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Digital cellular telecommunications system (Phase 2+); Test specification for Subscriber Identity Module (SIM) Application Programming Interface (API) for Java Card (3GPP TS 51.013 version 11.0.0 Release 11)





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# 1 Scope

The present document covers the minimum characteristics considered necessary in order to provide compliance to 3GPP TS 43.019 [7].

The present document describes the technical characteristics and methods of test for testing the SIM API for Java Card<sup>TM</sup> (3GPP TS 43.019 [7]) implemented in the Subscriber Identity Modules (SIMs) for GSM. It specifies the following parts:

- test applicability;
- test environment description;
- tests format;
- test area reference;
- conformance requirements;
- test auite files;
- test procedure;
- test coverage; and
- a description of the associated testing tools that shall be used.

# 2 References

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- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
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- [1] Void.
- [2] Void.
- [3] 3GPP TS 51.011: "Specification of the Subscriber Identity Module Mobile Equipment (SIM ME) interface (Release 4)".
- [4] 3GPP TS 11.14: "Specification of the Subscriber Identity Module Mobile Equipment (SIM ME) interface (Release 99)".
- [5] 3GPP TS 11.17: "Digital cellular telecommunications system (Phase 2+); Subscriber Identity Module (SIM) test specification (Release 99)".
- [6] Void.
- [7] 3GPP TS 43.019: "Subscriber Identity Module Application Programming Interface (SIM API) for Java Card<sup>TM</sup>; Stage 2 (Release 5)".
- [8] 3GPP TS 23.048: "Security Mechanisms for the (U)SIM application toolkit; Stage 2 (Release 5)".

[9]	ISO/IEC 7816-3 (1997): "Information technology - Identification cards - Integrated circuit(s) cards with contacts - Part 3: Electronic signals and transmission protocols".
[10]	3GPP TS 42.019: "Subscriber Identity Module Application Programming Interface (SIM API); Stage 1 (Release 5)".
[11]	SUN Java Card Specification "Java Card 2.1 API Specification".
[12]	SUN Java Card Specification "Java Card 2.1 Runtime Environment Specification".
[13]	SUN Java Card Specification "Java Card 2.1 VM Architecture Specification".
NOTE:	SUN Java Card Specifications can be downloaded at <a href="http://java.sun.com/products/javacard">http://java.sun.com/products/javacard</a> .
[14]	ETSI TS 101 220: "Smart Cards; ETSI numbering system for telecommunication application providers".
[15]	3GPP TS 51.010-1: "Mobile Station (MS) conformance specification; Part 1: Conformance specification (Release 5)".

# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 51.010-1 [15] and the following apply:

**applet:** application built up using a number of classes which will run under the control of the Java Card virtual machine **applet installation parameters:** default values for applet installation parameters

applet loading script: file containing the APDU commands that will load and install the test applet in the card

CleanUp Script file: file containing the APDU commands that will restore the Default Initial Conditions on the SIM

Conformance Requirement Reference: description of the expected card behaviour according to 3GPP TS 43.019 [7]

**expected state:** state in which the SIM is supposed to be after the execution of the test procedure applied on the relevant initial conditions

security parameters: minimum security requirements defined for the applet installation process

**test area:** set of Test Cases applicable to a specific part (class method, framework behaviour, ...) of the 3GPP TS 43.019 [7].

**test case:** elementary test that checks for compliance with one or more Conformance Requirement References **test Output file:** TBD.

test procedure: the sequence of actions/commands to perform all the test cases defined in a test area

test script file: file containing the APDU commands that will execute and verify the test results

**Test Toolkit Applet:** applet designed to test a specific functionality of the SIM API (3GPP TS 43.019 [7])

# 3.2 Abbreviations

For the purpose of the present document, the abbreviations given in GSM 01.04 [2] and the following apply:

AC Application Code
AID Application Identifier

APDU Application Protocol Data Unit

API	Application Programming Interface
CAD	Card Acceptance Device
CRR	Conformance Requirements Reference
CRRC	Conformance Requirement Reference Context Error
CRRN	Conformance Requirement Reference Normal
CRRP	Conformance Requirement Reference Parameter Error
FFS	For Further Study
IFD	Interface Device
JCRE	Java Card <sup>TM</sup> Run Time Environment

JVM Java Virtual Machine

SE Sending Entity

SIM Subscriber Identity Module

# 4 Test Environment

This clause specifies requirements that shall be met and the testing rules that shall be followed during the test procedure.

# 4.1 Applicability

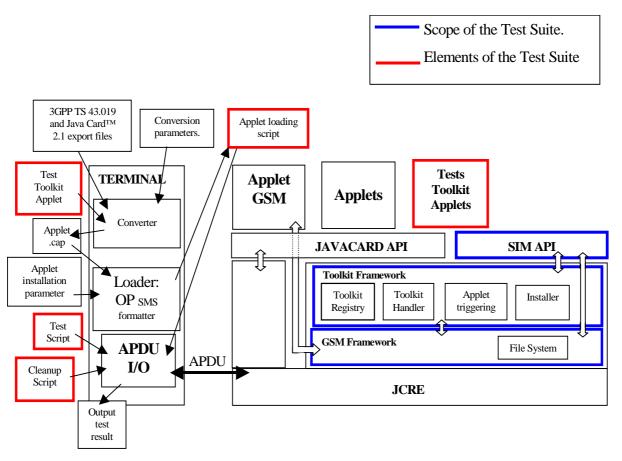
The tests defined in the present document shall be performed taking into account the services supported by the card as specified in the  $EF_{SST}$  file.

The test defined in the present document are applicable to cards implementing 3GPP TS 43.019 [7] unless otherwise stated.

The tests defined in the present document require that the card support the concatenation process with 2 concatenated SMS. Therefore the envelope handler shall support 280 bytes of data.

# 4.2 Test environment description

The general architecture for the test environment is.



NOTE: Figure 4.2 shows the test architecture required to test interoperability at both API and bytcode level. The latter is currently not included in the current specification. The diagram is for information.

Figure 4.2

# 4.3 Tests format

#### 4.3.1 Test Area Reference

Each test area is referenced as follows:

API Testing:: 'API\_[package name]\_[classname]\_[methodname]' where

package name:

sim.access package: '1'

sim.toolkit package: '2'

class name:

yyy: 3 letters for each class.

See Annex A for full classes acronyms list.

method name:

zzzz[input parameters]:

See Annex A for full methods name acronyms list.

FWK: framework testing

Chapter name:

```
xxx: 3 letters for each chapter

See annex F for full chapter acronyms list

Subchapter name

yyyy: : 4 letters for each subchapter

See annex F for full subchapter acronyms list

LDR: loader testing
```

# 4.3.1.1 Conformance requirements

The conformance requirements are expressed in the following way:

- Method prototype as listed in 3GPP TS 43.019 [7].
- Normal execution:

[TBD]

- Contains normal execution and correct parameters limit values, each referenced as a Conformance Requirement Reference Normal (CRRN).
- Parameters error:
  - Contains parameter errors and incorrect parameter limit values, each referenced as a Conformance Requirement Reference Parameter Error (CRRP).
- Context error:
  - Contains errors due to the context the method is used in, each referenced as a Conformance Requirement Reference Context Error (CRRC).

#### 4.3.1.2 Test Area files

The files included in the Test Area use the following naming convention:

Test Script: [Test Area Reference]\_[Test script number].scr
 Test Applet: [Test Area Reference]\_[Test applet number].java
 Load Script: [Test Area Reference]\_[Load Script number].ldr
 Cleanup Script: [Test Area Reference]\_[Cleanup Script number].clr
 Parameter File: [Test Area Reference]\_[Parameter File number].par

The test script, applet, installation parameters, load script, cleanup script and conversion parameters numbers start from '1'.

The test script, load script and cleanup script shall share a common syntax and format (see Annex B).

The parameter file has an own syntax (see annex G) and contains parameters to be used for CAP-file conversion and loading/cleanup script generation.

Scripts file shall be run in the following order:

```
[Test Area Reference]_1.ldr
[Test Area Reference]_1.scr
[Test Area Reference]_1.clr
[Test Area Reference]_2.ldr
```

```
[Test Area Reference]_2.scr

[Test Area Reference]_2.clr

....

[Test Area Reference]_n.ldr

[Test Area Reference]_n.scr

[Test Area Reference]_n.clr
```

In case that one of the files is not needed, it shall be skipped during the tests execution.

#### 4.3.1.3 Test Procedure

Each test procedure contains a table to indicate the expected responses form the API and/or the APDU level as follows:

	Test Case														
ld	Description	API Expectation	APDU Expectation												
	Test Case detailed description	•	Expected response at APDU level.												

## 4.3.1.4 Test Coverage

The table at the end of each test procedure indicates the correspondence between the Conformance Requirements Reference (CRR) and the different test cases.

# 4.4 Initial Conditions

The Initial Conditions are a set of general prerequisites for the SIM prior to the execution of testing. For each test procedure described in the present document, the following rules apply to the Initial Conditions:

- unless otherwise stated, the file system and the files' content shall fulfil the requirements described in annex C;
- unless otherwise stated, before installing the applet(s) relevant to the current test procedure, all packages specific to other test procedures shall not be present.

When both statements apply, a test procedure is said to be in the "Default Initial Conditions" state.

# 4.5 Package name

Java packages integrating this Test Suite shall follow this naming convention:

**sim.test.access.[Test Area Reference]:** Java Card packages containing Test Area References for the 3GPP TS 43.019 [7] sim.access package.

**sim.test.framework.[Test Area Reference]:** Java Card packages containing Test Area References for the 3GPP TS 43.019 [7] framework.

sim.test.util: for the Test util package defined in this Test Suite.

**sim.test.toolkit.[Test Area Reference]:** Java Card packages containing Test Area References for the 3GPP TS 43.019 [7] sim.toolkit package.

EXAMPLE: The package ../sim.test.access.[Test Area Reference] creates the following directory structure ../sim/test/access/[Test Area Reference]/API\_1\_...\_[1..n].\*, where 'API\_1\_...\_[1..n].\*' are the different test applets Java source files used in [Test Area Reference].

# 4.6 AID Coding

The AID coding for the Test Packages, Applet classes and Applet shall be as specified in TS 101 220 [14]. In addition, the following TAR values are defined for use within the present document:

TAR Coding (3 bytes/ 24 bits):

b1	b2	)	b3	b4	b	5	b6		b21	b2:	2 k	23	b24	
														Specific Test Applet Name
									,					Test Package Identifier

Test package Identifier(bits b1-b3):

000: reserved (as TAR= '00.00.00' is reserved for Card Manager)

001: API

010: Framework

011: Loader

111: sim.test.util

other values are RFU

Application Provider specific data (1 byte):

'00': for Package

'01': for Applet class

'02': for Applet Instance

EXAMPLE: The AID of Package sim.test.util is 'A0 00 00 00 00 02 FF FF FF FF 89 E0 00 00 00'.

# 4.6.1 Specific Test Applet Name for API

Specific applet test name (bits b4-b24):

b4	b5	b6	b7	b8	3 bs	9 b	10 b	11 b.	12 b	13 b	14 b	15 b	16 b	17 b	18 b	19 b	20 b	21 b	22 b	23 b24			
																					Applet	instance Nu	mber
																					Applet	Class Numbe	r
																					Method		
																					Class		
			_																		API Tes	st Package	

for API Test Package(3 bits)

001 sim.access

010 sim.toolkit

other are RFU

Class (5 bits): need to be assigned specification order see Annex A for the full list

Method (6 bits): need to be assigned specification order see Annex A for the full list

Applet Class Number (5 bits): linked to Test Area, it shall start with 1 for classes and shall be 0 for package.

Applet Instance Number (2 bits) defined in the test procedure it shall start with 01 for applet instance and shall be 00 for package and class.

# 4.6.2 Specific Test Applet Name for Framework

Specific applet test name (bits b4-b24):

b	4 b	5 b	6	b7	b8	b9	b.	10 b	11 b	12 b	13 bi	14 b	15 b	16 b	17 b	18 b	19 b:	20 b	21 b	22	b23	b24	
																							RFU ( set to 0 )
																							Applet instance Number
																							Applet Class Number
																							Test Area within the chapter
						-																	Chapter

for Chapter (5 bits)

00001 Toolkit Installation Parameters

00010 Minimum Handler Availability

00011 Handler Integrity

00100 Applet Triggering

00101 Proactive Command Sending

00110 Framework Security

00111 Envelope Response Posting

01000 File System Context

01001 Exception Handling

01010 Other parts transferred to framework from API

01011 Concatenation processing

other are RFU

Test Area within the chapter (6 bits): values are defined in Annex F

Applet Class number (5 bits): linked to Test Area, it shall start with 1 for classes and shall be 0 for package.

Applet Instance number (3 bits) defined in the test procedure it shall start with 01 for applet instance and shall be 00 for package and class.

# 4.7 Test Equipment

These subclauses recommend a minimum specification for each of the items of test equipment referenced in the tests.

## 4.7.1 APDU tool

This test tool shall meet the following requirements:

- be able to send command to the card TPDU;
- be able to check none, only a part, or all of the data returned;
- be able to check none, only part, or all of the status returned;
- be able to accept all valid status codes returned;
- be able to support Reader commands;
- be able to generate a log file for each test execution.
- if more data is returned than defined in the test specification, the tool shall continue;

- if less data is returned than defined in the test specification, the tool shall aborts and return an error;
- if there is an error in data or status returned, the tool shall abort and return an error.

The log file produced by the test tool shall include the following information:

- all commands issued;
- all data returned;
- all status returned;
- all errors codes;
- expected data and status in case of error;
- comments from the scripts;
- a log message to report success or failure of the test.

# 4.7.2 Util package

Annex D includes java source code for the sim.test.util package as well as loading, testing and cleaning script examples.

# 4.7.3 Applet installation parameters

## 4.7.3.1 Security parameters

Loading scripts shall use the following security parameters as stated in 3GPP TS 23.048 [8] for applet installation:

Parameter	Value in hexadecimal	
SPI	0A 00	
KIC	00	
KID	Value as described in the TS 23.048[8] (recommended value: 15)	
TAR	00 00 00	
CNTR	00 00 00 00 01	
PCNTR	00	
Key	Corresponding to KID (recommended value: 01 23 45 67 89 AB CD EF EF CD AB 89 67 45 23 01)	

#### 4.7.3.2 Loading components

Cap files in loading scripts shall not include the descriptor component as described in Java Card 2.1 VM Architecture Specification [13].

# 4.8 Testing methodology

#### 4.8.1 Test interfaces and facilities

The SIM-ME interface provides the main transport interface for the purpose of performing conformance tests.

The SIM API interface provides the main test interface for the purpose of performing conformance tests.

# 5 Test plan

The test plan is divided according to the SIM API specification, that way the tests will follow the class hierarchy for the sim.toolkit and sim.access package; for the SIM Toolkit framework this test plan describes the different points that will be tested with the present test specification.

# 6 API Test Plan

# 6.1 Package sim.access:

## 6.1.1 Interface SIMView

NOTE: The Test applet shall be run on a class that implements this interface.

#### 6.1.1.1 Constants

Test Area Reference: API\_1\_SVW\_CONST

#### 6.1.1.1.1 Conformance Requirements

This subclause does not describe the conformance requirements for a method, but rather for the constants of the interface.

#### 6.1.1.1.1 Normal execution

CRRN1: The constants shall have the same name and value that is defined in 3GPP TS 43.019 [7].

#### 6.1.1.1.2 Test Suite Files

None.

#### 6.1.1.1.3 Test Procedure

The constants in Java are resolved at compilation time, therefore a runtime test is not useful. No test of constants will be performed.

## 6.1.1.2 Method select(short fid, byte[] fci, short fciOffset, short fciLength)

Test Area Reference: API 1 SVW SLCTS BSS

## 6.1.1.2.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.2.1.1 Normal execution

- CRRN1: If the desired file is selected, the length of the FCI (File Control Information) which has been written to the array fci is returned.
- CRRN2: If the length fciLength is greater than or equal to the length of the FCI structure, the whole FCI structure is copied into the array fci and the length of the FCI which has been written to the array fci is returned.
- CRRN3: If the length fciLength is less than the length of the FCI structure, the first part of the FCI structure is copied into the array fci and the length of the FCI which has been written to the array fci is returned.
- CRRN4: After selecting a DF/MF no EF is selected.
- CRRN5: After selecting a linear fixed EF no record is selected.

