	11.3.2.1		If the tag of the object is not in the range specified in the present document, the UICC shall answer with "incorrect parameters in the data field".
RQ11_0328	11.3.2.1		If in a SET DATA command with P2 indicating "First Block", the data field only contains a tag field, i.e. the length and the value field of the BER-TLV data object are missing, the data object specified by the tag shall be deleted if present in the current context. Deleting a non-existent object shall not be considered as an error.
RQ11_0329	11.3.2.1		If the data field contains a tag field and a length field with zero value, the object is not deleted, but a zero length object is created.

5.10 Transmission oriented commands

Reference: ETSI TS 102 600 [13], clause 12.

RQ Number	Clause	Description
RQ12_0101	12.1.1.1	If the command GET RESPONSE is executed, it is required that it is executed immediately after the command it is related to (no other command shall come between the command/response pair and the command GET RESPONSE).
RQ12_0102	12.1.1.1	If the sequence is not respected, the selected application shall send the status information "technical problem, no precise diagnosis" as a reaction to the GET RESPONSE.
RQ12_0103	12.1.1.2	Since the MF is implicitly selected after UICC activation, GET RESPONSE is also allowed as the first command after activation for only GSM terminal.

5.11 Application independent files

Reference: ETSI TS 102 221 [1], clause 13.

RQ Number	Clause	Description
RQ13_0101	13.1	Each existing EF shall be selectable under the MF using the identifier given in the table for that EF.
RQ13_0102	13.1	All mandatory EFs shall exist on the UICC.
RQ13_0201	13.2	The identifier of the EF shall be that given in the table for that EF.
RQ13_0301	13.3	The type and structure of the EF shall be that given in the table for that EF.
RQ13_0401	13.4	The file size shall be at least that given in the table for that EF.
RQ13_0501	13.5.1	The short file identifier shall exist if it is mandatory in the table for that EF.
RQ13_0502	13.5.2	The access conditions shall be those given in the table for that EF. EF_{ARR} (Access Rule Reference).

5.12 Application independent protocol

Reference: ETSI TS 102 221 [1], clause 14.

RQ Number	Clause	Description
RQ14_0101	14.1.1	Reading an EF
RQ14_0102	14.1.2	Updating an EF
RQ14_0103	14.1.3	Increasing an EF
RQ14_0201	14.2.1	PIN verification
RQ14_0202	14.2.2	PIN value substitution
RQ14_0203	14.2.3	PIN disabling
RQ14_0204	14.2.4	PIN enabling
RQ14_0205	14.2.5	PIN unblocking
RQ14_0301	14.3.1	Application selection by use of the EF_{DIR} file
RQ14_0302	14.3.2	Direct application selection
RQ14_0303	14.3.3	Direct application selection with partial AID
RQ14_0401	14.4.1	Application session activation
RQ14_0402	14.4.2	UICC application interrogation
RQ14_0403	14.4.3	UICC application session termination
RQ14_0501	14.5.1	UICC activation
RQ14_0502	14.5.2	UICC presence detection
RQ14_0503	14.5.3	UICC preferred language request
RQ14_0504	14.5.4	UICC logical channels
RQ14_0601	14.6.1	CAT Initialization procedure
RQ14_0602	14.6.2	Proactive polling
RQ14_0603	14.6.3	Support of commands
RQ14_0604	14.6.4	Support of response codes
RQ14_0605	14.6.5	Independence of applications and CAT tasks
RQ14_0606	14.6.6	Use of BUSY status response
RQ14_0607	14.6.7	Additional processing time

5.13 Support of APDU-based UICC applications over USB

Reference: ETSI TS 102 221 [1], clause 15.

RQ Number	Clause	Description
RQ15_0101		The request for additional processing time of clause 14.6.7 of the present document shall be performed by a USB command as described in ETSI TS 102 600 [13].

6 Test cases

6.1 Introduction

This clause details all the tests for testing the DUT against ETSI TS 102 221 [1]. This test suite allows testing of the DUT against the base specification with respect to:

- Physical characteristics.

- Electrical specifications of the UICC - Terminal interface.

- Initial communication establishment procedure.

- Transmission protocols.

- Application and File structure.

- Security features.

- Structure of commands and responses.

- Commands.

- Transmission Oriented Commands.

- Application independent files.

6.2 Physical characteristic tests

6.2.1 Dimensions of the UICC card

6.2.1.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.2.1.2 Initial conditions

Choose the dimension design for the kind of UICC card ETSI TS 102 221 [1], ISO/IEC 7810 [7] or ISO/IEC 7816-2 [10].

6.2.1.3 Test procedure

Step	Direction	Description	RQ
1	User	Measure the dimensions of the card and the contacts and check if they perform the dimensions of the design.	RQ04_0001 RQ04_0002 RQ04_0003 RQ04_0004 RQ04_0005 RQ04_0006 RQ04_0007 RQ04_0008 RQ04_0009

6.2.2 Temperature range for card operation

6.2.2.1 Test execution

The test procedure shall be executed once for each of following parameters:

- If the EUT is built for the standard temperature range the temperatures given in the Test procedure apply.

- For temperature class A the temperature in Test procedure 2, step 4) shall be set to -40 °C.

- For temperature class B the temperature in Test procedure 2, step 4) shall be set to -40 °C and the temperature in step 6) shall be set to 105 °C.

- For temperature class C the temperature in Test procedure 2, step 4) shall be set to -40 °C and the temperature in step 6) shall be set to 125 °C.

6.2.2.2 Initial conditions

The UICC shall be placed in a temperature-controllable environment and connected to a terminal simulator.

A temperature measuring device shall be connected to the surface of the UICC.

6.2.2.3 Void

6.2.2.4 Test procedure 2

Step	Direction	Description	RQ
1	User	The temperature of the UICC shall be set to +25 °C.	
2	T → UICC	Reset the UICC.	
3	T → UICC	Perform an application initialization procedure (see clause 4.5.2 for valid applications).	RQ04_0401 RQ04_0402 RQ04_0403 RQ04_0404
4	User	The temperature of the UICC shall be reduced to -25 °C.	
5	T → UICC	Steps 2) and 3) shall be repeated.	
6	User	The temperature of the UICC shall be increased to +85 °C.	
7	T → UICC	Steps 2) and 3) shall be repeated.	

6.3 Electrical specifications of the UICC - Terminal interface

6.3.1 Supply voltage V_{CC} (contact C1)

6.3.1.1 V_{CC} - Voltage limits

6.3.1.1.1 Test execution

The following test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.3.1.1.2 Initial conditions

Set the PIN to '00000000'.

6.3.1.1.3 Test procedure

Step	Direction	Description	RQ
1	User	Set the supply voltage for contact C1 (V_{CC}) to V_{CCmin}.	
2	T → UICC	Reset the UICC.	
3	UICC → T	Send a valid ATR.	
4	T → UICC	Send a CHANGE PIN command to the UICC with a new PIN value of 11110000.	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ05_0101 RQ05_0201 RQ05_0301
6	T → UICC	Reset the UICC.	
7	UICC → T	Send a valid ATR.	RQ05_0101 RQ05_0201 RQ05_0301
8	T → UICC	Send a CHANGE PIN command to return the PIN to its initial value.	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ05_0101 RQ05_0201 RQ05_0301
10	T	Set the supply voltage for contact C1 (V_{CC}) to V_{CCmax}.	
11	T	Repeat steps 2) to 9) with V_{CC} set to V_{CCmax}.	

6.3.1.2 V_{CC} - Idle current limits

6.3.1.2.1 Test execution

The test case should be executed repeated for each voltage class supported by the UICC in ascending order.

6.3.1.2.2 Initial conditions

The clock frequency shall be set to 1 MHz.

The voltage on V_{CC} shall be set to V_{CC} max.

6.3.1.2.3 Test procedure

Step	Direction	Description	RQ
1	T -> UICC	Reset the UICC.	
2	UICC -> T	Send a valid ATR.	
3	T -> UICC	Do not send further commands after PPS procedure.	
4	T	The idle current consumption of the UICC is measured after receiving the ATR over a period of ten seconds.	RQ05_0102 RQ05_0202 RQ05_0302

6.3.1.3 V_{CC} - Current limits in clock-stop-mode

6.3.1.3.1 Test execution

The test case procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.3.1.3.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.3.1.3.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	When the terminal simulator expects no transmission from the card and when I/O has remained at state H for at least 1 860 clock cycles the terminal simulator shall stop the clock according to the clock stop indicator read from the ATR.	
3	T	The current consumption shall be measured during clock-stop-mode over a period of ten seconds.	RQ05_0104 RQ05_0203 RQ05_0303

6.3.1.3.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Initiate the communication between the terminal and the UICC by selecting and reading the files EF$_{DIR}$, EF$_{PL}$, EF$_{ICCID}$ and EF$_{UMPC}$ on the MF level.	
3	T → UICC	When the terminal simulator expects no transmission from the card and when I/O has remained at state H for at least 1 860 clock cycles the terminal simulator shall stop the clock according to the clock stop indicator read from the ATR.	
4	T	The current consumption shall be measured during clock-stop-mode over a period of ten seconds.	RQ05_0104 RQ05_0203a RQ05_0303a

6.3.2 Reset RST (contact C2)

6.3.2.1 RST - Static operation

6.3.2.1.1 Test execution

The test cases procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.3.2.1.2 Initial conditions

The capacitance Cin = Cout of RST (contact C2) shall not exceed 30 pF.

6.3.2.1.3 Test procedure

Step	Direction	Description	RQ
1	T	The following parameters shall be set for RST: • V_{OH} of the RST signal shall be set to V_{OHmin}. • V_{OL} of the RST signal shall be set to V_{OLmin}. • t_R and t_F shall be set to 400 µs.	
2	T → UICC	Reset the UICC I_{OHmax} and I_{OLmax} shall be measured during static operation and not exceed the limits defined for the voltage class used.	RQ05_0105 RQ05_0205 RQ05_0304

Step	Direction	Description	RQ
3	T	The following parameters shall be set for RST • V_{OH} of the RST signal shall be set to V_{OHmax}. • V_{OL} of the RST signal shall be set to V_{OLmax}. • t_R and t_F shall be set to 400 µs.	
4	T → UICC	Reset the UICC I_{OHmax} and I_{OLmax} shall be measured during static operation and not exceed the limits defined for the voltage class used.	RQ05_0105 RQ05_0205 RQ05_0304

6.3.2.2 Void

6.3.3 Programming voltage V_{PP} (contact C6)

6.3.3.1 V_{PP} - Static operation

6.3.3.1.1 Test execution

Test procedure 1 applies to UICC supporting class A operating conditions only.

Test procedure 2 applies to all UICCs supporting operation conditions other than class A only, if no optional interface defined in ETSI TS 102 613 [19] is supported.

6.3.3.1.2 Initial conditions

Set the PIN to 00000000.

6.3.3.1.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Contact C6 shall not be connected to the terminal simulator.	
2	T → UICC	Reset the UICC.	
3	T → UICC	Send a CHANGE PIN command to the UICC with new PIN value of 11110000.	
4	UICC → T	The UICC operates successfully without requiring to set VPP at programming state in protocol level.	RQ05_0106
5	T → UICC	Reset the UICC.	
6	T → UICC	Send a CHANGE PIN command to return the PIN to its initial value.	
7	UICC → T	The UICC operates successfully without requiring to set VPP at programming state in protocol level.	RQ05_0106
8	T → UICC	Contact C6 shall be connected to VPP which has the same voltage as VCC.	
9	T → UICC	Reset the UICC.	
10	T → UICC	Send a CHANGE PIN command to the UICC with new PIN value of 11110000.	
11	UICC → T	The UICC operates successfully without requiring to set VPP at programming state in protocol level.	
12	T → UICC	Reset the UICC.	
13	T → UICC	Send a CHANGE PIN command to return PIN to its initial value.	
14	UICC → T	The UICC operates successfully without requiring to set VPP at programming state in protocol level.	RQ05_0106

6.3.3.1.4 Test procedure 2

This test ensures that V_{PP} and V_{CC} are not bonded together in the UICC, if this would be the case V_{PP} (C6) would also supply the UICC with current.

Step	Direction	Description	RQ
1	T → UICC	VCC shall be applied to contact C1.	
2	T → UICC	Reset the UICC.	
3	UICC → T	No current shall be measurable on contact C6.	RQ05_0001

6.3.4 Clock CLK (contact C3)

6.3.4.1 Frequency and duty cycle

6.3.4.1.1 Test execution

The test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.3.4.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.3.4.1.3 Test procedure

Step	Direction	Description	RQ
1	T	The following parameters shall be set for CLK: • The clock frequency (f) shall be set to f = 1 MHz. • V_{OH} of the CLK signal shall be set to V_{OHmax}. • V_{OL} of the CLK signal shall be set to V_{OLmin}. • V_{OL} of the CLK signal shall be set to V_{OLmin}. • The duty cycle of the CLK signal shall be set to 40 % high.	
2	T → UICC	Reset the UICC.	
3	T → UICC	Perform an application initialization procedure (see clause 4.5.2 for valid applications). The UICC shall be able to properly handle the commands I_{OHmax} and I_{OLmax} shall not exceed the limits defined for the voltage class used.	RQ05_0002 RQ05_0107 RQ05_0108 RQ05_0206 RQ05_0207 RQ05_0306 RQ05_0307
4	T	The duty cycle of the CLK signal shall be set to 60 % high.	
5	T → UICC	Reset the UICC using the voltage class used in step 4).	
6	T → UICC	Perform an application initialization procedure (see clause 4.5.2 for valid applications). The UICC shall be able to properly handle the commands. I_{OHmax} and I_{OLmax} shall not exceed the limits defined for the voltage class used.	RQ05_0002 RQ05_0107 RQ05_0108 RQ05_0206 RQ05_0207 RQ05_0306 RQ05_0307
7	T	Steps 2) to 6) shall be repeated with a clock frequency set to fmax.	
8	T	Steps 2) to 7) shall be repeated with V_{OH} set to V_{OHmin} and V_{OL} set to V_{OLmax}.	

6.3.4.2 Voltage and current

6.3.4.2.1 Test execution

The test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.3.4.2.2 Initial conditions

The capacitance $C_{in} = C_{out}$ of CLK (contact C3) shall not exceed 30 pF.

6.3.4.2.3 Test procedure

Step	Direction	Description	RQ
1	User	The clock signal shall be set to 1 MHz.	
2	T	The following parameters shall be set for CLK: • V_{OH} of the CLK signal shall be set to V_{OHmax}. • V_{OL} of the CLK signal shall be set to V_{OLmin}. • t_R and t_F shall be set to tRmax and tFmax.	
3	T → UICC	Reset the UICC.	

Step	Direction	Description	RQ
4	T → UICC	Perform an application initialization procedure (see clause 4.5.2 for valid applications). I_{OHmax} and I_{OLmax} shall not exceed the limits defined for the voltage class used.	RQ05_0108 RQ05_0207 RQ05_0208
5	T	The following parameters shall be set for CLK: • V_{OH} of the CLK signal shall be set to $V_{OH\,min}$. • V_{OL} of the CLK signal shall be set to $V_{OL\,max}$. • t_R and t_F shall be set to $t_{R\,max}$ and $t_{F\,max}$.	
6	T → UICC	Reset the UICC.	
7	T → UICC	Perform an application initialization procedure (see clause 4.5.2 for valid applications). I_{OHmax} and I_{OLmax} shall not exceed the limits defined for the voltage class used.	RQ05_0108 RQ05_0207 RQ05_0208
8	T	Steps 2) to 7) shall be repeated with $f_{CLK} = f_{max}$.	

6.3.5 I/O (contact C7)

6.3.5.1 Voltage and current

6.3.5.1.1 Test execution

The test procedures shall be repeated for each voltage class supported by the UICC in ascending order:

- Test procedure 1 applies to all UICCs supporting PPS1.

- Test procedure 2 applies to UICCs supporting speed enhancement of (F, D) = (512, 64).

- Test procedure 3 applies to UICCs supporting PPS2 with a low impedance driver on I/O.

6.3.5.1.2 Initial conditions

The capacitance, C_{out} and C_{in}, of I/O (contact C7) shall not exceed 30 pF.

6.3.5.1.3 Test procedure 1

Step	Direction	Description	RQ
1	T	In accordance to the voltage class used the currents and voltages supplied by the terminal simulator shall be set to the following values: • VCC to VCCmax. • V_{OL} to V_{OLmin} and V_{OH} to V_{OHmax}. • I_{IL} to I_{ILmax} and I_{IH} to I_{IHmax}. • t_R to t_{Rmax} and t_F to t_{Fmax}.	
2	T → UICC	Reset the UICC.	
3	T → UICC	Send a STATUS command.	
4	UICC → T	I_{OH}, I_{OL}, V_{IL}, V_{IH}, t_R and t_F shall not exceed the limits defined for the voltage class used.	RQ05_0003 RQ05_0109 RQ05_0208 RQ05_0308
5	T	In accordance to the voltage class used the currents and voltages supplied by the terminal simulator shall be set to the following values: • V_{CC} to V_{CCmin}. • V_{OL} to V_{OLmax} and V_{OH} to V_{OHmin}. • I_{IL} to I_{ILmax} and I_{IH} to I_{IHmin}. • t_R to t_{Rmax} and t_F to t_{Fmax}.	
6	T → UICC	Reset the UICC.	
7	T → UICC	Send a STATUS command to the UICC.	
8	UICC → T	I_{OH}, I_{OL}, V_{IL}, V_{IH}, t_R and t_F shall not exceed the limits defined for the voltage class used.	RQ05_0003 RQ05_0109 RQ05_0208 RQ05_0308

6.3.5.1.4 Test procedure 2

Step	Direction	Description	RQ
1	T	In accordance to the voltage class used the currents and voltages supplied by the terminal simulator shall be set to the following values: • V_{CC} to V_{CCmax}. • V_{OL} to V_{OLmin} and V_{OH} to V_{OHmax}. • I_{IL} to I_{ILmax} and I_{IH} to I_{IHmax}. • t_R to t_{Rmax} and t_F to t_{Fmax}.	
2	T → UICC	Reset the UICC.	
3	T → UICC	Send a PPS-Request with speed enhancement (F, D) = (512, 64).	
4	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
5	T → UICC	Send a STATUS command to the UICC.	
6	UICC → T	I_{OH}, I_{OL}, V_{IL}, V_{IH}, t_R and t_F shall not exceed the limits defined for the voltage class used.	RQ05_0003 RQ05_0109 RQ05_0208 RQ05_0308
7	T	In accordance to the voltage class used the currents and voltages supplied by the terminal simulator shall be set to the following values: • V_{CC} to V_{CCmin}. • V_{OL} to V_{OLmax} and V_{OH} to V_{OHmin}. • I_{IL} to I_{ILmax} and I_{IH} to I_{IHmin}. • t_R to t_{Rmax} and t_F to t_{Fmax}.	
8	T → UICC	Reset the UICC.	
9	T → UICC	Send a PPS-Request with speed enhancement (F, D) = (512, 64).	
10	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
11	T → UICC	Send a STATUS command to the UICC.	
12	UICC → T	I_{OH}, I_{OL}, V_{IL}, V_{IH}, t_R and t_F shall not exceed the limits defined for the voltage class used.	RQ05_0003 RQ05_0109 RQ05_0208 RQ05_0308

6.3.5.1.5 Test procedure 3

Step	Direction	Description	RQ
1	T	In accordance to the voltage class used the currents and voltages supplied by the terminal simulator shall be set to the following values: • V_{CC} to V_{CCmax}. • V_{OL} to V_{OLmin} and V_{OH} to V_{OHmax}. • I_{IL} to I_{ILmax} and I_{IH} to I_{IHmax}. • t_R to t_{Rmax} and t_F to t_{Fmax}.	
2	T → UICC	Reset the UICC.	
3	T → UICC	Send a PPS-Request using a value of PPS2 which selects low impedance drivers.	
4	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
5	T → UICC	Send a STATUS command to the UICC.	
6	UICC → T	I_{OH}, I_{OL}, V_{IL}, V_{IH}, t_R and t_F shall not exceed the limits defined for the voltage class used.	RQ05_0003 RQ05_0109 RQ05_0208 RQ05_0308
7	T	In accordance to the voltage class used the currents and voltages supplied by the terminal simulator shall be set to the following values: • V_{CC} to V_{CCmin}. • V_{OL} to V_{OLmax} and V_{OH} to V_{OHmin}. • I_{IL} to I_{ILmax} and I_{IH} to I_{IHmin}. • t_R to t_{Rmax} and t_F to t_{Fmax}.	
8	T → UICC	Reset the UICC.	
9	T → UICC	Send a PPS-Request using a value of PPS2 which selects low impedance drivers.	
10	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
11	T → UICC	Send a STATUS command to the UICC.	
12	UICC → T	I_{OH}, I_{OL}, V_{IL}, V_{IH}, t_R and t_F shall not exceed the limits defined for the voltage class used.	RQ05_0003 RQ05_0109 RQ05_0208 RQ05_0308

6.4 Initial communication establishment procedure

6.4.1 Supply voltage switching

6.4.1.1 Supply voltage classes

FFS.

6.4.1.2 Power consumption of the UICC during ATR

6.4.1.2.1 Test execution

The test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.4.1.2.2 Initial conditions

In accordance to the voltage class used the currents and voltages supplied by the terminal simulator shall be set to the following values:

- V_{CC} to V_{CCmax};

- f to f_{max} (5 MHz).

6.4.1.2.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	Send a valid ATR.	RQ06_0202
3	UICC → T	During the ATR, I_{CC} shall not exceed "the maximum power consumption of the UICC during ATR" for the voltage class used.	RQ05_0109 RQ05_0208 RQ05_0308 RQ06_0203

6.4.1.2.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	Send a valid ATR.	RQ06_0207
3	UICC → T	During the ATR, I_{CC} shall not exceed "the maximum power consumption of the UICC during ATR" for the voltage class used.	RQ05_0109 RQ05_0208 RQ05_0308 RQ06_0208

6.4.1.3 Application related electrical parameters

6.4.1.3.1 Test execution

The test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

The test procedure steps shall be repeated for each application available on the UICC.

$EF_{TRANSPARENT} = EF_{TRANS\_1}$ or equivalent with a length set to 11 bytes.

6.4.1.3.2 Initial conditions

$EF_{TRANSPARENT}$ shall contain a data string different from: '11 22 33 44 55 66 77 88 99 AA BB';

6.4.1.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
Condition		If the power consumption is present in the FCP data, the following steps in Condition A shall be performed ELSE follow the steps in Condition B.	

Condition A			
3	T → UICC	Send a VERIFY PIN command with PIN to the UICC.	
4	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
5	T → UICC	Send an UPDATE BINARY command with data string '11 22 33 44 55 66 77 88 99 AA BB'.	RQ06_0205

Condition B			
3	T → UICC	Send a VERIFY PIN command with PIN to the UICC.	
4	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
5	T → UICC	Send an UPDATE BINARY command with data string '11 22 33 44 55 66 77 88 99 AA BB'.	RQ06_0206
6	T → UICC	Send an UPDATE BINARY command with data string 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	

6.4.2 ATR content

6.4.2.1 ATR - Major capabilities

6.4.2.1.1 Test execution

The test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.4.2.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.4.2.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	Send an ATR in accordance to ISO/IEC 7816-3 [11]. The following parameters shall be present: • T = 15 parameter. The following parameters shall be present and in the following order in the historical bytes: • The category indicator = '80'. • "card data service" data object. • "card capabilities" data object.	RQ06_0301 RQ06_0302 RQ06_0303 RQ06_0304 RQ06_0305

6.4.2.2 ATR - Speed enhancement

6.4.2.2.1 Test execution

The test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.4.2.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.4.2.2.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a PPS-Request selecting T = 0 protocol and (F, D) = (512, 8).	
3	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
4	T → UICC	Send a STATUS command with P2 = '00' at (F, D) = (512, 8).	
5	UICC → T	Send valid FCP data.	RQ06_0306
6	T → UICC	Reset the UICC.	
7	T → UICC	Send a PPS-Request selecting T = 0 protocol and (F, D) = (512, 16).	
8	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
9	T → UICC	Send a STATUS command with P2 = '00' at (F, D) = (512, 16).	
10	UICC → T	Send valid FCP data.	RQ06_0306
11	T → UICC	Reset the UICC.	
12	T → UICC	Send a STATUS command with P2 = '00' at (F, D) = (372, 1).	
13	UICC → T	Send valid FCP data.	RQ06_0306
14	T → UICC	Reset the UICC.	
15	T → UICC	Send a PPS-Request selecting T = 0 protocol and (F, D) = (372, 1).	
16	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
17	T → UICC	Send a STATUS command with P2 = '00' at (F, D) = (372, 1).	
18	UICC → T	Send valid FCP data.	RQ06_0306

6.4.2.3 Global Interface bytes

6.4.2.3.1 Test execution

The test procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.4.2.3.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.4.2.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	If the UICC supports any of O_LOW_IMPEDANCE, O_IC_USB, O_UICC_CLF, O_SECURE_CHAN, O_SECURE_APDU, O_EUICC, or O_LSI then the first TBi (i > 2) after T = 15 shall be present, with value according to the supported options. If the UICC does not support any of O_LOW_IMPEDANCE, O_IC_USB, O_UICC_CLF, O_SECURE_CHAN, O_SECURE_APDU, O_EUICC, or O_LSI then the first TBi (i > 2) after T = 15 shall either be absent or be present with value '00'.	RQ06_0309

EXAMPLE: From options coded in the Global Interface bytes the option O_LOW_IMPEDANCE and O_UICC_CLF are supported => The TBi (i > 2) value shall be coded: 'B0'.

6.4.3 PPS procedure

6.4.3.1 Test execution

The test case procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.4.3.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.4.3.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
Condition		Steps 2) and 3) shall only be carried out if the ATR contains the first TBi (i > 2) after T = 15.	
2	T → UICC	Send a PPS-Request containing a value of PPS2 equal to '00'.	
3	UICC → T	Send a PPS-Response indicating support for the requested parameters.	RQ06_0401 RQ06_0402
4	T → UICC	Send a STATUS command with P2 = '00'.	
5	UICC → T	Send a status word indicating successful command execution.	RQ06_0401
6	T → UICC	Reset the UICC.	
Condition		Steps 7) to 10) shall only be carried out if the ATR contains the first TBi (i > 2) after T = 15 with a value of '90'.	
7	T → UICC	Send a PPS-Request containing a value of PPS2 equal to '90'.	
8	UICC → T	Send a PPS-Response indicating support for the requested parameters.	RQ06_0401 RQ06_0402
9	T → UICC	Send a STATUS command with P2 = '00'.	
10	UICC → T	Send a status word indicating successful command execution.	RQ06_0402

6.4.4   Reset procedures

6.4.4.1   Test execution

The test case procedure shall be repeated for each voltage class supported by the UICC in ascending order.

6.4.4.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.4.4.3   Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a VERIFY PIN command with PIN to the UICC.	
3	T → UICC	Reset the UICC.	
4	UICC → T	Send a valid ATR sequence. The specific mode byte TA(2) shall not be present within the ATR returned by the UICC.	RQ06_0501
5	T → UICC	Send a SELECT command to select EF$_{PL}$.	
6	T → UICC	Send an UPDATE BINARY command using a length of 2 bytes, and data string '00 00' to the UICC.	
7	UICC → T	Return status condition SW1 = '69', SW2 = '82' - Security status not satisfied.	
8	T → UICC	Send a VERIFY PIN command with PIN.	
9	T → UICC	Perform a Warm Reset of the UICC.	
10	UICC → T	Send a valid ATR sequence.	RQ06_0503 RQ06_0505
11	T → UICC	Send a SELECT command to select EF$_{PL}$.	
12	T → UICC	Send an UPDATE BINARY command using a length of 2 bytes, and data string '00 00' to the UICC.	
13	UICC → T	Return status condition SW1 = '69', SW2 = '82' - Security status not satisfied.	

6.4.4.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Perform a Warm Reset of the UICC.	
3	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
4	T → UICC	Perform a Warm Reset of the UICC.	
5	UICC → T	Respond with an identical ATR to that returned in response to step 2).	RQ06_0504

6.4.4.5 Test procedure 3

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Perform a Warm Reset of the UICC.	
3	UICC → T	Send a valid ATR sequence. The specific mode byte TA(2) shall not be present within the ATR returned by the UICC.	RQ06_0506
4	T → UICC	Reset the UICC.	
5	T → UICC	Perform a Warm Reset of the UICC.	
6	UICC → T	Send a valid ATR sequence. The specific mode byte TA(2) shall not be present within the ATR returned by the UICC.	RQ06_0506

6.4.4.6 Test procedure 4

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Perform a Warm Reset of the UICC.	
3	UICC → T	Send a valid ATR. The specific mode byte TA(2) shall be present within the ATR.	RQ06_0507
4	T → UICC	Reset the UICC.	
5	T → UICC	Send a PPS-Request selecting T = 0 protocol and (F, D) = (512, 8).	
6	UICC → T	Send a PPS-Response indicating support for the requested parameters.	
7	T → UICC	Perform a Warm Reset of the UICC.	
8	UICC → T	Send a valid ATR. The specific mode byte TA(2) shall be present within the ATR. The Global Interface Character TA1 shall indicate (F, D) values of (512, 8).	RQ06_0507

6.4.5 Clock stop mode

6.4.5.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.4.5.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.4.5.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	The ATR shall contain a following character: • TA(i) after the first occurrence of T = 15 in TD(i-1) for i > 2. • Both b8 and b7 shall not be equal to zero.	RQ06_0601
3	T → UICC	Stop CLK in accordance to the requirements for the clock stop mode after the ATR.	
4	T → UICC	Pause for 10 seconds, then starts the clock again.	
5	T → UICC	Wait for more than 744 clock cycles after having started the clock before sending a SELECT command to for EF$_{ICCID}$.	

Step	Direction	Description	RQ
6	UICC → T	The SELECT command shall be executed successfully.	RQ06_0601

6.4.6 Bit/character duration and sampling time

The bit and character duration is implicitly tested in clause 6.5.2.1.

6.4.7 Error handling

6.4.7.1 Test execution

The T = 0 protocol shall be used.

The test procedure shall be performed for each communication speed supported by the UICC.

6.4.7.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.4.7.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Request character repetition (i.e. transmits an error signal during the guard time) for all character frames during the ATR.	
3	UICC → T	Send a valid ATR with character repetition.	RQ06_0801
4	T → UICC	Send a PPS-Request (conditional).	
5	T → UICC	Send a SELECT command to select the MF with incorrect character parity for all character frames.	
6	UICC → T	Request character repetition (i.e. transmits an error signal during the guard time) for all character frames.	RQ06_0801
7	T → UICC	Receive the response data but request character repetition for all character frames.	
8	UICC → T	Send valid FCP data with character repetition.	RQ06_0801

6.4.8 Compatibility

6.4.8.1 Test execution

The supply voltage class indication in the ATR and STATUS response are tested respectively in clauses 6.4.1 and 6.9.1.2 in the present document as they are mandatory for all the UICCs except the UICCs supporting class A operating condition only.

The supply voltage class detection based on STATUS response for compatibility purpose is out of the scope of the present document.

6.5 Transmission Protocols

6.5.1 Physical Layer

6.5.1.1 Test execution

RQ07_0001 and RQ07_0101 related to this clause are tested in clause 6.5.2.1.

6.5.2 Data Link Layer

6.5.2.1 Character Frame

6.5.2.1.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 12 bytes. E.g.:

a) USIM: $EF_{TRANSPARENT} = EF_{AD}$

b) CSIM: $EF_{TRANSPARENT} = EF_{AD}$

c) ISIM: $EF_{TRANSPARENT} = EF_{AD}$

d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_1}$

6.5.2.1.2 Initial conditions

$EF_{TRANSPARENT}$ shall contain a data string different from: '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'.