- CRRN6: After selecting a cyclic EF the first record which is the last updated record is selected.
- CRRN7: The current files (file context) of any other applets shall not be changed. See TS 43.019 [7] §5.2. This will be tested during the testing of the framework.
- CRRN8: The information returned by fci shall be formatted as described in TS 51.011 [3], §9.2.1.
- CRRN9: The file with a File-ID that matches fid shall be found according to the following selection rules:
  - 1) An immediate child EF or DF of the current MF/DF can be selected,
  - 2) A sibling DF of the current DF can be selected,
  - 3) The current MF/DF it self can be selected,
  - 4) The parent MF/DF of the current DF can be selected,
  - 5) The MF can always be selected.

#### 6.1.1.2.1.2 Parameter errors

- CRRP1: If the array fci is null, an instance of NullPointerException shall be thrown.
- CRRP2: If fciOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: If fciLength is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP4: If fciOffset plus fciLength is greater than the length of the array fci.length, or fciOffset equals fci.length, an instance of ArrayIndexOutOfBoundsException shall be thrown.

#### 6.1.1.2.1.3 Context errors

- CRRC1: If the file with a File-ID which matches fid could not be found according to the selection rules listed in CRRN9, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE\_NOT\_FOUND.
- CRRC2: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC3: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

#### 6.1.1.2.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_SLCTS\_BSS\_1.scr

Test Applet: API\_1\_SVW\_SLCTS\_BSS\_1.java

Load Script: API\_1\_SVW\_SLCTS\_BSS\_1.ldr

Cleanup Script: API\_1\_SVW\_SLCTS\_BSS\_1.clr

Parameter File: API\_1\_SVW\_SLCTS\_BSS\_1.par

# 6.1.1.2.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	Select EFICCID in MF (Transparent EF)	No exception shall be thrown.	
	<pre>fid = SIMView.FID_EF_ICCID byte[] fci = new byte[34]</pre>	Shall return a value not greater	
	fciOffset = 0	than 20.	
	fciLength = 20	<description fci:<="" of="" th=""><th></th></description>	
	select()	XX XX	
		XX XX	
		2F E2	
		04	
2	Select EF <sub>ICCID</sub> in MF (Transparent EF)	No exception shall be thrown.	
-	fid = SIMView.FID_EF_ICCID	Shall return 13.	
	fciOffset = 0	fci shall contain the first 13 bytes of	
	<pre>fciLength = 13 select()</pre>	the FCI structure.	
3	Select DF <sub>GSM</sub> in MF	No exception shall be thrown.	
	fid = SIMView.FID_DF_GSM	Shall return 7.	
	fciOffset = 0	fci shall contain the first 7 bytes	
	<pre>fciLength = 7 select()</pre>	of the FCI.	
		<description fci:<="" of="" th=""><th></th></description>	
		XX XX XX XX	
		7F 20	
		02	
		>	
3	Select DF <sub>GSM</sub> in MF	No exception shall be thrown.	
	<pre>fid = SIMView.FID_DF_GSM fciOffset = 0</pre>	Shall return 7.	
	fciLength = 7	fci shall contain the entire FCI structure.	
	select()	<pre><description fci:<="" of="" pre=""></description></pre>	
		XX XX	
		XX XX	
		7F 20	
		02	
4	Select EF <sub>ACM</sub> in DF <sub>GSM</sub> (CyclicEF)	No exception shall be thrown.	
'	fid = SIMView.FID_EF_ACM	Shall return a value between 15	
	fciOffset = 0	and 20. (Cyclic EF)	
	<pre>fciLength = 20 select()</pre>	fci shall contain the first 15 or more	
		bytes of the FCI structure.	
		fci[14] shall have the value 3 (length of record).	
5	Select MF	No exception shall be thrown.	
	fid = SIMView.FID_MF	Shall return a value between 22	
	<pre>fciOffset = 0 fciLength = 34</pre>	and 34.	
	select()	fci shall contain the entire FCI	
6	Select DF <sub>TELECOM</sub> in MF	structure.  No exception shall be thrown.	
J	fid = SIMView.FID_DF_TELECOM	Shall return 20.	
	fci[0] = fci[1] = '05'	fci shall contain the first 20 bytes of	
	<pre>fciOffset = 2 fciLength = 20</pre>	the FCI structure starting at index	
	select()	2. The first two bytes shall (still)	
7	Select EF <sub>FDN</sub> in DF <sub>TELECOM</sub> (Linear FixedEF)	have the value '05'.  No exception shall be thrown.	
'	fid = SIMView.FID_EF_FDN	Shall return 15.	
	fciOffset = 0	fci shall contain the first 15 bytes of	
	<pre>fciLength = 15 select()</pre>	the FCI structure.	
	Berece()	fci[14] shall have the value 28	
_	fallia mull	(length of record).	
8	fci is null fid = SIMView.FID_EF_FDN	Shall throw java.lang.NullPointerException.	
	byte[] nullBuffer = null	java.iang.ivani onterexception.	
	fciOffset = 0		
	<pre>fciLength = 15 select()</pre>		
ш			

ld	Description	API Expectation	APDU Expectation
9	fciOffset < 0	Shall throw	Al Do Expostation
	fid = SIMView.FID_EF_FDN	java.lang.ArrayIndexOutOfBoundsE	
	fciOffset = -1	xception.	
	fciLength = 15	'	
10	select()	Chall throw	
10	fciLength < 0 fid = SIMView.FID_EF_FDN	Shall throw	
	fciOffset = 0	java.lang.ArrayIndexOutOfBoundsE	
	fciLength = -1	xception.	
	select()		
11	fciOffset + fciLength > fci.length	Shall throw	
	fid = SIMView.FID_EF_FDN	java.lang.ArrayIndexOutOfBoundsE	
	<pre>fciOffset = 20 fciLength = 15</pre>	xception.	
	select()		
12	fciOffset □ fci.length	Shall throw	
	fid = SIMView.FID_EF_FDN	java.lang.ArrayIndexOutOfBoundsE	
	fciOffset = 34	xception	
	fciLength = 1		
13	Selection possibilities	1 - No exception shall be thrown.	
13	1 - fid = SIMView.FID_MF	2 - No exception shall be thrown.	
	fciOffset = 0	3 - No exception shall be thrown.	
	fciLength = 15	4 - No exception shall be thrown.	
	select()	5 - No exception shall be thrown.	
	2 - fid = SIMView.FID_DF_TELECOM select()	6 - No exception shall be thrown.	
	3 - fid = SIMView.FID_DF_GRAPHICS	7 - No exception shall be thrown.	
	select()	8 - No exception shall be thrown.	
	4 - fid = SIMView.FID_DF_TELECOM	9 - No exception shall be thrown.	
	select()		
	<pre>5 - fid = SIMView.FID_DF_GRAPHICS select()</pre>		
	6 - fid = SIMView.FID_MF		
	select()		
	7 - fid = SIMView.FID_DF_GSM		
	select()		
	<pre>8 - fid = SIMView.FID_DF_TELECOM select()</pre>		
	9 - fid = SIMView.FID_DF_TELECOM		
	select()		
L	-		
14	EF not selected after MF/DF selection	1 - No exception shall be thrown.	
	<pre>1 - fid = SIMView.FID_MF select()</pre>	2 - Shall throw	
	fid = SIMView.FID_EF_ICCID	sim.access.SIMViewException with	
	select()	reason code NO_EF_SELECTED.	
	2 - fid = SIMView.FID_MF		
	<pre>select() readBinary()</pre>		
15	No selection of non-reachable file	1 - No exception shall be thrown.	
'	1 - fid = SIMView.FID_MF	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	2 - fid = SIMView.FID_EF_ACM	reason code FILE_NOT_FOUND.	
10	select()		
16	No record is selected after selecting linear fixed EF	<ul><li>1 - No exception shall be thrown.</li><li>2 - No exception shall be thrown.</li></ul>	
	1 - fid = SIMView.FID_MF	3 - No exception shall be thrown.	
	select()	4 - Shall throw	
	2 - fid = FID_DF_SIMTEST	sim.access.SIMViewException with	
	select()	reason code	
	<pre>3 - fid = FID_EF_LARU select()</pre>	RECORD_NUMBER_NOT_AVAIL	
	4 - recNumber = 0	ABLE.	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	readRecord()		

ld	Description	API Expectation	APDU Expectation
17	Record pointer in selected cyclic EF  1 - fid = SIMView.FID_MF select() 2 - fid = FID_DF_SIMTEST select() 3 - fid = FID_EF_CARU select() 4 - byte[] data1 = { 1,2,3 } mode = REC_ACC_MODE_PREVIOUS updateRecord(data1) 5 - fid = FID_EF_CARU select() readRecord(data2) compare data1 to data2	<ol> <li>No exception shall be thrown.</li> <li>The contents of data1 and data2 shall be identical.</li> </ol>	

#### 6.1.1.2.4 Test Coverage

CRR Number	Test Case Number
N1	1-7
N2	3, 5
N3	1, 2, 4, 6, 7
N4	14
N5	16
N6	17
N8	1, 3
N9	1-7, 13
P1	8
P2	9
P3	10
P4	11, 12
C1	15
C2, C3	Not Tested

## 6.1.1.3 Method select (short fid)

Test Area Reference: API\_1\_SVW\_SLCTS

#### 6.1.1.3.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.3.1.1 Normal execution

- CRRN1: If the desired file is selected, no exception is thrown.
- CRRN2: After selecting a DF/MF no EF is selected.
- CRRN3: After selecting a linear fixed EF no record is selected.
- CRRN4: After selecting a cyclic EF the first record which is the last updated record is selected.
- CRRN5: The current files (file context) of any other applets shall not be changed [TS 43.019 [7] §5.2]. This will be tested during the testing of the framework.
- CRRN6: The file with a File-ID that matches fid shall be found according to the following selection rules:
  - 1) An immediate child EF or DF of the current MF/DF can be selected,
  - 2) A sibling DF of the current DF can be selected,
  - 3) The current MF/DF it self can be selected,

- 4) The parent MF/DF of the current DF can be selected,
- 5) The MF can always be selected.

#### 6.1.1.3.1.2 Parameter errors

No requirements.

#### 6.1.1.3.1.3 Context errors

- CRRC1: If the file with a File-ID which matches fid could not be found according to the selection rules listed in CCRN6, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE NOT FOUND.
- CRRC2: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC3: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

#### 6.1.1.3.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_SLCTS\_1.scr

Test Applet: API\_1\_SVW\_SLCTS\_1.java

Load Script: API\_1\_SVW\_SLCTS\_1.ldr

Cleanup Script: API\_1\_SVW\_SLCTS\_1.clr

Parameter File: API\_1\_SVW\_SLCTS\_1.par

## 6.1.1.3.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	Select EF <sub>ICCID</sub> in MF (Transparent EF) fid = SIMView.FID_EF_ICCID select()	No exception shall be thrown.	
2	<pre>EF not selected after MF/DF selection 1 - fid = SIMView.FID_MF select() fid = SIMView.FID_EF_ICCID select() 2 - fid = SIMView.FID_MF select() readBinary()</pre>	1 - No exception shall be thrown. 2 - Shall throw sim.access.SIMViewException with reason code NO_EF_SELECTED.	
3	No record is selected after selecting linear fixed EF  1 - fid = SIMView.FID_MF select() 2 - fid = FID_DF_SIMTEST select() 3 - fid =FID_EF_LARU select() 4 - recNumber = 0 mode = REC_ACC_MODE_ABSOLUTE_CURRENT readRecord()	<ul> <li>1 - No exception shall be thrown.</li> <li>2 - No exception shall be thrown.</li> <li>3 - No exception shall be thrown.</li> <li>4 - Shall throw sim.access.SIMViewException with reason code</li> <li>RECORD_NUMBER_NOT_AVAIL ABLE.</li> </ul>	

ld	Description	API Expectation	APDU Expectation
4	Record pointer in selected cyclic EF	1 - No exception shall be thrown.	
	<pre>1 - fid = SIMView.FID_MF select()</pre>	2 - No exception shall be thrown.	
	2 - fid =FID_DF_SIMTEST	3 - No exception shall be thrown.	
		4 - No exception shall be thrown.	
	3 - fid = FID_EF_CARU	5 - The contents of data1 and data2	
	select()	shall be identical.	
	4 - byte[] data1 = { 1,2,3 }		
	updateRecord(data1)		
	5 - fid = FID_EF_CARU		
	select()		
	readRecord(data2)		
	compare data1 to data2		
5	Selection possibilities	1 - No exception shall be thrown.	
	1 - fid = SIMView.FID_MF	2 - No exception shall be thrown.	
	select()	3 - No exception shall be thrown.	
	2 - fid = SIMView.FID_DF_TELECOM	4 - No exception shall be thrown.	
	select()	5 - No exception shall be thrown.	
	3 - fid = SIMView.FID_DF_GRAPHICS	6 - No exception shall be thrown.	
	select()	7 - No exception shall be thrown.	
	4 - fid = SIMView.FID_DF_TELECOM select()	8 - No exception shall be thrown.	
		9 - No exception shall be thrown.	
	6 - fid = SIMView.FID_MF		
	select()		
	7 - fid = SIMView.FID_DF_GSM		
	select()		
	8 - fid = SIMView.FID_DF_TELECOM		
	select()		
	9 - fid = SIMView.FID_DF_TELECOM		
	select()		
6	No selection of unreachable file	<ol> <li>No exception shall be thrown.</li> </ol>	
	1 - fid = SIMView.FID_MF	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	2 - fid = SIMView.FID_EF_ACM	reason code FILE_NOT_FOUND.	
	select()	= =	

#### 6.1.1.3.4 Test Coverage

CRR Number	Test Case Number
N1	1
N2	2
N3	3
N4	4
N6	5
C1	6
C2, C3	Not Tested

## 6.1.1.4 Method status

Test Area Reference: API\_1\_SVW\_STAT\_BSS

## 6.1.1.4.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.4.1.1 Normal execution

• CRRN1: The FCI (File Control Information) of the current DF (or MF) is returned in the same format as for a SELECT command in case of selecting an MF/DF (described in 3GPP TS 43.019 [7], subclause 9.2.1).

- CRRN2: If the length fciLength is greater than or equal to the length of the FCI structure, the whole FCI structure is copied into the array fci and the length of the FCI which has been written to the array fci is returned.
- CRRN3: If the length fciLength is less than the length of the FCI structure, the first part of the FCI structure is copied into the array fci and the length of the FCI which has been written to the array fci is returned.

#### 6.1.1.4.1.2 Parameter errors

- CRRP1: If the array fci is null, an instance of NullPointerException shall be thrown.
- CRRP2: If fciOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: If fciLength is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP4: If fciOffset plus fciLength is greater than the length of the array fci.length, or fciOffset equals fci.length, an instance of ArrayIndexOutOfBoundsException shall be thrown.

#### 6.1.1.4.1.3 Context errors

- CRRC1: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC2: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

#### 6.1.1.4.2 Test Suite Files

Additional requirements for the GSM personalization:

Test Script: API\_1\_SVW\_STAT\_BSS\_1.scr

Test Applet: API\_1\_SVW\_STAT\_BSS\_1.java

Load Script: API\_1\_SVW\_STAT\_BSS\_1.ldr

Cleanup Script: API\_1\_SVW\_STAT\_BSS\_1.clr

Parameter File: API\_1\_SVW\_STAT\_BSS\_1.par

## 6.1.1.4.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	Status of MF  byte[] fci = new byte[34] fciOffset = 0 fciLength = 7 status()	No exception shall be thrown. Shall return 7. fci shall contain the entire FCI structure. <pre> </pre> </pre> <pre> <pre> <pre> <pre> <pre> <pre> <pre> </pre> <pre> <pre> <pre> <pre> <pre> <pre> </pre> <pre> <pre> <pre> <pre> <pre> </pre> <pre> </pre> <pre> <pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	
2	Status after select EF <sub>ICCID</sub> in MF  1 - fid = SIMView.FID_DF_GSM fciOffset = 0 fciLength = 34 len = select() 2 - byte[] fci2 = new byte[34]  len2 = status() 3 - Compare len and len2 4 - Compare the len bytes of fci and fci2	1 - No exception shall be thrown. Shall return a value between 22 and 34. 2 - No exception shall be thrown. Shall return 22 or more. 3 - Ien and Ien2 shall be identical 4 - fci and fci2 shall be identical	

ld	Description	API Expectation	APDU Expectation
3	Status of DF <sub>Telecom</sub> 1 - fid = SIMView.FID_DF_TELECOM select() 2 - fciOffset = 0 fciLength = 100 status()	1 - No exception shall be thrown. Shall return a value between 22 and 34. 2 - No exception shall be thrown. Shall return a value between 22 and34. fci shall contain the entire FCI structure (check that returned value is equal to 13 plus the "length of following data" - fci[12]).FID of the returned fci (fci[4:5]) is FID_DF_TELECOM.	·
4	Status DF <sub>TELECOM</sub> fciOffset = 0 fciLength = 7 status()	No exception shall be thrown. Shall return 7. fci shall contain the first 7 bytes of the FCI structure starting at index 0. FID of the returned fci (fci[4:5]) is FID_DF_TELECOM.	
5	<pre>fci is null byte[] nullBuffer = null fciOffset = 0 fciLength = 34 status()</pre>	Shall throw java.lang.NullPointerException.	
6	<pre>fciOffset &lt; 0 fciOffset = -1 fciLength = 34 status()</pre>	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
7	<pre>fciLength &lt; 0 fciOffset = 0 fciLength = -1 status()</pre>	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
8	<pre>fciOffset + fciLength &gt; fci.length fciOffset = 20 fciLength = 15 status()</pre>	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
9	fciOffset □ fci.length fciOffset = 34 fciLength = 1 status()	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	

# 6.1.1.4.4 Test Coverage

CRR Number	Test Case Number
N1	1-4
N2	2, 3
N3	1, 4
P1	5
P2	6
P3	7
P4 8, 9	
C1, C2	Not Tested

# 6.1.1.5 Method readBinary

Test Area Reference: API\_1\_SVW\_REDBS\_BSS

#### 6.1.1.5.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.5.1.1 Normal execution

• CRRN1: If data can be accessed at the specified offset, the value respOffset plus respLength are returned and the data bytes of the currently selected transparent file are returned in resp.

#### 6.1.1.5.1.2 Parameter errors

- CRRP1: If fileOffset is less than 0, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT\_OF\_FILE\_BOUNDARIES.
- CRRP2: If fileOffset plus respLength exceeds the length of the file, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT\_OF\_FILE\_BOUNDARIES.
- CRRP3: If the array resp is null, an instance of NullPointerException shall be thrown.
- CRRP4: If respOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP5: If respLength is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP6: If respOffset plus respLength is greater than the length of the array resp.length, an instance of ArrayIndexOutOfBoundsException shall be thrown.

#### 6.1.1.5.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO\_EF\_SELECTED.
- CRRC2: If the currently selected EF is not transparent, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE\_INCONSISTENT.
- CRRC3: If the calling applet does not fulfil the access condition, READ, to perform this function, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.AC\_NOT\_FULFILLED.
- CRRC4: If the currently selected EF is invalidated and the file status of the EF does not allow for the reading of an invalidated file, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.
- CRRC5: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC6: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

#### 6.1.1.5.2 Test Suite Files

Additional requirements for the GSM personalization: none.

```
Test Script: API_1_SVW_REDBS_BSS_1.scr
Test Applet: API_1_SVW_REDBS_BSS_1.java
Load Script: API_1_SVW_REDBS_BSS_1.ldr
```

Cleanup Script: API\_1\_SVW\_REDBS\_BSS\_1.clr
Parameter File: API\_1\_SVW\_REDBS\_BSS\_1.par

## 6.1.1.5.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored	
1	<pre>Read from EFICCID in MF (Transparent EF) 1 - fid = SIMView.FID_EF_ICCID select() 2 - fileOffset = 0 byte[] resp = new byte[20] resp[0:19] = '55' respOffset = 10 respLength = 10 readBinary()</pre>	1 - No exception shall be thrown. 2 - No exception shall be thrown. Shall return 20. resp shall contain the entire contents of EFICCID starting at index 10. <description 0f="" 55="" ff="" of="" resp:=""></description>	
2	Read from EFICCID in MF resp[0:19] = '55' fileOffset = 5 respOffset = 10 respLength = 5 readBinary()	No exception shall be thrown. Shall return 15. resp shall contain the last 5 bytes of EFICCID starting at index 10. <description 55="" ff="" of="" resp:=""></description>	
3	Offset into File out of bounds  fileOffset = -1 respOffset = 0 respLength = 10 readBinary()	Shall throw sim.access.SIMViewException with reason code OUT_OF_FILE_BOUNDARIES.	
4	<pre>fileOffset + respLength &gt; EF length fileOffset = 9 respOffset = 0 respLength = 2 readBinary()</pre>	Shall throw sim.access.SIMViewException with reason code OUT_OF_FILE_BOUNDARIES.	
5	<pre>resp is null byte[] nullBuffer = null fileOffset = 0 respOffset = 0 respLength = 10 readBinary()</pre>	Shall throw java.lang.NullPointerException.	
6	<pre>respOffset &lt; 0 fileOffset = 0 respOffset = -1 respLength = 10 readBinary()</pre>	Shall throw java.lang. ArrayIndexOutOfBoundsException.	
7	<pre>respLength &lt; 0 fileOffset = 0 respOffset = 0 respLength = -1 readBinary()</pre>	Shall throw java.lang. ArrayIndexOutOfBoundsException.	
8	<pre>respOffset + respLength &gt; resp.length fileOffset = 0 respOffset = 10 respLength = 11 readBinary()</pre>	Shall throw java.lang. ArrayIndexOutOfBoundsException.	
9	<pre>EF is not Transparent 1 - fid = FID_DF_SIMTEST select() 2 - fid = FID_EF_LARU select() 3 - fileOffset = 0 respOffset = 0 respLength = 1 readBinary()</pre>	No exception shall be thrown.     No exception shall be thrown.     Shall throw sim.access.SIMViewException with reason code     FILE_INCONSISTENT.	

ld	Description	API Expectation	APDU Expectation
10	Access condition not fulfilled  1 - fid = DFSIMTTEST select()  2 - fid = EFTNR select()  3 - fileOffset = 0 respOffset = 0 respLength = 1 readBinary()	Shall throw sim.access.SIMViewException with reason code AC_NOT_FULFILLED.	
11	EF is invalidated  1 - fid = EFTNU invalidate() 2 - readBinary() 3 - rehabilitate()	1 - No exception shall be thrown. 2 - Shall throw sim.access.SIMViewException with reason code INVALIDATION_STATUS_CONTR ADICTION. 3 - No exception shall be thrown.	
12	No EF selected  1- fid = SIMView.FID_MF select() 2 readBinary()	1 - No exception shall be thrown. 2 - Shall throw sim.access.SIMViewException with reason code NO_EF_SELECTED.	

#### 6.1.1.5.4 Test Coverage

CRR Number	Test Case Number	
N1	1-2	
P1	3	
P2	4	
P3	5	
P4	6	
P5	7	
P6	8,	
C1	12	
C2	C2 9	
C3	10	
C4	11	
C5, C6	6 Not Tested	

# 6.1.1.6 Method updateBinary

Test Area Reference: API\_1\_SVW\_UPDBS\_BSS

## 6.1.1.6.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.6.1.1 Normal execution

• CRRN1: The currently selected transparent file is updated starting at fileOffset, with the string of dataLength bytes in the array data starting at dataOffset.

#### 6.1.1.6.1.2 Parameter errors

• CRRP1: If fileOffset is less than 0, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT\_OF\_FILE\_BOUNDARIES.

- CRRP2: If fileOffset plus dataLength exceeds the length of the file, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT\_OF\_FILE\_BOUNDARIES.
- CRRP3: If the array data is null, an instance of NullPointerException shall be thrown.
- CRRP4: If dataOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP5: If dataLength is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP6: If dataOffset plus dataLength greater than the length of the array data.length an instance of ArrayIndexOutOfBoundsException shall be thrown.

#### 6.1.1.6.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO\_EF\_SELECTED.
- CRRC2: If the currently selected EF is not transparent, an instance of SIMViewException shall be thrown. The
  reason code shall be SIMViewException.FILE\_INCONSISTENT.
- CRRC3: If the calling applet does not fulfil the access condition, UPDATE, to perform this function, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.AC\_NOT\_FULFILLED.
- CRRC4: If the currently selected EF is invalidated and the file status of the EF does not allow for updating of an invalidated file, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.
- CRRC5: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC6: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

#### 6.1.1.6.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_UPDBS\_BSS\_1.scr

Test Applet: API\_1\_SVW\_UPDBS\_BSS\_1.java

Load Script: API\_1\_SVW\_UPDBS\_BSS\_1.ldr

Cleanup Script: API\_1\_SVW\_UPDBS\_BSS\_1.clr

Parameter File: API\_1\_SVW\_UPDBS\_BSS\_1.par

#### 6.1.1.6.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	No EF selected	Shall throw	
		sim.access.SIMViewException with	
	byte[] data = new byte[20]	reason code NO_EF_SELECTED.	
	data[0] = '55'		
	dataOffset = 0		
	dataLength = 10		
	updateBinary()		

ld	Description	API Expectation	APDU Expectation
2	Update Transparent EF	1 - No exception shall be thrown.	•
	1 - fid = DFSIMTEST	2 - No exception shall be thrown.	
	select()	3 - No exception shall be thrown.	
	2 - fid = EFTARU select()	4 - No exception shall be thrown.	
	3 - fileOffset = 3	Data in resp[0] shall be '55'.	
	data[0] = '55'		
	dataOffset = 0		
	dataLength = 1		
	<pre>updateBinary() 4 - fileOffset = 3</pre>		
	respOffset = 0		
	respLength = 1		
	readBinary()		
3	1 - fileOffset = 254	1 - No exception shall be thrown.	
	data[0] = '55'	2 - No exception shall be thrown.	
	data[1] = 'AA' data[2] = '66'	Data in resp shall be	
	dataOffset = 0	resp[0] = '55'	
	dataLength = 3	resp[1] = 'AA'	
	updateBinary()	resp[2] = '66'	
	2 - fileOffset = 254 respOffset = 0		
	respLength = 3		
	readBinary()		
4	Offset into File out of bounds	Shall throw	
	fileOffset = -1	sim.access.SIMViewException with	
	dataOffset = 0 dataLength = 10	reason code	
	updateBinary()	OUT_OF_FILE_BOUNDARIES.	
5	fileOffset + dataLength > EF length	Shall throw	
	fileOffset = 259	sim.access.SIMViewException with	
	dataOffset = 0	reason code	
	<pre>dataLength = 2 updateBinary()</pre>	OUT_OF_FILE_BOUNDARIES.	
6	data is null	Shall throw	
	byte[] nullBuffer = null	java.lang.NullPointerException.	
	fileOffset = 0	Januarian garaam amaa ahaa ah	
	dataOffset = 0		
	<pre>dataLength = 10 updateBinary()</pre>		
7	dataOffset < 0	Shall throw	
'	fileOffset = 0	java.lang.	
		ArrayIndexOutOfBoundsException.	
	dataOffset = -1		
	<pre>dataLength = 10 updateBinary()</pre>		
8	dataLength < 0	Shall throw	
	fileOffset = 0	java.lang.	
	dataOffset = 0	ArrayIndexOutOfBoundsException.	
	dataLength = -1		
9	updateBinary() dataOffset + dataLength > data.length	Shall throw	
9	fileOffset = 0	java.lang.	
	dataOffset = 10	ArrayIndexOutOfBoundsException.	
	dataLength = 11	,	
40	updateBinary()	A No supportion 1 H1 H	
10	EF is not Transparent 1 - fid = FID_DF_SIMTEST	1 - No exception shall be thrown.	
		<ul><li>2 - No exception shall be thrown.</li><li>3 - Shall throw</li></ul>	
	2 - fid = FID_EF_LARU	sim.access.SIMViewException with	
	select()	reason code	
	3 - fileOffset = 0	FILE_INCONSISTENT.	
	<pre>data[0] = '55' dataOffset = 0</pre>		
	dataLength = 1		
	updateBinary()		
_			

ld	Description	API Expectation	APDU Expectation
11	Access condition not fulfilled  1 - fid = DFSIMTEST select() fid = EFTNU select() 2 - fileOffset = 0 data[0] = '55' dataOffset = 0 dataLength = 1 updateBinary()	1 - No exception shall be thrown. 2 - Shall throw sim.access.SIMViewException with reason code AC_NOT_FULFILLED.	·
12	<pre>EF is invalidated 1 - fid = EFTNR invalidate() 2 - fileOffset = 0 data[0] = '55' dataOffset = 0 dataLength = 1 updateBinary() 3 - rehabilitate()</pre>	1 - No exception shall be thrown. 2 - Shall throw sim.access.SIMViewException with reason code INVALIDATION_STATUS_CONTR ADICTION. 3 - No exception shall be thrown.	

#### 6.1.1.6.4 Test Coverage

CRR Number	Test Case Number	
N1	2, 3	
P1	4	
P2	5	
P3	6	
P4	7	
P5	8	
P6	9	
C1	1	
C2	10	
C3	11	
C4	12	
C5, C6	Not Tested	

## 6.1.1.7 Method readRecord

Test Area Reference: API\_1\_SVW\_REDRSBS\_BSS

## 6.1.1.7.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.7.1.1 Normal execution

- CRRN1: The data bytes from the record, specified by mode and recNumber of the currently selected linear fixed or cyclic EF, is read at recOffset. A total of respLength bytes of this data is copied to the array resp at respOffset.
- CRRN2: If the access mode is REC\_ACC\_MODE\_ABSOLUTE\_CURRENT:
  - if recNumber is not 0, the record addressed by recNumber will be read;
  - if recNumber is 0 the current selected record will be read; and

- the current record pointer shall not change.
- CRRN3: If the access mode is REC ACC MODE NEXT:
  - the next record relative to the current selected record will be selected and read;
  - if no current record is selected, the first record will be selected and read;
  - if the current record pointer is set to the last record for a cyclic EF the record pointer is set to the first record and the record is read;
  - the current record pointer of any other applet shall not be changed.
- CRRN4: If the access mode is REC\_ACC\_MODE\_PREVIOUS:
  - the previous record relative to the current selected record will be selected and read;
  - if no current record is selected, the last record will be selected and read;
  - if the current record pointer is set to the first record, for a linear fixed EF the method responses with an error exception and for a cyclic EF the record pointer is set to the last record and the record is read;
  - the current record pointer of any other applet shall not be changed.

#### 6.1.1.7.1.2 Parameter errors

- CRRP1: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_ABSOLUTE\_CURRENT and recNumber is less than 0 or greater than records available, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP2: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_ABSOLUTE\_CURRENT, recNumber is 0 and there is no current record selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP3: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_NEXT and the current record pointer is set to the last record, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP4: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_PREVIOUS and the current record pointer is set to the first record, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP5: If the specified offset into the selected record recOffset is less than 0, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT OF RECORD BOUNDARIES.
- CRRP6: If recOffset plus respLength is greater than the record length, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT OF RECORD BOUNDARIES.
- CRRP7: If the access mode is not between 2 and 4 inclusive (2 = REC\_ACC\_MODE\_NEXT, etc.), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALID\_MODE.
- CRRP8: If the array resp is null, an instance of NullPointerException shall be thrown.
- CRRP9: If respOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP10: If respLength is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP11: If respOffset plus respLength is greater than the length of the array resp.length, or respOffset equals resp.length, an instance of ArrayIndexOutOfBoundsException shall be thrown.