6.5.2.1.3 Test procedure

Step	Direction	Description	RQ
1		Steps 2) to 12) shall be repeated for all the communication speeds and protocols supported by the UICC, and both with and without selecting low impedance drivers if the UICC supports low impedance drivers.	
2	T → UICC	Reset the UICC.	
3	UICC → T	Send a valid ATR.	RQ07_0202
4	T → UICC	Send a PPS-Request to select a valid protocol, a valid communication speed and low impedance drivers (if relevant) to the UICC.	
5	UICC → T	Send a PPS-Response indicating support for the requested parameters.	RQ07_0202
6	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0202
8	T → UICC	Send a VERIFY PIN command with Application PIN to the UICC.	
9	T → UICC	Send a SELECT command to select $EF_{TRANSPARENT}$.	
10	T → UICC	Send an UPDATE BINARY to update $EF_{TRANSPARENT}$ with data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'.	
11	UICC → T	The following conditions shall be true for all character frames: • Before the transmission of a character, the I/O line shall be in state H. • A character consists of 10 consecutive bits. • There is an even number of bits set to '1' including the parity bit. • The existence of the start bit shall be confirmed to be at least 0,7 etu. • The subsequent bits shall be received at intervals of (n + 0,5 ± 0,2) etu (n being the rank of the bit). • The time from the leading edge of the start bit to the trailing edge of the nth bit shall be (n ± 0,2) etu. • The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration (10 ± 0,2) etu, plus a guardtime. • The data shall always be passed over the I/O line with the most significant byte first. • The order of bits within a byte shall be specified in character TS returned in the ATR.	RQ07_0201 RQ07_0202 RQ07_0203 RQ07_0204 RQ07_0205
12	T → UICC	Send a READ BINARY for $EF_{TRANSPARENT}$.	

Step	Direction	Description	RQ
13	UICC → T	Return data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'. The following conditions shall be true for all character frames: • Before the transmission of a character, the I/O line shall be in state H • It consists of 10 consecutive bits • There is an even number of bits set to '1' including the parity bit • The existence of the start bit shall be confirmed to be at least 0,7 etu • The subsequent bits shall be received at intervals of (n + 0,5 ± 0,2) etu (n being the rank of the bit) • The time from the leading edge of the start bit to the trailing edge of the nth bit shall be (n ± 0,2) etu • The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration (10 ± 0,2) etu, plus a guardtime • The data shall always be passed over the I/O line with the most significant byte first • The response data sent from the UICC shall be passed over the I/O line with the most significant byte first • The order of bits within a byte shall be specified in character TS returned in the ATR	RQ07_0201 RQ07_0202 RQ07_0203 RQ07_0204 RQ07_0205
14	T	The time from the leading edge of the start bit to the trailing edge of the nth bit shall be set to be (n + 0,2) etu.	
15	T → UICC	Reset the UICC.	
16	UICC → T	Send a valid ATR.	RQ07_0202
17	T → UICC	Send a PPS-Request to select a valid protocol, a valid communication speed and low impedance drivers (if relevant) to the UICC.	
18	UICC → T	Send a PPS-Response indicating support for the requested parameters.	RQ07_0202
19	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
20	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0202
21	T → UICC	Send a VERIFY PIN command with PIN to the UICC.	
22	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
23	T → UICC	Send a READ BINARY to the UICC.	
24	UICC → T	Return data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'. The following conditions shall be true for all character frames: • Before the transmission of a character, the I/O line shall be in state H • It consists of 10 consecutive bits • There is an even number of bits set to '1' including the parity bit • The existence of the start bit shall be confirmed to be at least 0,7 etu • The subsequent bits shall be received at intervals of (n + 0,5 ± 0,2) etu (n being the rank of the bit) • The time from the leading edge of the start bit to the trailing edge of the nth bit shall be (n ± 0,2) etu • The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration (10 ± 0,2) etu, plus a guardtime • The data shall always be passed over the I/O line with the most significant byte first • The response data sent from the UICC shall be passed over the I/O line with the most significant byte first • The order of bits within a byte shall be specified in character TS returned in the ATR	RQ07_0201 RQ07_0202 RQ07_0203 RQ07_0204 RQ07_0205
25	UICC → T	The time from the leading edge of the start bit to the trailing edge of the nth bit shall be set to be (n - 0,2) etu.	
26	T → UICC	Reset the UICC.	
27	UICC → T	Send a valid ATR.	RQ07_0202
28	T → UICC	Send a PPS-Request to select a valid protocol, a valid communication speed and low impedance drivers (if relevant) to the UICC.	
29	UICC → T	Send a PPS-Response indicating support for the requested parameters.	RQ07_0202
30	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
31	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	RQ07_0202
32	T → UICC	Send a VERIFY PIN command with PIN to the UICC.	
33	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
34	T → UICC	Send a READ BINARY to the UICC.	

Step	Direction	Description	RQ
35	UICC → T	Return data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'. The following conditions shall be true for all character frames: • Before the transmission of a character, the I/O line shall be in state H. • It consists of 10 consecutive bits. • There is an even number of bits set to '1' including the parity bit. • The existence of the start bit shall be confirmed to be at least 0,7 etu. • The subsequent bits shall be received at intervals of $(n + 0,5 \pm 0,2)$ etu $(n$ being the rank of the bit). • The time from the leading edge of the start bit to the trailing edge of the nth bit shall be $(n \pm 0,2)$ etu. • The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration $(10 \pm 0,2)$ etu, plus a guardtime. • The data shall always be passed over the I/O line with the most significant byte first. • The response data sent from the UICC shall be passed over the I/O line with the most significant byte first. • The order of bits within a byte shall be specified in character TS returned in the ATR.	RQ07_0201 RQ07_0202 RQ07_0203 RQ07_0204 RQ07_0205
NOTE 1:		RQ07_0206 is not tested, with the exception of the requirement to not drive the I/O line during the error indication period.	
NOTE 2:		RQ07_0207 is not tested.	

6.5.2.2 Transmission Protocol T = 0

6.5.2.2.1 Test execution

The test procedure shall be repeated for all the operating conditions supported by the UICC.

6.5.2.2.2 Initial conditions

$EF_{TRANS16b}$ shall contain the data string: '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'.

6.5.2.2.3 Test procedure

Step	Direction	Description	RQ
1		Steps 2) to 9) shall be repeated for all the communication speeds supported by the UICC.	
2	T → UICC	Reset the UICC.	
3	T → UICC	Send a PPS-Request to select the T = 0 protocol and the selected communication speed.	
4	UICC → T	Send a valid PPS-Response indicating support for the T = 0 protocol and the selected communication speed.	RQ07_0001
5	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
6	T → UICC	Send a VERIFY PIN with PIN.	
7	T → UICC	Send a SELECT command to select $EF_{TRANS16b}$.	
8	T → UICC	Send a READ BINARY command.	
9	UICC → T	Send the data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF' followed by SW1 = '90' and SW2 = '00' - normal ending of the command. The following shall be true of the response data: • The interval between the leading edge of the start bits of two consecutive characters shall be at least 12 etus. • The value of the WWT shall not exceed $960 \times WI \times Fi/f$.	RQ07_0216 RQ07_0208 RQ07_0209
10	T → UICC	Reset the UICC.	
11	T → UICC	Request character repetition (i.e. transmits an error signal during the guard time) to the UICC for all character frames during the ATR.	
12	UICC → T	Send a valid ATR with character repetition.	RQ07_0212
13	T → UICC	Send a PPS-Request to select the T = 0 protocol, the selected communication speed and low impedance drivers (if relevant).	
14	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	

Step	Direction	Description	RQ
15	T → UICC	Send a VERIFY PIN with PIN.	
16	T → UICC	Send a SELECT command to select EF$_{TRANS16b}$.	
17	T → UICC	Send a READ BINARY command to the UICC with incorrect character parity for all character frames.	
18	UICC → T	Request character repetition for all character frames, indicating the error to the sender by setting the I/O line to state L at (10,5 ± 0,2) etu after the leading edge of the start bit of each character with a parity error for a maximum of 2 etu and a minimum of 1 etu.	RQ07_0212 RQ07_0213 RQ07_0214
19	T → UICC	Re-send a READ BINARY command.	
20	T → UICC	Request character repetition for all character frames from the UICC.	
21	UICC → T	Send the data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF' followed by SW1 = '90' and SW2 = '00' - normal ending of the command. The following shall be true of the response data: • The UICC shall check the I/O line for a parity error indication at (11 ± 0,2) etu starting from the leading edge of the start bit of the character being transmitted and the character shall be sent again after a minimum delay of 2 etu.	RQ07_0212 RQ07_0213 RQ07_0215 RQ07_0206

6.5.2.3 Transmission Protocol T = 1

6.5.2.3.1 Timing and specific options for blocks sent with T = 1

6.5.2.3.1.1 Overview and applicability

This clause defines conformance tests regarding timing, information field sizes and error detection parameters for blocks sent with T = 1.

The tests defined in this clause only apply where the UICC under test supports the T = 1 protocol. If the UICC under test does not support the T = 1 protocol, then these tests do not apply.

The tests in this clause assume that the T = 1 protocol is the first indicated protocol for the UICC. If the UICC under test supports T = 1 but it is not the first indicated protocol, then each test shall be extended to configure the UICC to employ the T = 1 protocol, e.g. via the PPS mechanism.

6.5.2.3.1.2 Information field size

6.5.2.3.1.2.1 Test execution

The test procedure shall be repeated for all the operating conditions supported by the UICC.

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EF with at least 4 records and a length set to at least 33 bytes. E.g.:

a) USIM: EF$_{LINEARFIXED}$ = EF$_{SMS}$

b) CSIM: EF$_{LINEARFIXED}$ = EF$_{SMS}$

c) ISIM: EF$_{LINEARFIXED}$ = EF$_{SMS}$

d) generic: EF$_{LINEARFIXED}$ = EF$_{LF\_1}$

NOTE: When EF$_{SMS}$ is not supported by the UICC, any supported linear EF with a record length of more than or equal to 33 bytes may be chosen.

Suggested coding for EF$_{LINEARFIXED}$:

1st record	'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0 A1 A2 FF A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 B0 B1 B2 B3 B4 B5 B6 B7 B8 B9'
2nd record	'B0 B1 B2 A0 A1 A2 A0 A1 A2 B0 B1 B2 FF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 A0 A1 A2 B0 B1 B2 B0 A1 A2 A3 '
3rd record	'B0 B1 B2 A0 A1 A2 B0 B1 B2 A0 A1 A2 FF C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 C0 A1 A2 B0 B1 B2 B0 A1 A2 A3'
4th record	'A0 A1 A2 B0 B1 B2 B0 B1 B2 B0 B1 B2 FF D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 D0 A1 A2 B0 B1 B2 B0 A1 A2 A3'

6.5.2.3.1.2.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.1.2.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$	
4	T → UICC	Send a VERIFY command with PIN to the UICC	
5	T → UICC	Send a READ RECORD command to read record 1 from EF$_{LINEARFIXED}$	
6	UICC → T	Return the contents of record 1 in a series of chained I-blocks, whose INF fields are ≤ IFSD, i.e. less than or equal to 32 bytes in length	RQ07_0217
7	T → UICC	Reset the UICC	
8	T → UICC	Send an IFS REQUEST to the UICC, requesting an adjustment of IFSD to 255 bytes	
9	UICC → T	Reject the request and respond with an R-block with bits b1-b4 in the PCB-byte having a value of '2' - other errors	RQ07_0217
10	T → UICC	Reset the UICC	
11	T → UICC	Send an IFS REQUEST to the UICC, requesting an adjustment of IFSD to 254 bytes	
12	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications)	
13	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$	
14	T → UICC	Send a VERIFY command with PIN to the UICC	
15	T → UICC	Send a READ RECORD command to read record 1 from EF$_{LINEARFIXED}$	
16	UICC → T	Return the contents of record 1 in a single I-block or multiple I-blocks	RQ07_0217

6.5.2.3.1.3   Character waiting integer

6.5.2.3.1.3.1   Test execution

The test procedure shall be repeated for all the operating conditions supported by the UICC.

6.5.2.3.1.3.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.1.3.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	Send a valid ATR If the first TB for T = 1 is present, bits b1-b4 shall be in the range 0 to 5.	RQ07_0218

6.5.2.3.1.4 Character waiting time

6.5.2.3.1.4.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.2.3.1.4.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.1.4.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T	Measure the delay between the leading edges of each pair of consecutive characters sent by the UICC in its I-block response to the SELECT command The maximum delay between the leading edges of each pair of consecutive characters shall be < CWT.	RQ07_0218

6.5.2.3.1.5 Block guard time

6.5.2.3.1.5.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.2.3.1.5.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.1.5.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T	Measure the delay between the leading edge of the last character in the I-block SELECT command received by the UICC and the leading edge of the first character in its I-block response to the SELECT command. The measured delay shall be in the range: BGT < delay < BWT.	RQ07_0219
4	T → UICC	Send a SELECT command to select and terminate the chosen application (see clause 4.5.2 for valid applications) at 22 etu after the UICC send the last character in step 3).	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0219

6.5.2.3.1.6 Waiting time extension

FFS.

6.5.2.3.1.7 Error detection code

6.5.2.3.1.7.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.2.3.1.7.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.1.7.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	Respond with sending an ATR. If the first TC for T = 1 is present, it shall have a value of 0.	RQ07_0220

6.5.2.3.2 Block frame structure

6.5.2.3.2.1 Node address byte

6.5.2.3.2.1.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EF. E.g.:

a) USIM: $EF_{LINEARFIXED} = EF_{ECC}$

b) CSIM: $EF_{LINEARFIXED} = EF_{ARR}$

c) ISIM: $EF_{LINEARFIXED} = EF_{MMSUP}$

d) generic: $EF_{LINEARFIXED} = EF_{LF\_2}$

6.5.2.3.2.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.2.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$, where the SAD and DAD are set, as default, to 0.	
4	UICC → T	Respond with an I-block where the SAD and the DAD are both set to 0	RQ07_0222
5	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$, where the SAD = 1 and DAD = 0.	
6	UICC → T	Return an R-block with N(R) equal to the next expected sequence number (ignoring the erroneous I-block), or do not return any response.	RQ07_0222
7	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$, where the SAD = 0 and DAD = 1.	
8	UICC → T	Return an R-block with N(R) equal to the next expected sequence number (ignoring the erroneous I-block), or do not return any response.	RQ07_0222
9	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$, where the SAD = 1 and DAD = 1.	
10	UICC → T	Return an R-block with N(R) equal to the next expected sequence number (ignoring the erroneous I-block), or do not return any response.	RQ07_0222

6.5.2.3.2.2 Protocol Control Byte

FFS.

6.5.2.3.2.3 Length

6.5.2.3.2.3.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.2.3.2.3.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.2.3.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application (see clause 4.5.2 for valid applications).	
3	UICC → T	Respond with an I-block containing the response to the SELECT command, where the I-block contain the LEN, length of the response data.	RQ07_0224

6.5.2.3.2.4   Information field

6.5.2.3.2.4.1   Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EF. E.g.:

   a)   USIM: $EF_{LINEARFIXED} = EF_{ECC}$

   b)   CSIM: $EF_{LINEARFIXED} = EF_{ARR}$

   c)   ISIM: $EF_{LINEARFIXED} = EF_{MMSUP}$

   d)   generic: $EF_{LINEARFIXED} = EF_{LF\_2}$

6.5.2.3.2.4.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.2.4.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select the $EF_{LINEARFIXED}$, where the I-block has an invalid EDC.	
4	UICC → T	Reject the command by sending an R-block response with bits b1-b4 in the PCB-byte having a value of '1' - EDC and/or parity error. The INF field shall be absent.	RQ07_0224 RQ07_0225 RQ07_0249
5	T → UICC	Send a SELECT command to select the $EF_{LINEARFIXED}$.	
6	T → UICC	Reset the UICC.	
7	T → UICC	Send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.	
8	UICC → T	Respond with an IFS RESPONSE S-block, whose INF field is present and has the value 254.	RQ07_0224 RQ07_0249
9	T → UICC	Send a SELECT command to select and activate the chosen application (see clause 4.5.2 for valid applications).	
10	T → UICC	Reset the UICC.	
11	T → UICC	Send a SELECT command to select and activate the chosen application (see clause 4.5.2 for valid applications).	
12	T → UICC	Send a RESYNCH request S-block to the UICC.	
13	UICC → T	Respond with a RESYNCH response S-block, which shall not contain an INF field.	RQ07_0224 RQ07_0225 RQ07_0249
14	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$.	
15	T → UICC	Reset the UICC.	

Step	Direction	Description	RQ
16	T → UICC	Send a SELECT command to select and activate the chosen application (see clause 4.5.2 for valid applications).	
17	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
18	T → UICC	Send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to the record length of EF$_{LINEARFIXED}$ - 1 byte.	
19	T → UICC	Send a READ RECORD command to read record 1 from EF$_{LINEARFIXED}$.	
20	T → UICC	Send an ABORT request S-block to the UICC after the 1st chained I-block response is received from the UICC.	
21	UICC → T	Respond with an ABORT response S-block, which shall not contain an INF field.	RQ07_0224 RQ07_0225 RQ07_0249
22	T → UICC	Send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 32 bytes.	
23	T → UICC	Send a SELECT command to the UICC to select and activate the chosen application (see clause 4.5.2 for valid applications).	

6.5.2.3.2.5 Epilogue field

6.5.2.3.2.5.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.2.3.2.5.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.2.5.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application (see clause 4.5.2 for valid applications).	
3	UICC → T	Respond with an I-block containing the response to the SELECT command. The epilogue field shall contain a 1 byte EDC - of type LRC - which shall be set to the correct value for the block.	
4	T → UICC	Send a SELECT command to select and terminate the chosen application (see clause 4.5.2 for valid applications) with invalid EDC.	
5	UICC → T	Reject the command by sending an R-block response of the format R(N), where N is the sequence number of the next expected I-block (ignoring the erroneous I-block) and with bits b1-b4 in the PCB-byte having a value of '1' - EDC and/or parity error.	RQ07_0227

6.5.2.3.3 Error free operation

6.5.2.3.3.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EF. E.g.:

    a)   USIM: EF$_{LINEARFIXED}$ = EF$_{ECC}$

    b)   CSIM: EF$_{LINEARFIXED}$ = EF$_{ARR}$

    c)   ISIM: EF$_{LINEARFIXED}$ = EF$_{MMSUP}$

    d)   generic: EF$_{LINEARFIXED}$ = EF$_{LF\_2}$

6.5.2.3.3.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.	
3	UICC → T	Respond with an IFS RESPONSE S-block, whose INF field is present and has the value 254.	RQ07_0229
4	T → UICC	Send a SELECT command to select and activate the chosen application.	
5	UICC → T	Respond to the last I-block of the command (I(Ns(S), 0)) with the response to the SELECT command, where the first I-block of the response is of the format I(Nr(S), M) where Nr(S) = 0.	RQ07_0230
6	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$	
7	UICC → T	Respond to the last I-block of the command (I(Ns(S), 0)) with the response to the SELECT command, where the first I-block of the response is of the format I(Nr(S), M) where Nr(S) ≠ Nr(S) of the previous I-block sent by the UICC.	RQ07_0230
8	T → UICC	Send a SELECT command to the UICC, with an invalid file ID whose length shall be 255 bytes long, where each byte shall be set to 'FF', split over at least 2 chained I-blocks.	
9	UICC → T	Respond to the first I-block from the terminal simulator with a receive ready R-block of the format R(Nr(R)) where Ns(S) ≠ Nr(R).	RQ07_0231

6.5.2.3.4 Error Handling for T = 1

6.5.2.3.4.1 Protocol initialization

6.5.2.3.4.1.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 9 bytes. E.g.:

    a) USIM: EF$_{TRANSPARENT}$ = EF$_{IMSI}$

    b) CSIM: EF$_{TRANSPARENT}$ = EF$_{CSIM\_ST}$

    c) ISIM: EF$_{TRANSPARENT}$ = EF$_{IMPI}$

    d) generic: EF$_{TRANSPARENT}$ = EF$_{TRANS\_2}$

6.5.2.3.4.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.4.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send an R-block to the UICC, of the format R(0), to request the UICC to re-send the last block.	
4	UICC → T	Re-send the I-block, the response to the first SELECT command.	RQ07_0236
5	T → UICC	Send an R-block to the UICC, of the format R(0), to request the UICC to re-send the last block.	
6	UICC → T	Re-send the I-block, the response to the first SELECT command.	RQ07_0236
7	T → UICC	Reset the UICC.	
8	T → UICC	Send a SELECT command to select and activate the chosen application, where the I-block has an invalid EDC.	
9	UICC → T	Reject the command by sending an R-block response of the format R(0), with bits b1-b4 in the PCB-byte having a value of '1' - EDC and/or parity error.	RQ07_0237
10	T → UICC	Send a SELECT command to select and activate the chosen application.	
11	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
12	T → UICC	Send an R-block to the UICC, of the format R(0), to request the UICC to re-send the last block.	

Step	Direction	Description	RQ
13	UICC → T	Re-send the I-block, the response to the SELECT command in step 8).	RQ07_0238
14	T → UICC	Send an R-block to the UICC, of the format R(0), to request the UICC to re-send the last block.	
15	UICC → T	Re-send the I-block, the response to the SELECT command in step 8).	RQ07_0238
16	T → UICC	Send a S(RESYNCH, request).	
17	UICC → T	Return a S(RESYNCH, response).	RQ07_0238
18	T → UICC	Send a VERIFY PIN command with PIN.	
19	T → UICC	Send a READ BINARY command.	
20	UICC → T	Return the content of EF_TRANSPARENT.	RQ07_0238

6.5.2.3.4.2 Block dependant errors

6.5.2.3.4.2.1 Sending invalid blocks to the UICC

6.5.2.3.4.2.1.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.2.3.4.2.1.2 Initial conditions

- There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.4.2.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send an R-block to the UICC, of the format R(N(R)) where N(R) = N(S) of the last I-block sent by the UICC, to request the UICC to re-send the last block.	
4	UICC → T	Re-send the last I-block of the response to the first SELECT command.	RQ07_0239
5	T → UICC	Send another R-block to the UICC, of the format R(N(R)) where N(R) = N(S) of the last I-block sent by the UICC, to request the UICC to re-send the last block.	
6	UICC → T	Re-send the last I-block of the response to the first SELECT command.	RQ07_0240
7	T → UICC	Reset the UICC.	
8	T → UICC	Send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.	
9	T → UICC	The terminal simulator shall re-send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.	
10	UICC → T	Re-send the IFS RESPONSE S-block, whose INF field shall have the value 254.	RQ07_0242
11	T → UICC	Send a SELECT command to select and activate the chosen application.	
NOTE:		RQ07_0241 and RQ07_0243 shall not be tested as it is not possible to meet the test criteria.	

6.5.2.3.5 Chaining

6.5.2.3.5.1 Definition and applicability

6.5.2.3.5.1.1 Test execution

When EFSMS is not supported by the UICC, any supported linear EF with record length more than or equal to 31 bytes may be chosen.

6.5.2.3.5.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.2.3.5.1.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command with an invalid file ID, whose length shall be 255 bytes, where each byte shall be set to 'FF'. The SELECT command shall be spilt over at least 2 chained blocks.	
4	UICC → T	For each I-block of format I(Ns(S), 1) the UICC shall respond with a receive ready R-block of the format R(Nr(R)) where Nr(R) ≠. Ns(S). For the last I-block from the terminal simulator the UICC shall respond with an R-APDU containing a status word indicating an application level error regarding the SELECT command.	RQ07_0245
5	T → UICC	Reset the UICC.	
6	T → UICC	Send a SELECT command to select and activate the chosen application.	
7	T → UICC	Send a VERIFY PIN command with PIN.	
8	T → UICC	Send a SELECT command to select EF$_{SMS}$.	
9	T → UICC	Send a READ RECORD command to read record 1 from EF$_{SMS}$.	
10	UICC → T	Return the contents of record 1 in a series of chained I-blocks, whose INF fields are ≤ IFSD, i.e. less than or equal to 32 bytes in length.	RQ07_0246
11	T → UICC	Reset the UICC.	
12	T → UICC	Send a SELECT command to select and activate the chosen application.	
13	T → UICC	Send a SELECT command to the UICC, with an invalid file ID whose length shall be 255 bytes long, where each byte shall be set to 'FF', where the INF field in the I-block shall be set to 255 bytes in length.	
14	UICC → T	The UICC shall reject the command by sending an R-block response of the format R(N), where N is the sequence number of the next expected I-block (ignoring the erroneous I-block) and with bits b1 to b4 in the PCB-byte having a value of '2' - other errors.	RQ07_0247

6.5.3   Transport Layer

6.5.3.1   Transportation of an APDU using T = 0

6.5.3.1.1   Purpose

Clause 6.5.3.1 describes conformance tests relating to the mapping of C-APDUs and R-APDUs for T = 0 protocol, the APDU exchange and the use of the GET RESPONSE command as used in case 2 and case 4 commands.

6.5.3.1.2   Case 1 command

6.5.3.1.2.1   Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.3.1.2.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.3.1.2.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to the UICC to select and activate the chosen application.	
3	T → UICC	Send a VERIFY PIN command with parameter P2 indicating PIN and with an empty data field.	
4	UICC → T	Return status condition SW1 = '63', SW2 = 'CX' - unsuccessful PIN verification, X attempts left.	RQ07_0301 RQ07_0303
5	T → UICC	Send a VERIFY PIN command with an incorrect parameter P2 and with an empty data field.	
6	UICC → T	Return an error code appropriate to the command.	RQ07_0302

6.5.3.1.3   Case 2 command

6.5.3.1.3.1   Test execution

 Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 11 bytes. E.g.:

a)   USIM: $EF_{TRANSPARENT} = EF_{LOCI}$

b)   CSIM: $EF_{TRANSPARENT} = EF_{HOME\_TAG}$

c)   ISIM: $EF_{TRANSPARENT} = EF_{DOMAIN}$

d)   generic: $EF_{TRANSPARENT} = EF_{TRANS\_1}$

6.5.3.1.3.2   Initial conditions

$EF_{TRANSPARENT}$ shall contain the data string: 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.

6.5.3.1.3.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command to select $EF_{TRANSPARENT}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
6	UICC → T	Return the procedure byte 'B0' followed by the data string 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00', ending with the status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0304
7	T → UICC	Send a READ BINARY command with an incorrect P2 parameter and a length of 11 bytes.	
8	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0305

6.5.3.1.4   Case 3

6.5.3.1.4.1   Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 11 bytes. E.g.:

a)   USIM: $EF_{TRANSPARENT} = EF_{LOCI}$

b)   CSIM: $EF_{TRANSPARENT} = EF_{HOME\_TAG}$

c)   ISIM: $EF_{TRANSPARENT} = EF_{DOMAIN}$

d)   generic: $EF_{TRANSPARENT} = EF_{TRANS\_1}$

6.5.3.1.4.2   Initial conditions

$EF_{TRANSPARENT}$ shall contain the data string different from: '11 22 33 44 55 66 77 88 99 AA BB'.

6.5.3.1.4.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command to select $EF_{TRANSPARENT}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send an UPDATE BINARY command header using a length of 11 bytes.	
6	UICC → T	Return the procedure byte 'D6' to the terminal simulator.	RQ07_0306
7	T → UICC	Send the data string '11 22 33 44 55 66 77 88 99 00 11'.	
8	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0307
9	T → UICC	Send an UPDATE BINARY command header with an incorrect P2 parameter, a length of 11 bytes and, if needed, data string '11 22 33 44 55 66 77 88 99 00 11'.	
10	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0308
11	T → UICC	Send an UPDATE BINARY command with the data 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	

6.5.3.1.5   Case 4

6.5.3.1.5.1   Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with transparent EFs with a length of more than 2 bytes. E.g.:

a)   USIM: $EF_{TRANSPARENT} = EF_{IMSI}$

b)   CSIM: $EF_{TRANSPARENT} = EF_{CSIM\_ST}$

c)   ISIM: $EF_{TRANSPARENT} = EF_{IMPI}$

d)   generic: $EF_{TRANSPARENT} = EF_{TRANS\_2}$

Step 9) of the test procedure is executed using the FID of one of the following transparent EFs:

a)   USIM: $EF_{FID} = EF_{LOCI}$, FID: '6F7E', SFI: '0B'

b)   CSIM: $EF_{FID} = EF_{CSIM\_ST}$, FID: '6F32', SFI: '02'

c)   ISIM: $EF_{FID} = EF_{IMPI}$, FID: '6F02', SFI: '02'

d)   generic: $EF_{FID} = EF_{TRANS\_1}$, FID: '6F0A'

6.5.3.1.5.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.3.1.5.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command header to the UICC with P2 = '04' and a length of 2 bytes to select $EF_{TRANSPARENT}$.	
4	UICC → T	Return the procedure byte 'A4' to the terminal simulator.	RQ07_0309
5	T → UICC	Send the file ID of the $EF_{TRANSPARENT}$.	

Step	Direction	Description	RQ
6	UICC → T	Return procedure bytes '61xx' to the terminal simulator - where xx is the length of the FCP of the EF$_{TRANSPARENT}$.	RQ07_0310
7	T → UICC	Send a GET RESPONSE command header to the UICC with P3 set to length 'xx'.	
8	UICC → T	Return the procedure byte 'C0' followed by the FCP of the EF$_{TRANSPARENT}$, ending with the status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0312
9	T → UICC	Send a SELECT command header to the UICC with an incorrect P1 parameter, P2 = '04', a length of 2 bytes and, if needed, the file ID of EF$_{FID}$.	
10	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0309
11	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
12	UICC → T	Return procedure bytes '61xx' to the terminal simulator - where 'xx' is the length of the FCP of the EF$_{TRANSPARENT}$.	RQ07_0310
13	T → UICC	Send a GET RESPONSE command to the UICC with P3 set to 'yy' where 'yy' is less than 'xx'.	
14	UICC → T	Return the first 'yy' bytes of the FCP of the EF$_{TRANSPARENT}$. Return status condition SW1 = '61', SW2 = 'zz' - where 'zz' is the remaining length of the FCP of the EF$_{TRANSPARENT}$.	RQ07_0311
15	T → UICC	Send a GET RESPONSE command to the UICC with P3 set to 'zz'.	
16	UICC → T	Return the next 'zz' bytes of the FCP of the EF$_{TRANSPARENT}$. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0311

6.5.3.1.6 Use of Procedure Bytes '61xx' and '6Cxx'

6.5.3.1.6.1 Case 2 Commands

6.5.3.1.6.1.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 11 bytes. E.g.:

  a)   USIM: EF$_{TRANSPARENT}$ = EF$_{LOCI}$

  b)   CSIM: EF$_{TRANSPARENT}$ = EF$_{HOME\_TAG}$

  c)   ISIM: EF$_{TRANSPARENT}$ = EF$_{DOMAIN}$

  d)   generic: EF$_{TRANSPARENT}$ = EF$_{TRANS\_1}$

6.5.3.1.6.1.2 Initial conditions

EF$_{TRANSPARENT}$ shall contain the data string: 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.

6.5.3.1.6.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send a READ BINARY command header to the UICC with the P3 parameter set to '00'.	
6	UICC → T	Return the procedure bytes '6C 0B' to the terminal simulator.	RQ07_0313
7	T → UICC	Send a READ BINARY command header to the UICC with the P3 parameter set to '0B'.	
8	UICC → T	Return the procedure byte 'B0' followed by the data string 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00', ending with the status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0315
9	T → UICC	Send a READ BINARY command header to the UICC with an incorrect P2 parameter and the P3 parameter set to '00'.	
10	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0314

Step	Direction	Description	RQ
11	T → UICC	Send a READ BINARY command header to the UICC with an incorrect P2 parameter and the P3 parameter set to '15'.	
12	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0314
13	T → UICC	Send a READ BINARY command header to the UICC with an incorrect P2 parameter and the P3 parameter set to '0B'.	
14	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0316
15	T → UICC	Send a READ BINARY command header to the UICC with an incorrect P2 parameter and the P3 parameter set to '05'.	
16	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0318

6.5.3.1.6.2 Case 4 Commands

6.5.3.1.6.2.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.3.1.6.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.3.1.6.2.3 Test procedure

FFS.

6.5.3.2 Transportation of an APDU using T = 1

6.5.3.2.1 Purpose

Clause 6.5.3.2 describes conformance tests relating to the transportation of an APDU using the T = 1 protocol.

The tests defined in this clause only apply where the UICC under test supports the T = 1 protocol. If the UICC under test does not support the T = 1 protocol, then these tests do not apply.