#### 6.1.1.7.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO EF SELECTED.
- CRRC2: If the currently selected EF is neither linear fixed nor cyclic, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE INCONSISTENT.
- CRRC3: If the calling applet does not fulfil the access condition, READ, to perform this function, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.AC\_NOT\_FULFILLED.
- CRRC4: If the currently selected EF is invalidated and the file status of the EF does not allow for reading an invalidated file, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.
- CRRC5: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY PROBLEM.
- CRRC6: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

#### 6.1.1.7.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_REDRSBS\_BSS\_1.scr

Test Applet: API\_1\_SVW\_REDRSBS\_BSS\_1.java

Load Script: API\_1\_SVW\_REDRSBS\_BSS\_1.ldr

Cleanup Script: API\_1\_SVW\_REDRSBS\_BSS\_1.clr

Parameter File: API\_1\_SVW\_REDRSBS\_BSS\_1.par

#### 6.1.1.7.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	No EF selected	Shall throw	
		sim.access.SIMViewException with	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	reason code NO_EF_SELECTED.	
	recOffset = 0		
	<pre>byte[] resp = new byte[20]</pre>		
	respOffset = 0		
	respLength = 10		
	readRecord()		

ld	Description	API Expectation	APDU Expectation
2		1 - No exception shall be thrown.	•
	EF	2 - No exception shall be thrown.	
	1 - fid = DFSIMTEST	3 - No exception shall be thrown.	
	select()	resp shall be:	
	2 - fid = EFLARU	resp[0] = '55'	
	select()	resp[1] = '55'	
	// Record pointer not set.	resp[2] = '55'	
	3 - recNumber = 0		
	mode = REC_ACC_MODE_NEXT	resp[3] = '55'	
	recOffset = 0 respOffset = 0	4 - No exception shall be thrown.	
	respLength = 4	resp shall be:	
	readRecord()	resp[0] = 'AA'	
	4 - recNumber = 2	resp[1] = 'AA'	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	resp[2] = 'AA'	
	readRecord()	resp[3] = 'AA'	
	5 - recNumber = 1	5 - No exception shall be thrown.	
	readRecord()	resp shall be:	
	6 - recNumber = 0	resp[0] = '55'	
	resp[0] = resp[1] = resp[2] = resp[3] =	resp[1] = '55'	
	1001	resp[2] = '55'	
	readRecord()	resp[3] = '55'	
		6 - No exception shall be thrown.	
		resp shall be:	
		resp[0] = '55'	
		resp[1] = '55'	
		resp[2] = '55'	
		resp[3] = '55'	
3	Read Next from Linear Fixed EF	No exception shall be thrown.	
	recNumber = 0	resp shall be:	
	mode = REC_ACC_MODE_NEXT	resp[0] = 'AA'	
	recOffset = 0	resp[1] = 'AA'	
	respOffset = 0	resp[2] = 'AA'	
	<pre>respLength = 4 readRecord()</pre>	resp[3] = 'AA'	
	leadrecold()		
4	Read Next from Linear Fixed EF	Shall throw	
	recNumber = 0	sim.access.SIMViewException with	
	mode = REC_ACC_MODE_NEXT	reason code	
	recOffset = 0	RECORD_NUMBER_NOT_AVAIL	
	respOffset = 0	ABLE.	
	respLength = 4		
5	readRecord()  Read Previous from Linear Fixed EF	No execution shall be through	
ا	recNumber = 0	No exception shall be thrown.	
	mode = REC_ACC_MODE_PREVIOUS	resp shall be:	
	recOffset = 0	resp[0] = '55'	
	respOffset = 0	resp[1] = '55'	
	respLength = 4	resp[2] = '55'	
	readRecord()	resp[3] = '55'	
6	Read Previous from Linear Fixed EF	Shall throw	
	recNumber = 0	sim.access.SIMViewException with	
	mode = REC_ACC_MODE_PREVIOUS	reason code	
	recOffset = 0	RECORD_NUMBER_NOT_AVAIL	
	respOffset = 0	ABLE.	
	respLength = 4	ADLE.	
<u> </u>	readRecord()		

ld	Description	API Expectation	APDU Expectation
7	Read Absolute and Current from Cyclic EF	1 - No exception shall be thrown.	,
	1 - fid = EFCARU	2 - No exception shall be thrown.	
	select()	resp shall be:	
	2 - recNumber = 2	resp[0] = ' AA'	
	<pre>mode = REC_ACC_MODE_ABSOLUTE_CURRENT recOffset = 0</pre>	resp[1] = ' AA'	
	respOffset = 0	resp[2] = ' AA'	
	respLength = 3	3 - No exception shall be thrown.	
	readRecord()	resp shall be:	
	3 - recNumber = 1	resp[0] = '55'	
	readRecord() 4 - recNumber = 0	resp[1] = '55'	
	resp[0] = resp[1] = resp[2] = '00	resp[2] = '55'	
	readRecord()	4 - No exception shall be thrown.	
		resp shall be:	
		resp[0] = '55'	
		resp[1] = '55'	
0	Pood Novt from Cyclic EE	resp[2] = '55'	
8	Read Next from Cyclic EF recNumber = 0	No exception shall be thrown. resp shall be:	
	mode = REC_ACC_MODE_NEXT	resp[0] = 'AA'	
	recOffset = 0	resp[0] = AA  resp[1] = 'AA'	
	respOffset = 0	resp[1] = AA  resp[2] = 'AA'	
	respLength = 3	163P[2] - AA	
9	readRecord()  Read Next from Cyclic EF	No exception shall be thrown.	
9	recNumber = 0	resp shall be:	
	mode = REC_ACC_MODE_NEXT	resp[0] = '55'	
	recOffset = 0	resp[1] = '55'	
	respOffset = 0	resp[2] = '55'	
	respLength = 3	100[2] = 00	
10	readRecord()  Read Previous from Cyclic EF	No exception shall be thrown.	
10	recNumber = 0	resp shall be:	
	mode = REC_ACC_MODE_PREVIOUS	resp[0] = 'AA'	
	recOffset = 0	resp[1] = 'AA'	
	respOffset = 0	resp[2] = 'AA'	
	<pre>respLength = 3 readRecord()</pre>		
11	Read Previous from Cyclic EF	No exception shall be thrown.	
	recNumber = 0	resp shall be:	
	mode = REC_ACC_MODE_PREVIOUS	resp[0] = '55'	
	recOffset = 0	resp[1] = '55'	
	respOffset = 0 respLength = 3	resp[2] = '55'	
	readRecord()		
12	Read Absolute from Linear Fixed EF beyond	1 - No exception shall be thrown.	
	Records	2 - Shall throw	
	1 - fid = EFLARU select()	sim.access.SIMViewException with	
	2 - recNumber = -1	reason code	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	RECORD_NUMBER_NOT_AVAIL	
	recOffset = 0	ABLE.	
	respOffset = 0	3 - Shall throw	
	<pre>respLength = 4 readRecord()</pre>	sim.access.SIMViewException with	
	readRecord() 3 - recNumber = 3	reason code RECORD_NUMBER_NOT_AVAIL	
	readRecord()	ABLE.	
13	No current record in linear fixed EF, read	1 - No exception shall be thrown.	
'	current	2 - Shall throw	
	1 - fid = EFLARU	sim.access.SIMViewException with	
	select() // No curr rec	reason code	
	2 - recNumber = 0 // curr rec	RECORD_NUMBER_NOT_AVAIL	
	<pre>mode = REC_ACC_MODE_ABSOLUTE_CURRENT recOffset = 0</pre>	ABLE.	
	respOffset = 0		
	respLength = 4		
	readRecord()		

ld	Description	API Expectation	APDU Expectation
14	recOffset < 0	1 - No exception shall be thrown.	-
	1 - fid = EFLARU	2 - Shall throw	
	<pre>select() 2 - recNumber = 1 // rec 1</pre>	sim.access.SIMViewException with	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	reason code OUT_OF_RECORD_BOUNDARIE	
	recOffset = -1	S.	
	respOffset = 0 respLength = 4	S.	
	readRecord()		
15	recOffset + respLength > Record Length	1 - No exception shall be thrown.	
	1 - fid = EFLARU select()	2 - Shall throw	
	2 - recNumber = 1	sim.access.SIMViewException with	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	reason code OUT_OF_RECORD_BOUNDARIE	
	recOffset = 2	S.	
	respOffset = 0 respLength = 4		
	readRecord()		
16	Reading with invalid mode	1 - No exception shall be thrown.	
	1 - fid = EFLARU select()	2 - Shall throw	
	2 - recNumber = 0	sim.access.SIMViewException with	
	mode = 1	reason code INVALID_MODE.  3 - Shall throw	
	recOffset = 0 respOffset = 0	sim.access.SIMViewException with	
	respLength = 4	reason code INVALID_MODE.	
	readRecord()		
	3 - mode = 5		
17	readRecord()  resp is null	Shall throw	
''	byte[] nullBuffer = null	java.lang.NullPointerException.	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	,gg	
	respOffset = 0 respLength = 10		
	readRecord()		
18	respOffset < 0	Shall throw	
	respOffset = -1	java.lang.	
	respLength = 10	ArrayIndexOutOfBoundsException.	
	readRecord ()		
19	respLength < 0 respOffset = 0	Shall throw	
	respLength = -1	java.lang. ArrayIndexOutOfBoundsException.	
	readRecord ()	·	
20	respOffset + respLength > resp.length	Shall throw	
	respOffset = 10 respLength = 11	java.lang. ArrayIndexOutOfBoundsException.	
	readRecord ()		
21	EF is neither Cyclic nor Linear Fixed	1 - No exception shall be thrown.	
	1 - fid = DFSIMTEST select()	2 - No exception shall be thrown.	
	2 - fid = EFTNU	3 - Shall throw sim.access.SIMViewException with	
	select()	reason code	
	<pre>3 - respOffset = 0 respLength = 4</pre>	FILE_INCONSISTENT.	
	readRecord()	_	
22	Access condition not fulfilled	1 - No exception shall be thrown.	
	1 - fid = EFCNR select()	2 - Shall throw	
	2 - respLength = 3	sim.access.SIMViewException with	
	readRecord()	reason code AC_NOT_FULFILLED.	
23	EF is invalidated	1 - No exception shall be thrown.	
	1 - fid = EFCNU	2 - Shall throw	
	invalidate()	sim.access.SIMViewException with	
	<pre>2 - readRecord() 3 - rehabilitate()</pre>	reason code	
1		INVALIDATION_STATUS_CONTR	
		ADICTION.	
L		3 - No exception shall be thrown.	

## 6.1.1.7.4 Test Coverage

CRR Number	Test Case Number
N1	2-5, 7-11
N2	2, 7
N3	3, 8, 9
N4	5, 10, 11
P1	12
P2	13
P3	4
P4	6
P5	14
P6	15
P7	16
P8	17
P9	18
P10	19
P11	20
C1	1
C2	21
C3	22
C4	23
C5, C6	Not Tested

## 6.1.1.8 Method updateRecord

Test Area Reference: API\_1\_SVW\_UPDRSBS\_BSS

## 6.1.1.8.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.8.1.1 Normal execution

- CRRN1: dataLength bytes of the record specified by mode and recNumber of the current selected linear fixed or cyclic EF are updated at recOffset, by using the string of bytes in the array data starting at dataOffset.
- CRRN2: If the access mode is REC\_ACC\_MODE\_ABSOLUTE\_CURRENT and the file is a linear fixed EF:
  - the record addressed by recNumber will be updated;
  - if recNumber is 0 the current selected record will be updated; and
  - the current record pointer shall not change.
- CRRN3: If the access mode is REC\_ACC\_MODE\_NEXT and the file is a linear fixed EF:
  - the next record relative to the current selected record will be selected and updated;
  - if no current record is selected, the first record will be selected and updated;
  - the current record pointer of any other applet shall not be changed.
- CRRN4: If the access mode is REC\_ACC\_MODE\_PREVIOUS:
  - the previous record relative to the current selected record will be selected and updated;

- if no current record is selected, the last record will be selected and updated;
- if a cyclic EF is updated, the oldest record will be updated independent of the current record pointer and this record becomes record number 1 and the current record;
- the current record pointer of any other applet shall not be changed in case of a linear fixed EF.

#### 6.1.1.8.1.2 Parameter errors

- CRRP1: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_ABSOLUTE\_CURRENT and recNumber is less than 0 or greater than records available, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP2: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_ABSOLUTE\_CURRENT, recNumber is 0 and there is no current record selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP3: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_NEXT and the
  current record pointer is set to the last record, an instance of SIMViewException shall be thrown. The reason
  code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP4: If the currently selected EF is linear fixed and the access mode is REC\_ACC\_MODE\_PREVIOUS and the current record pointer is set to the first record; an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.RECORD\_NUMBER\_NOT\_AVAILABLE.
- CRRP5: If the specified offset into the selected record recOffset is less than 0, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT\_OF\_RECORD\_BOUNDARIES.
- CRRP6: If recOffset plus dataLength is greater than the record length, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT\_OF\_RECORD\_BOUNDARIES.
- CRRP7: If the access mode is not between 2 and 4 inclusive (2 = REC\_ACC\_MODE\_NEXT, etc.), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALID\_MODE.
- CRRP8: If the currently selected EF is cyclic and the mode of record access mode is not REC\_ACC\_MODE\_PREVIOUS, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALID\_MODE.
- CRRP9: If the array data is null, an instance of NullPointerException shall be thrown.
- CRRP10: If dataOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP11: If dataLength is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP12: If dataOffset plus dataLength, is greater than the length of the array data.length, or dataOffset equals data.length, an instance of ArrayIndexOutOfBoundsException shall be thrown.

## 6.1.1.8.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO\_EF\_SELECTED.
- CRRC2: If the currently selected EF is neither linear fixed nor cyclic, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE\_INCONSISTENT.
- CRRC3: If the calling applet does not fulfil the access condition, UPDATE, to perform this function, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.AC\_NOT\_FULFILLED.
- CRRC4: If the currently selected EF is invalidated and the file status of the EF does not allow for updating an invalidated file, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.

- CRRC5: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC6: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

## 6.1.1.8.2 Test Suite Files

Additional requirements for the GSM personalization: This test is based on the assumption that the contents of the EFs in  $DF_{SIMTEST}$  are identical to those defined in the default pre-personalization and the current record pointers have not been altered.

Test Script: API\_1\_SVW\_UPDRSBS\_BSS\_1.scr
Test Applet: API\_1\_SVW\_UPDRSBS\_BSS\_1.java
Load Script: API\_1\_SVW\_UPDRSBS\_BSS\_1.ldr
Cleanup Script: API\_1\_SVW\_UPDRSBS\_BSS\_1.clr
Parameter File: API\_1\_SVW\_UPDRSBS\_BSS\_1.par

#### 6.1.1.8.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	No EF selected  recNumber = 1 mode = REC_ACC_MODE_ABSOLUTE_CURRENT recOffset = 0 byte[] data = new byte[20] dataOffset = 0 dataLength = 10 updateRecord()	Shall throw sim.access.SIMViewException with reason code NO_EF_SELECTED.	
2	<pre>Update Absolute and Current from Linear</pre>	1 - No exception shall be thrown. 2 - No exception shall be thrown. 3 - No exception shall be thrown. Resp shall be: Resp[0] = '11' Resp[1] = '11' Resp[2] = '11' Resp[3] = '11'	= 4

ld	Description	API Expectation	APDU Expectation
3	Update Current from Linear Fixed EF	1 - No exception shall be thrown.	•
	1 - fid = DFSIMTEST	2 - No exception shall be thrown.	
	select()	3 - No exception shall be thrown.	
	2 - fid = EFLARU select()	4 - No exception shall be thrown.	
	// Set record pointer with mode "next".	resp shall be:	
	3 - recNumber = 0	resp[0] = '22'	
	mode = REC_ACC_MODE_NEXT	resp[1] = '22'	
	recOffset = 0 data[0:3] = '00'	resp[2] = '22'	
	dataOffset = 0	resp[3] = '22'	
	dataLength = 4		
	updateRecord()		
	// write data with mode "current"		
	4 - recNumber = 0 data[0:3] = '22'		
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	updateRecord()		
	// read result with mode "absolute"		
	respOffset = 0 respLength = 4		
	recNumber = 1		
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	readRecord()		
4	Update Next from Linear Fixed EF, no record	1 - No exception shall be thrown.	
	pointer set	2- No exception shall be thrown.	
	<pre>1 - fid = FID_DF_SIMTEST select()</pre>	3 - No exception shall be thrown.	
	2 - fid = FID_EF_LARU	Resp shall be:	
	select	Resp[0] = '33'	
	3 - recNumber = 0	Resp[1] = '33' Resp[2] = '33'	
	mode = REC_ACC_MODE_NEXT	Resp[3] = '33'	
	recOffset = 0 data[0:3] = '33'		
	dataOffset = respOffset = 0		
	dataLength = respLength = 4		
	updateRecord()		
	<pre>mode = REC_ACC_MODE_ABSOLUTE_CURRENT readRecord()</pre>		
5	Update Next from Linear Fixed EF, record	1 - No exception shall be thrown.	
	pointer set	2 - No exception shall be thrown.	
	1 - recNumber = 0	resp shall be:	
	mode = REC_ACC_MODE_NEXT	resp[0] = '44'	
	recOffset = 0 data[0:3] = '44'	resp[1] = '44'	
	dataOffset = 0	resp[2] = '44'	
	dataLength = 4	resp[3] = '44'	
	updateRecord()		
	2 - mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
6	readRecord()  Update Next from Linear Fixed EF, no more	Shall throw	
О	records	sim.access.SIMViewException with	
	recNumber = 0	reason code	
	mode = REC_ACC_MODE_NEXT	RECORD_NUMBER_NOT_AVAIL	
	recOffset = 0	ABLE.	
	<pre>data[0:3] = '55' dataOffset = 0</pre>		
	dataOffset = 0 dataLength = 4		
	updateRecord()		
7	Update Previous from Linear Fixed EF, no	1 - No exception shall be thrown.	
	record pointer set	2 - No exception shall be thrown.	
	1 - fid = DFSIMTEST	3 - No exception shall be thrown.	
	<pre>select() 2 - fid = EFLARU</pre>	4 - No exception shall be thrown.	
	select()	resp shall be:	
	3 - recNumber = 0	resp[0] = '66'	
	mode = REC_ACC_MODE_PREVIOUS	resp[1] = '66'	
	recOffset = 0 data[0:3] = '66'	resp[2] = '66' resp[3] = '66'	
	dataOffset = respOffset = 0		
	dataLength = respLength = 4		
	updateRecord()		
	4 - mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	readRecord()	1	

ld	Description	API Expectation	APDU Expectation
8	Update Previous from Linear Fixed EF, record		
	pointer set	2 - No exception shall be thrown.	
	1 - recNumber = 0	Resp shall be:	
	mode = REC_ACC_MODE_PREVIOUS	Resp[0] = '7744'	
	recOffset = 0	Resp[1] = '7744'	
	<pre>data[0:3] = '77' dataOffset = respOffset = 0</pre>	Resp[2] = '7744'	
	dataLength = respLength = 4	Resp[3] = '7744'	
	updateRecord()		
	readRecord()		
	2 - mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
9	Update Previous from Linear Fixed EF , no	Shall throw	
	more records	sim.access.SIMViewException with	
	recNumber = 0	reason code	
	mode = REC_ACC_MODE_PREVIOUS	RECORD_NUMBER_NOT_AVAIL	
	recOffset = 0 data[0:3] = '88'	ABLE.	
	dataOffset = respOffset = 0		
	dataLength = respLength = 4		
	updateRecord()		
10	Update Previous from Cyclic EF	1 - No exception shall be thrown.	
	1 - fid = FID_DF_SIMTEST	2 - No exception shall be thrown.	
	select()	3 - No exception shall be thrown.	
	2 - fid = FID_EF_CARU	4 - No exception shall be thrown.	
	select() 3 - recNumber = 2	5 - No exception shall be thrown.	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	resp shall be:	
	recOffset = 0	resp[0] = data[0]	
	respOffset = 0	resp[1] = data[1]	
	respLength = 3	resp[2] = data[2]	
	readRecord()		
	4 - recNumber = 2 mode = REC_ACC_MODE_PREVIOUS		
	data[0:2] = resp[0:2] ^ 'FF'		
	dataOffset = 0		
	dataLength = 3		
	updateRecord()		
	5 - recNumber = 0		
	<pre>mode = REC_ACC_MODE_ABSOLUTE_CURRENT respOffset = 0</pre>		
	respLength = 3		
	readRecord()		
11	Update Absolute from Linear Fixed EF beyond		
	Records	2 - Shall throw	
	1 - fid = EFLARU	sim.access.SIMViewException with	
	select()	reason code	
	2 -recNumber = -1 mode = REC_ACC_MODE_ABSOLUTE_CURRENT	RECORD_NUMBER_NOT_AVAIL	
	recOffset = 0	ABLE.	
	dataOffset = 0	3 - Shall throw	
	dataLength = 4	sim.access.SIMViewException with	
	updateRecord()	reason code	
	<pre>2 - recNumber = 3 updateRecord()</pre>	RECORD_NUMBER_NOT_AVAIL	
40		ABLE.	
12	No current record in linear fixed EF, update	1 - No exception shall be thrown.	
	current 1 - fid = EFLARU	2 - Shall throw	
	select() // No curr rec	sim.access.SIMViewException with	
	2 - recNumber = 0 // curr rec	reason code	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	RECORD_NUMBER_NOT_AVAIL   ABLE.	
	recOffset = 0	ADLE.	
	dataOffset = 0		
	<pre>dataLength = 4 updateRecord()</pre>		
13	recOffset < 0	1 - No exception shall be thrown.	
13	1 - fid = EFLARU	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	2 - recNumber = 1 // rec 1	reason code	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	OUT_OF_RECORD_BOUNDARIE	
	recOffset = -1	S.	
	dataOffset = 0	<u> </u>	
	<pre>dataLength = 4 updateRecord()</pre>		
	abaacevecora()		

ld	Description	API Expectation	APDU Expectation
14	recOffset + dataLength > Record Length	1 - No exception shall be thrown.	-
	1 - fid = EFLARU	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	2 - recNumber = 1	reason code	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT	OUT_OF_RECORD_BOUNDARIE	
	recOffset = 2	S.	
	dataOffset = 0	5.	
	dataLength = 4		
	updateRecord()		
15	Updating with invalid mode	1 - No exception shall be thrown.	
	1 - fid = EFLARU	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	2 - recNumber = 0 mode = 1	reason code INVALID_MODE.	
	recOffset = 0	3 - Shall throw	
	dataOffset = 0	sim.access.SIMViewException with	
	dataLength = 4	reason code INVALID_MODE.	
	updateRecord()		
	3 - mode = 5		
	updateRecord()		
16	Updating Cyclic EF with invalid mode	1 - No exception shall be thrown.	
	1 - fid = DFSIMTEST	2 - No exception shall be thrown.	
	select()	3 - Shall throw	
	2 - fid = EFCARU	sim.access.SIMViewException with	
	select()	reason code INVALID_MODE.	
	3 - recNumber = 0	4 - Shall throw	
	mode = REC_ACC_MODE_NEXT		
	recOffset = 0	sim.access.SIMViewException with	
	data[0:2] = '00'	reason code INVALID_MODE.	
	<pre>dataOffset = 0 dataLength = 3</pre>	5 - Shall throw	
	updateRecord()	sim.access.SIMViewException with	
	4 - recNumber = 0	reason code INVALID_MODE.	
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	updateRecord()		
	5 - recNumber = 2		
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	updateRecord()		
17	data is null	Shall throw	
	<pre>byte[] nullBuffer = null</pre>	java.lang.NullPointerException.	
	dataOffset = 0		
	dataLength = 10		
	updateRecord()		
18	dataOffset < 0	Shall throw	
	dataOffset = -1	java.lang.	
	<pre>dataLength = 10 updateRecord()</pre>	ArrayIndexOutOfBoundsException.	
10	dataLength < 0	Shall throw	
19	dataOffset = 0		
	dataOffset = 0 dataLength = -1	java.lang.	
	updateRecord()	ArrayIndexOutOfBoundsException.	
20	dataOffset + dataLength > data.length	Shall throw	
-	dataOffset = 10	java.lang.	
	dataLength = 11	ArrayIndexOutOfBoundsException.	
	updateRecord()	, indyindexedicibodildaexeeption.	
21	EF is neither Cyclic nor Linear Fixed	1 - No exception shall be thrown.	
	1 - fid = DFSIMTEST	2 - No exception shall be thrown.	
	select()	3 - Shall throw	
	2 - fid = EFTNR	sim.access.SIMViewException with	
	select()	reason code	
	3 - dataOffset = 0	FILE_INCONSISTENT.	
	dataLength = 4	ILL_INCONCICTEINT.	
	updateRecord()		

ld	Description	API Expectation	APDU Expectation
22	Access condition not fulfilled  1 - fid = EFCNU select() 2 - recOffset = 0 dataOffset = 0 dataLength = 1 mode = REC_ACC_MODE_PREVIOUS updateRecord() 3 - fid = EFLNU select() 4 - recNumber = 1 mode = REC_ACC_MODE_ABSOLUTE_CURRENT recOffset = 0 dataOffset = 0 dataLength = 1 updateRecord()	1 - No exception shall be thrown.     2 - Shall throw     sim.access.SIMViewException with     reason code     AC_NOT_FULFILLED.     3 - No exception shall be thrown.     4 - Shall throw     sim.access.SIMViewException with     reason code     AC_NOT_FULFILLED.	
23	<pre>EF is invalidated 1 - fid = EFCNR mode = REC_ACC_MODE_PREVIOUS invalidate() 2 - updateRecord() 3 - rehabilitate()</pre>	1 - No exception shall be thrown. 2 - Shall throw sim.access.SIMViewException with reason code INVALIDATION_STATUS_CONTR ADICTION. 3 - No exception shall be thrown.	

# 6.1.1.8.4 Test Coverage

CRR Number	Test Case Number
N1	2, 3,4, 5, 7, 8, 10
N2	2, 3
N3	5, 6
N4	7, 8, 9, 10
P1	11
P2	12
P3	6
P4	9
P5	13
P6	14
P7	15
P8	16
P9	17
P10	18
P11	19
P12	20
C1	1
C2	21
C3	22
C4	23
C5, C6	Not Tested

# 6.1.1.9 Method seek

Test Area Reference: API\_1\_SVW\_SEEKB\_BSS

# 6.1.1.9.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.9.1.1 Normal execution

- CRRN1: If the pattern in patt with the length pattLength at offset pattOffset is found in the record being specified by mode, the current record pointer is set to that record and the record number is returned. The record pointer of any other applet is not changed. This will be tested during the testing of the framework.
- CRRN2: If mode is SEEK\_FROM\_BEGINNING\_FORWARD, the search starts with the first record forward towards the end of the file.
- CRRN3: If mode is SEEK\_FROM\_END\_BACKWARD, the search starts with the last record backward towards the beginning of the file.
- CRRN4: If mode is SEEK\_FROM\_NEXT\_FORWARD, the search starts from the next record after the current record pointer forward towards the end of file. If no current record pointer is selected, the search starts with the first record.
- CRRN5: If mode is SEEK\_FROM\_PREVIOUS\_BACKWARD, the search starts from the previous record
  before the current record pointer backward towards the beginning of the file. If no current record pointer is
  selected the search starts with the last record.
- CRRN6: If pattern in patt is not found, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.PATTERN\_NOT\_FOUND.
- CRRN7: If mode is SEEK\_FROM\_NEXT\_FORWARD and the record pointer is at the last record, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.PATTERN\_NOT\_FOUND.
- CRRN8: If mode is SEEK\_FROM\_PREVIOUS\_BACKWARD and the record pointer is at the first record, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.PATTERN\_NOT\_FOUND.

#### 6.1.1.9.1.2 Parameter errors

- CRRP1: If mode is not between 0 and 3 inclusive (0 = SEEK\_FROM\_BEGINNING\_FORWARD, etc.), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALID\_MODE.
- CRRP2: If the pattern array patt is null, an instance of NullPointerException shall be thrown.
- CRRP3: If pattOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP4: If pattLength is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP5: If pattLength is greater than the size of the record of the currently selected EF, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.OUT\_OF\_RECORD\_BOUNDARIES.
- CRRP6: If pattOffset plus pattLength is greater than the length of the pattern array patt.length, an instance of ArrayIndexOutOfBoundsException shall be thrown.

## 6.1.1.9.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO\_EF\_SELECTED.
- CRRC2: If the currently selected EF is not linear fixed, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE\_INCONSISTENT.
- CRRC3: If the calling applet does not fulfil the access condition, READ, to perform this function, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.AC\_NOT\_FULFILLED.
- CRRC4: If the currently selected EF is invalidated and the file status of the EF does not allow for reading an invalidated file, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.

- CRRC5: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC6: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

# 6.1.1.9.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_SEEKB\_BSS\_1.scr

Test Applet: API\_1\_SVW\_SEEKB\_BSS\_1.java

Load Script: API\_1\_SVW\_SEEKB\_BSS\_1.ldr

Cleanup Script: API\_1\_SVW\_SEEKB\_BSS\_1.ldr

Parameter File: API\_1\_SVW\_SEEKB\_BSS\_1.par

#### 6.1.1.9.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	•
1	No EF selected  Byte[] patt = new byte[20]  pattOffset = 0  pattLength = 10	Shall throw sim.access.SIMViewException with reason code NO_EF_SELECTED.	
	mode = SEEK_FROM_BEGINNING_FORWARD seek()		
2	Pattern not Found  1 - fid = DFSIMTEST select() 2 - fid = EFLARU select() 3 - patt[0] = 'DA' pattOffset = 0 pattLength = 1 mode = SEEK_FROM_BEGINNING_FORWARD seek()	No exception shall be thrown.     No exception shall be thrown.     Shall throw sim.access.SIMViewException with reason code  PATTERN_NOT_FOUND.	
3	Seek from Beginning Forward  patt[0:2] = '55' pattOffset = 0 pattLength = 3 mode = SEEK_FROM_BEGINNING_FORWARD seek()	No exception shall be thrown. Shall return 1	
4	Seek from End Backward  patt[0:2] = '55' pattOffset = 0 pattLength = 3 mode = SEEK_FROM_END_BACKWARD seek()	No exception shall be thrown. Shall return 1	
5	Seek from Next Forward  patt[0:2] = 'AA'  pattOffset = 0  pattLength = 3  mode = SEEK_FROM_NEXT_FORWARD  seek()	No exception shall be thrown. Shall return 2	
6	Last Record, Seek from Next Forward mode = SEEK_FROM_NEXT_FORWARD seek()	Shall throw sim.access.SIMViewException with reason code PATTERN_NOT_FOUND.	
7	Seek from Previous Backward  patt[0:2] = '55'  pattOffset = 0  pattLength = 3  mode = SEEK_FROM_PREVIOUS_BACKWARD  seek()	No exception shall be thrown. Shall return 1	

ld	Description	API Expectation	APDU Expectation
8	First Record, Seek from Previous Backward	Shall throw	,
	SEEK_FROM_PREVIOUS_BACKWARD	sim.access.SIMViewException with	
	seek()	reason code	
		PATTERN_NOT_FOUND.	
9	Pattern not Found (out of reach)	Shall throw	
	patt[0:2] = '55'	sim.access.SIMViewException with	
	<pre>pattOffset = 0 pattLength = 3</pre>	reason code	
	mode = SEEK_FROM_NEXT_FORWARD	PATTERN_NOT_FOUND.	
	seek()		
10	Invalid mode	1 - Shall throw	
	1 - mode = 4	sim.access.SIMViewException with	
	seek() 2 - mode = -1	reason code INVALID_MODE	
	seek()	2 - Shall throw	
		sim.access.SIMViewException with	
11	nott is null	reason code INVALID_MODE Shall throw	
11	<pre>patt is null byte[] nullBuffer = null</pre>	java.lang.NullPointerException.	
	mode = SEEK_FROM_BEGINNING_FORWARD	java.iarig.ivuiiFoiriterException.	
	seek ()		
12	pattOffset < 0	Shall throw	
	patt[0:2] = '55'	java.lang.	
	<pre>pattOffset = -1 pattLength = 3</pre>	ArrayIndexOutOfBoundsException	
	mode = SEEK_FROM_BEGINNING_FORWARD		
	seek()		
13	pattLength < 0	Shall throw	
	<pre>patt[0:2] = '55' pattOffset = 0</pre>	java.lang.	
	pattLength = -1	ArrayIndexOutOfBoundsException	
	mode = SEEK_FROM_BEGINNING_FORWARD		
	seek()		
14	pattLength > size of record	Shall throw	
	<pre>patt[0:4] = '55' pattOffset = 0</pre>	sim.access.SIMViewException with	
	pattLength = 4	reason code OUT_OF_RECORD_BOUNDARIE	
	mode = SEEK_FROM_BEGINNING_FORWARD	S	
45	seek()		
15	pattOffset + pattLength > patt.length patt[0:2] = '55'	Shall throw	
	pattOffset = 1	java.lang. ArrayIndexOutOfBoundsException	
	pattLength = 3	ArrayindexOdiOiBodildsException	
	mode = SEEK_FROM_BEGINNING_FORWARD		
16	seek()  EF is not Linear Fixed	1 - No exception shall be thrown.	
10	1 - fid = EFTNU	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	2 - pattOffset = 0	reason code	
	<pre>pattLength = 3 mode = SEEK_FROM_BEGINNING_FORWARD</pre>	FILE_INCONSISTENT	
	seek()	3 - Shall throw	
	3 - fid = EFCNU	sim.access.SIMViewException with	
	select()	reason code	
17	Access condition not fulfilled	FILE_INCONSISTENT  1 - No exception shall be thrown.	
''	1 - fid = EFLNR	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	2 - patt[0] = '55'	reason code	
	<pre>pattOffset = 0 pattLength = 1</pre>	AC_NOT_FULFILLED.	
	mode = SEEK_FROM_BEGINNING_FORWARD		
	seek()		
18	EF is invalidated	1 - No exception shall be thrown.	
	1 - fid = EFLARU	2 - No exception shall be thrown.	
	<pre>select() 2 - invalidate()</pre>	3 - Shall throw	
	3 - patt[0] = '55	sim.access.SIMViewException with	
	pattOffset = 0	reason code INVALIDATION_STATUS_CONTR	
	pattLength = 1	ADICTION.	
	<pre>mode = SEEK_FROM_BEGINNING_FORWARD seek()</pre>	4 - No exception shall be thrown.	
	4 - rehabilitate()	The exception shall be unewith	

## 6.1.1.9.4 Test Coverage

CRR Number	Test Case Number
N1	2, 3 - 6, 7
N2	3
N3	4
N4	5
N5	7
N6	2, 6, 8, 9
N7	6
N8	8
P1	10
P2	11
P3	12
P4	13
P5	14
P6	15
C1	1
C2	16
C3	17
C4	18
C5, C6	Not Tested

## 6.1.1.10 Method increase

Test Area Reference: API\_1\_SVW\_INCR\_BS\_BS

## 6.1.1.10.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

## 6.1.1.10.1.1 Normal execution

• CRRN1: The value in the array incr is added to the value of the last increased / updated record in the currently selected cyclic EF. The result is stored in the oldest record and returned in the array resp. The updated record becomes record number 1 and is selected as current record. The number of bytes of valid data in resp is returned.