The tests in this clause assume that the T = 1 protocol is the first indicated protocol for the UICC. If the UICC under test supports T = 1 but it is not the first indicated protocol, then each test shall be extended to configure the UICC to employ the T = 1 protocol, e.g. via the PPS mechanism.

6.5.3.2.2 Case 1

6.5.3.2.2.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.5.3.2.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.3.2.2.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a VERIFY PIN command with parameter P2 indicating PIN and with an empty data field.	
4	UICC → T	Return status condition SW1 = '63', SW2 = 'CX' - unsuccessful PIN verification, X attempts left.	RQ07_0320 RQ07_0321

Step	Direction	Description	RQ
5	T → UICC	Send a VERIFY PIN command with an incorrect parameter P2 and with an empty data field.	
6	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0320 RQ07_0321

6.5.3.2.3 Case 2

6.5.3.2.3.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 11 bytes. E.g.:

a) USIM: $EF_{TRANSPARENT} = EF_{LOCI}$

b) CSIM: $EF_{TRANSPARENT} = EF_{HOME\_TAG}$

c) ISIM: $EF_{TRANSPARENT} = EF_{DOMAIN}$

d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_1}$

6.5.3.2.3.2 Initial conditions

$EF_{TRANSPARENT}$ shall contain the data string: 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.

6.5.3.2.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command to select $EF_{TRANSPARENT}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
6	UICC → T	Return the data string 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00', ending with the status condition SW1 = '90', SW2 = '00'.	RQ07_0323
7	T → UICC	Send a READ BINARY command with an incorrect P2 parameter and a length of 11 bytes.	
8	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0323

6.5.3.2.4 Case 3

6.5.3.2.4.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 11 bytes. E.g.:

a) USIM: $EF_{TRANSPARENT} = EF_{LOCI}$

b) CSIM: $EF_{TRANSPARENT} = EF_{HOME\_TAG}$

c) ISIM: $EF_{TRANSPARENT} = EF_{DOMAIN}$

d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_1}$

6.5.3.2.4.2 Initial conditions

$EF_{TRANSPARENT}$ shall contain the data string different from: '11 22 33 44 55 66 77 88 99 AA BB'.

6.5.3.2.4.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send an UPDATE BINARY command with the data string '11 22 33 44 55 66 77 88 99 00 11'.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0324
7	T → UICC	Send an UPDATE BINARY command header with an incorrect P2 parameter and the data string '11 22 33 44 55 66 77 88 99 00 11'.	
8	UICC → T	Return status condition: SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2; or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ07_0324
9	T → UICC	Send an UPDATE BINARY command with the data 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	

6.5.3.2.5   Case 4

6.5.3.2.5.1   Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with transparent EFs. E.g.:

   a)   USIM: EF$_{TRANSPARENT}$ = EF$_{IMSI}$

   b)   CSIM: EF$_{TRANSPARENT}$ = EF$_{CSIM\_ST}$

   c)   ISIM: EF$_{TRANSPARENT}$ = EF$_{IMPI}$

   d)   generic: EF$_{TRANSPARENT}$ = EF$_{TRANS\_2}$

Step 5) of the test procedure is executed using the FID of one of the following transparent EFs with known FID:

   a)   USIM: EF$_{FID}$ = EF$_{LOCI}$, FID: '6F7E', SFI: '0B'

   b)   CSIM: EF$_{FID}$ = EF$_{CSIM\_ST}$, FID: '6F32', SFI: '02'

   c)   ISIM: EF$_{FID}$ = EF$_{IMPI}$, FID: '6F02', SFI: '02'

   d)   generic: EF$_{FID}$ = EF$_{TRANS\_1}$, FID: '6F0E'

6.5.3.2.5.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.5.3.2.5.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC	
2	T → UICC	Send a SELECT command to select and activate the chosen application	
3	T → UICC	Send a SELECT command with P2 = '04' to select EF$_{TRANSPARENT}$	
4	UICC → T	Return the FCP of the EF$_{TRANSPARENT}$ together with the status condition SW1 = '90', SW2 = '00' - normal ending of the command	RQ07_0324 RQ07_0325
5	T → UICC	Send a SELECT command with incorrect P1 parameter and P2 = '04' to select EF$_{FID}$	
6	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2	RQ07_0324 RQ07_0325

6.5.4 Application Layer

FFS.

6.6 Application and File structure

6.6.1 Purpose

The tests in clause 6.6 ensure that the DUT is tested against the specification of the logical structure, for a UICC, the code associated with it, and the structure of the files used.

6.6.2 UICC Application structure

6.6.2.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.2.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select EF$_{DIR}$.	
3	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	RQ08_0102
4	T → UICC	Send a READ RECORD command to read record 1 of the EF$_{DIR}$. The length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 2).	
5	T → UICC	Send a SELECT command to select and activate the ADF stated in EF$_{DIR}$ of record 1.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	RQ08_0101
7	T → UICC	Reset the UICC.	
8	T → UICC	Send a SELECT command to select EF$_{PL}$.	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	RQ08_0102
10	T → UICC	Send a SELECT command to select EF$_{ICCID}$.	
11	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	RQ08_0102
12	T → UICC	Send a SELECT command to select DF$_{TELECOM}$.	
13	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command, if the UICC supports DF$_{TELECOM}$, otherwise return status condition SW1 = '6A', SW2 = '82' - file ID not found.	RQ08_0103

6.6.3 File types

6.6.3.1 Dedicated files

FFS.

6.6.3.2 Elementary files

6.6.3.2.1 Introduction

Elementary Files structure the way in which information is held on the UICC and provide security on how this information is accessed.

6.6.3.2.2 Transparent EF

6.6.3.2.2.1 Test execution

Dependent on the NAA available on the UICC, the test procedure is executed with at least one transparent EFs:

   a) USIM: $EF_{TRANSPARENT} = EF_{UST}$

   b) CSIM: $EF_{TRANSPARENT} = EF_{CSIM\_ST}$

   c) ISIM: $EF_{TRANSPARENT} = EF_{IMPI}$

   d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_1}$

In case the UICC hosts more than one NAA the test procedure is to be executed for each available NAA using the appropriate transparent EF.

6.6.3.2.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled except for UICCs hosting neither a USIM nor a CSIM nor an ISIM. In such an exceptional case the UICC has to be prepared to host the generic application containing the required application files as defined in clause 4.5.2.of the present document.

6.6.3.2.2.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
4	T → UICC	Fulfil the READ access condition of the EF$_{TRANSPARENT}$.	
5	T → UICC	Send a READ BINARY command to the UICC. The length used shall be the TLV DO with tag '80' of the response data in step 3).	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0204
7	T → UICC	Send a READ BINARY command with offset '00 01' to the UICC. The length used shall be the TLV DO with tag '80' of the response data in step 3) minus 1.	
8	UICC → T	The length of data returned shall be Le and return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0204
9	T → UICC	Send a READ BINARY command with offset '00 01' to the UICC. The length used shall be the TLV DO with tag '80' of the response data in step 3).	
10a	UICC → T	When T = 0 protocol is used: Return procedure bytes '6C Le-1'; or status indicating a warning or error condition (but not SW1 SW2 = '90 00').	RQ08_0203 RQ08_0204
10b	UICC → T	When T = 1 protocol is used: The length of data returned shall be Le minus 1 and return status condition SW1 = '62', SW2 = '82' - end of file/record reached before reading Le bytes.	RQ08_0203 RQ08_0204

6.6.3.2.3 Linear fixed EF

6.6.3.2.3.1 Test execution

Dependent on the NAA available on the UICC, the test procedure is executed with at least one of the following linear fixed EFs:

   a) USIM: $EF_{LINEARFIXED} = EF_{FDN}$

   b) CSIM: $EF_{LINEARFIXED} = EF_{FDN}$

   c) ISIM: $EF_{LINEARFIXED} = EF_{IMPU}$

   d) generic: $EF_{LINEARFIXED} = EF_{LF\_2}$

In case the UICC hosts more than one NAA the test procedure is to be executed for each available NAA using the appropriate linear fixed EF.

6.6.3.2.3.2 Initial conditions

If either the USIM or the CSIM is selected for testing the records in EF_{FDN} and if the ISIM is selected the records in EF_{IMPU} shall contain the following data for the first 10 bytes:

1st record	'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'
2nd record	'B0 B1 B2 A0 A1 A2 A0 A1 A2 B0'
3rd record	'B0 B1 B2 A0 A1 A2 B0 B1 B2 A0'
4th record	'A0 A1 A2 B0 B1 B2 B0 B1 B2 B0'

The data for the remainder of these four records and for all other records (if any) shall be 'FF'.

If the UICC is neither hosting a USIM nor a CSIM nor an ISIM, or USIMs or CSIMs hosted are not containing an EF_{FDN}, the UICC has to be prepared to host the generic application containing the required application files as defined in clause 4.5.2.of the present document.

6.6.3.2.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a VERIFY PIN command with PIN.	
4	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$.	
5	UICC → T	Following shall be true for the SELECT response data: the value of TLV DO with tag '80' shall be equal to product of byte 6 and byte 7 in TLV DO with tag '82'.	RQ08_0205
6	T → UICC	Send a READ RECORD command to the UICC using ABSOLUTE mode with record 1 and Le shall be the record length as indicated in byte 6 in TLV DO with tag '82' of the response data in step 5).	
7	UICC → T	The data returned by the UICC shall be that of the first record: The length of the data returned shall be that of byte 6 in TLV DO with tag '82' of the response data in step 4). Return status condition SW1='90', SW2='00' - normal ending of the command.	RQ08_0205
8	T → UICC	The terminal simulator shall repeat sending a READ RECORD command to the UICC using NEXT mode with Le being the record length as indicated in byte 6 in TLV DO with tag '82' of the response data in step 4) until it reaches the last record whose record number is equal to the byte 7 in TLV DO with tag '82' of the response data in step 5).	
9	UICC → T	The length of the data returned in response to every READ RECORD command shall be that of byte 6 in TLV DO with tag '82' of the response data in step 5) Return status condition in response to every READ RECORD command shall be SW1='90', SW2='00' - normal ending of the command.	RQ08_0205
10	T → UICC	Send a READ RECORD command to the UICC using NEXT mode with Le being the record length as indicated in byte 6 in TLV DO with tag '82' of the response data in step 5).	
11	UICC → T	Return an error code appropriate to the command.	RQ08_0205
NOTE:		Step 11) confirms that the number of records indicated in byte 7 in the TLV DO with tag '82' of the response data is correct.	

6.6.3.2.4 Cyclic EF

6.6.3.2.4.1 Test execution

Dependent on the NAA available on the UICC, the test procedure is executed with at least one of the following cyclic EFs:

   a)   USIM: $EF_{CYCLIC} = EF_{ICI}$

   b)   CSIM: $EF_{CYCLIC} = EF_{ICI}$

c) generic: $EF_{CYCLIC} = EF_{CYCLIC}$

In case the UICC hosts more than one NAA the test procedure is to be executed for each available NAA using the appropriate cyclic EF.

6.6.3.2.4.2 Initial conditions

If either the USIM or the CSIM is selected for testing and EF_{ICI} is available EF_{ICI} shall have at least 4 records. containing the following data:

1st record	'01' for all bytes
2nd record	'02' for all bytes
3rd record	'03' for all bytes
Xth record	byte value X for all bytes

If the UICC is neither hosting a USIM nor a CSIM containing an EF_{ICI}, the UICC has to be prepared to host the generic application containing the required application files as defined in clause 4.5.2 of the present document.

6.6.3.2.4.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a VERIFY PIN command with PIN.	
4	T → UICC	Send a SELECT command to select EF_{CYCLIC}.	
5	T → UICC	Send a READ RECORD command using NEXT mode. The length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
6	UICC → T	The response data shall be the data in the first record.	RQ08_0209
7	T → UICC	Send a READ RECORD command using PREVIOUS mode. The record length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
8	UICC → T	The response data shall be the data in the last record.	RQ08_0209
9	T → UICC	Send a READ RECORD command using NEXT mode. The record length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
10	UICC → T	The response data shall be the data in the first record.	RQ08_0209
11	T → UICC	Send a READ RECORD command using PREVIOUS mode. The record length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
12	UICC → T	The response data shall be the data in the last record.	RQ08_0209 RQ08_0210
13	T → UICC	Send an UPDATE RECORD command using PREVIOUS mode to the UICC with 'FF' for all the bytes. The record length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	RQ08_0209
14	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1 to the UICC. The length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
15	UICC → T	The response data shall be the new data that has been updated in step 13).	RQ08_0209
16	T → UICC	Send a READ RECORD command using PREVIOUS mode to the UICC. The length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
17	UICC → T	The response data shall be the previous data in the second last record.	RQ08_0209
18	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with record 1 to the UICC with 'FF' for all the bytes. The length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
19	UICC → T	Return an error code appropriate to the command (e.g. SW1 = '69', SW2 = '81' - command incompatible with file structure).	RQ08_0210

Step	Direction	Description	RQ
20	T → UICC	Send an UPDATE RECORD command using CURRENT mode to the UICC with 'FF' for all the bytes. The length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
21	UICC → T	Return an error code appropriate to the command.	RQ08_0210
22	T → UICC	Send an UPDATE RECORD command using NEXT mode to the UICC with 'FF' for all the bytes. The length used shall be that of bytes 5 and 6 in TLV DO with tag '82' of the response data in step 4).	
23	UICC → T	Return an error code appropriate to the command (e.g. SW1 = '69', SW2 = '81' - command incompatible with file structure).	RQ08_0210

6.6.3.2.5   BER-TLV structure EF

FFS.

6.6.4   File referencing

FFS.

6.6.5   Methods for selecting a file

6.6.5.1   SELECT by File Identifier Referencing

6.6.5.1.1   Test execution

The test procedure shall be executable independent from the NAA chosen (see clause 4.5.2 for valid applications) The test procedure is to be executed with an ADF. E.g.:

a)   USIM: $ADF_1 = ADF_{USIM}$

b)   CSIM: $ADF_1 = ADF_{CSIM}$

c)   ISIM: $ADF_1 = ADF_{ISIM}$

6.6.5.1.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.5.1.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a STATUS command to the UICC.	
4	UICC → T	if a TLV DO with tag '83' is present, then the response data shall indicate that ADF_1 is the currently selected directory.	RQ08_0402
5	T → UICC	Send a READ BINARY command using a length of 1 byte.	
6	UICC → T	Return status condition SW1 = '69', SW2 = '86'.	RQ08_0402
7	T → UICC	Send a SELECT command to select EF_{AD}.	
8	UICC → T	TLV DO with tag '83' of the response data shall indicate that EF_{AD} is the currently selected EF.	RQ08_0402
9	T → UICC	Send a STATUS command.	
10	UICC → T	If a TLV DO with tag '83' is present, then the response data shall indicate that ADF_1 is the currently selected directory.	RQ08_0402
11		Step 12) shall be carried out for each line in Table 8.1, clause 8.4.1 of ETSI TS 102 221 [1] for which a file is defined in Table 9.	

Step	Direction	Description	RQ
12		Step 13) shall be carried out for each one of the 'valid selections' in that line of the table.	
13		Steps 14) and then 15) shall be carried out in turn.	
14	T → UICC	Send a SELECT command to select the 'last selected file'.	
15	T → UICC	Send a SELECT command to select the 'valid selection'.	
16	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	RQ08_0405 RQ08_0406
17		The following file IDs shall be used to represent the IDs in the table: <table><tr><th>Table</th><th>Actual</th></tr><tr><td>MF</td><td>MF</td></tr><tr><td>ADF1</td><td>ADF$_1$</td></tr><tr><td>DF1</td><td>DF$_{TELECOM}$</td></tr><tr><td>DF4</td><td>DF$_{PHONEBOOK}$</td></tr><tr><td>EF1</td><td>EF$_{ICCID}$</td></tr><tr><td>EF2</td><td>EF$_{ADN}$</td></tr><tr><td>EF3</td><td>EF$_{AD}$</td></tr><tr><td>EF5</td><td>EF$_{PBR}$</td></tr></table>	

NOTE 1: When EF$_{ADN}$ is not supported by the UICC, any supported EF in DF$_{TELECOM}$ may be chosen.
NOTE 2: When EF$_{PBR}$ is not supported by the UICC, any supported EF in DF$_{PHONEBOOK}$ may be chosen.

6.6.5.2   SELECT by Path Referencing

6.6.5.2.1   Test execution

The test procedure shall be executable independent from the NAA chosen (see clause 4.5.2 for valid applications). The test procedure is to be executed with an ADF. E.g.:

a)   USIM: ADF$_1$ = ADF$_{USIM}$

b)   CSIM: ADF$_1$ = ADF$_{CSIM}$

c)   ISIM: ADF$_1$ = ADF$_{ISIM}$

6.6.5.2.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.5.2.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Step 4) shall be carried out for each line in Table 8.2, clause 8.4.2 of ETSI TS 102 221 [1] for which a file is defined in Table 9.	
4	T → UICC	Step 5) shall be carried out for each one of the 'example selections' in that line of the table: <table><tr><th>Table</th><th>Actual</th></tr><tr><td>MF</td><td>MF</td></tr><tr><td>ADF1</td><td>ADF$_1$</td></tr><tr><td>DF1</td><td>DF$_{TELECOM}$</td></tr><tr><td>DF4</td><td>DF$_{PHONEBOOK}$</td></tr><tr><td>EF1</td><td>EF$_{ICCID}$</td></tr><tr><td>EF2</td><td>EF$_{ADN}$</td></tr><tr><td>EF3</td><td>EF$_{AD}$</td></tr><tr><td>EF5</td><td>EF$_{PBR}$</td></tr></table>	
5	T → UICC	Step 6) and then steps 7) and 8) shall be carried out in turn.	
6	T → UICC	Send a SELECT command to select the 'last selected DF'.	
7	T → UICC	Send a SELECT by path command to select the 'example selections'.	
8	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0407 RQ08_0408

6.6.5.3 Short File Identifier

6.6.5.3.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with an EF selectable via SFI. The test procedure shall be executed with an EFs having assigned the SFI: '07'. E.g.:

a) USIM: $EF_{SFI} = EF_{IMSI}$

b) CSIM: $EF_{SFI} = EF_{PRL}$

c) ISIM: $EF_{SFI} = EF_{IST}$

6.6.5.3.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.5.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications)	
3	T → UICC	Send a SELECT command to select EF$_{SFI}$	
4	UICC → T	TLV DO with tag '88' of the response data shall indicate the SFI of the EF$_{SFI}$	RQ08_0410

6.6.6 Application characteristic

6.6.6.1 Explicit Application selection

6.6.6.1.1 SELECT by DF Name

6.6.6.1.1.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.6.1.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.6.1.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select EF$_{DIR}$.	
3	T → UICC	Send a READ RECORD command with NEXT mode.	
4	UICC → T	The length of the TLV DO with tag '4F' in the response data shall not exceed 16 bytes. The TLV DO with tag '4F' in the response data shall not be same with any other TLV DO with tag '4F' of the other records.	RQ08_0502
5	T → UICC	Step 4) shall be repeated until it reaches the end of file.	
6	T → UICC	Following steps 7) and 8) shall be repeated for each AIDs read in the step 4).	
7	T → UICC	Reset the UICC.	
8	T → UICC	Send a SELECT command with AID to select and activate the ADF.	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The FCP shall contain: • TLV DO with tag 82 shall be '38' or '78'(File Descriptor); • TLV DO with tag 84 shall be the AID of the UICC (DF name - AID).	RQ08_0502

6.6.6.1.2 SELECT by partial DF Name

6.6.6.1.2.1 Test execution

Selection by Partial DF name shall not be tested as it requires the interpretation of the next, previous and first occurrence.

6.6.6.1.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.6.1.2.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Reset the UICC.	
4	T → UICC	Send a SELECT command with partial DF name of a chosen application and P2 indicating "last occurrence" option to select and activate the last selected application.	
5	UICC → T	If the ATR returned in step 1) indicates that partial selection by DF name is supported (as indicated in the "card service data" and the "card capabilities" compact-TLV objects of the ATR historical bytes) the UICC shall return the response indicating the chosen application is selected. If the ATR returned in step 1) indicates that partial selection by DF name is not supported the UICC shall respond with an appropriate response.	RQ08_0503 RQ08_0504

6.6.6.1.2.4 Void

6.6.6.1.2.5 Test procedure 3

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	The ATR returned by the UICC shall indicate that selection by partial DF name is supported in the "card service data" and the "card capabilities" compact-TLV objects of the ATR historical bytes.	RQ08_0504
3	T → UICC	Send a SELECT command to select and activate the chosen application.	
4	T → UICC	Reset the UICC.	
5	T → UICC	Send a SELECT command with partial DF name of a chosen application and P2 indicating "last occurrence" option to select and activate the last selected application.	
6	UICC → T	Return the response indicating the application selected in step 3).	RQ08_0504 RQ08_0503

6.6.6.2 Application session activation

6.6.6.2.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.6.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.6.2.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command with AID to select and activate application.	
3	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0505
4	T → UICC	Send a STATUS command with P2 = '01'.	
5	UICC → T	The response data shall contain the following: • TLV DO with tag '84' shall indicate an AID of the active application.	RQ08_0505

6.6.6.3 Application session termination

6.6.6.3.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.6.3.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.6.3.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command with AID of an available application to select and activate the chosen application.	
Condition		IF no other application than the chosen application exists in the UICC, skip steps 3) to 5).	
3	T → UICC	Send a SELECT command with AID to select and activate an application different from the selected application.	
4	T → UICC	Send a STATUS command with P2 = '01'.	
5	UICC → T	The response data shall contain the following: • TLV DO with tag '84' shall indicate an AID of the selected application different from the selected chosen application in step 2).	RQ08_0508

6.6.6.3.4 Void

6.6.6.3.5 Test procedure 3

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command with AID to select and activate the chosen application.	
3	T → UICC	Send a SELECT command with AID to select and terminate the chosen application.	
4	T → UICC	Send a STATUS command with P2 = '00'.	
5	UICC → T	The response data shall be that of the MF.	RQ08_0506 RQ08_0508
6	T → UICC	Send a READ BINARY command without SFI referencing.	
7	UICC → T	Return status condition SW1 = '69', SW2 = '86' - command not allowed (no EF selected).	RQ08_0506 RQ08_0508
8	T → UICC	Send a SELECT command with P1 = '00' and a data field equal to '7FFF'.	
9	UICC → T	Return an error appropriate to the command. (e.g. SW1 = '6A', SW2 = '82' - File not found).	RQ08_0506 RQ08_0508

6.6.6.3.6 Test procedure 4

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command with AID to select and activate the chosen application.	
3	T → UICC	Send a STATUS command with P2 = '01'.	
4	UICC → T	The response data shall contain the following: • TLV DO with tag '84' is the AID of the chosen application (DF name - AID).	RQ08_0506
5	T → UICC	Reset the UICC.	
6	T → UICC	Send a STATUS command with P2='00'.	
7	UICC → T	The response data shall not be that of the chosen application activated in step 2).	RQ08_0508

6.6.6.3.7 Test procedure 5

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC.	
3	UICC → T	Return the channel number of the logical channel assigned by the UICC (channel 'a').	RQ08_0506
4	T → UICC	Send a SELECT command with AID to select and activate the chosen application on channel 'a'.	
5	T → UICC	Send a STATUS command with P2 = '01' to the UICC on channel 'a'.	
6	UICC → T	The response data shall contain the following: • TLV DO with tag '84' is the AID of the chosen application (DF name - AID).	
7	T → UICC	Send a MANAGE CHANNEL (CLOSE) command to close channel 'a'.	
8	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC.	
9	T → UICC	Send a STATUS command with P2 = '00' to the UICC on the logical channel assigned in the response to step 8).	
10	UICC → T	The response data shall not be that of the chosen application activated in step 3).	RQ08_0508

6.6.6.4 Application session reset

6.6.6.4.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF. E.g.:

    a)   USIM: $EF_{TRANSPARENT} = EF_{LOCI}$

    b)   CSIM: $EF_{TRANSPARENT} = EF_{HOME\_TAG}$

    c)   ISIM: $EF_{TRANSPARENT} = EF_{DOMAIN}$

    d)   generic: $EF_{TRANSPARENT} = EF_{TRANS\_1}$

6.6.6.4.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.6.4.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command with AID to select and activate the chosen application.	
3	T → UICC	Send a SELECT command to the UICC with $EF_{TRANSPARENT}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send a READ BINARY command.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0509
7	T → UICC	Send a STATUS command with P2 = '01'.	

Step	Direction	Description	RQ
8	UICC → T	The response data shall contain the following: • TLV DO with tag '84' is the AID of the chosen application (DF name - AID).	RQ08_0509
9	T → UICC	Send a SELECT command with AID to select and activate the chosen application.	
10	UICC → T	The status condition returned by the USIM shall be SW1 = '90', SW2 = '00'.	RQ08_0509

6.6.7   Reservation of file IDs

6.6.7.1   Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.7.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.7.3   Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command using FID '7F FF' to select and activate chosen application.	
4	UICC → T	The response data shall contain the following: • TLV DO with tag '84' is the AID of the UICC (DF name - AID) shall be the same as in step 2).	RQ08_0601

6.6.7.4   Void

6.6.7.5   Void

6.6.8   Logical channels

6.6.8.1   No Logical Channel Support

6.6.8.1.1   Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.8.1.2   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.8.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	Return a valid ATR. The following shall be true of the returned ATR: • The Third Software Function in the Card Capabilities Object shall not be present; or • If the Third Software Function is present it shall indicate that the UICC does not support logical channels.	RQ08_0701
3	T → UICC	Send a MANAGE CHANNEL (OPEN) command.	
4	UICC → T	Return an error code appropriate to the command.	RQ08_0701
5	T → UICC	Send a STATUS command to the UICC on channel 1.	
6	UICC → T	Return an error code appropriate to the command.	RQ08_0701
7	T → UICC	Send a STATUS command to the UICC on channel 2.	
8	UICC → T	Return an error code appropriate to the command.	RQ08_0701
9	T → UICC	Send a STATUS command to the UICC on channel 3.	
10	UICC → T	Return an error code appropriate to the command.	RQ08_0701

6.6.8.2 Logical Channels - Basic Behaviour

6.6.8.2.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.8.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.8.2.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	Return a valid ATR. The Third Software Function shall be present and it shall indicate that: • The UICC supports logical channels. • The UICC supports logical channel number assignment by the card. • The maximum number of logical channels supported is between 2 and 20.	RQ08_0701 RQ08_0705
3	T → UICC	Conditional: if the UICC indicates in the ATR that more than 4 logical channels are supported, send a TERMINAL CAPABILITY command indicating support of extended logical channels.	
4	T → UICC	Send a MANAGE CHANNEL (CLOSE) command to close channel 0 (the basic channel).	
5	UICC → T	Return an error code appropriate to the command.	RQ08_0701
6	T → UICC	Send a STATUS command to the UICC on the basic channel.	
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0701
8	T → UICC	Send a STATUS command to the UICC on channel 1.	
9	UICC → T	Return an error code appropriate to the command.	RQ08_0707
10	T → UICC	Send a STATUS command to the UICC on channel 2.	
11	UICC → T	Return an error code appropriate to the command.	RQ08_0707
12	T → UICC	Send a STATUS command to the UICC on channel 3.	
13	UICC → T	Return an error code appropriate to the command.	RQ08_0707
14	T → UICC	Repeat steps 15) to 18) for each of the remaining non basic logical channels supported by the UICC, up to a maximum of seven times	
15	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
16	UICC → T	Return the number of the logical channel assigned by the UICC.	RQ08_0705 RQ08_0701 RQ08_0707
17	T → UICC	Send a STATUS command to the UICC on the logical channel assigned by the UICC in step 16).	
18	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	

Step	Direction	Description	RQ
19	T → UICC	If the UICC indicates in the ATR that 8 or more logical channels are supported, repeat steps 20) to 23) up to a maximum of twelve times or until the UICC returns an error status word in step 21).	
20	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
21	UICC → T	Either: • return the number of the logical channel assigned by the UICC; or • return an error code appropriate to the command, in this case, skip to step 24).	RQ08_0705 RQ08_0701 RQ08_0707
22	T → UICC	Send a STATUS command to the UICC on the logical channel assigned by the UICC in step 21).	
23	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
24	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel	
25	UICC → T	Return an error code appropriate to the command.	RQ08_0701
26	T → UICC	Repeat steps 27) to 30) for each of the non-basic logical channels supported by the UICC (as determined by execution of steps 14) to 23)).	
27	T → UICC	Send a MANAGE CHANNEL (CLOSE) command to the UICC on the first open non-basic channel supported by the UICC.	
28	UICC → T	Return status condition 90 00.	RQ08_0707
29	T → UICC	Send a STATUS command to the UICC on the same logical channel used in step 27).	
30	UICC → T	Return an error code appropriate to the command.	

6.6.8.2.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
3	UICC → T	Return the number of the logical channel assigned by the UICC - call this channel 'a'.	RQ08_0707
4	T → UICC	Send a STATUS command to the UICC on channel 'a'.	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
6	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on channel 'a'.	
7	UICC → T	Return the number of the logical channel assigned by the UICC - call this channel 'b'.	RQ08_0701 RQ08_0707
8	T → UICC	Send a STATUS command to the UICC on channel 'b'.	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
10	T → UICC	Reset the UICC.	
11	T → UICC	Send a STATUS command to the UICC on channel 'a'.	
12	UICC → T	Return an error code appropriate to the command.	RQ08_0707

6.6.8.3 Opening a Logical Channel from the Basic Channel

6.6.8.3.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.8.3.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.8.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a SELECT command to select $DF_{TELECOM}$.	
4	T → UICC	Send a SELECT command to select EF_{ARR}.	
5	T → UICC	Send a STATUS command with P2 = '00'.	

Step	Direction	Description	RQ
6	UICC → T	The value of the File Identifier in the response data shall be '7F 10'.	RQ08_0705
7	T → UICC	Send a MANAGE CHANNEL (OPEN).	
8	UICC → T	Return the channel number of the logical channel assigned by the UICC - call this channel 'a'.	RQ08_0705
9	T → UICC	Send a STATUS command on channel 'a' with P2 = '00'.	
10	UICC → T	The value of the File Identifier in the response data shall be '3F 00'.	RQ08_0705
11	T → UICC	Send READ RECORD command using ABSOLUTE mode with record 1 on channel 'a'.	
12	UICC → T	Return an error appropriate to the command. (e.g. SW1 = '69', SW2 = '86' - Command not allowed (no EF selected)).	RQ08_0705
13	T → UICC	Send a SELECT command with P1 = '00' and a data field equal to '7FFF' on channel 'a'.	
14	UICC → T	Return an error appropriate to the command. (e.g. SW1 = '6A', SW2 = '82' - File not found).	RQ08_0707

6.6.8.4 Opening a Logical Channel from a Non-Basic Channel

6.6.8.4.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.8.4.2 Initial conditions

The MF and the chosen application shall be configured as non-shareable.

6.6.8.4.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	The terminal shall send a MANAGE CHANNEL (OPEN) command to the UICC from the basic channel.	
3	UICC → T	Return the assigned logical channel number 'a'.	
4	T → UICC	Send a SELECT command to select and activate the chosen application on channel 'a'.	
5	T → UICC	Send a SELECT command to select DF$_{TELECOM}$ on channel 'a'.	
6	T → UICC	Send a SELECT command to select EF$_{ARR}$ on channel 'a'.	
7	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on channel 'a'.	
8	UICC → T	Return the assigned logical channel number 'b'.	
9	T → UICC	Send a STATUS command to the UICC on channel 'b'.	
10	UICC → T	The returned FCP shall contain the File ID of DF$_{TELECOM}$.	RQ08_0705
11	T → UICC	Send a READ RECORD (NEXT) command to the UICC on channel 'b'.	
12	UICC → T	Return an error - no EF selected.	RQ08_0705
13	T → UICC	Send a SELECT command with P1 = '00' and a data field equal to '7FFF' on channel 'b'.	
14	UICC → T	The returned FCP shall contain the AID of the USIM.	RQ08_0707
15	T → UICC	Reset the UICC.	
16	T → UICC	Send a SELECT command to select and activate the chosen application on the basic channel.	
17	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
18	UICC → T	Return the assigned logical channel number 'a'.	
19	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICCC on channel 'a'.	
20	UICC → T	Return the assigned logical channel number 'b'.	
21	T → UICC	Send a SELECT command with P1 = '00' and a data field equal to '7FFF' on channel 'b'.	
22	UICC → T	Return an error appropriate to the command.	RQ08_0707

6.6.8.5 Opening a Logical Channel on Non-Shareable Files

6.6.8.5.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.8.5.2 Initial conditions

The MF and the chosen application shall be configured as non-shareable.