#### 6.1.1.10.1.2 Parameter errors

- CRRP1: If the array incr is null, an instance of NullPointerException shall be thrown.
- CRRP2: If incrOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: If incrOffset plus the value 3, is greater than the length of the array incr.length, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP4: If the result of the addition is greater than the maximum value of the record (represented by all bytes set to 'FF'), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MAX\_VALUE\_REACHED.
- CRRP5: If the array resp is null, an instance of NullPointerException shall be thrown.
- CRRP6: If respOffset is less than 0, an instance of ArrayIndexOutOfBoundsException shall be thrown.
- CRRP7: If the remaining length of the array resp at the offset respOffset is less than the length of the record, an instance of ArrayIndexOutOfBoundsException shall be thrown.

#### 6.1.1.10.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO EF SELECTED.
- CRRC2: If the currently selected EF is not cyclic, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE INCONSISTENT.
- CRRC3: If increase is not allowed as indicated by the FCI byte 8 (TS 51.011: FCI structure of an EF returned by the SELECT command), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.FILE\_INCONSISTENT.
- CRRC4: If the calling applet does not fulfil the access condition, INCREASE, to perform this function, an
  instance of SIMViewException shall be thrown. The reason code shall be
  SIMViewException.AC\_NOT\_FULFILLED.
- CRRC5: If the currently selected EF is invalidated, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.
- CRRC6: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC7: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

## 6.1.1.10.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_INCR\_BS\_BS\_1.scr

Test Applet: API\_1\_SVW\_INCR\_BS\_BS\_1.java

Load Script: API\_1\_SVW\_INCR\_BS\_BS\_1.ldr

Cleanup Script: API\_1\_SVW\_INCR\_BS\_BS\_1.clr

Parameter File: API\_1\_SVW\_INCR\_BS\_BS\_1.par

#### 6.1.1.10.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	<pre>No EF selected byte[] incr = new byte[4] byte[] resp = new byte[4] incrOffset = 0 respOffset = 0 increase()</pre>	Shall throw sim.access.SIMViewException with reason code NO_EF_SELECTED.	
2	<pre>Increase , verify response 1 - fid = DFSIMTEST select() 2 - fid = EFCARU select() 3 - //Set both records to 00 00 00 mode = REC_ACC_MODE_PREVIOUS data[0:3] = 0 dataOffset = 0 dataLength = 3 updateRecord() updateRecord() updateRecord() 4 - incrOffset = 0 incr[2] = 1 respOffset = 0 increase()</pre>	<ul> <li>1 - No exception shall be thrown.</li> <li>2 - No exception shall be thrown.</li> <li>3 - No exception shall be thrown.</li> <li>4 - No exception shall be thrown.</li> <li>resp[] shall contain {0,0,1,0}.</li> </ul>	

ld	Description	API Expectation	APDU Expectation
3	Increase, verify file	1 - No exception shall be thrown.	
	1 - incrOffset = 1	resp[] shall contain {0,0,0,3}.	
	<pre>incr[2] = 0, incr[3] = 2 respOffset = 1</pre>	2 - No exception shall be thrown.	
	increase()	resp[] shall contain {0,0,3,0}.	
	2 - resp[3] = 0		
	recNumber = 0		
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	recOffset = 0 respOffset = 0		
	respLength = 0		
	readRecord()		
4	incr is null	Shall throw	
	<pre>byte[] nullBuffer = null incrOffset = 0</pre>	java.lang.NullPointerException.	
	respOffset = 0		
	increase()		
5	incrOffset < 0	Shall throw	
	incrOffset = -1	java.lang.	
	respOffset = 0	ArrayIndexOutOfBoundsException.	
6	increase() incrOffset + 3 > incr.length	Shall throw	
O	incrOffset = 2	java.lang.	
	respOffset = 0	ArrayIndexOutOfBoundsException.	
	increase()		
7	Reach Maximum Value	Shall throw	
	<pre>incr[0] = incr[1] = incr[2] = 'FF' incrOffset = 0</pre>	sim.access.SIMViewException with	
	respOffset = 0	reason code	
	increase()	MAX_VALUE_REACHED.	
8	resp is null	Shall throw	
	incr[0] = incr[1] = 0x00'	java.lang.NullPointerException.	
	<pre>incr[2] = '02' incrOffset = 0</pre>		
	byte[] respNull = null		
	respOffset = 0		
_	increase()	Oh - II de	
9	respOffset < 0 incrOffset = 0	Shall throw java.lang.	
	respOffset = -1	ArrayIndexOutOfBoundsException.	
	increase()		
10	respOffset + recordLength > resp.length	Shall throw	
	<pre>incrOffset = 0 respOffset = 2</pre>	java.lang.	
	increase()	ArrayIndexOutOfBoundsException.	
11	EF is not Cyclic	1 - No exception shall be thrown.	
	1 - fid = EFTARU	2 - Shall throw	
	<pre>select() 2 - incrOffset = 0</pre>	sim.access.SIMViewException with	
	respOffset = 0	reason code	
	increase()	FILE_INCONSISTENT.	
	3 - fid = EFLARU	3 - No exception shall be thrown.	
	<pre>select() 4 - incrOffset = 0</pre>	4 - Shall throw sim.access.SIMViewException with	
	respOffset = 0	reason code	
	increase()	FILE_INCONSISTENT.	
12	Access condition not fulfilled	1 - No exception shall be thrown.	
	1 - fid = EFCNIC	2 - Shall throw	
	select()	sim.access.SIMViewException with	
	<pre>2 - incrOffset = 0 respOffset = 0</pre>	reason code	
	increase()	AC_NOT_FULFILLED.	
13	EF is invalidated	1 - No exception shall be thrown.	
	1 - fid = EFCARU	2 - No exception shall be thrown.	
	select()	3 - Shall throw	
	<pre>2 - invalidate() 3 - incrOffset = 0</pre>	sim.access.SIMViewException with	
	respOffset = 0	reason code	
	increase()	INVALIDATION_STATUS_CONTR	
	4 - rehabilitate()	ADICTION.	
1		4 - No exception shall be thrown.	

ld	Description	API Expectation	APDU Expectation
14	Check increase not allowed from FCI	1 - No exception shall be thrown.	
	1 - fciOffset = 0	Bit 7 of resp[7] shall not be set (0),	
	fciLength = 8	indicating that increase is not	
	select (FID_EF_CINA, fci)	allowed.	
	Verify FCI byte 8 (fci[7])	2 - Shall throw	
	<pre>2 - incrOffset = 0 respOffset = 0</pre>	sim.access.SIMViewException with	
	increase()	reason code	
		FILE_INCONSISTENT	

## 6.1.1.10.4 Test Coverage

CRR Number	Test Case Number
N1	2, 3
P1	4
P2	5
P3	6
P4	7
P5	8
P6	9
P7	10
C1	1
C2	11
C3	14
C4	12
C5	13
C6, C7	Not Tested

## 6.1.1.11 Method invalidate

Test Area Reference: API\_1\_SVW\_INVL

## 6.1.1.11.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.11.1.1 Normal execution

• CRRN1: The currently selected EF of the calling applet shall be invalidated, i.e. the flag in the EF file status shall be changed accordingly.

#### 6.1.1.11.1.2 Parameter errors

No requirements.

## 6.1.1.11.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO\_EF\_SELECTED.
- CRRC2: If the calling applet does not fulfil the access condition, INVALIDATE, to perform this function, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.AC\_NOT\_FULFILLED.
- CRRC3: If the currently selected EF is already invalidated, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.

- CRRC4: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC5: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

# 6.1.1.11.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_INVL\_1.scr

Test Applet: API\_1\_SVW\_INVL\_1.java

Load Script: API\_1\_SVW\_INVL\_1.ldr

Cleanup Script: API\_1\_SVW\_INVL\_1.clr

Parameter File: API\_1\_SVW\_INVL\_1.par

#### 6.1.1.11.3 Test Procedure

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## 6.1.1.11.4 Test Coverage

CRR number	Test Case Number
N1	2
C1	1
C2	3
C3	4
C4, C5	Not Tested

# 6.1.1.12 Method rehabilitate

Test Area Reference: API\_1\_SVW\_REHA

## 6.1.1.12.1 Conformance Requirements

The method with the following header shall be compliant to its definition in the API.

#### 6.1.1.12.1.1 Normal execution

• CRRN1: The currently selected EF of the calling applet shall be rehabilitated, i.e. the flag in the EF file status shall be changed accordingly.

#### 6.1.1.12.1.2 Parameter errors

No requirements.

## 6.1.1.12.1.3 Context errors

- CRRC1: If the calling applet has currently no EF selected, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.NO\_EF\_SELECTED.
- CRRC2: If the calling applet does not fulfil the access condition, REHABILITATE, to perform this function, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.AC\_NOT\_FULFILLED.
- CRRC3: If the currently selected EF is not invalidated, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INVALIDATION\_STATUS\_CONTRADICTION.
- CRRC4: If the method call causes a memory problem (e.g. memory access error), an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.MEMORY\_PROBLEM.
- CRRC5: If the method call causes an error to occur that is not expected and thus not handled, an instance of SIMViewException shall be thrown. The reason code shall be SIMViewException.INTERNAL\_ERROR.

#### 6.1.1.12.2 Test Suite Files

Additional requirements for the GSM personalization: None

Test Script: API\_1\_SVW\_REHA\_1.scr

Test Applet: API\_1\_SVW\_REHA\_1.java

Load Script: API\_1\_SVW\_REHA\_1.ldr

Cleanup Script: API\_1\_SVW\_REHA\_1.clr

Parameter File: API\_1\_SVW\_REHA\_1.par

## 6.1.1.12.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	No EF is selected	1 - Shall throw	
	1 - rehabilitate()	sim.access.SIMViewException with	
		reason code NO_EF_SELECTED.	

ld	Description	API Expectation	APDU Expectation
2	Rehabilitate invalidated File  1 - fid = DFSIMTEST select() 2 - fid = EFCNR select() 3 - invalidate() 4 - rehabilitate() 5 - byte[] incr = new byte[3] = {0,0,1} incrOffset = 0 byte[] resp = new byte[1] = 1 respOffset = 0 increase()	1 - No exception shall be thrown. 2 - No exception shall be thrown. 3 - No exception shall be thrown. 4 - No exception shall be thrown. 5 - No exception shall be thrown. resp[] shall contain {0,0,1}.	
3	Access condition not fulfilled  1 - fid = EFCNRH select() 2 - rehabilitate()	1 - No exception shall be thrown.     2 - Shall throw     sim.access.SIMViewException with     reason code     AC_NOT_FULFILLED	
4	Rehabilitate validated File  1 - fid = EFCNR select() 2 - rehabilitate()	1 - No exception shall be thrown. 2 - Shall throw sim.access.SIMViewException with reason code INVALIDATION_STATUS_CONTR ADICTION.	

# 6.1.1.12.4 Test Coverage

CRR number	Test Case Number	
N1	2	
C1	1	
C2	3	
C3	4	
C4, C5	Not Tested	

# 6.1.2 Class SIMSystem

# 6.1.2.1 Method getTheSIMView

Test Area Reference: API\_1\_SSY\_GETS

# 6.1.2.1.1 Conformance Requirement:

The method with following header shall compliant to its definition in the API.

public static SIMView getTheSIMView()

## 6.1.2.1.1.1 Normal execution

• CRRN1: returns a reference to class which implements the SIMView interface.

## 6.1.2.1.1.2 Parameters error

No requirements.

## 6.1.2.1.1.3 Context errors

No requirements.

#### 6.1.2.1.2 Test suite files

No additional requirements for the GSM personalization:

Test Script: API\_1\_SSY\_GETS\_1.scr

Test Applet: API\_1\_SSY\_GETS\_1.java

Load Script: API\_1\_SSY\_GETS\_1.ldr

Cleanup Script: API\_1\_SSY\_GETS\_1.clr

Parameter File: API\_1\_SSY\_GETS\_1.par

#### 6.1.2.1.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	reference not equal null after execute	The returned reference shall be not	
		null after execute	
2	reference to the GSM interface	Returned a reference to the GSM	
		interface	

## 6.1.2.1.4 Test Coverage

CRR number	Test case number
N1	1,2

# 6.1.3 Class SIMViewException

## 6.1.3.1 Method throwIt

Test Area Reference: API\_1\_SVE\_THITS

## 6.1.3.1.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.1.3.1.1.1 Normal execution

• CRRN1: Throws the JCRE instance of SIMViewException with the specified reason.

• CRRN2: Extends javacard.framework.CardRuntimeException.

#### 6.1.3.1.1.2 Parameter errors

No requirements.

## 6.1.3.1.1.3 Context errors

No requirements.

## 6.1.3.1.2 Test Suite Files

No additional requirements for the GSM personalization

Test Script: API\_1\_SVE\_THITS\_1.scr

Test Applet: API\_1\_SVE\_THITS\_1.java

Load Script: API\_1\_SVE\_THITS\_1.ldr

Cleanup Script: API\_1\_SVE\_THITS\_1.clr

Parameter File: API\_1\_SVE\_THITS\_1.par

#### 6.1.3.1.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	Throws the JCRE instance of	Reason = 0	
	SIMViewException with the specified reason		
2	Throws the JCRE instance of	Reason = 1	
	SIMViewException with the specified reason		
3	Throws the JCRE instance of	Reason = 15	
	SIMViewException with the specified reason		
4	SIMViewException extends	Reason = 0	
	javacard.framework.CardRuntimeException		
5	SIMViewException extends	Reason = 1	
	javacard.framework.CardRuntimeException		
6	SIMViewException extends	Reason = 15	
	javacard.framework.CardRuntimeException		

## 6.1.3.1.4 Test Coverage

CRR number	Test case number	
N1	1,2,3	
N2	4,5,6	

## 6.1.3.2 Constructor

Test Area Reference: API\_1\_SVE\_COORS

## 6.1.3.2.1 Conformance Requirement:

The method with following header shall compliant to its definition in the API.

#### 6.1.3.2.1.1 Normal execution

• CRRN1: Construct a SIMViewException with the specified reason.

## 6.1.3.2.1.2 Parameters error

No requirements.

## 6.1.3.2.1.3 Context errors

No requirements.