6.6.8.5.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
3	UICC → T	Return an error appropriate to the command.	RQ08_0707
4	T → UICC	Send a STATUS command to the UICC on channel 1.	
5	UICC → T	Return an error appropriate to the command.	RQ08_0707
6	T → UICC	Send a STATUS command to the UICC on channel 2.	
7	UICC → T	Return an error appropriate to the command.	RQ08_0707
8	T → UICC	Send a STATUS command to the UICC on channel 3.	
9	UICC → T	Return an error appropriate to the command.	RQ08_0707
10	T → UICC	Send a SELECT command to select and activate the chosen application on the basic channel.	
11	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
12	UICC → T	Return an error appropriate to the command.	RQ08_0707
13	T → UICC	Send a STATUS command to the UICC on channel 1.	
14	UICC → T	Return an error appropriate to the command.	RQ08_0707
15	T → UICC	Send a STATUS command to the UICC on channel 2.	
16	UICC → T	Return an error appropriate to the command.	RQ08_0707
17	T → UICC	Send a STATUS command to the UICC on channel 3.	
18	UICC → T	Return an error appropriate to the command.	RQ08_0707

6.6.8.6 Logical Channels and Shareable Files

6.6.8.6.1 Test execution

For test procedure 1, EF_{ARR} (under the MF), $DF_{TELECOM}$ and the USIM shall be configured as non-shareable.

For test procedure 2, the MF, $DF_{TELECOM}$, EF_{ARR} (under $DF_{TELECOM}$) and the USIM shall be configured as shareable.

6.6.8.6.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.6.8.6.3 Test procedure 1- (non-shareable files)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select $DF_{TELECOM}$ on the basic channel.	
3	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
4	UICC → T	The UICC should return the assigned logical channel number - call it channel 'a'.	
5	T → UICC	Send a SELECT command to select the MF on the basic channel.	
6	T → UICC	Send a SELECT command to select EF_{ARR} (under the MF) on the basic channel.	
7	T → UICC	Send a SELECT command to select EF_{ARR} (under the MF) on channel 'a'.	
8	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of used not satisfied.	RQ08_0702 RQ08_0803
9	T → UICC	Send a SELECT command to select $DF_{TELECOM}$ on the basic channel.	

Step	Direction	Description	RQ
10	T → UICC	Send a SELECT command to select DF$_{TELECOM}$ on channel 'a'.	
11	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of used not satisfied.	RQ08_0702 RQ08_0803
12	T → UICC	Send a SELECT command to select and activate the chosen application on the basic channel.	
13	T → UICC	Send a SELECT command to select and activate the chosen application on channel 'a'.	
14	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of used not satisfied.	RQ08_0702 RQ08_0803

6.6.8.6.4 Test procedure 2 - (shareable files)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a MANAGE CHANNEL (OPEN) on the basic channel.	
3	UICC → T	The UICC should return the assigned logical channel number ('a').	RQ08_0702
4	T → UICC	Send a SELECT command to select DF$_{TELECOM}$ on the basic channel.	
5	T → UICC	Send a SELECT command to select EF$_{ARR}$ on the basic channel.	
6	T → UICC	Send a READ RECORD (NEXT) command to the UICC on the basic channel.	
7	UICC → T	Return the contents of the first record in EF$_{ARR}$.	
8	T → UICC	Send a SELECT command to select DF$_{TELECOM}$ on channel 'a'.	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0702 RQ08_0802
10	T → UICC	Send a SELECT command to select EF$_{ARR}$ on channel 'a'.	
11	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0702 RQ08_0802
12	T → UICC	Send a READ RECORD (NEXT) command to the UICC on channel 'a'.	
13	UICC → T	Return the contents of the first record in EF$_{ARR}$. The data received shall be the same as that received in step 7).	RQ08_0702 RQ08_0802
14	T → UICC	Send a SELECT command to select and activate the chosen application on the basic channel.	
15	T → UICC	Send a STATUS command to the UICC on the basic channel.	
16	UICC → T	The FCP returned by the UICC shall contain the AID of the USIM.	
17	T → UICC	Send a SELECT command to select and activate the chosen application on channel 'a'.	
18	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0702 RQ08_0802
19	T → UICC	Send a STATUS command to the UICC on channel 'a'.	
20	UICC → T	The FCP returned by the UICC shall contain the AID of the USIM.	RQ08_0702 RQ08_0802

6.6.8.7 Command Interdependencies

6.6.8.7.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.8.7.2 Initial conditions

DF$_{TELECOM}$, EF$_{ARR}$ (under DF$_{TELECOM}$), EF$_{FDN}$ and the USIM shall be configured as shareable.

6.6.8.7.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select DF$_{TELECOM}$ on the basic channel.	
3	T → UICC	Send a SELECT command to select EF$_{ARR}$ on the basic channel.	
4	T → UICC	Send a READ RECORD (NEXT) command to the UICC on the basic channel.	
5	UICC → T	Return the contents of the first record in EF$_{ARR}$.	
6	T → UICC	Send a MANAGE CHANNEL (OPEN) command on the basic channel.	

Step	Direction	Description	RQ
7	UICC → T	Return the logical channel number assigned by the UICC - call this channel 'a'.	
8	T → UICC	Send a SELECT command to select DF$_{TELECOM}$ on channel 'a'.	
9	T → UICC	Send a SELECT command to select EF$_{ARR}$ on channel 'a'.	
10	T → UICC	Send a READ RECORD (CURRENT) command to the UICC on the basic channel.	
11	UICC → T	Return the contents of the first record in EF$_{ARR}$. The data shall be the same as that received in step 5).	RQ08_0706
12	T → UICC	Send a SELECT command to select EF$_{ADN}$ on channel 'a'.	
13	T → UICC	Send a READ RECORD (CURRENT) command to the UICC on the basic channel.	
14	UICC → T	Return the contents of the first record in EF$_{ARR}$. The data shall be the same as that received in step 5).	RQ08_0706 RQ08_0802
15	T → UICC	Send a SELECT command to select the MF on channel 'a'.	
16	T → UICC	Send a STATUS command with P1 P2 = '00 00' to the UICC on the basic channel.	
17	UICC → T	The FCP returned by the UICC shall contain the File Identifier of DF$_{TELECOM}$.	RQ08_0802
18	T → UICC	Send a SELECT command to select and activate the chosen application on channel 'a'.	
19	T → UICC	Send a STATUS command with P1 P2 = '00 00' to the UICC on the basic channel.	
20	UICC → T	The FCP returned by the UICC shall contain the File Identifier of DF$_{TELECOM}$.	RQ08_0802
21	T → UICC	Send a SELECT command with P1 = '00' and the data field equal to '7FFF' to the UICC on the basic channel.	
22	UICC → T	Return an error appropriate to the command.	RQ08_0802
23	T → UICC	Send a READ RECORD (CURRENT) command to the UICC on the basic channel.	
24	UICC → T	Return the contents of the first record in EF$_{ARR}$. The data shall be the same as that received in step 5).	
25	T → UICC	Send a SELECT command to select and activate the USIM on the basic channel.	
26	T → UICC	Send a SELECT command to deselect the USIM on channel 'a'.	
27	T → UICC	Send a STATUS command to the UICC on the basic channel.	
28	UICC → T	The FCP returned by the UICC shall contain the AID of the USIM.	RQ08_0802
29	T → UICC	Reset the UICC.	
30	T → UICC	Send a SELECT command to select DF$_{TELECOM}$ on the basic channel.	
31	T → UICC	Send a MANAGE CHANNEL (OPEN) to the UICC on the basic channel.	
32	UICC → T	Return the logical channel number assigned by the UICC - call this channel 'a'.	
33	T → UICC	Send a SELECT command to select EF$_{ARR}$ on the basic channel.	
34	T → UICC	Send a READ RECORD (NEXT) command to the UICC on the basic channel.	
35	T → UICC	Send a READ RECORD (NEXT) command to the UICC on channel 'a'.	
36	UICC → T	Return an error appropriate to the command (e.g. '69 86' - Command not allowed (no EF selected)).	RQ08_0802
37	T → UICC	Reset the UICC.	
38	T → UICC	Send a VERIFY PIN command with PIN to gain the READ access condition for EF$_{FDN}$.	
39	T → UICC	Send a MANAGE CHANNEL (OPEN).	
40	UICC → T	Return the channel number of the logical channel assigned by the UICC channel 'a'.	
41	T → UICC	Send a SELECT command to the UICC on the basic channel to select and activate the chosen application.	
42	T → UICC	Send a SELECT command to the UICC on the basic channel to select EF$_{FDN}$.	
43	T → UICC	Send a SELECT command to the UICC on the channel 'a' to select and activate the chosen application.	
44	T → UICC	Send a SELECT command to the UICC on channel 'a' to select EF$_{FDN}$.	
45	T → UICC	Send a READ RECORD (NEXT) command to the UICC on the basic channel.	
46	UICC → T	The first 10 bytes of the data string returned by the UICC shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'.	RQ08_0802
47	T → UICC	Send a READ RECORD (NEXT) command to the UICC on channel 'a'.	
48	UICC → T	The first 10 bytes of the data string returned by the UICC shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'.	RQ08_0802
49	T → UICC	Send a READ RECORD (CURRENT) command to the UICC on the basic channel.	
50	UICC → T	The first 10 bytes of the data string returned by the UICC shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'.	
51	T → UICC	Send a READ RECORD (NEXT) command to the UICC on channel 'a'.	
52	UICC → T	The first 10 bytes of the data string returned by the UICC shall be 'B0 B1 B2 A0 A1 A2 A0 A1 A2 B0'.	RQ08_0802

Step	Direction	Description	RQ
53	T → UICC	Send a READ RECORD (CURRENT) command to the UICC on the basic channel.	
54	UICC → T	The first 10 bytes of the data string returned by the UICC shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'.	RQ08_0802

6.6.8.8 Consistency of File Updates

6.6.8.8.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.6.8.8.2 Initial conditions

- EF_{LOCI} shall be shareable

- EF_{CCP2} shall be shareable

6.6.8.8.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a VERIFY PIN command with PIN.	
3	T → UICC	Send a MANAGE CHANNEL (OPEN) command.	
4	UICC → T	Return the assigned logical channel number ('a').	
5	T → UICC	Send a SELECT command to the UICC on the basic channel to select and activate the USIM.	
6	T → UICC	Send a SELECT command to the UICC on the basic channel to select EF_{CCP2}.	
7	T → UICC	Send a SELECT command to the UICC on channel 'a' to select and activate the USIM.	
8	T → UICC	Send a SELECT command to the UICC on channel 'a' to select EF_{CCP2}.	
9	T → UICC	Send a READ RECORD (NEXT) command to the UICC on the basic channel.	
10	UICC → T	The data string returned by the UICC shall be the contents of the first record in EF_{CCP2} i.e. '10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E'.	
11	T → UICC	Send a READ RECORD (NEXT) to the UICC on channel 'a'.	
12	UICC → T	The data string returned by the UICC shall be the contents of the first record in EF_{CCP2} i.e. '10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E'.	
13	T → UICC	Send an UPDATE RECORD (CURRENT) command to the UICC on channel 'a' using a data string of 'C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1'.	
14	T → UICC	Send a READ RECORD (CURRENT) command to the UICC on the basic channel.	
15	UICC → T	The data string returned by the UICC shall be 'C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1 C1'.	RQ08_0801
16	T → UICC	Send a SELECT command to select EF_{LOCI} on the basic channel.	
17	T → UICC	Send a SELECT command to select EF_{LOCI} on channel 'a'.	
18	T → UICC	Send a READ BINARY command to the UICC on the basic channel using a length of 11 bytes.	
19	UICC → T	The data string returned by the UICC shall be 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	
20	T → UICC	Send a READ BINARY command to the UICC on channel 'a' using a length of 11 bytes.	
21	UICC → T	The data string returned by the UICC shall be 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	
22	T → UICC	Send an UPDATE BINARY command to the UICC on channel 'a' using a data string of 'FF FF FF FF FF FF FF FF FF 00 00'.	
23	T → UICC	Send a READ BINARY command to the UICC on the basic channel using a length of 11 bytes.	
24	UICC → T	The data string returned by the UICC shall be 'FF FF FF FF FF FF FF FF FF 00 00'.	RQ08_0801

6.7 Security features

6.7.1 Foreword

Two types of UICC are defined in ETSI TS 102 221 [1], single verification capable UICC and multi-verification capable UICC. Every application shall conform to the security features defined in ETSI TS 102 221 [1].

6.7.2 Supported security features

6.7.2.1 Test execution

The test procedure 1 and test procedure 2 shall be repeated for all the other applications in the UICC.

6.7.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.7.2.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	UICC → T	The following shall be true for PS Template DO (tag 'C6') in the response data: • TLV DO with tag '83' shall be '11' (Universal PIN); • TLV DO with tag '83' shall be '01' (PIN Application 1); • TLV DO with tag '83' shall be '81' (Second PIN Application 1), if assigned. The response data shall also contain TLV DO with tag '8B'.	RQ09_0100 RQ09_0101 RQ09_0102

6.7.2.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	UICC → T	The following shall be true for PS Template DO (tag 'C6') in the response data: • TLV DO with tag '83' shall be '01' (PIN); • TLV DO with tag '83' shall be '81' (PIN2), if assigned.	RQ09_0101

6.7.3 Security architecture

6.7.3.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a PIN protected transparent EF. E.g.:

a) USIM: $EF_{TRANSPARENT} = EF_{IMSI}$

b) CSIM: $EF_{TRANSPARENT} = EF_{TMSI}$

c) ISIM: $EF_{TRANSPARENT} = EF_{IMPI}$

d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_2}$

6.7.3.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.7.3.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
4	UICC → T	The response data shall contain either TLV DO with tag '8B', '8C' or 'AB'; • If the TLV DO with tag '8B' is present, the structure shall be the same as stated in clause 9.2.7 of ETSI TS 102 221 [1] and the AM_DO and SC_DO shall be stored in EF$_{ARR}$. • If the TLV DO with tag '8C' is present, the AM_DO and SC_DO shall be in a compact format according to ISO/IEC 7816-4 [12]. • If the TLV DO with tag 'AB' is present, the AM_DO and SC_DO shall be in an expanded format according to ISO/IEC 7816-4 [12].	RQ09_0209 RQ09_0210
5	T → UICC	Send a SELECT command to select EF$_{ARR}$ if the TLV DO with tag '8B' is present in the response data returned in step 4).	RQ09_0209
		The following steps shall be repeated for all the records in EF$_{ARR}$.	
6	T → UICC	Send a READ RECORD command to read a record of EF$_{ARR}$.	
7	UICC → T	The response data shall contain the AM_DO and SC_DO in an expanded format according to ISO/IEC 7816-4 [12]. The content of each AM byte (in compact format) or AM_DO (in expanded format) shall be unique within the same access rule.	RQ09_0204 RQ09_0209 RQ09_0203

6.7.3.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select EF$_{ICCID}$.	
3	UICC → T	If the TLV DO with tag '8B' is present in the response data returned in step 2) the following steps shall be carried out.	RQ09_0209
4	T → UICC	Send a SELECT command to select EF$_{ARR}$.	
5	T → UICC	Send a VERIFY PIN command using ADM.	
6	T → UICC	Send a READ RECORD command to determine the access rules specified in the record number specified by tag '8B' of the response data returned in step 2).	
7	T → UICC	Send a UPDATE RECORD command to modify the record number specified in tag '8B' of the response data returned in step 2) so as to remove the READ access condition.	
8	T → UICC	Send a SELECT command to select EF$_{ICCID}$.	
9	T → UICC	Send a READ BINARY command.	
10	UICC → T	The response data returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0202
11	T → UICC	Send a SELECT command to select EF$_{ARR}$.	
12	T → UICC	Send an UPDATE RECORD command to modify the record number specified in tag '8B' so as to return it to the value prior to step 4).	

6.7.4 Security environment

6.7.4.1 Test execution

The following test procedures shall be applicable only to a multi-verification capable UICC.

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with the ADF of an NAA and with a PIN protected transparent EF. E.g.:

a) USIM: ADF$_1$ = ADF$_{USIM}$
EF$_{TRANSPARENT}$ = EF$_{IMSI}$

b) CSIM: $ADF_1 = ADF_{CSIM}$
    $EF_{TRANSPARENT} = EF_{TMSI}$

c) ISIM: $ADF_1 = ADF_{ISIM}$
    $EF_{TRANSPARENT} = EF_{IMPI}$

d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_2}$

6.7.4.2   Initial conditions

SE01 shall be active.

6.7.4.3   Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	UICC → T	The following shall be true of the response data: • TLV DO with tag '90' (PIN Status) under TLV DO with tag 'C6' shall indicate that the Application PINs and the Universal PIN are enabled; • TLV DO with tag '8B' shall be as follows: | EFARR FID	SE ID1	Record No X	SE ID2	Record No Y | where: • SE ID1 and SE ID2 can be either 00 or 01, but SE ID1 shall not be the same as SE ID2. • Record No X and Y are the record number of the EFARR.	RQ09_0301
4	T → UICC	Send a READ RECORD command to read the record number X of EFARR.	RQ09_0302
5	UICC → T	If SE ID1 is 00, either one of the following shall be true of the response data: • The TLV_DO with tag '83' in the SC_DO shall be '11'; • The SC_DO shall be '90 00'; If SE ID1 is 01, either one of the following shall be true of the response data: • The TLV_DO with tag '83' in the SC_DO shall be '01'; – The SC_DO shall be '90 00'.	RQ09_0302
6		Step 5) shall be repeated for record number Y for SE ID2.	RQ09_0302
7		If the TLV_DO with tag '83' is '01' for SE01, execute steps 8) to 32), else proceed with step 33)	
8	T → UICC	Send a SELECT command to select EF_ICCID	
9	T → UICC	Send a READ BINARY command.	
10	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
11	T → UICC	Send a SELECT command to select EF_TRANSPARENT under ADF_1	
12	T → UICC	Send a READ BINARY command.	
13	UICC → T	The response data returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied.	
14	T → UICC	Send a VERIFY PIN command using Universal PIN.	
15	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
16	T → UICC	Send a READ BINARY command.	
17	UICC → T	The response data returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied.	
18	T → UICC	Send a VERIFY PIN command using PIN Application 1 to the UICC.	
19	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
20	T → UICC	The terminal simulator shall send a READ BINARY command.	
21	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
22	T → UICC	Send a DISABLE PIN command to disable the PIN Application 1.	
23	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
24	UICC → T	The following shall be true of the response data:	

Step	Direction	Description	RQ
		TLV DO with tag '90' (PIN Status) under TLV DO with tag 'C6' shall indicate that the PIN Application 1 is disabled, and the Universal PIN is enabled and its Usage Qualifier is set to '00'.	
25	T → UICC	Send a SELECT command to select EF_ICCID.	
26	T → UICC	Send a READ BINARY command.	
27	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
28	T → UICC	Send a SELECT command to select EF_TRANSPARENT under ADF_1.	
29	T → UICC	Send a READ BINARY command.	
30	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
31	T → UICC	Send an ENABLE PIN command to enable the PIN Application 1.	
32	T → UICC	Send a DISABLE PIN command to disable and indicate the Universal PIN as a replacement of the PIN Application 1.	RQ09_0306
33	T → UICC	Reset the UICC.	
34	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
35	UICC → T	The following shall be true of the response data: TLV DO with tag '90' (PIN Status) under TLV DO with tag 'C6' shall indicate that the PIN Application 1 is disabled and the Universal Pin is enabled and its Usage Qualifier is set to '08'.	RQ09_0302
36		If the TLV_DO with tag 83 is '11' for SE00, execute steps 37) to 59), else proceed with step 59).	
37	T → UICC	Send a SELECT command to select EF_ICCID.	
38	T → UICC	Send a READ BINARY command.	
39	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
40	T → UICC	Send a SELECT command to select EF_TRANSPARENT under ADF_1	
41	T → UICC	Send a READ BINARY command.	
42	UICC → T	The response data returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied.	
43	T → UICC	Send a VERIFY PIN command using PIN Application 1.	
44	UICC → T	The response data returned by the UICC shall indicate an error.	
45	T → UICC	Send a VERIFY PIN command using Universal PIN.	
46	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
47	T → UICC	Send a READ BINARY command.	
48	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
49	T → UICC	Send a DISABLE PIN command to disable the Universal PIN.	
50	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
51	UICC → T	The response data shall contain: TLV DO with tag '90' (PIN Status) under TLV DO with tag 'C6' shall indicate that the PIN Application 1 and the Universal Pin are disabled.	
52	T → UICC	Send a SELECT command to select EF_ICCID	
53	T → UICC	Send a READ BINARY command.	
54	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
55	T → UICC	Send a SELECT command to select EF_TRANSPARENT under ADF_1	
56	T → UICC	Send a READ BINARY command.	
57	UICC → T	The response data returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0302
58	T → UICC	Send an ENABLE PIN command to enable the Universal PIN.	
59	T → UICC	Send an ENABLE PIN command to enable the PIN Application 1.	

6.7.5 PIN definitions

6.7.5.1 Test execution

There are no test case-specific parameters to be set or conditions to be fulfilled.

6.7.5.2   Initial conditions

For test procedure 1 and test procedure 2, SE01 shall be active.

6.7.5.3   Void

6.7.5.4   Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	UICC → T	The response data shall contain PS Template DO with tag 'C6'. The following shall be true of the PS Template DO: • One of the TLV DO with tag '83' shall be '11' indicating the key reference value for Universal PIN. • One of the TLV DO with tag '83' shall be '01' indicating the key reference value for PIN Application 1. • One of the TLV DO with tag '83' shall be '81' indicating the key reference value for second Application/local PIN.	RQ09_0401 RQ09_0402 RQ09_0406 RQ09_0408

6.7.5.5   Test procedure 3

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	UICC → T	The response data shall contain PS Template DO with tag 'C6'. The following shall be true of the PS Template DO: • Any of the TLV DO with tag '83' shall not be '11' indicating the key reference value for Universal PIN. • One of the TLV DO with tag '83' shall be '01' indicating the key reference value for PIN Application 1. • One of the TLV DO with tag '83' shall be '81' indicating the key reference value for second Application/local PIN.	RQ09_0404 RQ09_0406 RQ09_0408
4		Steps 2) and 3) shall be repeated for the remaining ADFs if available.	

6.7.6   PIN and key reference relationship

6.7.6.1   Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EF. E.g.:

  a)   USIM: $EF_{LINEARFIXED} = EF_{FDN}$

  b)   CSIM: $EF_{LINEARFIXED} = EF_{FDN}$

  c)   ISIM: $EF_{LINEARFIXED} = EF_{IMPU}$

  d)   generic: $EF_{LINEARFIXED} = EF_{LF\_2}$

6.7.6.2 Initial conditions

The records in EF$_{LINEARFIXED}$ shall contain the following data for the first 10 bytes:

1st record	'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'
2nd record	'B0 B1 B2 A0 A1 A2 A0 A1 A2 B0'
3rd record	'B0 B1 B2 A0 A1 A2 B0 B1 B2 A0'
4th record	'A0 A1 A2 B0 B1 B2 B0 B1 B2 B0'

- The data for the remainder of these four records and for all other records (if any) shall be 'FF'.

- In case of an multi-verification capable UICC SE01 shall be active.

- Allocation of ADM levels and the respective requirements for their fulfilment are the responsibility of the appropriate administrative authority.

6.7.6.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	UICC → T	The response data shall indicate the PS Template DO with tag 'C6'. The PS Template DO with tag 'C6' shall contain for the Universal PIN the TLV DO with tag '95' indicating the usage qualifier. Return status condition Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0507 RQ07_0211 RQ09_0501
4	T → UICC	Send a STATUS command.	
5	UICC → T	The response data shall indicate the PS Template DO with tag 'C6'. The PS Template DO with tag 'C6' shall contain for the Universal PIN the TLV DO with tag '95' indicating the usage qualifier.	RQ09_0507
6	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
7	UICC → T	The response data shall not contain the PS Template DO with tag 'C6'.	RQ09_0507
8	T → UICC	Send a READ RECORD command to read the first record in EF$_{LINEARFIXED}$.	
9	UICC → T	Return status condition Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0504
10	T → UICC	The terminal simulator shall gain PIN Application 1 security access.	
11	T → UICC	Send a READ RECORD command to read the first record in EF$_{LINEARFIXED}$.	
12	UICC → T	The data string returned shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'. The data for the remainder of the returned data string shall be 'FF'. Return status condition Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0504
13	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'B0' for all bytes to update the first record in EF$_{LINEARFIXED}$.	
14	UICC → T	Return status condition Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	
15	T → UICC	Send a READ RECORD command using NEXT mode to read the first record in EF$_{LINEARFIXED}$.	
16	UICC → T	The data string returned shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'. The data for the remainder of the returned data string shall be 'FF'. Return status condition Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0504
17	T → UICC	The terminal simulator shall gain the second PIN Application 2 security access.	
18	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'B1' for all bytes to update the first record in EF$_{LINEARFIXED}$.	
19	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
20	T → UICC	Send a READ RECORD command to read the first record in EF$_{LINEARFIXED}$.	
21	UICC → T	The data string returned shall be 'B1' for all bytes. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0504
22	T → UICC	Send a SELECT command to select MF.	
23	T → UICC	Send a SELECT command to select EF$_{ICCID}$.	
24	T → UICC	Send a READ BINARY command to read the byte in the EF$_{ICCID}$.	
25	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0501
26	T → UICC	Send an UPDATE BINARY command to update the byte in EF$_{ICCID}$.	

Step	Direction	Description	RQ
27	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0510
28	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
29	T → UICC	Send a DISABLE PIN command to disable and indicate the Universal PIN as a replacement of the PIN Application 1.	
30	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
31	T → UICC	Send a READ RECORD command to read the first record in EF_{LINEARFIXED}.	
32	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0504
33	T → UICC	The terminal simulator shall gain Universal PIN security access.	
34	T → UICC	Send a READ RECORD command using NEXT mode to read the first record in EF_{LINEARFIXED}.	
35	UICC → T	The data string returned shall be 'B1' for all bytes: • Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0504 RQ07_0211
36	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'B2' for all bytes to update the first record in EF_{LINEARFIXED}.	
37	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	
38	T → UICC	The ME simulator shall gain the second PIN Application 2 security access.	
39	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'B3' for all bytes to update the first record in EF_{LINEARFIXED}.	
40	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0211
41	T → UICC	Send an ENABLE PIN command to enable PIN Application 1.	
42	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
43	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
44	T → UICC	Send a READ RECORD command to read the first record in EF_{LINEARFIXED}.	
45	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0504
46	T → UICC	The terminal simulator shall gain PIN Application 1 security access.	
47	T → UICC	Send a READ RECORD command to read the first record in EF_{LINEARFIXED}.	
48	UICC → T	The data string returned shall be 'B3' for all bytes. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0504
49	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'B4' for all bytes to update the first record in EF_{LINEARFIXED}.	
50	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0202
51	T → UICC	The terminal simulator shall gain the second PIN Application 2 security access.	
52	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0' to update record in EF_{LINEARFIXED}.	

6.7.6.4   Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	UICC → T	The response data shall indicate the PS Template DO with tag 'C6'. The PS Template DO with tag 'C6' shall not contain the Universal PIN key reference '11'. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0507 RQ09_0401 RQ09_0501
4	T → UICC	Send a STATUS command.	
5	UICC → T	The response data shall indicate the PS Template DO with tag 'C6' The PS Template DO with tag 'C6' shall not contain the Universal PIN key reference '11'.	RQ09_0507 RQ09_0401
6	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
7	UICC → T	The response data shall not contain the PS Template DO with tag 'C6'.	RQ09_0507
8	T → UICC	Send a READ RECORD command to read the first record in EF_{LINEARFIXED}.	
9	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0504
10	T → UICC	The terminal simulator shall gain PIN security access.	
11	T → UICC	Send a READ RECORD command to read the first record in EF_{LINEARFIXED}.	
12	UICC → T	The data string returned shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'. The data for the remainder of the returned data string shall be 'FF'. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0504
13	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'C0' for all bytes to update the first record in EF_{LINEARFIXED}.	
14	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0202

Step	Direction	Description	RQ
15	T → UICC	The terminal simulator shall gain the PIN2 security access.	
16	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'C1' for all bytes to update the first record in EF$_{LINEARFIXED}$.	
17	UICC -> T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0211
18	T → UICC	Send a READ RECORD command to read the first record in EF$_{LINEARFIXED}$.	
19	UICC → T	The data string returned shall be 'C1' for all bytes. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0504
20	T → UICC	Send an UPDATE RECORD command using CURRENT mode with data string 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0' to update record in EF$_{LINEARFIXED}$.	
21	T → UICC	Send a SELECT command to select MF.	
22	T → UICC	Send a SELECT command to select EF$_{ICCID}$.	
23	T → UICC	Send a READ BINARY command to read the byte in the EF$_{ICCID}$.	
24	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ09_0501
25	T → UICC	Send an UPDATE BINARY command to update the byte in EF$_{ICCID}$.	
26	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ09_0510

6.8 Structure of commands and responses

6.8.1 Purpose

The tests in clause 6.8 ensure that the DUT conforms to the specification for the mapping of functions onto Application Protocol Data Units (APDUs) which are used by the transmission protocol.

6.8.2 Mapping principles

6.8.2.1 Test execution

There are no test cases-specific parameters for this test case.

6.8.2.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.8.2.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select MF with P2 = '04'. [Bytes: CLA = '00', INS = 'A4', P1 = '00', P2 = '04', Lc = '02', data = '3F 00', Le = '00' (Case 4)].	
3	UICC → T	Return status condition SW1 = '90', SW2 = '00' normal ending of the command.	RQ10_0101 RQ10_0105 RQ10_0201 RQ10_0202 RQ10_0203 RQ10_0204 RQ10_0205 RQ10_0206 RQ10_0207 RQ10_0208 RQ10_0209 RQ10_0210
4	T → UICC	Send a SELECT command to select MF with P2 = '0C'. [Bytes: CLA = '00', INS = 'A4', P1 = '00', P2 = '0C', Lc = '02', data = '3F 00' (Case 3)].	

Step	Direction	Description	RQ
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ10_0101 RQ10_0105 RQ10_0201 RQ10_0202 RQ10_0203 RQ10_0204 RQ10_0205 RQ10_0206 RQ10_0207 RQ10_0208 RQ10_0209 RQ10_0210
6	T → UICC	Send a STATUS command with P2 = '00'. [Bytes: CLA = '80', INS = 'F2', P1 = '00', P2 = '00', Le = '00' (Case 2)].	
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ10_0101 RQ10_0105 RQ10_0201 RQ10_0202 RQ10_0203 RQ10_0204 RQ10_0205 RQ10_0206 RQ10_0207 RQ10_0208 RQ10_0209 RQ10_0210
8	T → UICC	Send a STATUS command [Bytes: CLA = '80', INS = 'F2', P1 = '00', P2 = '0C' (Case 1)].	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command].	RQ10_0101 RQ10_0105 RQ10_0201 RQ10_0202 RQ10_0203 RQ10_0204 RQ10_0205 RQ10_0206 RQ10_0207 RQ10_0208 RQ10_0209 RQ10_0210

6.8.3 Response APDU Structure

6.8.3.1 Status Conditions Returned by the UICC

6.8.3.1.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to less than 16 bytes and a linear fixed EF. E.g.:

a) USIM: $EF_{TRANSPARENT} = EF_{IMSI}$
$EF_{LINEARFIXED} = EF_{ECC}$

b) CSIM: $EF_{TRANSPARENT} = EF_{TMSI}$
$EF_{LINEARFIXED} = EF_{ZNREGI}$

c) ISIM: $EF_{TRANSPARENT} = EF_{IMPI}$
$EF_{LINEARFIXED} = EF_{IMPU}$

d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_2}$
$EF_{LINEARFIXED} = EF_{LF\_2}$

RQ10_0204 and RQ10_0301 is not tested as it is not possible to force a UICC to produce an execution error.