#### 6.1.3.2.2 Test suite files

No additional requirements for the GSM personalization

Test Script: API\_1\_SVE\_COORS\_1.scr

Test Applet: API\_1\_SVE\_COORS\_1.java

Load Script: API\_1\_SVE\_COORS.ldr

Cleanup Script: API\_1\_SVE\_COORS.clr

Parameter File: API\_1\_SVE\_COORS.par

6.1.3.2.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	SIMViewException with the specified reason	Reason (specified)	
	(The reason shall set with setReason and		
	compare the Exception with getReason)		

## 6.1.3.2.4 Test Coverage

CRR number	Test case number	
N1	1	

## 6.1.3.3 Reason Codes

Test Area Reference: API\_1\_SVE\_CONS

## 6.1.3.3.1 Conformance Requirement:

There is no API, only constants. This constants shall compliant to its definition in the API.

## 6.1.3.3.1.1 Normal execution

- CRRN1: The Constants of the class SIMViewException shall all have the same name and value defined in the 3GPP TS 43.019 [7].
- CRRN2: Constructs SIMViewException a Exception with the specified reason.

## 6.1.3.3.1.2 Parameters error

No requirements.

6.1.3.3.1.3 Context errors

No requirements.

6.1.3.3.2 Test suite files

None.

# 6.1.3.3.3 Test Procedure

The constants in Java are resolved at compilation time, therefore a runtime test is not useful. No test of constants will be performed

# 6.2 Package sim.toolkit

# 6.2.1 Interface ToolkitConstants

## 6.2.1.1 Constants

Test Area Reference: API\_2\_TKC\_CONS

## 6.2.1.1.1 Conformance Requirement

There is no API, only constants. This constants shall be compare to its definition in the API.

#### 6.2.1.1.1.1 Normal execution

• CRRN1: The Toolkit Constants shall all have the same name and value as defined in 3GPP TS 43.019 [7].

#### 6.2.1.1.1.2 Parameters error

No requirements.

6.2.1.1.3 Context errors

No requirements.

6.2.1.1.2 Test suite files

None.

#### 6.2.1.1.3 Test Procedure

The constants in Java are resolved at compilation time, therefore a runtime test is not useful. No test of constants will be performed.

## 6.2.2 Interface ToolkitInterface

# 6.2.2.1 Method processToolkit

Test Area Reference: API\_2\_TKI\_PRTKB

#### 6.2.2.1.1 Conformance Requirement:

The method with following prototype shall be compliant to its definition in the API.

 $\begin{array}{c} {\tt public \ void \ processToolkit(byte \ event)} \\ {\tt throws \ \underline{ToolkitException}} \end{array}$ 

## 6.2.2.1.1.1 Normal execution

- CRRN1: This interface must be implemented by a Toolkit applet (which extends the javacard.framework.Applet class) so that it can be triggered by the Toolkit Handler according to the registration information.
- CRRN2: The Toolkit applet will have to implement the processToolkit shared method so that the following
  events can be notified:

Event	Description	
EVENT_PROFILE_DOWNLOAD	Terminal Profile command reception	
EVENT_FORMATTED_SMS_PP_ENV	Formatted envelope SMS-PP Data Download	
	reception	
EVENT_FORMATTED_SMS_PP_UPD	Formatted Update Record EF SMS	
EVENT_FORMATTED_SMS_CB	Formatted envelope Cell Broadcast Data	
	Download command reception	
EVENT_UNFORMATTED_SMS_PP_ENV	Unformatted Envelope SMS-PP Data Download	
	reception	
EVENT_UNFORMATTED_SMS_PP_UPD	Unformatted Update Record EF SMS	
EVENT_UNFORMATTED_SMS_CB	Unformatted Cell Broadcast Data Download	
	command reception	
EVENT_MENU_SELECTION	Envelope Menu Selection command reception	
EVENT_MENU_SELECTION_HELP_REQUEST	Envelope Menu Selection Help Request	
	command reception	
EVENT_CALL_CONTROL_BY_SIM	Envelope Call Control by SIM command reception	

Event	Description	
EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM	Envelope MO Short Message Control by SIM	
	command reception	
EVENT_TIMER_EXPIRATION	Envelope Timer Expiration	
EVENT_EVENT_DOWNLOAD_MT_CALL	Envelope Event Download - MT call	
EVENT_EVENT_DOWNLOAD_CALL_CONNECTED	Envelope Event Download - Call connected	
EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED	Event Download - Call disconnected	
EVENT_EVENT_DOWNLOAD_LOCATION_STATUS	Envelope Event Download - Location status	
EVENT_EVENT_DOWNLOAD_USER_ACTIVITY	Envelope Event Download - User activity	
EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE	Envelope Event Download - Idle screen available	
EVENT_EVENT_DOWNLOAD_CARD_READER_STATUS	Envelope Event Download - Card Reader Status	
EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION	Envelope Event Download - Language Selection	
EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION	Envelope Event Download - Browser Termination	
EVENT_EVENT_DOWNLOAD_DATA_AVAILABLE	Envelope Event Download - Data Available	
EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS	Envelope Event Download - Channel Status	
EVENT_FIRST_COMMAND_AFTER_SELECT	First command performed after select GSM	
	application or ATR	
EVENT_STATUS_COMMAND	Status APDU command event	
EVENT_UNRECOGNIZED_ENVELOPE	Unrecognized Envelope command reception	

6.2.2.1.1.2 Parameters error

No requirements.

6.2.2.1.1.3 Context errors

No requirements.

6.2.2.1.2 Test suite files

The method is tested in the Framework.

## 6.2.2.1.3 Test Coverage

CRR number	Test case number
N1	Tested in Framework
N2	Tested in Framework

# 6.2.3 Class EditHandler

It is not possible to test the methods provided by this class as it is declared 'abstract'; it will be done in the class inheriting it: EnvelopeResponseHandler, ProactiveHandler.

# 6.2.4 Class EnvelopeHandler

# 6.2.4.1 Method getEnvelopeTag

Test Area Reference: API\_2\_ENH\_GENT

## 6.2.4.1.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

public byte getEnvelopeTag()

# 6.2.4.1.1.1 Normal execution

• CRRN1: The method shall return the Envelope BER-TLV tag.

• CRRN2: The Envelope BER TAG is available for all triggered toolkit applets from the invocation to the termination of their processToolkit method if the EnvelopeHandler is available.

6.2.4.1.1.2 Parameters error

No requirements.

6.2.4.1.1.3 Context errors

No requirements.

6.2.4.1.2 Test suite files

Test Script: API\_2\_ENH\_GENT\_1.scr

Test Applet: API\_2\_ENH\_GENT\_1.java

Load Script: API\_2\_ENH\_GENT\_1.ldr

Cleanup Script: API\_2\_ENH\_GENT\_1.clr

Parameter File: API\_2\_ENH\_GENT\_1.par

## 6.2.4.1.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
	getEnvelopeTag called just after triggering of the application.	Returns 0xD1	
	getEnvelopeTag called after a proactive command.	Returns 0xD1	
	getEnvelopeTag called after a second proactive command.	Returns 0xD1	

#### 6.2.4.1.4 Test Coverage

CRR number	Test case number
N1	1, 2, 3
N2	1, 2, 3

# 6.2.4.2 Method getItemIdentifier

Test Area Reference: API\_2\_ENH\_GIID

## 6.2.4.2.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

# 6.2.4.2.1.1 Normal execution

- CRRN1:The method shall return the item identifier byte value.
- CRRN2:The item identifier byte value returned shall be from the first Item Identifier TLV element.
- CRRN3: If the element is available it becomes the TLV selected.
- CRRN4: The item identifier is available for all triggered toolkit applets from the invocation to the termination of their processToolkit method if the EnvelopeHandler is available.

# 6.2.4.2.1.2 Parameters error

No requirements.

## 6.2.4.2.1.3 Context errors

- CRRC1: The method shall throw ToolkitException (UNAVAILABLE\_ELEMENT) if the item identifier TLV is not present.
- CRRC2: The method shall throw ToolkitException (OUT\_OF\_TLV\_BOUNDARIES) if the item identifier byte is missing in the Item Identifier Simple TLV.

## 6.2.4.2.2 Test suite files

Test Script: API\_2\_ENH\_GIID\_1.scr

Test Applet: API\_2\_ENH\_GIID\_1.java

Load Script: API\_2\_ENH\_GIID\_1.ldr

Cleanup Script: API\_2\_ENH\_GIID\_1.clr

Parameter File: API\_2\_ENH\_GIID\_1.par

# 6.2.4.2.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	Send envelope SMS-PP Formatted with item	Returns 03	
	identifier TLV and identifier value of 03		
2	Send envelope SMS-PP Formatted with two item	Returns FF	
	identifier TLV with first value FF and second 44		
3	Send envelope SMS-PP Formatted with two item	Returns 81	
	identifier TLV with first value 81 and second 44,	Returns 81	
	call twice the method getItemIdentifier		
4	Send envelope SMS-PP Formatted with item	getItemIdentifier=getValueByte	
	identifier TLV and value of 66. FindTLV with TAG		
	02. getItemIdentifier and then getValueByte with		
	offset 0		
5	Send envelope SMS-PP Formatted without item	ToolkitException	
	identifier TLV and getItemIdentifier	(UNAVAILABLE_ELEMENT)	
6	Send Envelope SMS-PP Formatted with item	Returns 66	
	identifier TLV (66), send proactive command. Then		
	getItemIdentifier		
7	Send Envelope SMS-PP Formatted with item	ToolkitException	
	identifier TLV but without item number	(OUT_OF_TLV_BOUNDARIES)	

## 6.2.4.2.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3	
N2	2, 3	
N3	4	
N4	6	
C1	5	
C2	7	

# 6.2.4.3 Method getSecuredDataLength

Test Area Reference: API\_2\_ENH\_GSDL

## 6.2.4.3.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.3.1.1 Normal execution

- CRRN1: The method shall return the length of the Secured Data from the Command Packet in the SMS TPDU (simple or concatenated) or Cell Broadcast Page Simple TLV contained in the Envelope handler.
- CRRN2: The length is from the first SMS TPDU TLV or Cell Broadcast Page Simple TLV.
- CRRN3: The length should not include padding bytes.
- CRRN4: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_ENV and if the SMS TP-UD is formatted according to 3GPP TS 23.048 [8].
- CRRN5: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_UPD and if the SMS TP-UD is formatted according to 3GPP TS 23.048 [8].
- CRRN6: The method can be used if the event is EVENT\_FORMATTED\_SMS\_CB and if the Cell Broadcast Page is formatted according to 3GPP TS 23.048 [8].
- CRRN7: If the method is successful and if the event is EVENT\_FORMATTED\_SMS\_PP\_ENV, the selected TLV should be the SMS TPDU TLV.
- CRRN8: If the method is successful and if the event is EVENT\_FORMATTED\_SMS\_PP\_UPD, the selected TLV should be the SMS TPDU TLV.
- CRRN9: If the method is successful and if the event is EVENT\_FORMATTED\_SMS\_CB, the selected TLV should be the Cell Broadcast Page TLV.

#### 6.2.4.3.1.2 Parameters error

No requirements.

#### 6.2.4.3.1.3 Context errors

- CRRC1: The method shall thrown ToolkitException (UNAVAILABLE\_ELEMENT) in case of unavailable SMS TPDU TLV element or Cell Broadcast Page Simple TLV.
- CRRC2: The method shall thrown ToolkitException (UNAVAILABLE\_ELEMENT) in case of wrong data format.

#### 6.2.4.3.2 Test suite files

Specific triggering:

- FORMATTED SMS CB.
- UNFORMATTED SMS CB.
- FORMATTED SMS PP UPD.
- UNFORMATED SMS PP ENV.
- For Formatted triggering if CC/RC/DS is used, the security parameters are the one used for downloading applications.

Test Script: API\_2\_ENH\_GSDL\_1.scr
Test Applet: API\_2\_ENH\_GSDL\_1.java
Load Script: API\_2\_ENH\_GSDL\_1.ldr
Cleanup Script: API\_2\_ENH\_GSDL\_1.clr

Parameter File: API\_2\_ENH\_GSDL\_1.par

6.2.4.3.3 Test procedure

ld	Description	API Expectation	APDU Expectation
	FORMATTED SMS PP ENV Triggering		

ld	Description	API Expectation	APDU Expectation
1	Test with FORMATTED_SMS_PP_ENV and TP-	Returns 0x002A	APDO Expectation
'	OA length of 2	Returns 0x002A	
2	Test with TP-OA length of 6	Returns 0x002A	
3	Test with TP-OA length of 12	Returns 0x002A	
4	Test with RC/CC/DS length of 0	Returns 0x0010	
5	Test with RC/CC/DS length of 8	Returns 0x0010	
6	Test with PCNTR = 0	Returns 0x0010	
7	Test with PCNTR = 7	Returns 0x0005	
8	Test with Secured Data Length = 00	Returns 0x0000	
9	Test with Secured Data Length = 0x33	Returns 0x0033	
10	Test with Secured Data Length = 0x6C (UDL = 0x7F)	Returns 0x006C	
11	Test with Secured Data Length = 0x6D (UDL = 0x80)	Returns 0x006D	
	Test with Secured Data Length = maximum length for one envelope : 0x79 (UDL = 0x8C)	Returns 0x0079	
13	Verify it is the first TPDU TLV: Send a SMS PP with 2 TPDU TLV and inside two different secured data lengths: 5 and 10	Returns 0x0005	
	Test with secured data length = 0x7F (2 concatenated envelopes are needed)	Returns 0x007F	
	Test with secured data length = 0x80 (2 concatenated envelopes are needed)	Returns 0x0080	
	Test with secured data length = maximum length for 2 concatenated envelopes : 0xFA	Returns 0x00FA	
17	Test with FORMATTED_SMS_PP_ENV Verify after call of the method the current TLV is the TPDU TLV:	getValueByte returns 0x0040	
	findTLV device identities, getSecuredDataLength and then getValueByte to verify that the current TLV is the TPDU TLV		
	FORMATTED SMS PP UPD Triggering		
	Same test as 1 but with FORMATTED_SMS_PP_UPD	Returns 0x002A	
19	Same test as 2 but with FORMATTED_SMS_PP_UPD	Returns 0x002A	
20	Same test as 3 but with FORMATTED_SMS_PP_UPD	Returns 0x002A	
	Same test as 4 but with FORMATTED_SMS_PP_UPD	Returns 0x0010	
	Same test as 5 but with FORMATTED_SMS_PP_UPD	Returns 0x0010	
	Same test as 6 but with FORMATTED_SMS_PP_UPD	Returns 0x0010	
	Same test as 7 but with FORMATTED_SMS_PP_UPD	Returns 0x0005	
	Same test as 8 but with FORMATTED_SMS_PP_UPD	Returns 0x0000	
	Same test as 9 but with FORMATTED_SMS_PP_UPD	Returns 0x0033	
	Same test as 10 but with FORMATTED_SMS_PP_UPD	Returns 0x006C	
	Same test as 11 but with FORMATTED_SMS_PP_UPD	Returns 0x006D	
	Same test as 12 but with FORMATTED_SMS_PP_UPD	Returns 0x0079	
	Same test as 13 but with FORMATTED_SMS_PP_UPD	Returns 0x0005	
31	Test with secured data length = 0x7F (2 concatenated envelopes are needed)	Returns 0x007F	
	Test with secured data length = 0x80 (2 concatenated envelopes are needed)	Returns 0x0080	
	Test with secured data length = maximum length for 2 concatenated envelopes: 0xFA	Returns 0x00FA	
34	Test with FORMATTED_SMS_PP_UPD Verify after call of the method the current TLV is	getValueByte returns 0x0040	

ld	Description	API Expectation	APDU Expectation
	the TPDU TLV:		
	findTLV device identities, getSecuredDataLength		
	and then getValueByte to verify that the current		
	TLV is the TPDU TLV		
	FORMATTED SMS CB Triggering		
35	Same test as 4 but with FORMATTED_SMS_CB	Returns 0x0010	
36	Same test as 5 but with FORMATTED_SMS_CB	Returns 0x0010	
37	Same test as 6 but with FORMATTED_SMS_CB	Returns 0x0010	
38	Same test as 7 but with FORMATTED_SMS_CB	Returns 0x0005	
39	Same test as 8 but with FORMATTED_SMS_CB	Returns 0x0000	
40	Same test as 9 but with FORMATTED_SMS_CB	Returns 0x0033	
41	Same test as 12 but with maximum secured data	Returns 0x0042	
	length: 0x42, and FORMATTED_SMS_CB		
42	Test with FORMATTED_SMS_CB	getValueByte returns 0x00	
	Verify after call of the method the current TLV is		
	the Cell Broadcast Page TLV:		
	findTLV device identities, getSecuredDataLength		
	and then getValueByte to verify that the current		
	TLV is the Cell Broadcast Page TLV		
	Error tests		
43	Send an envelope SMS CB,	ToolkitException	
	getSecuredDataLength	UNAVAILABLE_ELEMENT	
44	Send an envelope SMS PP unformatted	ToolkitException	
		UNAVAILABLE_ELEMENT	

# 6.2.4.3.4 Test Coverage

CRR number	Test case number	
N1	1 to 42	
N2	13, 30	
N3	6, 7, 23, 24, 37, 38	
N4	1 to 17	
N5	18 to 34	
N6	35 to 42	
N7	17	
N8	34	
N9	42	
C1	43	
C2	44	

# 6.2.4.4 Method getSecuredDataOffset

Test Area Reference: API\_2\_ENH\_GSDO

# 6.2.4.4.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

# 6.2.4.4.1.1 Normal execution

- CRRN1: The method shall return the offset of the secured data first byte contained in a SMS TPDU TLV.
- CRRN2: The offset is from the first SMS TPDU TLV.