6.8.3.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.8.3.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a VERIFY PIN command with PIN.	
3	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ10_0201
4	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
5	T → UICC	Send a READ BINARY command without SFI referencing.	
6	UICC → T	Return status condition SW1 = '69', SW2 = '86' - command not allowed (no EF selected).	RQ10_0205
7	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$	
8	T → UICC	Send a READ BINARY command with P2 = '0F'.	
9	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2.	RQ10_0205
10	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$	
11	T → UICC	Send a READ RECORD command using PREVIOUS mode.	
12	T → UICC	Send a READ RECORD command using NEXT mode.	
13	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	RQ10_0205
14	T → UICC	Send a READ BINARY command using a length of 1 byte.	
15	UICC → T	Return status condition SW1 = '69', SW2 = '81' - command incompatible with file structure.	RQ10_0205
16	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$ with Lc = 1.	
17	UICC → T	Return status condition SW1 = '67', SW2 = '00' - wrong length, or SW1 = '6A', SW2 = '87' - Lc inconsistent with P1 - P2.	RQ10_0205
18	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
19	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - security status not satisfied.	RQ10_0203
20	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
21	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - security status not satisfied.	RQ10_0203
22	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
23	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - security status not satisfied.	
24	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
25	UICC → T	Return status condition SW1 = '69', SW2 = '83' - authentication method blocked.	RQ10_0205
26	T → UICC	Send an UNBLOCK PIN command with Unblock PIN.	
27	T → UICC	Send a READ RECORD command using P2 = '01'.	
28	UICC → T	Return status condition SW1 = '6B', SW2 = '00' - wrong parameter(s) P1 - P2, or SW1 = '6A', SW2 = '86' - incorrect parameter P1 or P2.	RQ10_0205
29	T → UICC	Send the following APDU [Bytes: CLA = '00', INS = '6F', P1 = '00', P2 = '00', P3 = '00'].	
30	UICC → T	Return status condition SW1 = '6D', SW2 = '00' - instruction code not supported or invalid.	RQ10_0205
31	T → UICC	Send a GET RESPONSE command.	
32	UICC → T	Return status condition SW1 = '6F', SW2 = '00' - technical problem, no precise diagnosis.	RQ10_0205
33	T → UICC	Send the following APDU [Bytes: CLA = '30', INS = 'C0', P1 = '00', P2 = '00', P3 = '00'].	
34	UICC → T	Return status condition SW1 = '6E', SW2 = '00' - class not supported.	
35	T → UICC	Send a STATUS command with CLA = '81'.	
36	UICC → T	Return status condition SW1 = '68', SW2 = '81' - logical channel not supported or SW1 = '6E', SW2 = '00 ' - class not supported.	RQ10_0205
37	T → UICC	Send a STATUS command with CLA = '84' [Bytes: CLA = '84', INS = 'F2', P1 = '00', P2 = '00', Le = '02'].	
38	UICC → T	Return SW1 = '68', SW2 = '82' - secure messaging not supported or SW1 = '6E', SW2 = '00 ' - class not supported.	RQ10_0205
39	T → UICC	Reset the UICC.	
40	T → UICC	Send a SELECT command with an incorrect file ID. [Bytes: CLA = '00', INS = 'A4', P1 = '00', P2 = '04', Lc = '02', data = '12 34'].	
41	UICC → T	Return status condition SW1 = '6A', SW2 = '82' - file not found.	RQ10_0205
42	T → UICC	Send a SELECT command to select EF$_{ICCID}$	

Step	Direction	Description	RQ
43	T → UICC	Send an UPDATE BINARY command. The data used shall be '00 00'.	
44	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ10_0205

6.9 Commands

6.9.1 Generic Commands

6.9.1.1 SELECT

6.9.1.1.1 Test execution

There are no test cases-specific parameters for this test case.

6.9.1.1.2 Initial conditions

To execute Test procedure 1, it is required to have DF$_{TELECOM}$ available on the MF level.

6.9.1.1.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select DF$_{TELECOM}$	
3	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The FCP shall contain the following tags: Tag '82' (File Descriptor) • The first byte shall be '38' or '78' (indicating a DF or ADF); Tag '83' (File Identifier) • The value shall be '7F 10' (indicating DF$_{TELECOM}$); Tag '8A' (Life Cycle Status Integer); Tag 'C6' (PIN Status Template DO). It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: Tag '8C' (Compact format); Tag 'AB' (Expanded format); Tag '8B' (Referenced to Expanded Format). The TLV DOs with the above Tags shall be provided in FCP in order given in Table 11.3 of clause 11.1.1.3 of the ETSI TS 102 221 [1].	RQ11_0101 RQ11_0105 RQ11_0106
4	T → UICC	Send a SELECT command to select the MF.	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The FCP shall contain the following tags: Tag '82' (File Descriptor) • The first byte shall be '38' or '78' (indicating a DF or ADF); Tag '83' (File Identifier) • The value shall be '3F 00' (indicating MF); Tag 'A5' (Proprietary information) • It shall contain tag '80' (UICC characteristics); Tag '8A' (Life Cycle Status Integer); Tag 'C6' (PIN Status Template DO). It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: Tag '8C' (Compact format); Tag 'AB' (Expanded format); Tag '8B' (Referenced to Expanded Format). The TLV DOs with the above Tags shall be provided in FCP in order given in Table 11.3 of clause 11.1.1.3 of the ETSI TS 102 221 [1].	RQ11_0106 RQ11_0105
6	T → UICC	Send a SELECT command to select EF$_{DIR}$.	

Step	Direction	Description	RQ
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The FCP shall contain the following tags: Tag '82' (File Descriptor) • The first byte shall be '02' or '42' (indicating a linear fixed EF); • The length shall be '05' (i.e. containing record length, etc.); Tag '83' (File Identifier) • The value shall be '2F 00' (indicating EF$_{DIR}$); Tag '8A' (Life Cycle Status Integer); Tag '80' (File size). The FCP shall contain exactly one of the following tags: Tag '8C' (Compact format); Tag 'AB' (Expanded format); Tag '8B' (Referenced to Expanded Format). The TLV DOs with the above Tags shall be provided in FCP in order given in Table 11.4 of clause 11.1.1.3 of the ETSI TS 102 221 [1].	RQ11_0101 RQ11_0105 RQ11_0107
8	T → UICC	Send a READ RECORD command using CURRENT mode.	
9	UICC → T	Return an error code appropriate to the command (e.g. SW1 = '6A', SW2 = '83' - Record not found).	
10	T → UICC	Send a SELECT command with P2 = '0C' to select the MF.	
11	UICC → T	The response from the UICC shall be only SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0103
12	T → UICC	Send a SELECT command to select the EF$_{ARR}$ under DF$_{TELECOM}$ by path selection.	
13	UICC → T	The response from the UICC shall be only SW1 = '90', SW2 = '00' - normal ending of the command. The TLV DO with Tag '83' in the FCP shall indicate the current EF is EF$_{ARR}$.	RQ11_0101
14	T → UICC	Send a SELECT command to select the parent DF.	
15	UICC → T	The response from the UICC shall be only SW1 = '90', SW2 = '00' - normal ending of the command. The TLV DO with Tag '83' in the FCP shall indicate the current DF is MF.	RQ11_0101
16	T → UICC	Send a SELECT command with AID to select and activate the chosen application.	
17	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The FCP shall contain the following tags: Tag '82' (File Descriptor) • The first byte shall be '38' or '78' (indicating a DF or ADF); Tag '84' (DF name - AID) • The value shall be the AID of the chosen application; Tag '8A' (Life Cycle Status Integer); Tag 'C6' (PIN Status Template DO) • It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: Tag '8C' (Compact format); Tag 'AB' (Expanded format); Tag '8B' (Referenced to Expanded Format). The TLV DOs with the above Tags shall be provided in FCP in order given in Table 11.4 of clause 11.1.1.3 of the ETSI TS 102 221 [1].	RQ11_0101 RQ11_0106 RQ11_0105
18	T → UICC	Send a SELECT command with P1 = '00', P2 = '0C' and with empty data field.	
19	UICC → T	The response from the UICC shall be only SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0103 RQ11_0104

6.9.1.1.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command with P1 = '00', P2 = '0C' and with empty data field.	
4	UICC → T	The response from the UICC shall be only SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0103 RQ11_0104
5	T → UICC	Send a STATUS command with P2 = '00'.	
6	UICC → T	The FCP returned shall contain the File ID of the MF.	RQ11_0104

6.9.1.2 STATUS

6.9.1.2.1 Test execution

To execute this test case, it is required to have DF$_{TELECOM}$ available on the MF level. The NAA needs to provide a DF$_{SUBDIR}$. At least one of the following DFs needs to be provided:

   a) USIM: DF$_{SUBDIR}$ = DF$_{PHONEBOOK}$, FID: '5F 3A'
            DF$_{SUBDIR}$ = DF$_{GSMACCESS}$, FID: '5F 3B'
            DF$_{SUBDIR}$ = FID: '5F FA'

   b) CSIM: DF$_{SUBDIR}$ = DF$_{PHONEBOOK}$, FID: '5F 3A'
            DF$_{SUBDIR}$ = DF$_{MULTIMEDIA}$, FID: '5F 3B'
            DF$_{SUBDIR}$ = FID: '5F FA'

   c) ISIM: DF$_{SUBDIR}$ = FID: '5F FA'

6.9.1.2.2 Initial conditions

A DF for testing purposes needs to be present as child directories of ADF used to execute the testing. In case no suitable DF exists, a DF$_{SUBDIR}$ as defined in clause 6.9.1.2.1 of the present document needs to be created.

6.9.1.2.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a STATUS command with P2 = '00'.	
3	UICC → T	The FCP shall contain the following tags: • Tag '82' (File Descriptor); • The first byte shall be '38' or '78' (indicating a DF); • Tag '83' (File Identifier); • The value shall be '3F 00' (indicating MF); • Tag 'A5' (Proprietary information); • It shall contain tag '80' (UICC characteristics); • Tag '8A' (Life Cycle Status Integer); • Tag 'C6' (PIN Status Template DO); • It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: • Tag '8C' (Compact format); • Tag 'AB' (Expanded format); • Tag '8B' (Referenced to Expanded Format).	RQ11_0120
4	T → UICC	Send a SELECT command to select DF$_{TELECOM}$.	
5	T → UICC	Send a STATUS command with P2 = '00'.	
6	UICC → T	The FCP shall contain the following tags: • Tag '82' (File Descriptor); • The first byte shall be '38' or '78' (indicating a DF); • Tag '83' (File Identifier); • The value shall be '7F 10' (indicating DF$_{TELECOM}$); • Tag '8A' (Life Cycle Status Integer); • Tag 'C6' (PIN Status Template DO); • It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: • Tag '8C' (Compact format); • Tag 'AB' (Expanded format); • Tag '8B' (Referenced to Expanded Format).	RQ11_0120
7	T → UICC	Send a STATUS command with P2 = '01'.	
8	UICC → T	Return an error code appropriate to the command.	RQ11_0122
9	T → UICC	Send a SELECT command to select and activate the chosen application.	
10	T → UICC	Send a STATUS command with P2 = '00'.	

Step	Direction	Description	RQ
11	UICC → T	The FCP shall contain the following tags: • Tag '82' (File Descriptor); • The first byte shall be '38' or '78' (indicating an ADF); • Tag '84' (DF name - AID); • The value shall be the AID of the chosen application; • Tag '8A' (Life Cycle Status Integer); • Tag 'C6' (PIN Status Template DO); • It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: • Tag '8C' (Compact format); • Tag 'AB' (Expanded format); • Tag '8B' (Referenced to Expanded Format).	RQ11_0120
12	T → UICC	Send a SELECT command to select the DF_SUBDIR	
13	T → UICC	Send a STATUS command with P2 = '00'.	
14	UICC → T	The FCP shall contain the following tags: • Tag '82' (File Descriptor); • The first byte shall be '38' or '78' (indicating a DF); • Tag '83' (File identifier); • The value shall be '5F 3A', '5F 3B' or '5F FA' (indicating the DF_SUBDIR used); • Tag '8A' (Life Cycle Status Integer); • Tag 'C6' (PIN Status Template DO); • It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: • Tag '8C' (Compact format); • Tag 'AB' (Expanded format); • Tag '8B' (Referenced to Expanded Format).	RQ11_0120
15	T → UICC	Send a STATUS command with P2 = '01'.	
16	UICC → T	The following shall be true of the response data: Value of tag '84' shall be the AID of the chosen application.	RQ11_0122
17	T → UICC	Send a STATUS command with P2 = '0C'.	
18	UICC → T	The following shall be true of the response data: The response data from the UICC shall be only SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0122
19	T → UICC	Send a SELECT command to select DF_TELECOM.	
20	T → UICC	Send a STATUS command with P2 = '00'.	
21	UICC → T	The FCP shall contain the following tags: • Tag '82' (File Descriptor); • The first byte shall be '38' or '78' (indicating a DF); • Tag '83' (File Identifier); • The value shall be '7F 10' (indicating DF_TELECOM); • Tag '8A' (Life Cycle Status Integer); • Tag 'C6' (PIN Status Template DO); • It shall contain tag '90' (PS_DO). The FCP shall contain exactly one of the following tags: • Tag '8C' (Compact format); • Tag 'AB' (Expanded format); • Tag '8B' (Referenced to Expanded Format).	RQ11_0120
22	T → UICC	Send a STATUS command with P2 = '01'.	
23	UICC → T	The following shall be true of the response data: Value of tag '84' shall be the AID of the chosen application.	RQ11_0122

6.9.1.3   READ BINARY

6.9.1.3.1   Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a transparent EF with a length set to 11 bytes selectable via SFI. E.g.:

   a)   USIM: $EF_{TRANSPARENT} = EF_{LOCI}$, SFI: '0B'

   b)   CSIM: $EF_{TRANSPARENT} = EF_{CSIM\_ST}$, SFI = '02'

    c) ISIM: $EF_{TRANSPARENT} = EF_{DOMAIN}$, SFI = '05'

6.9.1.3.2 Initial conditions

$EF_{TRANSPARENT}$ shall contain the data string: 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.

6.9.1.3.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select the chosen application.	
3	T → UICC	Send a SELECT command to select $EF_{TRANSPARENT}$.	
4	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_0126
6	T → UICC	Send a VERIFY PIN command with PIN to gain the access condition for $EF_{TRANSPARENT}$.	
7	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
8	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The data string returned shall be 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	RQ11_0123 RQ11_0124 RQ11_0126 RQ11_0127
9	T → UICC	Send a READ BINARY command using a length of 1 byte.	
10	UICC → T	The data string returned shall be 'A1'.	
11	T → UICC	Send a READ BINARY command using an offset of '00 01' and length 10 bytes.	
12	UICC → T	The data string returned shall be 'A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	RQ11_0124
13	T → UICC	Send a SELECT command to select EF_{AD}.	
14	T → UICC	Send a READ BINARY command using SFI reference to select $EF_{TRANSPARENT}$ and length 11 bytes.	
15	UICC → T	The data string returned shall be 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	RQ11_0127 RQ11_0118
16	T → UICC	Send a SELECT command to select MF.	
17	T → UICC	Send a SELECT command to select EF_{DIR}.	
18	T → UICC	Send a READ BINARY command using a length of 1 byte.	
19	UICC → T	Return status condition SW1 = '69', SW2 = '81' - command incompatible with file structure.	RQ11_0123

6.9.1.4 UPDATE BINARY

6.9.1.4.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a PIN protected transparent EF with a length set to 11 bytes selectable via SFI, another transparent EF and a linear fixed EF. E.g.:

    a) USIM: $EF_{TRANSPARENT} = EF_{LOCI}$, SFI = '0B'
                $EF_{LINEARFIXED} = EF_{SMS}$

    b) CSIM: $EF_{TRANSPARENT} = EF_{CSIM\_ST}$, SFI = '02'
                $EF_{LINEARFIXED} = EF_{SMS}$

    c) ISIM: $EF_{TRANSPARENT} = EF_{DOMAIN}$, SFI = '05'
                $EF_{LINEARFIXED} = EF_{SMS}$

    d) generic: $EF_{LINEARFIXED} = EF_{LF\_1}$

6.9.1.4.2 Initial conditions

$EF_{TRANSPARENT}$ shall contain the data string: 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.

6.9.1.4.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
4	T → UICC	Send an UPDATE BINARY command using a length of 11 bytes, and data string 'FF FF FF FF FF FF FF FF FF 00 00'.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_0126
6	T → UICC	Send a VERIFY PIN command with PIN to gain the access condition for the EF$_{TRANSPARENT}$.	
7	T → UICC	Send a READ BINARY command using a length of 11 bytes to the UICC.	
8	UICC → T	The data string returned shall be 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	
9	T → UICC	Send an UPDATE BINARY command using a length of 11 bytes, and data string 'FF FF FF FF FF FF FF FF FF 00 00' to the UICC.	
10	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	RQ11_0126
11	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
12	UICC → T	The data string returned shall be 'FF FF FF FF FF FF FF FF FF 00 00'.	RQ11_0126
13	T → UICC	Send an UPDATE BINARY command using a length of 1 byte, and data string 'E4'.	
14	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
15	UICC → T	The data string returned shall be 'E4 FF FF FF FF FF FF FF FF 00 00'.	RQ11_0126
16	T → UICC	Send an UPDATE BINARY command using an offset of '00 01', a length 1 byte, and data string 'E5'.	
17	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
18	UICC → T	The data string returned shall be 'E4 E5 FF FF FF FF FF FF FF 00 00'.	RQ11_0126 RQ11_0127
19	T → UICC	Send a SELECT command to select EF$_{AD}$.	
20	T → UICC	Send an UPDATE BINARY command using SFI reference to select EF$_{TRANSPARENT}$ and a length 1 byte, and string 'D1'.	
21	T → UICC	Send a READ BINARY command using a length of 11 bytes.	
22	UICC → T	The data string returned shall be 'D1 E5 FF FF FF FF FF FF FF 00 00'.	RQ11_0126 RQ11_0127
23	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
24	T → UICC	Send an UPDATE BINARY command using a length 1 byte and data string 'D2'.	
25	UICC → T	Return status condition SW1 = '69', SW2 = '81' - command incompatible with file structure.	RQ11_0127
26	T → UICC	Send an UPDATE BINARY command using SFI reference to select EF$_{TRANSPARENT}$ and a length 11 byte, and string 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.	

6.9.1.5 READ RECORD

6.9.1.5.1 Test execution

Test procedures have been separated into 3 parts. The first part is for testing CURRENT and ABSOLUTE mode, the second part is for testing NEXT and PREVIOUS mode and the third part is for testing the SFI referencing.

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EF with at least four records with a length of at least 14 bytes and an assigned SFI and a cyclic EF with at least three bytes. E.g.:

linear fixed EFs with assigned SFI were requested:

    a)   USIM: EF$_{LINEARFIXED}$ = EF$_{ECC}$, SFI = '01'
                         EF$_{CYCLIC}$ = EF$_{ACM}$

    b)   CSIM: EF$_{LINEARFIXED}$ = EF$_{CDMAHOME}$, SFI = '0C'

    c)   ISIM: EF$_{LINEARFIXED}$ = EF$_{IMPU}$, SFI = '04'

If none of the suggested EF$_{LINEARFIXED}$ is supported, any supported linear EF in the selected ADF with assigned SFI may be chosen.

If none of the suggested EF$_{CYCLIC}$ is supported, any supported cyclic EF in the selected ADF may be chosen.

6.9.1.5.2 Initial conditions

The records in EF$_{LINEARFIXED}$ shall contain the following data:

1st record	'10 11 12 13 14 15 16 17 18 19 1A 1B 1C 1D 1E'
2nd record	'20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E'
2nd last record	'E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB EC ED EE'
Last record	'F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE'

The records in EF$_{CYCLIC}$ shall contain the following data, if it is supported:

1st record	'00 00 01' (last updated record)
2nd record	'00 00 02'
3rd record	'00 00 03'
Xth record	'00 00' followed by byte value X (first updated record)

6.9.1.5.3 Test procedure 1 (CURRENT and ABSOLUTE mode)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
4	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_0130 RQ11_0134
6	T → UICC	Send a VERIFY PIN command with PIN.	
7	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
8	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	RQ11_0130 RQ11_0131 RQ11_0134 RQ11_0136
9	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
10	T → UICC	Send a READ RECORD command using NEXT mode.	
11	UICC → T	The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	
12	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 2.	
13	UICC → T	The record data returned shall be that of the second record in the EF$_{LINEARFIXED}$.	RQ11_0131 RQ11_0136
14	T → UICC	Send a READ RECORD command using CURRENT mode.	
15	UICC → T	The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	RQ11_0131 RQ11_0136
16	T → UICC	Send a READ RECORD command using NEXT mode.	
17	UICC → T	The record data returned shall be that of the second record in the EF$_{LINEARFIXED}$.	
18	T → UICC	Send a READ RECORD command using ABSOLUTE mode with the last record.	
19	UICC → T	The record data returned shall be that of the last record in the EF$_{LINEARFIXED}$.	RQ11_0131 RQ11_0136
20	T → UICC	Send a READ RECORD command using ABSOLUTE mode with the last record + 1.	
21	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	
22	T → UICC	Send a READ RECORD command using CURRENT mode.	
23	UICC → T	The record data returned shall be that of the second record in the EF$_{LINEARFIXED}$.	
24	T → UICC	Send a SELECT command to select EF$_{CYCLIC}$.	
25	T → UICC	Send a READ RECORD command using NEXT mode.	
26	UICC → T	The record data returned shall be that of the first record in the EF$_{CYCLIC}$.	RQ11_0130
27	T → UICC	Send a READ RECORD command using CURRENT mode.	
28	UICC → T	The record data returned shall be that of the first record in the EF$_{CYCLIC}$.	RQ11_0131
29	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 3.	

ETSI

Step	Direction	Description	RQ
30	UICC → T	The record data returned shall be that of the record 3 in the EF$_{CYCLIC}$.	RQ11_0130 RQ11_0131 RQ11_0136
31	T → UICC	Send a READ RECORD command using ABSOLUTE mode with the last record + 1.	
32	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	
33	T → UICC	Send a READ RECORD command using CURRENT mode.	
34	UICC → T	The record data returned shall be that of the first record in the EF$_{CYCLIC}$.	

6.9.1.5.4 Test procedure 2 (NEXT and PREVIOUS mode)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send a READ RECORD command using NEXT mode.	
6	UICC → T	The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	
7	T → UICC	Send a READ RECORD command using CURRENT mode.	
8	UICC → T	The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	
9	T → UICC	Send a READ RECORD command using NEXT mode.	
10	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The record data returned shall be that of the second record in the EF$_{LINEARFIXED}$.	RQ11_0131
11	T → UICC	Send a READ RECORD command using CURRENT mode.	
12	UICC → T	The record data returned shall be that of the second record in the EF$_{LINEARFIXED}$.	RQ11_0131
13	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
14	T → UICC	Send a READ RECORD command using PREVIOUS mode.	
15	UICC → T	The record data returned shall be that of the last record in the EF$_{LINEARFIXED}$.	
16	T → UICC	Send a READ RECORD command using NEXT mode.	
17	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - Record not found.	
18	T → UICC	Send a READ RECORD command using CURRENT mode.	
19	UICC → T	The record data returned shall be that of the last record in the EF$_{LINEARFIXED}$.	
20	T → UICC	Send a READ RECORD command using PREVIOUS mode.	
21	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The record data returned shall be that of the second last record in the EF$_{LINEARFIXED}$.	RQ11_0131
22	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
23	T → UICC	Send a READ RECORD command using NEXT mode.	
24	UICC → T	The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	
25	T → UICC	Send a READ RECORD command using PREVIOUS mode.	
26	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	RQ11_0324
27	T → UICC	Send a READ RECORD command using CURRENT mode.	
28	UICC → T	The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	RQ11_0324
29	T → UICC	Send a SELECT command to select EF$_{CYCLIC}$.	
30	T → UICC	Send a READ RECORD command using PREVIOUS mode.	
31	UICC → T	The record data returned shall be that of the last record (record X) in the EF$_{CYCLIC}$.	RQ08_0209
32	T → UICC	Send a READ RECORD command using CURRENT mode.	
33	UICC → T	The record data returned shall be that of the last record (record X) in the EF$_{CYCLIC}$.	RQ08_0209
34	T → UICC	Send a READ RECORD command using NEXT mode.	
35	UICC → T	The record data returned shall be that of the first record (record 1) in the EF$_{CYCLIC}$.	RQ08_0206
36	T → UICC	Send a READ RECORD command using PREVIOUS mode.	
37	UICC → T	The record data returned shall be that of the last record (record X) in the EF$_{CYCLIC}$.	RQ11_0131

6.9.1.5.5 Test procedure 3 (SFI referencing)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a VERIFY PIN command with PIN.	
4	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1 and with SFI to select EF$_{LINEARFIXED}$.	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The record data returned shall be that of the first record in the EF$_{LINEARFIXED}$.	RQ07_0320
6	T → UICC	Send a READ RECORD command using CURRENT mode.	
7	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	RQ08_0206
8	T → UICC	Send a READ RECORD command using NEXT mode.	
9	UICC → T	The record data returned shall be that of the first record (record 1) in the EF$_{LINEARFIXED}$.	RQ08_0206

6.9.1.6 UPDATE RECORD

6.9.1.6.1 Test execution

Test procedures have been separated into 3 parts. The first part is for testing CURRENT and ABSOLUTE mode, and the second part is for testing NEXT and PREVIOUS mode and the third part is for testing the SFI referencing.

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EFs with assigned SFI and a cyclic EF. E.g.:

   a)   USIM: EF$_{LINEARFIXED}$ = EF$_{CCP2}$, SFI = '16'
               EF$_{CYCLIC}$ = EF$_{ACM}$

   b)   CSIM: EF$_{LINEARFIXED}$ = EF$_{CCP2}$, SFI = '12'
               EF$_{CYCLIC}$ = EF$_{COUNT}$

   c)   ISIM: EF$_{LINEARFIXED}$ = EF$_{IMPU}$, SFI = '04'

   d)   generic: EF$_{CYCLIC}$ = EF$_{CYCLIC}$

If none of the suggested EF$_{LINEARFIXED}$ is supported, any supported linear EF in the selected ADF with assigned SFI may be chosen.

If none of the suggested EF$_{CYCLIC}$ is supported, any supported cyclic EF in the selected ADF may be chosen.

6.9.1.6.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.6.3 Test procedure 1 (CURRENT and ABSOLUTE mode)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
4	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with record 1. The data used shall be 'C1' for all bytes.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_0134
6	T → UICC	Send a VERIFY PIN command with PIN.	
7	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with record 1. The data used shall be 'C2' for all bytes.	
8	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0134
9	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	

Step	Direction	Description	RQ
10	UICC → T	The record data returned shall be 'C2' for all bytes.	RQ11_0134 RQ11_0135 RQ11_0139
11	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
12	T → UICC	Send an UPDATE RECORD command using NEXT mode. The data used shall be 'FF' for all bytes.	
13	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
14	UICC → T	The record data returned shall be 'FF' for all bytes.	RQ11_0139
15	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with record 2. The data used shall be 'C3' for all bytes.	
16	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 2.	
17	UICC → T	The record data returned shall be 'C3' for all bytes.	RQ11_0139
18	T → UICC	Send an UPDATE RECORD command using CURRENT mode. The data used shall be 'C4' for all bytes.	
19	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
20	UICC → T	The record data returned shall be 'C4' for all bytes.	RQ11_0131
21	T → UICC	Send an UPDATE RECORD command using NEXT mode. The data used shall be 'C5' for all bytes.	
22	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 2.	
23	UICC → T	The record data returned shall be 'C5' for all bytes.	RQ11_0140
24	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with the last record. The data used shall be 'C6' for all bytes.	
25	T → UICC	Send a READ RECORD command using ABSOLUTE mode with the last record.	
26	UICC → T	The record data returned shall be 'C6' for all bytes.	RQ11_0137
27	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with the last record + 1. The data used shall be 'C7' for all bytes.	
28	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	
29	T → UICC	Send an UPDATE RECORD command using CURRENT mode. The data used shall be 'C8' for all bytes.	
30	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 2.	
31	UICC → T	The record data returned shall be 'C8' for all bytes.	RQ11_0130 RQ11_0134
32	T → UICC	Send a SELECT command to select EF_{CYCLIC}.	
33	T → UICC	Send a VERIFY PIN command with the relevant PIN.	
34	T → UICC	Send an UPDATE RECORD command using CURRENT mode. The data used shall be 'C9' for all bytes.	
35	UICC → T	Return an error code appropriate to the command.	RQ11_0135
36	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with record 3. The data used shall be 'CA' for all bytes.	
37	UICC → T	Return an error code appropriate to the command.	RQ11_0135
38	T → UICC	Send an UPDATE RECORD command using NEXT mode. The data used shall be 'CB' for all bytes.	
39	UICC → T	Return an error code appropriate to the command.	RQ11_0135
40	T → UICC	Send an UPDATE RECORD command using PREVIOUS mode. The data used shall be 'CC' for all bytes.	
41	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0135
42	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
43	UICC → T	The record data returned shall be 'CC' for all bytes.	RQ11_0130 RQ11_0134
44	T → UICC	Send an UPDATE RECORD command using PREVIOUS mode. The data used shall be '00 00 01'.	
45	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0135

6.9.1.6.4 Test procedure 2 (NEXT and PREVIOUS mode)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send an UPDATE RECORD command using NEXT mode. The data used shall be 'C2' for all bytes.	
6	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
7	UICC → T	The record data returned shall be 'C2' for all bytes.	RQ11_0130 RQ11_0134
8	T → UICC	Send an UPDATE RECORD command using CURRENT mode. The data used shall be 'C3' for all bytes.	
9	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
10	UICC → T	The record data returned shall be 'C3' for all bytes.	RQ11_0130 RQ11_0134
11	T → UICC	Send an UPDATE RECORD command using NEXT mode. The data used shall be 'C4' for all bytes.	
12	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
13	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 2.	
14	UICC → T	The record data returned shall be 'C4' for all bytes.	RQ11_0141
15	T → UICC	Send an UPDATE RECORD command using CURRENT mode. The data used shall be 'C5' for all bytes.	
16	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 2.	
17	UICC → T	The record data returned shall be 'C5' for all bytes.	RQ11_0141
18	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
19	T → UICC	Send an UPDATE RECORD command using PREVIOUS mode. The data used shall be 'C6' for all bytes.	
20	T → UICC	Send a READ RECORD command using ABSOLUTE mode with the last record.	
21	UICC → T	The record data returned shall be 'C6' for all bytes.	RQ11_0145
22	T → UICC	Send an UPDATE RECORD command using NEXT mode. The data used shall be 'C7' for all bytes.	
23	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	RQ11_0143
24	T → UICC	Send an UPDATE RECORD command using CURRENT mode. The data used shall be 'C8' for all bytes.	
25	T → UICC	Send a READ RECORD command using ABSOLUTE mode with the last record.	
26	UICC → T	The record data returned shall be 'C8' for all bytes.	RQ11_0130 RQ11_0134
27	T → UICC	Send an UPDATE RECORD command using PREVIOUS mode. The data used shall be 'C9' for all bytes.	
28	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
29	T → UICC	Send a READ RECORD command using ABSOLUTE mode with the second last record.	
30	UICC → T	The record data returned shall be 'C9' for all bytes.	RQ08_0206 RQ11_0144
31	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
32	T → UICC	Send an UPDATE RECORD command using NEXT mode. The data used shall be 'CA' for all bytes.	
33	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
34	T → UICC	Send an UPDATE RECORD command using PREVIOUS mode. The data used shall be 'CB' for all bytes.	
35	UICC → T	Return status condition SW1 = '6A', SW2 = '83' - record not found.	RQ11_0145
36	T → UICC	Send an UPDATE RECORD command using CURRENT mode. The data used shall be 'CC' for all bytes.	
37	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0145
38	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1 to the UICC.	
39	UICC → T	The record data returned shall be 'CC' for all bytes.	RQ11_0130 RQ11_0134

6.9.1.6.5 Test procedure 3 (SFI referencing)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a VERIFY PIN command with PIN.	
4	T → UICC	Send an UPDATE RECORD command using ABSOLUTE mode with record 1 and with SFI to select EF$_{LINEARFIXED}$ under the selected ADF. The data used shall be 'C0' for all bytes.	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ08_0409
6	T → UICC	Send a READ RECORD command using CURRENT mode.	
7	UICC → T	Return an error code appropriate to the command (e.g. SW1 = '6A', SW2 = '83' - record not found).	RQ08_0412
8	T → UICC	Send a READ RECORD command using NEXT mode.	
9	UICC → T	The record data returned shall be 'C0' for all bytes.	RQ08_0412

6.9.1.7 SEARCH RECORD

6.9.1.7.1 Test execution

RQ11_0141 cannot be tested for T = 0 protocol as the Le byte is not transmitted It is dependent on the design of the transport layer of a ME whether to pass all the response data bytes from the UICC to its application layer according to the Le byte. (RQ11_0141 is tested in test procedure 4).

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a linear fixed EF. E.g.:

a)   USIM: EF$_{LINEARFIXED}$ = EF$_{SMS}$
EF$_{SFI}$ = EF$_{CCP2}$, SFI = '16'

b)   CSIM: EF$_{LINEARFIXED}$ = EF$_{SMS}$
EF$_{SFI}$ = EF$_{CCP2}$, SFI = '12'

c)   ISIM: EF$_{LINEARFIXED}$ = EF$_{SMS}$
EF$_{SFI}$ = EF$_{IMPU}$, SFI = '04'

d)   generic: EF$_{LINEARFIXED}$ = EF$_{LF\_1}$

If none of the suggested EFs is not supported by the UICC, any supported PIN protected linear fixed EF in the selected ADF may be used as EF$_{LINEARFIXED}$ and any linear fixed EF selectable via SFI may be used as EF$_{SFI}$.

6.9.1.7.2 Initial condition

EF$_{LINEARFIXED}$ shall contain four records in the Remainder with the following data strings:

1st record: 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0 A1 A2 FF A0 A1 A2 A3 A4 A5 A6'

2nd record: 'B0 B1 B2 A0 A1 A2 A0 A1 A2 B0 B1 B2 FF B0 B1 B2 B3 B4 B5 B6'

3rd record: 'B0 B1 B2 A0 A1 A2 B0 B1 B2 A0 A1 A2 FF C0 C1 C2 C3 C4 C5 C6'

4th record: 'A0 A1 A2 B0 B1 B2 B0 B1 B2 B0 B1 B2 FF D0 D1 D2 D3 D4 D5 D6'

All other data shall be filled with 'FF'.

The records in EF$_{SFI}$ shall contain the following data:

1st record: '21 F2 FF 54 45 53 54 00'

2nd record: 'FF FF FF FF FF FF FF 00'

6.9.1.7.3   Test procedure 1 (simple search)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
4	T → UICC	Send a SEARCH RECORD command using the record number '01', the 'simple forward search from record indicated in P1' mode and search pattern 'A0 A1 A2 B0' with Le = '00'.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_01143
6	T → UICC	Send a VERIFY PIN command with PIN.	
7	T → UICC	Send a SEARCH RECORD command using the record number '01', the 'simple forward search from record indicated in P1' mode and search pattern 'A0 A1 A2 B0' with Le = '00'.	
8	UICC → T	Return '01 02 03 04' indicating that first, second, third and fourth record have been found.	RQ11_01143 RQ11_01147
9	UICC → T	Return status condition SW1='90', SW2='00' - normal ending of the command.	RQ11_01143 RQ11_01144 RQ11_01146
10	T → UICC	Send a SEARCH RECORD command using the record number '02', the 'simple backward search from record indicated in P1' mode and search pattern 'A0 A1 A2 B0' with Le = '02'.	
11	UICC → T	The response data shall be '02 01' indicating that the first and second record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01147
12	T → UICC	Send a READ RECORD command using CURRENT mode.	
13	UICC → T	The record data returned shall be that of the second record in EF_{LINEARFIXED}	RQ11_01145
14	T → UICC	Send a SEARCH RECORD command using the record number '01', the 'simple forward search from record indicated in P1' mode and search pattern 'A0 A2 A3 A4' with Le = '00' to the UICC.	
15	UICC → T	No data shall be returned by the UICC as this search pattern cannot be found in any of the records. Return SW1 = '90', SW2 = '00' - normal ending of the command or SW1 = '62', SW2 = '82' - end of file/record reached before reading Le bytes or unsuccessful search.	RQ11_01146
16	T → UICC	Send a READ RECORD command using CURRENT mode to the UICC.	
17	UICC → T	The record data returned shall be that of the second record in EF_{LINEARFIXED}.	RQ11_01147
18	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
19	T → UICC	Send a SEARCH RECORD command using the record number '00' (current record), the 'simple forward search from record indicated in P1' mode, search pattern 'A0 A1 A2 B0' with Le = '00'.	
20	UICC → T	Return an error code appropriate to the command, as no current record exists.	
21	T → UICC	Send a READ RECORD command using NEXT mode.	
22	T → UICC	Send a SEARCH RECORD command using the record number '00' (current record), the 'simple forward search from record indicated in P1' mode, search pattern 'A0 A1 A2 B0' with Le = '04'.	
23	UICC → T	The response data shall be '01 02 03 04' indicating that the first, second, third and fourth record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01146
24	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
25	T → UICC	Send a SEARCH RECORD command using the record number '00' (current record), the 'simple backward search from record indicated in P1' mode, search pattern 'A0 A1 A2 B0' with Le = '00'.	
26	UICC → T	Return an error code appropriate to the command, as no current record exists.	
27	T → UICC	Send a READ RECORD command using PREVIOUS mode.	
28	T → UICC	Send a SEARCH RECORD command using the record number '00' (current record), the 'simple backward search from record indicated in P1' mode, search pattern 'A0 A1 A2 B0' with Le = '04'.	
29	UICC → T	The response data shall be '04 03 02 01' indicating that the first, second, third and fourth record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01147

6.9.1.7.4 Test procedure 2 (enhanced search)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF_LINEARFIXED	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send a SEARCH RECORD command using the record number = '01', the "enhanced forward search from record indicated in P1' mode, search pattern 'A0 A1 A2 ' with Le = '02' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '03' indicating that the search shall start from that offset.	
6	UICC → T	The data returned shall be '02 03' indicating that the second and third records have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148
7	T → UICC	Send a SEARCH RECORD command using the record number = '02', the 'enhanced backward search from record indicated in P1' mode, search pattern 'A0 A1 A2 B0' with Le = '01' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '03' indicating that the search shall start from that offset.	
8	UICC → T	The response data shall be '02' indicating that the second record has been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148
9	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced forward search from next record' mode, search pattern 'A1 A2' with Le = '01' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '07' indicating that the search shall start from that offset.	
10	UICC → T	The response data shall be '03' indicating that the third record has been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148
11	T → UICC	Send a SEARCH RECORD command using the P1 = '01', the 'enhanced forward search from next record' mode, search pattern 'A1 A2' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '07' indicating that the search shall start from that offset.	
12	UICC → T	Return an error code appropriate to the command.	RQ11_01146
13	T → UICC	Send a SEARCH RECORD command using the P1 = '04', the 'enhanced backward search from previous record' mode, search pattern 'A1 A2' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '07' indicating that the search shall start from that offset.	
14	UICC → T	Return an error code appropriate to the command.	RQ11_01146
15	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced backward search from previous record' mode, search pattern 'B1 B2' with Le = '01' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '07' indicating that the search shall start from that offset.	
16	UICC → T	The response data shall be '02' indicating that the second record has been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148
17	T → UICC	Send a SEARCH RECORD command using the record number = '03', the 'enhanced forward search from record indicated in P1' mode, search pattern 'B1 B2 A0' with Le = '01' The bit 4 of the first byte in the search indication shall be set to '1' and the second byte shall be set to 'B0' indicating that the search shall start after the first occurrence of the value.	
18	UICC → T	The response data shall be '03' indicating that the third record has been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148

Step	Direction	Description	RQ
19	T → UICC	Send a SEARCH RECORD command using the record number = '02', the 'enhanced backward search from record indicated in P1' mode, search pattern 'B1 B2 A0' with Le = '02' The bit 4 of the first byte in the search indication shall be set to '1' and the second byte shall be set to 'B0' indicating that the search shall start after the first occurrence of the value.	
20	UICC → T	The response data shall be '02 01' indicating that the first and second record has been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148
21	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced forward search from next record' mode, search pattern 'B0 B1' with Le = '02' The bit 4 of the first byte in the search indication shall be set to '1' and the second byte shall be set to 'A2' indicating that the search shall start after the first occurrence of the value.	
22	UICC → T	The response data shall be '03 04' indicating that the third and fourth record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148
23	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced backward search from previous record' mode, search pattern 'B0 B1' with Le = '02' The bit 4 of the first byte in the search indication shall be set to '1' and the second byte shall be set to 'A2' indicating that the search shall start after the first occurrence of the value.	
24	UICC → T	The response data shall be ''02 01' indicating that the first and second record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01144 RQ11_01148
25	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced forward search from next record' mode, search pattern 'FF B0' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '1' and the second byte shall be set to 'FF' indicating that the search shall start after the first occurrence of the value.	
26	UICC → T	No data shall be returned by the UICC as this search pattern cannot be found in any of the records. Return SW1 = '90', SW2 = '00' - normal ending of the command or SW1 = '62', SW2 = '82' - end of file/record reached before reading Le bytes or unsuccessful search.	RQ11_01146
27	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	
28	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced forward search from record indicated in P1' mode, search pattern 'A0 A1 A2' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
29	UICC → T	Return an error code appropriate to the command, as no current record exists.	
30	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced forward search from next record' mode, search pattern 'A0 A1 A2' with Le = '04' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
31	UICC → T	The response data shall be '01 02 03 04' indicating that the first, second, third and fourth record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01147
32	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced forward search from next record' mode, search pattern 'A0 A1 A2' with Le = '03' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
33	UICC → T	The response data shall be '02 03 04' indicating that the second, third and fourth record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01145 RQ11_01148
34	T → UICC	Send a SELECT command to select EF_{LINEARFIXED}.	

Step	Direction	Description	RQ
35	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced backward search from record indicated in P1' mode, search pattern 'A0 A1 A2' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
36	UICC → T	Return an error code appropriate to the command, as no current record exists.	
37	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced backward search from previous record' mode, search pattern 'A0 A1 A2' with Le = '04' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
38	UICC → T	The response data shall be '04 03 02 01' indicating that the first, second, third and fourth record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01148
39	T → UICC	Send a SEARCH RECORD command using the P1 = '00', the 'enhanced backward search from previous record' mode, search pattern 'A0 A1 A2' with Le = '03' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
40	UICC → T	The response data shall be '03 02 01' indicating that the first, second and third record have been found. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01148
41	T → UICC	Send a SEARCH RECORD command using the P1 = '01', the 'enhanced forward search from next record' mode, search pattern 'A0 A1 A2' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
42	UICC → T	Return an error code appropriate to the command.	RQ11_01146
43	T → UICC	Send a SEARCH RECORD command using the P1 = '01', the 'enhanced backward search from previous record' mode, search pattern 'A0 A1 A2' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '00' indicating that the search shall start from that offset.	
44	UICC → T	Return an error code appropriate to the command.	RQ11_01146
45	T → UICC	Send a SEARCH RECORD command using the record number = '01', the 'enhanced forward search from record indicated in P1' mode and search pattern 'A0 A2 A3 A4' with Le = '00' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '03' indicating that the search shall start from that offset.	
46	UICC → T	No data shall be returned by the UICC as this search pattern cannot be found in any of the records. Return SW1 = '90', SW2 = '00' - normal ending of the command or SW1 = '62', SW2 = '82' - end of file/record reached before reading Le bytes or unsuccessful search.	RQ11_01146
47	T → UICC	Send a READ RECORD command using CURRENT mode.	
48	UICC → T	The record data returned shall be that of the third record in EF$_{LINEARFIXED}$.	RQ11_01147

6.9.1.7.5 Test procedure 3 (SFI)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a VERIFY PIN command with PIN.	
4	T → UICC	Send a SEARCH RECORD command using the SFI of EF$_{SFI}$, the record number = '01', the 'simple forward search from record indicated in P1' mode and search pattern '21 F2 FF' with Le = '01' to the UICC.	
5	UICC → T	The data returned shall be '01' indicating that the first record has been found. The status condition returned shall be SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01147
6	T → UICC	Send a SEARCH RECORD command using the SFI of EF$_{SFI}$, the record number = '01', the 'simple forward search from record indicated in P1' mode and search pattern '22 F2 FF' with Le = '00'.	
7	UICC → T	No data shall be returned by the UICC as this search pattern cannot be found in any of the records.	
8	T → UICC	Send a READ RECORD command using NEXT mode.	
9	UICC → T	The record data returned shall be that of the first record in EF$_{SFI}$.	RQ11_01146

6.9.1.7.6 Test procedure 4 (Only applicable for T = 1 protocol)

This test procedure is only applicable for T = 1 protocol.

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
4	T → UICC	Send a VERIFY PIN command with PIN.	
5	T → UICC	Send a SEARCH RECORD command using the record number = '01', the 'simple forward search from record indicated in P1' mode and search pattern 'A0 A1 A2 B0' with an empty Le.	
6	UICC → T	The UICC shall not return any response data bytes. Return status condition SW1='90', SW2='00' - normal ending of the command.	RQ11_01146
7	T → UICC	Send a SEARCH RECORD command using the record number = '01', the 'simple forward search from record indicated in P1' mode and search pattern 'A0 A2 A3 A4' with Le = '01'.	
8	UICC → T	No data shall be returned by the UICC as this search pattern cannot be found in any of the records. Return SW1 = '90', SW2 = '00' - normal ending of the command or SW1 = '62', SW2 = '82' - end of file/record reached before reading Le bytes or unsuccessful search.	RQ11_01146
9	T → UICC	Send a SEARCH RECORD command using the record number = '01', the 'simple forward search from record indicated in P1' mode and search pattern 'A0 A1 A2 B0' with Le = '01'.	
10	UICC → T	The data returned shall be '01' indicating that the first record has been found. Return status condition SW1='90', SW2='00' - normal ending of the command.	RQ11_01146
11	T → UICC	Send a SEARCH RECORD command using the record number = '01', the 'simple forward search from record indicated in P1' mode and search pattern 'A0 A1 A2 B0' with Le = '04'.	
12	UICC → T	The data returned shall be '01 02 03 04' indicating that the first, second, third and fourth record have been found. Return status condition SW1='90', SW2='00' - normal ending of the command.	RQ11_01146
13	T → UICC	Send a SEARCH RECORD command using the record number = '01', the 'enhanced forward search from record indicated in P1' mode, search pattern 'A0 A1 A2 B0' with Le = '04' The bit 4 of the first byte in the search indication shall be set to '0' and the second byte shall be set to '03' indicating that the search shall start from that offset.	
14	UICC → T	The data returned shall be '02 03' indicating that the second and third record have been found.	RQ11_01146

6.9.1.8 INCREASE

6.9.1.8.1 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a cyclic EF which has a record length of 3 bytes and the INCREASE access condition assigned, and a second cyclic EF without INCREASE access condition set, and/or a different record length. E.g.:

  a) USIM: $EF_{CYCLIC} = EF_{ACM}$
  $EF_{NO\_INCREASE} = EF_{ICI}$

  b) CSIM: $EF_{CYCLIC} = EF_{CYCLIC}$ (generic)
  $EF_{NO\_INCREASE} = EF_{ICI}$

6.9.1.8.2 Initial condition

Each record in EF_{CYCLIC} shall contain the data '00 00 01'.

6.9.1.8.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{CYCLIC}$.	
4	T → UICC	Send an INCREASE command with value '00 00 02'.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_01149
6	T → UICC	Send a VERIFY PIN command with PIN.	
7	T → UICC	Send an INCREASE command with value '00 00 03'.	
8	UICC → T	The response data shall be '00 00 04 00 00 03'.	RQ11_01149 RQ11_01151
9	T → UICC	Send an INCREASE command with value '01 02 00'.	
10	UICC → T	The response data shall be '01 02 04 01 02 00'.	RQ11_01149
11	T → UICC	Send a READ RECORD command using ABSOLUTE mode with record 1.	
12	UICC → T	The data read shall be '01 02 04'.	RQ11_01149
13	T → UICC	Send an INCREASE command with value 'FF 00 00'.	
14	UICC → T	Return status condition SW1 = '98', SW2 = '50' - INCREASE cannot be performed, maximum value reached.	RQ11_01150
15	T → UICC	Send an INCREASE command with value '00 FF FD'.	
16	UICC → T	The response data shall be '02 02 01 00 FF FD'.	RQ11_01151
17	T → UICC	Send a SELECT command to select EF$_{NO\_INCREASE}$.	
18	T → UICC	Send an INCREASE command with value '01 02 00'.	
19	UICC → T	Return an error code appropriate to the command.	RQ11_01149 RQ11_01152

6.9.1.9 VERIFY PIN

6.9.1.9.1 Test execution

This function is only tested for PIN. It is assumed that if the function operates correctly for PIN, it will also operate correctly for PIN2 or other PIN.

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a PIN protected EF. E.g.:

  a) USIM: $EF_{TRANSPARENT} = EF_{IMSI}$

  b) CSIM: $EF_{TRANSPARENT} = EF_{CSIM\_ST}$

  c) ISIM: $EF_{TRANSPARENT} = EF_{IMPI}$

  d) generic: $EF_{TRANSPARENT} = EF_{TRANS\_2}$

6.9.1.9.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.9.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
4	T → UICC	Send a READ BINARY command using a length of 2 bytes to the UICC.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - access condition not fulfilled.	RQ11_0150
6	T → UICC	Send a VERIFY PIN command with PIN to the UICC.	
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0149 RQ11_0155
8	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0150
10	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
11	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0155
12	T → UICC	Send a VERIFY PIN command with PIN.	
13	T → UICC	Send a VERIFY PIN command with an empty data field.	
14	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	RQ11_0155
15	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
16	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0152
17	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
18	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	RQ11_0152
19	T → UICC	Reset the UICC and select chosen application.	
20	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
21	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, no attempts left.	RQ11_0152
22	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
23	UICC → T	Return status condition SW1 = '69', SW2 = '83' - unsuccessful PIN verification, no attempts left.	RQ11_0152
24	T → UICC	Send a VERIFY PIN command with PIN.	
25	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	RQ11_0149 RQ11_0152
26	T → UICC	Reset the UICC and select and activate chosen application.	
27	T → UICC	Send a VERIFY PIN command with PIN.	
28	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	RQ11_0149 RQ11_0152
29	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
30	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
31	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_0152
32	T → UICC	Send an UNBLOCK PIN command.	
33	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
34	T → UICC	Send a VERIFY PIN command with an empty data field.	
35	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	RQ11_0177
36	T → UICC	Send a DISABLE PIN command.	
37	T → UICC	Reset the UICC.	
38	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
39	T → UICC	Send a SELECT command to select EF$_{TRANSPARENT}$.	
40	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
41	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0150
42	T → UICC	Send a VERIFY PIN command with PIN.	
43	UICC → T	Return an error code appropriate to the command.	RQ11_0149
44	T → UICC	Send an ENABLE PIN command with PIN.	

6.9.1.9.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
3	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0152 RQ11_0155
4	T → UICC	Send a MANAGE CHANNEL (OPEN) command.	
5	UICC → T	Return the number of the assigned logical channel - call this channel 'a.'	
6	T → UICC	Send a VERIFY PIN command with an empty data field to the UICC on channel 'a'.	
7	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0152 RQ11_0155

6.9.1.9.5 Test procedure 3

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
3	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0152
4	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
5	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	RQ11_0152
6	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
7	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, no attempts left.	RQ11_0152
8	T → UICC	Send a VERIFY PIN command with an empty data field.	
9	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, 0 attempts left or SW1 = '69', SW2 = '83' - authentication/PIN method blocked.	RQ11_0154

6.9.1.10 CHANGE PIN

6.9.1.10.1 Test execution

This function is only tested for PIN. It is assumed that if the function operates correctly for PIN, it will also operate correctly for PIN2 or other PIN.

6.9.1.10.2 Initial conditions

PIN of the UICC shall be set to '00000000'.

6.9.1.10.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a CHANGE PIN command with an incorrect old PIN and new PIN of '33333333'.	
4	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0160
5	T → UICC	Send a CHANGE PIN command with a correct old PIN and new PIN of '33333333'.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0157 RQ11_0158
7	T → UICC	Send a VERIFY PIN command with an empty data field.	
8	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	RQ11_0159
9	T → UICC	Send a VERIFY PIN command with a new PIN of '33333333'.	

Step	Direction	Description	RQ
10	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0157 RQ11_0159
11	T → UICC	Send a CHANGE PIN command with an incorrect old PIN and new PIN of '55555555'.	
12	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0160
13	T → UICC	Send a CHANGE PIN command with an incorrect old PIN and new PIN of '55555555'.	
14	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	RQ11_0160
15	T → UICC	Reset the UICC.	
16	T → UICC	Send a CHANGE PIN command with an incorrect old PIN and new PIN of '55555555'.	
17	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, no attempt left.	RQ11_0160
18	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
19	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	RQ11_0160
20	T → UICC	Reset the UICC.	
21	T → UICC	Send a CHANGE PIN command with an old PIN of '33333333' and new PIN of '55555555'.	
22	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	RQ11_0158
23	T → UICC	Send an UNBLOCK PIN command with Unblock PIN and a new PIN of '55555555' to the UICC.	
24	T → UICC	Send a VERIFY PIN command with an empty data field.	
25	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' -unsuccessful PIN verification, 3 attempts left.	RQ11_0177
26	T → UICC	Send a VERIFY PIN command with a new PIN of '55555555'.	
27	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0157
28	T → UICC	Send a DISABLE PIN command.	
29	T → UICC	Reset the UICC.	
30	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
31	T → UICC	Send a CHANGE PIN command with an old PIN '55555555' and new PIN of '77777777'.	
32	UICC → T	Return an error code appropriate to the command.	RQ11_0158
33	T → UICC	Send an ENABLE PIN command to the UICC with PIN '55555555'.	
34	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
35	T → UICC	Send a CHANGE PIN command with an old PIN '55555555' and new PIN of '00000000'.	

6.9.1.10.4 Test procedure 2

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a CHANGE PIN command with an old PIN '00000000' and new PIN of '55555555'.	
3	T → UICC	Send a MANAGE CHANNEL (OPEN) command.	
4	UICC → T	Return the number of the assigned logical channel - call this channel 'a'.	
5	T → UICC	Send a VERIFY PIN command with a PIN of '55555555' to the UICC on channel 'a'.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0157
7	T → UICC	Send a CHANGE PIN command with an old PIN '55555555' and new PIN of '00000000'.	

6.9.1.11 DISABLE PIN

6.9.1.11.1 Test execution

The test procedure for an alternative global key reference is not included as it is out of the scope of the present document.

6.9.1.11.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.11.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send a SELECT command to select EF_IMSI.	
4	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
5	UICC → T	Return status condition SW1 = '69', SW2 = '82' - access condition not fulfilled.	RQ11_0168
6	T → UICC	Send a DISABLE PIN command with incorrect PIN.	
7	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0168
8	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
9	UICC → T	Return status condition SW1 = '69', SW2 = '82' - access condition not fulfilled.	RQ11_0168
10	T → UICC	Send a STATUS command.	
11	UICC → T	The following shall be true of the response data: TLV DO with tag '90' in tag 'C6' in tag '62' shall be '80' indicating that PIN is still enabled.	RQ11_0168
12	T → UICC	Send a VERIFY PIN command with an empty data field.	
13	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	
14	T → UICC	Send a DISABLE PIN command with PIN.	
15	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0164
16	T → UICC	Send a STATUS command.	
17	UICC → T	The following shall be true of the response data: TLV DO with tag '90' in the PS template DO of the response data shall indicate that PIN is disabled.	RQ11_0167
18	T → UICC	Send a VERIFY PIN command with an empty data field.	
19	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	
20	T → UICC	Reset the UICC.	
21	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
22	T → UICC	Send a SELECT command to select EF_IMSI.	
23	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
24	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0161
25	T → UICC	Send an ENABLE PIN command with PIN.	
26	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0161
27	T → UICC	Send a DISABLE PIN command with incorrect PIN.	
28	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	
29	T → UICC	Send a DISABLE PIN command with incorrect PIN.	
30	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	
31	T → UICC	Reset the UICC.	
32	T → UICC	Send a DISABLE PIN command with incorrect PIN.	
33	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, no attempt left.	RQ11_0168
34	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
35	UICC → T	Return status condition SW1 = '69', SW2 = '83' - unsuccessful PIN verification, no attempt left.	RQ11_0164
36	T → UICC	Reset the UICC.	
37	T → UICC	Send a DISABLE PIN command with PIN.	
38	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	RQ11_0165
39	T → UICC	Send an UNBLOCK PIN command with Unblock PIN.	
40	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
41	T → UICC	Send a VERIFY PIN command with an empty data field.	
42	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	RQ11_0177
43	T → UICC	Send a DISABLE PIN command with PIN.	
44	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0164
45	T → UICC	Send a DISABLE PIN command with PIN.	

Step	Direction	Description	RQ
46	UICC → T	Return an error code appropriate to the command.	RQ11_0165
47	T → UICC	Send an ENABLE PIN command with PIN.	

6.9.1.12 ENABLE PIN

6.9.1.12.1 Test execution

There are no test cases-specific parameters for this test case.

6.9.1.12.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.12.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a DISABLE PIN command with PIN.	
3	T → UICC	Reset the UICC.	
4	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
5	T → UICC	Send a SELECT command to select EF$_{IMSI}$.	
6	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
8	T → UICC	Send an ENABLE PIN command with incorrect PIN.	
9	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	RQ11_0171
10	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
11	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0171
12	T → UICC	Send a STATUS command.	
13	UICC → T	The following shall be true of the response data: TLV DO with tag '90' in the PS template DO of the response data shall indicate that PIN is still disabled.	RQ11_0171
14	T → UICC	Send an ENABLE PIN command with incorrect PIN.	
15	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	
16	T → UICC	Send an ENABLE PIN command with PIN.	
17	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0172 RQ11_0176
18	T → UICC	Send a STATUS command.	
19	UICC → T	The following shall be true of the response data: TLV DO with tag '90' in the PS template DO of the response data shall indicate that PIN is now enabled.	RQ11_0171
20	T → UICC	Send a VERIFY PIN command with an empty data field	
21	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	RQ11_0174
22	T → UICC	Reset the UICC.	
23	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
24	T → UICC	Send a SELECT command to select EF$_{IMSI}$.	
25	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
26	UICC → T	Return status condition SW1 = '69', SW2 = '82' - access condition not fulfilled.	RQ11_0171
27	T → UICC	Send a DISABLE PIN command with PIN.	
28	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
29	T → UICC	Send an ENABLE PIN command with incorrect PIN.	
30	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	
31	T → UICC	Send an ENABLE PIN command with incorrect PIN.	
32	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	
33	T → UICC	Reset the UICC.	
34	T → UICC	Send an ENABLE PIN command with incorrect PIN.	

Step	Direction	Description	RQ
35	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, no attempt left.	RQ11_0175
36	T → UICC	Send an ENABLE PIN command with incorrect PIN.	
37	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	RQ11_0175
38	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
39	T → UICC	Send a SELECT command to select EF_IMSI.	
40	T → UICC	Send a STATUS command.	
Condition		If TLV DO with tag '90' in the PS template DO of the response data indicates that PIN is enabled, then step 41) to step 46) shall be carried out. If TLV DO with tag '90' in the PS template DO of the response data indicates that PIN is disabled, then step 47) to step 52) shall be carried out.	
41	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
42	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_0175
43	T → UICC	Send a VERIFY PIN command with PIN.	
44	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	
45	T → UICC	Send an UNBLOCK PIN command with Unblock PIN.	
46	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
47	T → UICC	Send a READ BINARY command using a length of 2 bytes.	
48	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0175
49	T → UICC	Send an ENABLE PIN command with PIN.	
50	UICC → T	Return status condition SW1 = '69', SW2 = '83' - PIN blocked.	RQ11_0172
51	T → UICC	Send an UNBLOCK PIN command with Unblock PIN.	
52	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
53	T → UICC	Reset the UICC.	
54	T → UICC	Send a STATUS command.	
55	UICC → T	The following shall be true of the response data: The TLV DO with tag '90' in the PS template DO of the response data shall indicate that PIN is enabled.	RQ11_0175
56	T → UICC	Send an ENABLE PIN command with PIN.	
57	UICC → T	Return an error or warning code appropriate to the command.	RQ11_0172

6.9.1.13 UNBLOCK PIN

6.9.1.13.1 Test execution

This function is only tested for the Universal PIN. It is assumed that if the function operates correctly for the Universal PIN, it will also operate correctly for Universal PIN2 or other PIN.

There are no test cases-specific parameters for this test case.

6.9.1.13.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.13.3 Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send an UNBLOCK PIN command with incorrect Unblock PIN.	
4	UICC → T	Return status condition SW1 = '63', SW2 = 'C9' - unsuccessful Unblock PIN verification, 9 attempts left.	RQ11_0177 RQ11_0179
5	T → UICC	Send a STATUS command.	
6	UICC → T	The following shall be true of the response data: TLV DO with tag '90' in the PS template DO of the response data shall indicate that PIN is enabled.	RQ11_0181
7	T → UICC	Send a VERIFY PIN command with an empty data field.	
8	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	
9	T → UICC	Send an UNBLOCK PIN command with an empty data field.	
10	UICC → T	Return status condition SW1 = '63', SW2 = 'C9' - unsuccessful PIN verification, 9 attempts left.	RQ11_0182 RQ11_0183

Step	Direction	Description	RQ
11	T → UICC	Send a DISABLE PIN command with PIN.	
12	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
13	T → UICC	Send an UNBLOCK PIN command with incorrect Unblock PIN	
14	UICC → T	Return status condition SW1 = '63', SW2 = 'C8' - unsuccessful Unblock PIN verification, 8 attempts left.	RQ11_0179
15	T → UICC	Send a STATUS command.	
16	UICC → T	The following shall be true of the response data: TLV DO with tag '90' in the PS template DO of the response data shall indicate that PIN is disabled.	RQ11_0181
17	T → UICC	Send an ENABLE PIN command with PIN.	
18	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
19	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
20	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	
21	T → UICC	Send an UNBLOCK PIN command with Unblock PIN and new PIN '33333333'.	
22	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0177
23	T → UICC	Send a STATUS command.	
24	UICC → T	The following shall be true of the response data: TLV DO with tag '90' in the PS template DO of the response data shall indicate that PIN is enabled.	RQ11_0178
25	T → UICC	Send a VERIFY PIN command with an empty data field.	
26	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	RQ11_0178
27	T → UICC	Send a VERIFY PIN command with the new PIN.	
28	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0177
29	T → UICC	Send an UNBLOCK PIN command with an empty data field.	
30	UICC → T	Return status condition SW1 = '63', SW2 = 'CA' - unsuccessful PIN verification, 10 attempts left.	RQ11_0178 RQ11_0182 RQ11_0183
31	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
32	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	
33	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
34	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	
35	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
36	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, no attempt left.	
37	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
38	UICC → T	Return status condition SW1 = '69', SW2 = '83' - unsuccessful PIN verification, no attempt left.	
39	T → UICC	Send an UNBLOCK PIN command with Unblock PIN and new PIN '00000000'.	
40	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0177
41	T → UICC	Send a VERIFY PIN command with an empty data field.	
42	UICC → T	Return status condition SW1 = '63', SW2 = 'C3' - unsuccessful PIN verification, 3 attempts left.	RQ11_0177

6.9.1.13.4   Test procedure 2 (Destructive test)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send 9 UNBLOCK PIN command with incorrect Unblock PIN.	
3	UICC → T	The status condition returned by the UICC each time shall be SW1 = '63', SW2 = 'CX' - unsuccessful Unblock PIN verification 'X' retries remaining. After 9 times of unsuccessful Unblock PIN verification, the SW shall be SW1 = '63', SW2 = 'C1', at least one attempt left.	RQ11_0179
4	T → UICC	Reset the UICC.	
5	T → UICC	Send an UNBLOCK PIN command with incorrect Unblock PIN.	
6	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful Unblock PIN verification, no attempt left.	RQ11_0179
7	T → UICC	Send an UNBLOCK PIN command with Unblock PIN.	
8	UICC → T	Return status condition SW1 = '69', SW2 = '83' - Unblock PIN blocked.	RQ11_0179

6.9.1.13.5 Test procedure 3

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
3	T → UICC	Send an UNBLOCK PIN command with incorrect Unblock PIN.	
4	UICC → T	Return status condition SW1 = '63', SW2 = 'C9' - unsuccessful Unblock PIN verification, 9 attempts left.	RQ11_0177 RQ11_0179
5	T → UICC	Send an UNBLOCK PIN command with incorrect Unblock PIN.	
6	UICC → T	Return status condition SW1 = '63', SW2 = 'C8' - unsuccessful Unblock PIN verification, 8 attempts left.	RQ11_0179
7	T → UICC	Send an UNBLOCK PIN command with an empty data field.	
8	UICC → T	Return status condition SW1 = '63', SW2 = 'C8' - unsuccessful PIN verification, 8 attempts left.	RQ11_0182
9	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
10	UICC → T	Return status condition SW1 = '63', SW2 = 'C2' - unsuccessful PIN verification, 2 attempts left.	
11	T → UICC	Send a VERIFY PIN command with incorrect PIN	
12	UICC → T	Return status condition SW1 = '63', SW2 = 'C1' - unsuccessful PIN verification, 1 attempt left.	
13	T → UICC	Send a VERIFY PIN command with incorrect PIN.	
14	UICC → T	Return status condition SW1 = '63', SW2 = 'C0' - unsuccessful PIN verification, no attempt left.	
15	T → UICC	Send an UNBLOCK PIN command with an empty data field.	
16	UICC → T	Return status condition SW1 = '63', SW2 = 'CA' - unsuccessful PIN verification, 10 attempts left.	RQ11_0182 RQ11_0184

6.9.1.13.6 Test procedure 4

Step	Direction	Description	RQ
1	T → UICC	Send a MANAGE CHANNEL (OPEN) command.	
2	UICC → T	Return the assigned logical channel - call this channel 'a'.	
3	T → UICC	Send a VERIFY PIN command with a PIN of '00000000' to the UICC on channel 'a'.	
4	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0178
5	T → UICC	Send an UNBLOCK PIN command with an incorrect Unblock PIN to the UICC on the basic channel.	
6	UICC → T	Return status condition SW1 = '63', SW2 = 'C9' - unsuccessful Unblock PIN verification, 9 attempts left.	RQ11_0177 RQ11_0179
7	T → UICC	Send an UNBLOCK PIN command with an incorrect Unblock PIN to the UICC on channel 'a'.	
8	UICC → T	Return status condition SW1 = '63', SW2 = 'C8' - unsuccessful Unblock PIN verification, 8 attempts left.	RQ11_0179

6.9.1.14 DEACTIVATE FILE

6.9.1.14.1 Foreword

Deactivation requires the verification of ADM, and the respective requirements for their fulfilment are the responsibility of the appropriate administrative authority. Therefore, the following test procedure shall be understood as an example.

6.9.1.14.2 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a PIN protected linear fixed EF. E.g.:

 a) USIM: $EF_{LINEARFIXED} = EF_{CCP2}$;

 b) CSIM: $EF_{LINEARFIXED} = EF_{CCP2}$;

 c) ISIM: $EF_{LINEARFIXED} = EF_{IMPU}$;

d)   generic: $EF_{LINEARFIXED} = EF_{LF\_1}$

For the chosen $EF_{LINEARFIXED}$ file, the CREATE FILE command which was used to create the file shall either not have contained "Special File Information (File Status Byte)", or have contained "Special File Information (File Status Byte)" with b7 set to 0.

There are no test cases-specific parameters for this test case.

6.9.1.14.3   Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.14.4   Test procedure 1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	
3	T → UICC	Send a DEACTIVATE FILE command using "file ID selection" to deactivate $EF_{LINEARFIXED}$.	
4	UICC → T	Return status condition SW1 = '69', SW2 = '82' - access condition not fulfilled.	RQ11_0186
5	T → UICC	Send a VERIFY PIN command with PIN.	
6	T → UICC	Send a READ RECORD command to read record 1.	
7	UICC → T	Return status condition SW1 = '69', SW2 = '86' - command not allowed (no EF selected).	RQ11_0188
8	T → UICC	Reset the UICC.	
9	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
10	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on $EF_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps).	
11	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$.	
12	UICC → T	The following shall be true of the response data: The value of Life Cycle Status Integer of the response data shall indicate that the EF is activated.	
13	T → UICC	Send a DEACTIVATE FILE command using 'file ID selection' to deactivate $EF_{LINEARFIXED}$.	
14	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0185 RQ11_0186
15	T → UICC	Send a VERIFY PIN command with PIN.	
16	T → UICC	Send an UPDATE RECORD command to update record 1.	
17	UICC → T	Return an error code appropriate to the command.	RQ11_0187 RQ11_0189
18	T → UICC	Send a SELECT command to select $EF_{LINEARFIXED}$.	
19	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is deactivated. Return status condition SW1 = '62', SW2 = '83' - selected file invalidated.	
20	T → UICC	Send an UPDATE RECORD command to update record 1.	
21	UICC → T	Return an error code appropriate to the command.	RQ11_0189
22	T → UICC	Send an ACTIVATE FILE command to select and activate $EF_{LINEARFIXED}$.	
23	T → UICC	Reset the UICC.	
24	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
25	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on $EF_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
26	T → UICC	Send a DEACTIVATE command using 'path selection from MF' to deactivate $EF_{LINEARFIXED}$.	
27	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
28	T → UICC	Send a SELECT command to select the $EF_{LINEARFIXED}$.	
29	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is deactivated. Return status condition SW1 = '62', SW2 = '83' - selected file invalidated.	RQ11_0185
30	T → UICC	Send an ACTIVATE FILE command to select and activate $EF_{LINEARFIXED}$.	
31	T → UICC	Reset the UICC.	

Step	Direction	Description	RQ
32	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
33	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on EF$_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
34	T → UICC	Send a DEACTIVATE FILE command using 'path selection from current DF' to deactivate EF$_{LINEARFIXED}$.	
35	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
36	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
37	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is deactivated. Return status condition SW1 = '62', SW2 = '83' - selected file invalidated.	RQ11_0185
38	T → UICC	Send an ACTIVATE FILE command to select and activate EF$_{LINEARFIXED}$.	
39	T → UICC	Reset the UICC.	
40	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
41	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on EF$_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
42	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
43	T → UICC	Send a DEACTIVATE FILE command with P1 = P2 = '00' and with the empty data field.	
44	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0190
45	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
46	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is deactivated. Return status condition SW1 = '62', SW2 = '83' - selected file invalidated.	RQ11_0190
47	T → UICC	Send an ACTIVATE FILE command to select and activate EF$_{LINEARFIXED}$.	

6.9.1.15 ACTIVATE FILE

6.9.1.15.1 Foreword

Activation requires the verification of ADM, and the respective requirements for their fulfilment are the responsibility of the appropriate administrative authority. Therefore, the following test procedure shall be understood as an example.

6.9.1.15.2 Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a PIN protected linear fixed EF. E.g.:

a) USIM: EF$_{LINEARFIXED}$ = EF$_{CCP2}$

b) CSIM: EF$_{LINEARFIXED}$ = EF$_{CCP2}$

c) ISIM: EF$_{LINEARFIXED}$ = EF$_{IMPU}$

d) generic: EF$_{LINEARFIXED}$ = EF$_{LF\_1}$

6.9.1.15.3 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.15.4 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select and activate the chosen application.	

Step	Direction	Description	RQ
3	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on EF$_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
4	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
5	T → UICC	Send a DEACTIVATE FILE command to deactivate EF$_{LINEARFIXED}$.	
6	T → UICC	Reset the UICC.	
7	T → UICC	Send a SELECT command to select and activate the chosen application.	
8	T → UICC	Send an ACTIVATE FILE command using 'file ID selection' to select and activate EF$_{LINEARFIXED}$.	
9	UICC → T	Return status condition SW1 = '69', SW2 = '82' - access condition not fulfilled.	RQ11_0194
10	T → UICC	Send a VERIFY PIN command with PIN.	
11	T → UICC	Send a READ RECORD command to read record 1.	
12	UICC → T	Return status condition SW1 = '69', SW2 = '86' - command not allowed (no EF selected).	RQ11_0193
13	T → UICC	Reset the UICC.	
14	T → UICC	Send a SELECT command to select and activate the chosen application.	
15	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on EF$_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
16	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
17	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is deactivated. Return status condition SW1 = '62', SW2 = '83' - selected file invalidated.	
18	T → UICC	Send an ACTIVATE FILE command using 'file ID selection' to select and activate EF$_{LINEARFIXED}$.	
19	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0191 RQ11_0194 RQ11_0195
20	T → UICC	Send a VERIFY PIN command with PIN.	
21	T → UICC	Send a READ RECORD command.	
22	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
23	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
24	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is activated.	
25	T → UICC	Send a DEACTIVATE FILE command to deactivate EF$_{LINEARFIXED}$.	RQ11_0186
26	T → UICC	Reset the UICC.	
27	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
28	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on EF$_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
29	T → UICC	Send an ACTIVATE command using 'path selection from MF' to select and activate EF$_{LINEARFIXED}$.	
30	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
31	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
32	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is activated.	RQ11_0185
33	T → UICC	Send a DEACTIVATE FILE command to deactivate EF$_{LINEARFIXED}$.	RQ11_0186
34	T → UICC	Reset the UICC.	
35	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
36	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on EF$_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
37	T → UICC	Send an ACTIVATE FILE command using 'path selection from current DF' to select and activate EF$_{LINEARFIXED2}$.	RQ11_0194
38	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
39	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
40	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is activated.	RQ11_0185
41	T → UICC	Send a DEACTIVATE FILE command to deactivate EF$_{LINEARFIXED}$.	

Step	Direction	Description	RQ
42	T → UICC	Reset the UICC.	
43	T → UICC	Send a SELECT command to select and activate an application (see clause 4.5.2 for valid applications).	
44	T → UICC	The terminal simulator shall gain the security access condition(s) specified for both DEACTIVATE and ACTIVATE on EF$_{LINEARFIXED}$. (This procedure is dependent on the respective requirements of appropriate administrative authority and may require several steps.)	
45	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
46	T → UICC	Send an ACTIVATE FILE command with P1 = P2 = '00' and with the empty data field.	RQ11_0194
47	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0195
48	T → UICC	Send a SELECT command to select EF$_{LINEARFIXED}$.	
49	UICC → T	The value of Life Cycle Status Integer of the response data shall indicate that the EF is activated. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0195

6.9.1.16 AUTHENTICATE

FFS.

6.9.1.17 MANAGE CHANNEL

FFS.

6.9.1.18 GET CHALLENGE

6.9.1.18.1 Foreword

The testing of the quality of the random number generated by this command is outside the scope of the present document.

6.9.1.18.2 Test execution

The tests defined in this clause only apply where the UICC under test supports the GET CHALLENGE command. If the UICC under test does not support the GET CHALLENGE command, then these tests do not apply.

6.9.1.18.3 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.18.4 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select the chosen application.	
3	T → UICC	Send a GET CHALLENGE command to the UICC with a length value of 8.	
4	UICC → T	Return a data string containing a maximum of 8 bytes of response data.	RQ11_01110
5		Step 3) shall be repeated a further 99 times.	
6	UICC → T	For each repetition return a data string containing a maximum of 8 bytes of response data that is different to that has been returned previously in this test.	RQ11_01110
NOTE:		This does not test the quality of the returned Random Number merely that the same number is not returned twice in 100 calls of the GET CHALLENGE command.	

6.9.1.19 MANAGE LSI

6.9.1.19.1 Test execution

There is no common test execution for the following test procedures.

6.9.1.19.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.9.1.19.3 Test procedure 1 (ATR, PPS, MANAGE LSI (reset LSE))

This test procedure shall be executed using the following options (if supported):

- T=0, using command data '80 01 1F' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 XX'.

- T=1, using command data '80 01 1F' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 XX'.

- T=1 with usage of NAD byte, using command data '80 01 1F 81 01 01' in the MANAGE LSI (configure LSIs), expecting response data '80 01 XX 81 01 01'.

where 'XX' is the highest LSI proposed by the UICC to the Terminal in the range '00' to '1F'

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
Condition		If O_LSI_CONFIG_PRE_AGREED = TRUE, skip steps 5) and 6).	
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data as specified in the options above.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Return response data as specified in the options above.	
7	T → UICC	MANAGE LSI (reset LSE) command to reset LSI#_ADDITIONAL_LOGICAL_UICC.	RQ11_01153
8	UICC → T	Return status word 9000 with response data containing an ATR TLV.	RQ11_01153
9	T → UICC	On LSI#_ADDITIONAL_LOGICAL_UICC; send a SELECT MF command.	
10	UICC → T	Return status condition SW1 = '90', SW2 = '00'.	

6.9.1.19.4 Test procedure 2 (MANAGE LSI (configure LSIs) with LSI options, with NAD selection, one LSI)

This test procedure shall be executed using the following option:

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 00 81 01 01'.	RQ11_01154 RQ11_01155 RQ11_01159
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of one LSI and the selection via NAD byte by the UICC (data = '80 01 00 81 01 01').	RQ11_01154 RQ11_01155 RQ11_01158 RQ11_01159

6.9.1.19.5   Test procedure 3 (MANAGE LSI (configure LSIs) with LSI options, with NAD selection, 32 LSIs)

This test procedure shall be executed using the following option:

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 1F 81 01 01'.	RQ11_01154 RQ11_01155 RQ11_01159
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of XX LSIs and the selection via NAD byte by the UICC (data = '80 01 XX 81 01 01') where 'XX' is the highest LSI proposed by the UICC to the Terminal in the range '00' to '1F'.	RQ11_01154 RQ11_01155 RQ11_01158 RQ11_01159

6.9.1.19.6   Test procedure 4 (MANAGE LSI (configure LSIs) with LSI options, without NAD selection, one LSI)

This test procedure shall be executed using the following options (if supported):

- T=0

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 00 81 01 00'.	RQ11_01154 RQ11_01156 RQ11_01159
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of one LSI by the UICC (data = '80 01 00' or data = '80 01 00 81 01 00').	RQ11_01154 RQ11_01156 RQ11_01158 RQ11_01159

6.9.1.19.7   Test procedure 5 (MANAGE LSI (configure LSIs) with LSI options, without NAD selection, 32 LSIs)

This test procedure shall be executed using the following options (if supported):

- T=0

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 1F 81 01 00'.	RQ11_01154 RQ11_01156 RQ11_01159

Step	Direction	Description	RQ
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of XX LSIs by the UICC (data = '80 01 XX' or data = '80 01 XX 81 01 00') where 'XX' is the highest LSI proposed by the UICC to the Terminal in the range '00' to '1F'.	RQ11_01154 RQ11_01156 RQ11_01158 RQ11_01159

6.9.1.19.8 Test procedure 6 (MANAGE LSI (configure LSIs) without LSI option, without NAD selection, one LSI)

This test procedure shall be executed using the following options (if supported):

- T=0

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 00'.	RQ11_01154 RQ11_01157 RQ11_01159
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of one LSI by the UICC (data = '80 01 00' or data = '80 01 00 81 01 00').	RQ11_01154 RQ11_01157 RQ11_01158 RQ11_01159

6.9.1.19.9 Test procedure 7 (MANAGE LSI (configure LSIs) without LSI options, without NAD selection, 32 LSIs)

This test procedure shall be executed using the following options (if supported):

- T=0

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 1F'.	RQ11_01154 RQ11_01157 RQ11_01159
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of XX LSIs by the UICC (data = '80 01 XX' or data = '80 01 XX 81 01 00') where 'XX' is the highest LSI proposed by the UICC to the Terminal in the range '00' to '1F'.	RQ11_01154 RQ11_01157 RQ11_01158 RQ11_01159

6.9.1.19.10 Test procedure 8 (MANAGE LSI (configure LSIs) without LSI option, with NAD selection, one LSI)

This test procedure shall be executed using the following option:

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309

Step	Direction	Description	RQ
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 00'.	RQ11_01154 RQ11_01155 RQ11_01159
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of one LSI by the UICC (data = '80 01 00 81 01 01').	RQ11_01154 RQ11_01155 RQ11_01158 RQ11_01159

6.9.1.19.11 Test procedure 9 (MANAGE LSI (configure LSIs) without LSI options, with NAD selection, 32 LSIs)

This test procedure shall be executed using the following option:

- T=1

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data '80 01 1F'.	RQ11_01154 RQ11_01155 RQ11_01159
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Send response data confirming the support of XX LSIs by the UICC (data = '80 01 XX 81 01 01') where 'XX' is the highest LSI proposed by the UICC to the Terminal in the range '00' to '1F'.	RQ11_01154 RQ11_01155 RQ11_01158 RQ11_01159

6.9.1.19.12 Test procedure 10 (MANAGE LSI (retrieve SWP))

This test procedure shall be executed using the following options (if supported):

- T=0, using command data '80 01 1F' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 XX'.

- T=1, using command data '80 01 1F' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 XX'.

- T=1 with usage of NAD byte, using command data '80 01 1F 81 01 01' in the MANAGE LSI (configure LSIs), expecting response data '80 01 XX 81 01 01'.

where 'XX' is the highest LSI proposed by the UICC to the Terminal in the range '00' to '1F'.

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs and for the UICC-CLF interface in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
Condition		If O_LSI_CONFIG_PRE_AGREED = TRUE, skip steps 5) and 6).	
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data as specified in the options above.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Return response data as specified in the options above.	
7	T → UICC	Send MANAGE LSI (retrieve SWP) command '80 7C 03 00 00'	RQ11_01160

Step	Direction	Description	RQ
8	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Expected response data confirming the assignment state of UICC-CLF on an LSI data = '80 01 YY' with YY is: - in the range '00' to 'XX' if an LSI is assigned; or - 'FF' if no LSI is assigned.	RQ11_01161

6.9.1.19.13 Test procedure 11 (MANAGE LSI (assign SWP))

This test procedure shall be executed using the following options (if supported):

- T=0, using command data '80 01 1F' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 XX'.

- T=1, using command data '80 01 1F' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 XX'.

- T=1 with usage of NAD byte, using command data '80 01 1F 81 01 01' in the MANAGE LSI (configure LSIs), expecting response data '80 01 XX 81 01 01'.

where 'XX' is the highest LSI proposed by the UICC to the Terminal in the range '00' to '1F'.

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs and for the UICC-CLF interface in the ATR).	RQ06_0309
3	T → UICC	PPS Request including transmission protocol selected and the PPS2 indicating LSI usage.	RQ06_0403
4	UICC → T	PPS Response including PPS2.	RQ06_0403
Condition		If O_LSI_CONFIG_PRE_AGREED = TRUE, skip steps 5) and 6).	
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data as specified in the options above.	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Return response data as specified in the options above.	
7	T → UICC	Send MANAGE LSI (retrieve SWP) command '80 7C 03 00 00'.	RQ11_01160
8	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Expected response data confirming the assignment state of UICC-CLF on an LSI data = '80 01 YY' with YY is: - in the range '00' to 'XX' if an LSI is assigned; or - 'FF' if no LSI is assigned.	RQ11_01161
9	T → UICC	Send MANAGE LSI (assign SWP) command '80 7C 02 ZZ 00' on LSI#ZZ With 'ZZ' is LSI#_LSE_SUPPORTING_UICC-CLF.	RQ08_1001 RQ11_01163
10	UICC → T	Return status word '9000' with response data containing an ATR TLV, where the ATR indicates support for LSIs and for the UICC-CLF interface.	RQ11_01162
11	T → UICC	Send MANAGE LSI (retrieve SWP) command '80 7C 03 00 00'.	RQ11_01160
12	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Expected response data confirming the assignment state of UICC-CLF on an LSI data = '80 01 ZZ'.	RQ11_01161

6.9.1.19.14 Test procedure 12 (MANAGE LSI (select LSI))

This test procedure shall be executed using the following options (if supported):

- T=0, using command data '80 01 01' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 01'.

- T=1 without NAD, using command data '80 01 01' in the MANAGE LSI (configure LSIs) command, expecting response data '80 01 01'.

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	UICC → T	ATR (The UICC indicates support for LSIs and T=0 in the ATR)	RQ06_0309
3	T → UICC	Send PPS Request including PPS0 for the transmission protocol selected and a PPS2 indicating that LSIs are supported	
4	UICC → T	PPS Response confirming the suggested PPS0 and PPS2 values	RQ06_0403
Condition		If O_LSI_CONFIG_PRE_AGREED = TRUE, skip steps 5) and 6)	
5	T → UICC	Send MANAGE LSI (configure LSIs) containing command data as specified in the options above	
6	UICC → T	Return status condition SW1 = '90', SW2 = '00'. Return response data as specified in the options above	
7	T → UICC	MANAGE LSI (reset LSE) command to reset LSI#01	
8	UICC → T	Return status word '9000' with response data containing an ATR	RQ11_01153
9	T → UICC	Send MANAGE LSI (select LSI) with LSI#01	
10	UICC → T	Respond with SW1 = '90', SW2 = '00'	

6.9.2 Data Oriented Commands

6.9.2.1 RETRIEVE DATA

6.9.2.1.1 Test execution

For RQ11_0313, only '62F1' is accepted as a status word, as the relevant test procedures do not send a TERMINAL PROFILE and therefore the UICC should never indicate that a proactive command is pending.

Test procedure 2 shall be repeated for each of the commands listed in the table below:

Command	Expected status condition	CRs tested
STATUS	SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0304
VERIFY PIN with PIN	SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0304
SELECT with file ID '2F 34'	An error code appropriate to the command.	RQ11_0307 RQ11_0304
READ BINARY	An error code appropriate to the command.	RQ11_0307 RQ11_0304
RETRIEVE DATA indicating "First block" and with tag '86'	An error code appropriate to the command.	RQ11_0307 RQ11_0304
SET DATA indicating "Next block" and with data '85 01 01'	An error code appropriate to the command.	RQ11_0307 RQ11_0304

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with PIN protected BER-TLV EFs the implementation is capable to handle. E.g.:

a) USIM: $EF_{BER-TLV} = EF_{MMDF}$;
$EF_{BER-TLV\_INFO} = EF_{MML}$;

b) CSIM: $EF_{BER-TLV} = EF_{MMDF}$;
$EF_{BER-TLV\_INFO} = EF_{MML}$;

c) generic: $EF_{BER-TLV}$;
$EF_{BER-TLV\_INFO}$;

6.9.2.1.2 Initial conditions

$EF_{BER-TLV}$ shall contain the following data objects:

Tag	Length field	Value
'81'	'02'	'01 02'.
'A2'	'82 05 A0'	1 440 bytes: '80 0E 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D' repeated 90 times.
'83'	'00'	' ' - i.e. empty value.

EF_{BER-TLV} shall not contain the following data objects:

Tag
'86'

EF_{BER-TLV_INFO} shall be present.

6.9.2.1.3 Test procedure 1 (basic)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_{BER-TLV}.	
3	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '81'.	
4	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_0309
5	T → UICC	Send a VERIFY PIN command with PIN to gain the READ access condition for EF_{BER-TLV}.	
6	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '81' to the UICC.	
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The data returned shall be '81 02 01 02'.	RQ11_0309 RQ11_0316
8	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
9	UICC → T	Return status condition SW1 = '6A', SW2 = '86' - Incorrect parameters P1 to P2.	RQ11_0314
10	T → UICC	Select EF_{BER-TLV}.	
11	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
12	UICC → T	Return an error code appropriate to the command.	
13	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
14	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the first part of the data object with tag 'A2'.	RQ11_0313 RQ11_0316
15	T → UICC	Send RETRIEVE DATA commands indicating "Next block" to the UICC until the status condition returned by the UICC is not SW1 = '62', SW2 = 'F1' - More data available.	
16	UICC → T	For the last command, Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. For all commands, the response data returned by the UICC shall contain the next part of the data object with tag 'A2'. The last command shall contain the last part of the data object with tag 'A2'.	RQ11_0316
17	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
18	UICC → T	Return status condition SW1 = '6A', SW2 = '86' - Incorrect parameters P1 to P2.	RQ11_0314
19	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '86' to the UICC.	
20	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0310
21	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '83'.	
22	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The data returned shall be '83 00'.	RQ11_0316
23	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
24	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the first part of the data object with tag 'A2', with a length less than or equal to the maximum length of data expected by the terminal as encoded in the Le byte in the command.	RQ11_0313
25	T → UICC	Send RETRIEVE DATA commands indicating "Next block", and with Le the smaller of the number of bytes still to be transferred and 50, to the UICC, until the status condition returned by the UICC is not SW1 = '62', SW2 = 'F1' - More data available.	
26	UICC → T	For the last command, Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. For all commands, the response data returned by the UICC shall contain the next part of the data object with tag 'A2', with a length less than or equal to 50. The last command shall contain the last part of the data object with tag 'A2'.	RQ11_0313

6.9.2.1.4 Test procedure 2 (interleaving and aborting)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_MMDF.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the access condition for EF_MMDF.	
4	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
5	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the first part of the data object with tag 'A2'.	
6	T → UICC	Send a command as specified in the table in the test execution clause.	
7	UICC → T	Return a status condition appropriate to the command sent (see the table in the test execution clause).	
8	T → UICC	Send a RETRIEVE DATA command indicating "Next block" to the UICC.	
9	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the next part of the data object with tag 'A2'.	
10	T → UICC	Send a command as specified in the table in the test execution clause	
11	UICC → T	Return a status condition appropriate to the command sent (see the table in the test execution clause).	
12	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
13	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the next part of the data object with tag 'A2'.	
14	T → UICC	The terminal simulator shall continue sending RETRIEVE DATA commands indicating "Next block" to the UICC until the status condition returned by the UICC is not SW1 = '62', SW2 = 'F1' - More data available.	
15	UICC → T	For the last command, Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. For all commands, the response data returned by the UICC shall contain the next part of the data object with tag 'A2'. The last command shall contain the last part of the data object with tag 'A2'.	
16	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
17	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available.	
18	T → UICC	Send a SELECT command to select EF_BER-TLV_INFO.	
19	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
20	UICC → T	Return an error code appropriate to the command.	RQ11_0305
21	T → UICC	Send a SELECT command to select EF_BER-TLV.	
22	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
23	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The data returned shall be the start of the TLV with tag 'A2'.	RQ11_0306
24	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
25	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The data returned shall be the start of the TLV with tag 'A2'.	
26	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '81'.	
27	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The data returned shall be '81 02 01 02'.	RQ11_0306
28	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
29	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The data returned shall be the start of the TLV with tag 'A2'.	
30	T → UICC	Send a SET DATA command indicating "First block" and with data '81 02 03 04'.	
31	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
32	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
33	UICC → T	Return an error code appropriate to the command.	RQ11_0306
34	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
35	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available.	RQ11_0306
36	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 03 01 01 00'.	
37	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
38	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
39	UICC → T	Return an error code appropriate to the command.	RQ11_0306

6.9.2.1.5 Test procedure 3 (retransmitting)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF$_{BER-TLV}$.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the access condition for EF$_{BER-TLV}$.	
4	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '81'.	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The data returned shall be '81 02 01 02'.	
6	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
7	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available.	
8	T → UICC	Send a RETRIEVE DATA command indicating "Next block".	
9	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available.	
10	T → UICC	Send a RETRIEVE DATA command indicating "Retransmit previous block".	
11	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The data returned shall be the same as in step 7).	RQ11_0308 RQ11_0316
12	T → UICC	The terminal simulator shall continue sending RETRIEVE DATA commands indicating "Next block" to the UICC until the UICC returns status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
13	T → UICC	Send a RETRIEVE DATA command indicating "Retransmit previous block" to the UICC.	
14	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The data returned shall be the same as for the last RETRIEVE DATA command sent in step 12).	RQ11_0308 RQ11_0316

6.9.2.2 SET DATA

6.9.2.2.1 Test execution

For RQ11_0323, only '63F1' is accepted as a status word, as the relevant test procedures do not send a TERMINAL PROFILE and therefore the UICC should never indicate that a proactive command is pending.

Test procedure 2 shall be repeated for each of the commands listed in the table below.

Command	Expected status condition	CRs tested
STATUS	SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0305
VERIFY PIN with PIN	SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0305
SELECT with file ID '2F 34'	An error code appropriate to the command.	RQ11_0305 RQ11_0307
READ BINARY	An error code appropriate to the command.	RQ11_0305 RQ11_0307
RETRIEVE DATA indicating "First block" and with tag '86'	An error code appropriate to the command.	RQ11_0305 RQ11_0307
SET DATA indicating "First block" and with data '85 01 01 02'	An error code appropriate to the command.	RQ11_0305 RQ11_0307

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a PIN protected BER-TLV EF(s) the implementation is capable to handle. E.g.:

    a)   USIM: EF$_{BER-TLV}$ = EF$_{MMDF}$;
                            EF$_{BER-TLV\_INFO}$ = EF$_{MML}$;

    b)   CSIM: EF$_{BER-TLV}$ = EF$_{MMDF}$;
                            EF$_{BER-TLV\_INFO}$ = EF$_{MML}$;

    c)   generic: EF$_{BER-TLV}$;
                            EF$_{BER-TLV\_INFO}$;

6.9.2.2.2 Initial conditions

EF_{BER-TLV} shall contain the following data objects:

Tag	Length field	Value	Reason
'81'	'02'	'01 02'	Existing - to be replaced.
'A2'	'82 05 A0'	1 440 bytes: '80 0E 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D' repeated 90 times.	Existing - to be replaced.

EF_{BER-TLV} shall not contain the following data objects:

Tag	Reason
'86'	
'87'	Not existing - to be created.
'88'	Not existing - to be created.

EF_{BER-TLV_INFO} shall be present.

6.9.2.2.3 Test procedure 1 (basic)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_{BER-TLV}.	
3	T → UICC	Send a SET DATA command indicating "First block" and with data '81 02 03 04'.	
4	UICC → T	Return status condition SW1 = '69', SW2 = '82' - security status not satisfied.	RQ11_01317
5	T → UICC	Send a VERIFY PIN command with PIN to gain the UPDATE access condition for EF_{BER-TLV}.	
6	T → UICC	Send a SET DATA command indicating "First block" and with data '81 02 03 04'.	
7	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01317 RQ11_0322 RQ11_0324
8	T → UICC	Send a SET DATA command indicating "Next block" and with data '81 02 05 06'.	
9	UICC → T	Return status condition SW1 = '6A', SW2 = '86' - Incorrect parameters P1 to P2.	RQ11_0324
10	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '81'.	
11	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '81 02 03 04' (including the tag and length fields).	RQ11_0324
12	T → UICC	Send a SET DATA command indicating "First block" and with data '87 02 05 06'.	
13	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0322 RQ11_0324
14	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '87'.	
15	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '87 02 05 06' (including the tag and length fields).	RQ11_0324
16	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
17	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0317 RQ11_0323
18	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. FE FF'.	
19	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0323 RQ11_0324
20	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. 13 14'.	
21	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0322 RQ11_0324
22	T → UICC	Send a SET DATA command indicating "Next block" and with data '11 12 .. 23 24'.	
23	UICC → T	Return status condition SW1 = '6A', SW2 = '86' - Incorrect parameters P1 to P2.	RQ11_0324
24	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag 'A2'.	
25	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data 'A2 82 02 0E 01 02 .. FA FB 01 02 .. FE FF 01 02 .. 13 14' (including the tag and length fields).	RQ11_0324

Step	Direction	Description	RQ
26	T → UICC	Send a SET DATA command indicating "First block" and with data '88 82 02 0E 01 02 FA FB'.	
27	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0317 RQ11_0323
28	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. FE FF'.	
29	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0323 RQ11_0324
30	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. 13 14'.	
31	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0322 RQ11_0324
32	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. 13 14'.	
33	UICC → T	Return status condition SW1 = '6A', SW2 = '86' - Incorrect parameters P1 to P2.	RQ11_0324
34	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '88'.	
35	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '88 82 02 0E 01 02 .. FA FB 01 02 .. FE FF 01 02 .. 13 14' (including the tag and length fields).	RQ11_0324
36	T → UICC	Send a SET DATA command indicating "First block" and with data '81 00'.	
37	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ07_0211
38	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '81'.	
39	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '81 00' (including the tag and length fields).	RQ11_0329
40	T → UICC	Send a SET DATA command indicating "First block" and with data '87'.	
41	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
42	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '87'.	
43	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0328
44	T → UICC	Send a SET DATA command indicating "First block" and with data '87'.	
45	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0329
46	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '87' to the UICC.	
47	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0328

6.9.2.2.4 Test procedure 2 (interleaving and aborting)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF$_{BER-TLV}$.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the UPDATE access condition for EF$_{BER-TLV}$.	
4	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
5	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_01100
6	T → UICC	Send a command as specified in the table in the test execution clause.	
7	UICC → T	Return a status condition appropriate to the command sent (see the table in the test execution clause).	
8	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. FE FF'.	
9	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_01100
10	T → UICC	Send a command as specified in the table in the test execution clause.	
11	UICC → T	Return a status condition appropriate to the command sent (see the table in the test execution clause).	
12	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. 13 14'.	
13	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
14	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag 'A2'.	
15	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data 'A2 82 02 0E 01 02 .. FA FB 01 02 .. FE FF 01 02 .. 13 14' (including the tag and length fields).	
16	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 03 04'.	

Step	Direction	Description	RQ
17	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
18	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
19	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
20	T → UICC	Select EF_BER-TLV_INFO.	
21	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
22	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. FE FF'.	
23	UICC → T	Return an error code appropriate to the command.	
24	T → UICC	Select EF_BER-TLV.	
25	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
26	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
27	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0305 RQ11_0325
28	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 03 04'.	
29	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
30	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
31	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
32	T → UICC	Select EF_BER-TLV.	
33	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
34	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. FE FF'.	
35	UICC → T	Return an error code appropriate to the command.	
36	T → UICC	Select EF_BER-TLV.	
37	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
38	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2' to the UICC.	
39	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0305 RQ11_0325
40	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 03 04' to the UICC.	
41	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
42	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB' to the UICC.	
43	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
44	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2' to the UICC.	
45	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0306 RQ11_0305 RQ11_0325
46	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 03 04'.	
47	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
48	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
49	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
50	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '81'.	
51	UICC → T	Return status condition either SW1 = '90', SW2 = '00' - normal ending of the command, or SW1 = '62', SW2 = 'F1' - More data available.	
52	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
53	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0305 RQ11_0306 RQ11_0325
54	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 03 04'.	
55	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
56	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
57	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
58	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 03 04'.	
59	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
60	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag 'A2'.	
61	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data 'A2 02 03 04' (including the tag and length fields).	RQ11_0305 RQ11_0306
62	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 03 04'.	

Step	Direction	Description	RQ
63	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
64	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
65	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
66	T → UICC	Send a SET DATA command indicating "First block" and with data '81 02 03 04'.	
67	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
68	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
69	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0305 RQ11_0306 RQ11_0325

6.9.2.2.5   Test procedure 3 (retransmitting)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_BER-TLV.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the UPDATE access condition for EF_BER-TLV.	
4	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 82 02 0E 01 02 .. FA FB'.	
5	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
6	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. FE FF'.	
7	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
8	T → UICC	Send a SET DATA command indicating "Retransmit previous block" and with data '01 02 .. FE FF'.	
9	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0308
10	T → UICC	Send a SET DATA command indicating "Next block" and with data '01 02 .. 13 14'.	
11	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
12	T → UICC	Send a SET DATA command indicating "Retransmit previous block" and with data '01 02 .. 13 14'.	
13	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0308
14	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag 'A2'.	
15	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data 'A2 82 02 0E 01 02 .. FA FB 01 02 .. FE FF 01 02 .. 13 14' (including the tag and length fields.	RQ11_01101

6.9.2.2.6   Test procedure 4 (segmentation of data)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_BER-TLV.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the access condition for EF_BER-TLV.	
4	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02'.	
5	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0326
6	T → UICC	Send a SET DATA command indicating "Next block" and with data '03.'	
7	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
8	T → UICC	Send a SET DATA command indicating "Next block" and with data '04'.	
9	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
10	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag 'A2'.	
11	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data 'A2 02 03 04' (including the tag and length fields).	RQ11_0305
12	T → UICC	Send a SET DATA command indicating "First block" and with data '9F 1F'.	
13	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0329
14	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02 05 06 01 02 03 04'.	
15	UICC → T	Return status condition SW1 = '67', SW2 = '00' - Wrong length.	RQ11_0326
16	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag 'A2'.	

Step	Direction	Description	RQ
17	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data 'A2 02 03 04' (including the tag and length fields).	RQ11_0305
18	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 02'.	
19	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
20	T → UICC	Send a SET DATA command indicating "Next block" and with data '05 06 07 08'.	
21	UICC → T	Return status condition SW1 = '67', SW2 = '00' - Wrong length.	RQ11_0326
22	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2'.	
23	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0325

6.9.2.3   BER-TLV structure files

6.9.2.3.1   Purpose

Clause 6.9.2.3 specifies test cases to verify that the UICC under test uses '5C' correctly, uses the specified tag ranges correctly and uses the correct FCP content.

6.9.2.3.2   Test execution

Independent from the NAA chosen (see clause 4.5.2 for valid applications), the test procedure is to be executed with a PIN protected BER-TLV EF the implementation is capable to handle. E.g.:

   a)   USIM: $EF_{BER-TLV} = EF_{MMDF}$;

   b)   CSIM: $EF_{BER-TLV} = EF_{MMDF}$;

   c)   generic: $EF_{BER-TLV}$.

6.9.2.3.3   Initial conditions

$EF_{BER-TLV}$ shall contain only the following data objects:

Tag	Length field	Value
'81'	'02'	'01 02'.
'A2'	'82 05 A0'	1 440 bytes: '80 0E 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D' repeated 90 times.
'83'	'00'	' ' - i.e. empty value.

6.9.2.3.4   Test procedure 1 (usage of '5C')

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select $EF_{BER-TLV}$.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the READ and UPDATE access conditions for $EF_{BER-TLV}$.	
4	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '5C'.	
5	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '5C 03' followed by'81', 'A2' and '83' in any order.	RQ11_0199 RQ11_0302
6	T → UICC	Send appropriate SET DATA commands in order to achieve the updates indicated in the following table: | Function	Tag	Value (for create/replace)
----------	-----	----------------------------
Replace	'81'	'03 04'
Delete	'A2'	N/A
Create	'85'	'01 02'		
7	T → UICC	Send a SET DATA command indicating "First block" and with data '89 82 01 00 01 02 .. FA FB'.	
8	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
9	T → UICC	Select $EF_{BER-TLV}$.	
10	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '5C'.	

11	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '5C 03' followed by'81', '83' and '85' in any order.	RQ11_0199 RQ11_0302 RQ11_0324
12	T → UICC	Send a SET DATA command indicating "First block" and with data '5C 02 01 02'.	
13	UICC → T	Return an error code appropriate to the command.	RQ11_0302

6.9.2.3.5   Test procedure 2 (supported tag values)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_{BER-TLV}.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the READ and UPDATE access conditions for EF_{BER-TLV}.	
4	T → UICC	For each tag in the table below, send a RETRIEVE DATA command indicating "First block" and with the tag from the table: '80' / '8F' / '9E' '9F 1F' / '9F 4F' / '9F 7F' '9F 81 00' / '9F C3 40' / '9F FF 7F' 'A0' / 'AF' / 'BE' 'BF 1F' / 'BF 4F' / 'BF 7F' 'BF 81 00' / 'BF C3 40' / 'BF FF 7F'	
5	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	RQ11_0301
6		For each tag in the table in step 4), steps 7) to 9) shall be repeated.	
7	T → UICC	Send a SET DATA command indicating "First block" and with data consisting of the tag indicated in the table in step 4) followed by '02 01 04'.	
8	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0301
9	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with the tag indicated in the table in step 4).	
10	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data consisting of the tag indicated in the table in step 4) followed by '02 01 04' (including the tag and length fields).	
11	T → UICC	For each tag in the table below, send a RETRIEVE DATA command indicating "First block" and with the tag from the table: '01' / '40' / 'C0' '9F 00' / '9F 80 00' '9F 01' / '9F 1E' '9F 81 80 00' 'BF 00' / 'BF 80 00' 'BF 01' / 'BF 1E' 'BF 81 80 00'	
12	UICC → T	Return status condition SW1 = '6A', SW2 = '80' - Incorrect parameters in the data field.	RQ11_0301 RQ11_0312
13	T → UICC	For each tag in the table in step 11), Send a SET DATA command indicating "First block" and with data consisting of the tag followed by '02 03 04'.	
14	UICC → T	Return status condition SW1 = '6A', SW2 = '80' - Incorrect parameters in the data field.	RQ11_0301 RQ11_0312

6.9.2.3.6   Test procedure 3 (FCP)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_{BER-TLV}.	
3	UICC → T	The contents of the TLV with tag '80' (File size) shall be equal to the value 1 450 (decimal).	RQ11_0317
4	T → UICC	Send a VERIFY PIN command with PIN to gain the UPDATE access condition for EF_{BER-TLV}.	
5	T → UICC	Send appropriate SET DATA commands in order to achieve the updates indicated in the following table: | Function	Tag	Value (for create/replace) | | Replace | '81' | '03 04 05 06' | | Delete | 'A2' | N/A | | Create | '85' | '01 02' |	

Step	Direction	Description	RQ
6	T → UICC	Select EF_BER-TLV.	
7	UICC → T	The contents of the TLV with tag '80' (File size) in the FCP shall be equal to the value 12 (decimal). (See note.)	RQ11_0317
Condition		Steps 8) to 10) shall only be carried out if the contents of the TLV with tag '83' (Amount of available memory) contained in the TLV with tag 'A5' (Proprietary information) in the FCP returned in step 5) has a value of at least 2 (decimal).	
8	T → UICC	Send appropriate SET DATA command(s) in order to create a new (i.e. currently non-existing) data object such that the number of bytes in the TLV (including the tag, length and value fields) is the largest possible that does not exceed the amount of available memory. A tag of '91', '9F1F' or '9F8100' shall be used according to whether a 1-, 2- or 3-byte tag is used.	
9	UICC → T	The UICC shall successfully execute all the SET DATA commands, such that the data object transfer is successfully completed.	RQ11_0113
10	T → UICC	Send a SET DATA command to delete the data object created in step 8).	
11	T → UICC	Select EF_BER-TLV.	
Conditional		Steps 12) to 13) shall only be carried out if the contents of the TLV with tag '83' (Amount of available memory) contained in the TLV with tag 'A5' (Proprietary information) in the FCP returned in step 5) has a value of less than 16 777 222 (decimal). (See note.)	
12	T → UICC	Send a SET DATA command indicating "First block" and with data containing a tag field of a tag which does not currently exist in the file and a length field containing a length such that the number of bytes in the TLV (including the tag, length and value fields) would exceed the amount of available memory by the smallest amount possible. A tag of '91', '9F1F' or '9F8100' shall be used according to whether a 1-, 2- or 3-byte tag is used.	
13	UICC → T	Return status condition SW1 = '6A', SW2 = '84' - Not enough memory space.	RQ11_0320
NOTE:		16 777 222 is the number of bytes in the largest possible TLV - that having a 3-byte tag and a length of 'FF FF FF'.	

6.9.2.4 Logical channel interactions

6.9.2.4.1 Purpose

To verify that the UICC under test functions correctly when a BER-TLV structure file is accessed on more than one channel simultaneously.

6.9.2.4.2 Test execution

There are no test cases-specific parameters for this test case.

6.9.2.4.3 Initial conditions

EF_MMDF shall contain only the following data objects:

Tag	Length field	Value
'81'	'02'	'01 02'.
'A2'	'82 05 A0'	1 440 bytes: '80 0E 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D' repeated 90 times.
'83'	'00'	' ' - i.e. empty value.

DF_MULTIMEDIA and EF_MMDF shall be configured as shareable.

6.9.2.4.4 Test procedure 1 (management of tag pointers)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_{MMDF}.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the READ and UPDATE access conditions for EF_{MMDF}.	
4	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
5	UICC → T	The UICC should return the assigned logical channel number - call it channel 'a'.	
6	T → UICC	Select EF_{MMDF} on channel 'a'.	
7	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2' to the UICC on the basic channel.	
8	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the first part of the data object with tag 'A2'.	RQ11_01100
9	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2' to the UICC on channel 'a'.	
10	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the first part of the data object with tag 'A2'.	RQ11_01100
11	T → UICC	Send a RETRIEVE DATA command indicating "Next block" to the UICC on the basic channel.	
12	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the next part of the data object with tag 'A2' as transferred on the basic channel.	RQ11_01100 RQ11_0305
13	T → UICC	Send a RETRIEVE DATA command indicating "Next block" to the UICC on the basic channel.	
14	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the next part of the data object with tag 'A2' as transferred on the basic channel.	RQ11_01100 RQ11_0305
15	T → UICC	Send a RETRIEVE DATA command indicating "Next block" to the UICC on channel 'a'.	
16	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the next part of the data object with tag 'A2' as transferred on channel 'a'.	RQ11_01100 RQ11_0305
17	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2' to the UICC on channel 'a'.	
18	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the first part of the data object with tag 'A2'.	RQ11_0305
19	T → UICC	Send a RETRIEVE DATA command indicating "Next block" to the UICC on the basic channel.	
20	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the next part of the data object with tag 'A2' as transferred on the basic channel.	RQ11_01100 RQ11_0305
21	T → UICC	Select EF_{MMDF} on channel 'a'.	
22	T → UICC	Send a RETRIEVE DATA command indicating "Next block" to the UICC on the basic channel.	
23	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available. The response data returned by the UICC shall contain the next part of the data object with tag 'A2' as transferred on the basic channel.	RQ11_01100 RQ11_0305
24	T → UICC	Send a SET DATA command indicating "First block" and with data '84 1E 01 02 03 04 05' to the UICC on the basic channel.	
25	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
26	T → UICC	Send a SET DATA command indicating "First block" and with data '85 1E 81 82 83 84 85' to the UICC on channel 'a'.	
27	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
28	T → UICC	Send a SET DATA command indicating "Next block" and with data '06 07 08 09 0A' to the UICC on the basic channel.	
29	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0305
30	T → UICC	Send a SET DATA command indicating "Next block" and with data '11 12 13 14 15' to the UICC on the basic channel.	
31	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0305
32	T → UICC	Send a SET DATA command indicating "Next block" and with data '86 87 88 89 8A' to the UICC on channel 'a'.	
33	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0305

ETSI

Step	Direction	Description	RQ
34	T → UICC	Send a SET DATA command indicating "Next block" and with data '16 17 18 19 1A' to the UICC on the basic channel.	
35	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0305
36	T → UICC	Send a SET DATA command indicating "First block" and with data '85 1E 81 82 83 84 85' to the UICC on channel 'a'.	
37	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
38	T → UICC	Send a SET DATA command indicating "Next block" and with data '21 22 23 24 25' to the UICC on the basic channel.	
39	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	RQ11_0305
40	T → UICC	Select EF_{MMDF} on channel 'a'.	
41	T → UICC	Send a SET DATA command indicating "Next block" and with data '26 27 28 29 2A' to the UICC on the basic channel.	
42	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01100 RQ11_0305
43	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '84' to the UICC on the basic channel.	
44	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '81 2A 01 02 03 04 05 06 07 08 09 0A 11 12 13 14 15 16 17 18 19 1A 21 22 23 24 25 26 27 28 29 2A ' (including the tag and length fields).	RQ11_01100
45	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '85' to the UICC on the basic channel.	
46	UICC → T	Return status condition SW1 = '6A', SW2 = '88' - Referenced data not found.	

6.9.2.4.5 Test procedure 2 (concurrent access to data object)

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF_{MMDF}.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the READ and UPDATE access conditions for EF_{MMDF}.	
4	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
5	UICC → T	The UICC should return the assigned logical channel number - call it channel 'a'.	
6	T → UICC	Select EF_{MMDF} on channel 'a'.	
7	T → UICC	Send a SET DATA command indicating "First block" and with data '84 0A 01 02 03 04 05' to the UICC on channel 'a'.	
8	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
9	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '84' to the UICC on the basic channel.	
10	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of use not satisfied.	RQ11_0321
11	T → UICC	Send a SET DATA command indicating "Next block" and with data '06 07 08 09 0A' to the UICC on channel 'a'.	
12	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_01100 RQ11_0305
13	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '84' to the UICC on the basic channel.	
14	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of use not satisfied.	RQ11_0321
15	T → UICC	Select EF_{MMDF} on channel 'a'.	
16	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag '84' to the UICC on the basic channel.	
17	UICC → T	Return status condition either SW1 = '90', SW2 = '00' - normal ending of the command, or SW1 = '62', SW2 = 'F1' - More data available.	
18	T → UICC	Select EF_{MMDF}.	
19	T → UICC	Send a SET DATA command indicating "First block" and with data '84 0A 01 02 03 04 05' to the UICC on channel 'a'.	
20	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
21	T → UICC	Send a SET DATA command indicating "First block" and with data '84 05 81 82 83 84 85' to the UICC on the basic channel.	
22	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of use not satisfied.	RQ11_0321
23	T → UICC	Send a SET DATA command indicating "Next block" and with data '06 07 08 09 0A' to the UICC on channel 'a'.	
24	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0305
25	T → UICC	Send a SET DATA command indicating "First block" and with data '84 05 81 82 83 84 85' to the UICC on the basic channel.	

Step	Direction	Description	RQ
26	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of use not satisfied.	RQ11_0321
27	T → UICC	Select EF$_{MMDF}$ on channel 'a'.	
28	T → UICC	Send a SET DATA command indicating "First block" and with data '84 05 81 82 83 84 85' to the UICC on the basic channel.	
29	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	
30	T → UICC	Select EF$_{MMDF}$.	
31	T → UICC	Send a RETRIEVE DATA command indicating "First block" and with tag 'A2' to the UICC on channel 'a'.	
32	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available.	
33	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 05 81 82 83 84 85' to the UICC on the basic channel.	
34	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of use not satisfied.	RQ11_0311
35	T → UICC	Send a RETRIEVE DATA command indicating "Next block" to the UICC on channel 'a'.	
36	UICC → T	Return status condition SW1 = '62', SW2 = 'F1' - More data available.	
37	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 05 81 82 83 84 85' to the UICC on the basic channel.	
38	UICC → T	Return status condition SW1 = '69', SW2 = '85' - Conditions of use not satisfied.	RQ11_0311
39	T → UICC	Select EF$_{MMDF}$ on channel 'a'.	
40	T → UICC	Send a SET DATA command indicating "First block" and with data 'A2 05 81 82 83 84 85' to the UICC on the basic channel.	
41	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ11_0311

6.9.2.4.6 Test procedure 3 (usage of '5C')

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Select EF$_{MMDF}$.	
3	T → UICC	Send a VERIFY PIN command with PIN to gain the READ and UPDATE access conditions for EF$_{MMDF}$.	
4	T → UICC	Send a MANAGE CHANNEL (OPEN) command to the UICC on the basic channel.	
5	UICC → T	The UICC should return the assigned logical channel number - call it channel 'a'.	
6	T → UICC	Select EF$_{MMDF}$ on channel 'a'.	
7	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '5C' to the UICC on the basic channel.	
8	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '5C 03' followed by'81', 'A2' and '83' in any order (including the tag and length fields of the '5C' TLV).	RQ11_0324
9	T → UICC	Send a SET DATA command indicating "First block" and with data '84 0A 01 02 03 04 05' to the UICC on channel 'a'.	
10	UICC → T	Return status condition SW1 = '63', SW2 = 'F1' - More data expected.	
11	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '5C' to the UICC on the basic channel.	
12	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '5C 03' followed by'81', 'A2', '83' and '84' in any order (including the tag and length fields of the '5C' TLV).	RQ11_0315
13	T → UICC	Select EF$_{MMDF}$ on channel 'a'.	
14	T → UICC	Send appropriate RETRIEVE DATA command(s) in order to read the data object with tag '5C' to the UICC on the basic channel.	
15	UICC → T	The data object retrieved by the RETRIEVE DATA command(s) shall contain the data '5C 03' followed by'81', 'A2' and '83' in any order (including the tag and length fields of the '5C' TLV).	RQ11_0325

6.10 Transmission Oriented Commands

6.10.1 T = 0 specific commands

6.10.1.1 GET RESPONSE

6.10.1.1.1 Test execution

There are no test case specific parameters for this test case.

6.10.1.1.2 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.10.1.1.3 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a SELECT command to select the MF.	
3	T → UICC	Send a GET RESPONSE command.	
4	UICC → T	The UICC shall Send valid FCP data. TLV DO with tag '83' in tag '62' shall indicate that MF is the currently selected file.	RQ12_0101
5	T → UICC	Send a STATUS command to the UICC with P2 = '0C'.	
6	T → UICC	Send a GET RESPONSE command.	
7	UICC → T	Return status condition SW1 = '6F', SW2 = '00' - technical problem, no precise diagnosis.	RQ12_0101

6.11 Application independent files

6.11.1 Purpose

The clause provides tests to ensure that the DUT contains all of the EFs needed for a 3GPP session.

6.11.2 Test execution

The contents and coding of the data within the files are not tested, but shall conform to the respective contents and coding of the data given for each of the following files:

- EF_{DIR}

- EF_{ICCID} (ICC Identification)

- EF_{PL} (Preferred Languages)

- EF_{ARR} (Access Rule Reference)

- DF_{CD} - Configuration Data ($EF_{LAUNCH\ PAD}$, EF_{ICON})

6.11.3 Initial conditions

There are no test case-specific initial conditions to be fulfilled.

6.11.4 Test procedure

Step	Direction	Description	RQ
1	T → UICC	Reset the UICC.	
2	T → UICC	Send a STATUS command.	

Step	Direction	Description	RQ
3	UICC → T	TLV DO with tag '83' in the response data shall indicate the identifier of the MF '3F 00'. Return status condition SW1 = '90', SW2 = '00' - normal ending of the command.	RQ13_0101
4	T → UICC	Send a SELECT command to select the first EF listed in the test execution clause.	
5	UICC → T	Return status condition SW1 = '90', SW2 = '00' - normal ending of the command. The following shall be true of the response data: • TLV DO with tag '83' shall indicate the identifier of the file selected; • TLV DO with tag '82' shall not be '38' and '78' indicating EF; • TLV DO with tag '82' shall indicate the structure given for the file in the test execution clause; • TLV DO with tag '80' shall be at least the minimum file size given in the table for the file in test execution clause, if the EF is transparent; • Byte 5 and 6 of TLV DO with tag '82' shall be in accordance with the record length given for the files in the test execution clause, if the EF is linear fixed or cyclic; • TLV DO with tag '80' shall be an integer multiple of the record length if the EF is linear fixed or cyclic; • TLV DO with tag '88' shall indicate the short file identifier given in the table for the file in the test execution clause; • TLV DO with tag '86' or '8B' or '8C' or 'AB' shall indicate the access conditions given in the table for the file in the test execution clause. (See note.)	RQ13_0101 RQ13_0102 RQ13_0201 RQ13_0301 RQ13_0401 RQ13_0501 RQ13_0502
		Steps 1) to 2) shall be repeated for the remaining mandatory EFs in test execution clause.	
		Steps 1) to 2) shall be repeated for the optional EFs in test execution clause which are present on the UICC.	
NOTE:		If the access conditions indicate referenced security, the referenced record in the EF$_{ARR}$ may be read at this point if necessary.	

Annex A (informative):
List of test cases for each conformance requirement

FFS.

Annex B (informative):
Bibliography

- ETSI TS 102 225: "Smart Cards; Secured packet structure for UICC based applications".

Annex C (informative):
Core specification version information

Unless otherwise specified, the versions of ETSI TS 102 221 [1] which have been taken into consideration for the present document are as follows.

Release	ETSI TS 102 221 [1] version
Rel-9	V9.2.0
Rel-10	V10.0.0
Rel-11	V11.1.0
Rel-12	V12.1.0
Rel-13	V13.2.0
Rel-14	V14.2.0 (see note)
Rel-15	V15.5.0 (see note)
Rel-16	V16.6.0 (see note)
Rel-17	V17.4.0 (see note)
NOTE: The test cases in the present document are compatible with the indicated version, but conformance requirements have not been extracted from this version.	

Annex D (informative):
Change history

The table below indicates all Changes Requests (CR) applied to the present document since it was created.

Change history							
Date	**Meeting**	**TC SCP Doc.**	**CR**	**Rv**	**Cat**	**Subject/Comment**	**Old**	**New**
2015-10						Initial publication of the document	-	9.0.0
2015-10	SCP#70	SCP(15)000214r1	001	1	D	Editorial corrections	9.0.0	9.1.0
		SCP(15)000215r1	002	1	C	Add definitions for specific environmental conditions		
		SCP(15)000216r1	003	1	F	Correction of conformance requirements		
2018-09	SCP#85	SCP(18)000216r1	004	1	F	Add missing conditions for Options- and Applicability tables	9.1.0	9.2.0
		SCP(18)000217	005		F	Align Global Interface Bytes with supported Options		
		SCP(18)000215r1	006	1	F	Correction of Requirement Numbers listed in 3GPP TSG CT WG6 LS		
		SCP(18)000222	011		F	Correction of requirements not consistent to the related release of ETSI TS 102 221 and requirement numbers used twice		
2018-09	SCP#85	SCP(18)000218	007		B	Creation of REL-10 of ETSI TS 102 230-2	9.2.0	10.0.0
		SCP(18)000219r1	008	1	B	Creation of REL-11 of ETSI TS 102 230-2, add 4FF and dependencies new in REL-11	10.0.0	11.0.0
		SCP(18)000220r1	009	1	B	Creation of REL-12 of ETSI TS 102 230-2, add new test procedure for increased idle current	11.0.0	12.0.0
		SCP(18)000221r1	010	1	B	Creation of REL-13 of ETSI TS 102 230-2, add eUICC options	12.0.0	13.0.0
2019-05	SCP#87	SCP(19)000027	012		D	Editorial correction of reserved file IDs to apply to ETSI TS 102 221	13.0.0	13.1.0
		SCP(19)000028	013		D	Correction of requirements not consistent to the related release of ETSI TS 102 221		
2020-05	SCP#93	SCP(20)000066	018		D	Alignment of Definitions and Abbreviations in SCP Specifications	13.0.0	13.1.0
2021-10	SCP#101	SCP(21)000126	019		F	Test case 6.6.8.2/1: correction of support for > 4 logical channels	13.1.0	13.2.0
2021-12	SCP#103	SCP(21)000200r1	020	1	F	Correction of requirements in ETSI TS 102 230-2	13.1.0	13.2.0
		SCP(21)000201	021		F	Correction of test case 6.6.6.3 for logical channels > 4		
2022-07	SET#106	SET(22)000123	022		F	Correction of tests with Universal PIN	13.1.0	13.2.0
		SET(22)000124	023		F	Correction of the conformance requirement list		
		SET(22)000125	024		F	Addition of release dependent test procedures		
		SET(22)000126	025		F	Clarification of measurement period in TC 6.4.1.2		
		SET(22)000127	026		F	Generalization of file type test cases		
2022-09	SET#107	SET(22)000164	027		F	Clarification of Universal PIN support	13.1.0	13.2.0
		SET(22)000165	028		F	Definition of security conditions		
2023-03	SET#109	SET(23)000014	029		F	Alignment with testing originally defined in 3GPP TS 31.122	13.2.0	13.3.0
		SET(23)000015	030		F	Addition of global Test procedure clause		
		SET(23)000016	031		B	Update to Rel-14	13.3.0	14.0.0
		SET(23)000017	032		B	Update to Rel-15	14.0.0	15.0.0
		SET(23)000018	033		B	Update to Rel-16	15.0.0	16.0.0
		SET(23)000019	034		B	Update to Rel-17	16.0.0	17.0.0
		SET(23)000020	035		B	Addition of MANAGE LSI (reset LSI) command test	17.0.0	17.0.0
2023-06	SET#110	SET(23)000060	036		F	Test case 6.7.5: correction of "repeat" step	17.0.0	17.1.0
		SET(23)000061	037		D	Removal of unused test procedures and applicability table items		
		SET(23)000062	038		D	Fix of numbering issues in test procedures		
2023-10	SET#111	SET(23)000102	039		F	Correction of test case 6.3.2.1	17.1.0	17.2.0
2023-12	SET#112	SET(23)000136	040		B	Addition of Manage LSI (configure LSI) command Test Cases	17.1.0	17.2.0
2024-03	SET#113	SET(24)000019	042		D	Update of the presentation of the Applicability Table	17.1.0	17.2.0
		SET(24)000020	043		B	Addition of Manage LSI (retrieve SWP) command Test		
		SET(24)000021	044		B	Addition of Manage LSI (assign SWP) command Test		
		SET(24)000027	045		D	Correction of a reference in Requirement RQ08_0407		
2024-06	SET#114	SET(24)000050	046		F	Change in Highest LSI number from '01' to '1F' in 6.9.1.19.3 Test procedure 1	17.2.0	17.3.0
		SET(24)000051	047		D	Alignment and corrections in 'Direction' columns		
		SET(24)000052r1	048	1	F	Corrections to allow usage of NAAs other than the USIM		
		SET(24)000053	049		F	Corrections of clause 6.4 tests		
		SET(24)000054	050		F	Generalisation of clause 6.5.2 tests		
		SET(24)000055	051		F	Generalisation of clause 6.5.3 tests		
		SET(24)000056r1	052	1	F	Generalisation of clause 6.6.5 tests		

Change history								
Date	**Meeting**	**TC SCP Doc.**	**CR**	**Rv**	**Cat**	**Subject/Comment**	**Old**	**New**
2024-06	SET#114	SET(24)000057	053		F	Generalisation of clause 6.6.6 tests	17.2.0	17.3.0
		SET(24)000058r1	054	1	F	Voiding of Test Procedure 3 from clause 6.6.7		
		SET(24)000059	055		F	Generalisation of clause 6.7.3 tests		
		SET(24)000060	056		F	Correction of the Applicability table		
		SET(24)000061	057		F	Correction of requirement issues		
		SET(24)000062	058		F	Generalisation of clause 6.7.4 tests		
		SET(24)000063	059		F	Generalisation of clause 6.7.5 tests		
		SET(24)000064	060		F	Generalisation of clause 6.7.6 tests		
		SET(24)000065	061		F	Generalisation of clause 6.8.3 tests		
		SET(24)000066	062		F	Correction of TC 6.9.1.1 and its applicability		
		SET(24)000067	063		F	Correction of TC 6.9.1.2 and its applicability		
		SET(24)000068	064		F	Generalisation of clause 6.9.1.3 tests		
		SET(24)000069	065		F	Generalisation of clause 6.9.1.4 tests		
		SET(24)000070	066		F	Generalisation of clause 6.9.1.5 tests		
		SET(24)000071	067		F	Generalisation of clause 6.9.1.6 tests		
		SET(24)000072	068		F	Generalisation of clause 6.9.1.7 tests		
		SET(24)000073	069		F	Generalisation of clause 6.9.1.8 tests		
		SET(24)000074	070		F	Generalisation of clause 6.9.1.9 tests		
		SET(24)000075	071		F	Generalisation of clause 6.9.1.14 tests		
		SET(24)000076	072		F	Generalisation of clause 6.9.1.15 tests		
		SET(24)000077r1	073	1	F	Correction and generalisation of clause 6.9.2.3 tests		
		SET(24)000078	074		F	Correction and generalisation of clause 6.9.2.1 tests		
		SET(24)000079	075		F	Correction and generalisation of clause 6.9.2.2 tests		
2024-10	SET#115	SET(24)000114	076		F	Clarification on current measurement	17.3.0	17.4.0
2024-12	SET#116	SET(24)000113r1	077		B	Addition test case for MANAGE LSI (select LSI) command		

History

Document history		
V17.0.0	April 2023	Publication
V17.1.0	August 2023	Publication
V17.2.0	May 2024	Publication
V17.3.0	July 2024	Publication
V17.4.0	February 2025	Publication