- CRRN3: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_ENV and if the SMS TP-UD is formatted according to 3GPP TS 23.048 [8].
- CRRN4: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_UPD and if the SMS TP-UD is formatted according to 3GPP TS 23.048 [8].
- CRRN5: The method can be used if the event is EVENT\_FORMATTED\_SMS\_CB and if the Cell Broadcast Page is formatted according to 3GPP TS 23.048 [8].
- CRRN6: If the method is successful and if the event is EVENT\_FORMATTED\_SMS\_PP\_ENV, the selected TLV should be the SMS TPDU TLV.
- CRRN7: If the method is successful and if the event is EVENT\_FORMATTED\_SMS\_PP\_UPD, the selected TLV should be the SMS TPDU TLV.
- CRRN8: If the method is successful and if the event is EVENT\_FORMATTED\_SMS\_CB, the selected TLV should be the Cell Broadcast Page TLV.
- CRNN9: If the Secured Data length is zero the value returned shall be the offset of the first byte following the 3GPP TS 23.048 [8] Command Packet structure.

#### 6.2.4.4.1.2 Parameters error

No requirements.

#### 6.2.4.4.1.3 Context errors

- CRRC1: The method shall thrown ToolkitException (UNAVAILABLE\_ELEMENT) in case of unavailable SMS TPDU TLV element.
- CRRC2: The method shall thrown ToolkitException (UNAVAILABLE\_ELEMENT) in case of wrong data format.

#### 6.2.4.4.2 Test suite files

Specific triggering:

- FORMATTED SMS CB.
- UNFORMATTED SMS CB.
- FORMATTED SMS PP UPD.
- UNFORMATED SMS PP ENV.
- For Formatted triggering if CC/RC/DS is used, the security parameters are the one used for downloading applications.

Test Script: API\_2\_ENH\_GSDO\_1.scr

Test Applet: API\_2\_ENH\_GSDO\_1.java

Load Script: API\_2\_ENH\_GSDO\_1.ldr

Cleanup Script: API\_2\_ENH\_GSDO\_1.clr

Parameter File: API\_2\_ENH\_GSDO\_1.par

#### 6.2.4.4.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
	FORMATTED SMS PP ENV triggering		

ld	Description	API Expectation	APDU Expectation
1	Test with TP-OA length of 2 and RC/CC/DS length		
	is 0		
2	Test with TP-OA length of 6 and RC/CC/DS length is 0	Returns 0x23	
3	Test with TP-OA length of 12 and RC/CC/DS length is 0	Returns 0x26	
4	Test with RC/CC/DS length of 0 and TP-OA length is 2	Returns 0x21	
5	Test with RC/CC/DS length of 8 and TP-OA length is 2	Returns 0x29	
6	Send a SMS PP with 2 TPDU TLV and inside two different secured data offsets	Returns 0x24 ( the first offset )	
7	Same test as 1 but without any secured data	Returns 0x21	
8	Test with FORMATTED_SMS_PP ENV Verify after call of the method the current TLV is the TPDU TLV: findTLV device identities, getSecuredDataOffset	Returns 0x40	
	and then getValueByte to verify that the current TLV is the TPDU TLV		
9	Same test as 1, but with a concatenated SMS (2 Short Messages and maximum Secured Data Length = 0x00FA)	Returns 0x21	
	FORMATTED SMS PP UPR triggering		
	Same test as 1 but with FORMATTED_SMS_PP_UPD	Returns 0x21	
	Same test as 2 but with FORMATTED_SMS_PP_UPD	Returns 0x23	
	Same test as 3 but with FORMATTED_SMS_PP_UPD	Returns 0x26	
13	Same test as 4 but with FORMATTED_SMS_PP_UPD	Returns 0x21	
14	Same test as 5 but with FORMATTED_SMS_PP_UPD	Returns 0x29	
15	Same test as 6 but with FORMATTED_SMS_PP_UPD	Returns 0x24 ( the first offset )	
16	Same test as 7 but with FORMATTED_SMS_PP_UPD	Returns 0x21	
17	Test with FORMATTED_SMS_PP UPD Verify after call of the method the current TLV is the TPDU TLV: findTLV device identities, getSecuredDataOffset and then getValueByte to verify that the current TLV is the TPDU TLV	Returns 0x40	
18	Same test as 10, but with a concatenated SMS (2 Short Messages and maximum Secured Data Length = 0x00FA)	Returns 0x21	
	FORMATTED SMS CB triggering		
	Same test as 4 but with FORMATTED_SMS_CB	Returns 0x16	
	Same test as 5 but with FORMATTED_SMS_CB	Returns 0x1E	
	Same test as 7 but with FORMATTED_SMS_CB Test with FORMATTED_SMS_CB	Returns 0x16 Returns 0x00	
22	Verify after call of the method the current TLV is the Cell Broadcast Page TLV: findTLV device identities, getSecuredDataOffset and then getValueByte to verify that the current TLV is the Cell Broadcast Page TLV  UNFORMATTED Triggering	Returns 0x00	
23	Send an UNFORMATTED SMS CB envelope,	ToolkitException	
	getSecuredDataOffset	UNAVAILABLE_ELEMENT	
24	Send an UNFORMATTED SMS PP envelope, getSecuredDataOffset	ToolkitException UNAVAILABLE_ELEMENT	

# 6.2.4.4.4 Test Coverage

CRR number	Test case number	
N1	1 to 22.	
N2	6, 15.	
N3	1 to 9.	
N4	10 to 18.	
N5	19, 20, 21, 22	
N6	8	
N7	17	
N8	22	
N9	7, 16, 21.	
C1	23	
C2	24	

# 6.2.4.5 Method getTheHandler

Test Area Reference: API\_2\_ENH\_GTHD

## 6.2.4.5.1 Conformance Requirements

The method with following header shall be compliant to its definition in the API.

## 6.2.4.5.1.1 Normal execution

- CRRN1: The method shall return the single system instance of the EnvelopeHandler class.
- CRRN2: The EnvelopeHandler is a Temporary JCRE Entry Point Object ( see Javacard 2.1 Runtime Environment (JCRE) Specification [12])

# 6.2.4.5.1.2 Parameters error

No requirements.

## 6.2.4.5.1.3 Context errors

• CRRC1: The method shall thrown ToolkitException (HANDLER\_NOT\_AVAILABLE) if the handler is busy.

## 6.2.4.5.2 Test suite files

Test Script: API\_2\_ENH\_GTHD\_1.scr
Test Applet: API\_2\_ENH\_GTHD\_1.java
Load Script: API\_2\_ENH\_GTHD\_1.ldr
Cleanup Script: API\_2\_ENH\_GTHD\_1.clr
Parameter File: API\_2\_ENH\_GTHD\_1.par

#### 6.2.4.5.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	getTheHandler twice	The returned objects shall be the	
		same	
2	Verify that getTheHandler returns an	The reference returned shall be an	
	EnvelopeHandler	EnvelopeHandler (check cast)	
	GetTheHandler		
3	Verify the returned value is not null	The reference returned shall not be	
	GetTheHandler	null.	

## 6.2.4.5.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3	
N2	Checked in Framework tests: FWK_API_HEPO (test case 1)	
C1	Checked in Framework tests: FWK_MHA_ENHD	

# 6.2.4.6 Method getTPUDLOffset

Test Area Reference: API\_2\_ENH\_GTPO

#### 6.2.4.6.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.6.1.1 Normal execution

- CRRN1: The method shall return the TPUDL offset in a SMS TPDU TLV.
- CRRN2: The offset is from the first SMS TPDU TLV.
- CRRN3: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_ENV.
- CRRN4: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_UPD.
- CRRN5: The method can be used if the event is EVENT\_UNFORMATTED\_SMS\_PP\_ENV.
- $\bullet \quad CRRN6: The \ method \ can \ be \ used \ if \ the \ event \ is \ EVENT\_UNFORMATTED\_SMS\_PP\_UPD.$
- CRRN7: If the method is successful, the selected TLV should be the SMS TPDU TLV.

## 6.2.4.6.1.2 Parameters error

No requirements.

#### 6.2.4.6.1.3 Context errors

- CRRC1: The method shall thrown ToolkitException (UNAVAILABLE\_ELEMENT) in case of unavailable SMS TPDU TLV element.
- CRRC2: The method shall thrown ToolkitException (UNAVAILABLE\_ELEMENT) if the TPUDL field does
  not exist.

#### 6.2.4.6.2 Test suite files

Specific triggering:

- FORMATTED SMS PP UPD.
- UNFORMATTED SMS PP UPD.
- UNFORMATTED SMS PP ENV.
- UNFORMATTED SMS CB.

Test Script: API\_2\_ENH\_GTPO\_1.scr

Test Applet: API\_2\_ENH\_GTPO\_1.java

Load Script: API\_2\_ENH\_GTPO\_1.ldr

Cleanup Script: API\_2\_ENH\_GTPO\_1.clr

Parameter File: API\_2\_ENH\_GTPO\_1.par

6.2.4.6.3 Test procedure

ld	Description	API Expectation	APDU Expectation
	FORMATTED SMS PP ENV triggering	•	•
1	Test with TP-OA length of 2	Returns 0x0D	
2	Test with TP-OA length of 6	Returns 0x0F	
3	Test with TP-OA length of 12	Returns 0x12	
4	Send a SMS PP with 2 TPDU TLV and inside two	Returns 0x10 (the first offset)	
	different UDL offsets		
5	Same test as 1, but with a concatenated SMS (2	Returns 0x0D	
	Short Messages and maximum Secured Data		
	Length = 0x00FA)		
6	Verify after call of the method the current TLV is the	Returns 0x40	
	TPDU TLV:		
	findTLV device identities, getTPUDLOffset and then getValueByte to verify that the current TLV is the		
	TPDU TLV		
	FORMATTED SMS PP UPD triggering		
7	Same test as 1 but with	Returns 0x0D	
	FORMATTED_SMS_PP_UPD		
8	Same test as 2 but with	Returns 0x0F	
	FORMATTED_SMS_PP_UPD		
9	Same test as 3 but with	Returns 0x12	
	FORMATTED_SMS_PP_UPD		
10	Same test as 4 but with	Returns 0x10 (the first offset)	
	FORMATTED_SMS_PP_UPD		
11	Same test as 7, but with a concatenated SMS (2	Returns 0x0D	
	Short Messages and maximum Secured Data		
	Length = 0x00FA) UNFORMATTED SMS PP UPD triggering		
12	Same test as 1 but with	Returns 0x0D	
12	UNFORMATTED_SMS_PP_UPD	TREMINS OXOD	
13	Same test as 2 but with	Returns 0x0F	
	UNFORMATTED_SMS_PP_UPD		
14	Same test as 3 but with	Returns 0x12	
	UNFORMATTED_SMS_PP_UPD		
15	Same test as 4 but with	Returns 0x12 (the first offset)	
	UNFORMATTED_SMS_PP_UPD		
16	Same test as 12, but with a concatenated SMS (2	Returns 0x0D	
	Short Messages and maximum User Data Length =		
	0x010C)		
17	UNFORMATTED SMS PP ENV triggering	Poturno 0v0D	
17	Same test as 1 but with UNFORMATTED_SMS_PP_ENV	Returns 0x0D	
18	Same test as 2 but with	Returns 0x0F	
10	UNFORMATTED_SMS_PP_ENV	TOTALING ONO!	
19	Same test as 3 but with	Returns 0x12	
	UNFORMATTED_SMS_PP_ENV		
20	Same test as 4 but with	Returns 0x10 (the first offset)	
	UNFORMATTED_SMS_PP_ENV	,	
21	Same test as 17, but with a concatenated SMS (2	Returns 0x0D	
	Short Messages and maximum User Data Length =		
	0x010C)		
	SMS CB triggering		
22	Send an envelope SMS CB, getTPUDLOffset	ToolkitException	
		UNAVAILABLE_ELEMENT	

#### 6.2.4.6.4 Test Coverage

CRR number	Test case number
N1	1 to 21.
N2	4, 10, 15, 20.
N3	1, 2, 3, 4, 5, 6
N4	7, 8, 9, 10, 11
N5	12, 13, 14, 15, 16
N6	17, 18, 19, 20, 21
N7	6
C1	22
C2	Not applicable

## 6.2.4.7 Method getLength

Test Area Reference: API\_2\_ENH\_GLEN

## 6.2.4.7.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.7.1.1 Normal execution

• CRRN1: returns the length in bytes of the TLV list.

#### 6.2.4.7.1.2 Parameter Error

No requirements.

#### 6.2.4.7.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

#### 6.2.4.7.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_GLEN\_1.scr

Test Applet: API\_2\_ENH\_GLEN\_1.java

Load Script: API\_2\_ENH\_GLEN\_1.ldr

Cleanup Script: API\_2\_ENH\_GLEN\_1.clr

Parameter File: API\_2\_ENH\_GLEN\_1.par

#### 6.2.4.7.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	Send an envelope SMS PP with BER length of 0x31	Result of getLength() is 0x0031	
2	Send an envelope SMS PP with BER length of 0x7F	Result of getLength() is 0x007Fh	
3	Send an envelope SMS PP with BER length of 81 80	Result of getLength() is 0x0080h	
4	Send an envelope SMS PP with BER length of 81 FC (maximum length for a single SMS)	Result of getLength() is 0x00FCh	
5	Send formatted SMS with BER length of 0x00FF, using 2 concatenated SMS	Result of getLength() is 0x00FFh	

	6	Send formatted SMS with BER length of 0x0100,	Result of getLength() is 0x0100h	
		using 2 concatenated SMS		
Г	7	Send formatted SMS with maximum user data length	Result of getLength() is 0x012Fh	
		(0x10D) (BER length:0x012F), using 2 concatenated		
		SMS		

#### 6.2.4.7.4 Test Coverage

CRR number	Test case number
N1	1, 2, 3, 4, 5, 6, 7
C1	Does not apply for
	EnvelopeHandler

## 6.2.4.8 Method copy

Test Area Reference: API\_2\_ENH\_COPY\_BSS

#### 6.2.4.8.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.8.1.1 Normal execution

- CRRN1: copies the simple TLV list contained in the handler to the destination byte array.
- CRRN2: returns dstOffset + dstLength.

#### 6.2.4.8.1.2 Parameter errors

- CRRP1: if dstBuffer is null a NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative, an ArrayIndexOutOfBoundsException is thrown.
- CRRP3: if dstLength is grater than the length of the simple TLV List, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException. OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.4.8.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.4.8.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_COPY\_BSS\_1.scr
Test Applet: API\_2\_ENH\_COPY\_BSS\_1.java
Load Script: API\_2\_ENH\_COPY\_BSS\_1.ldr
Cleanup Script: API\_2\_ENH\_COPY\_BSS\_1.clr
Parameter File: API\_2\_ENH\_COPY\_BSS\_1.par

## 6.2.4.8.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	NULL as parameter to dstBuffer	NullPointerException is thrown	
	•	'	
2	dstOffset ≥ dstBuffer.length	ArrayIndexOutOfBoundsException is	
	dstBuffer.length = 5	thrown	
	dstOffset = 5		
	dstLength = 1	A	
3	<pre>dstOffset &lt; 0 dstBuffer.length = 5</pre>	ArrayIndexOutOfBoundsException is	
	dstOffset = -1	thrown	
	dstLength = 1		
4	dstLength > dstBuffer.length	ArrayIndexOutOfBoundsException is	
	dstBuffer.length = 5	thrown	
	dstOffset = 0		
	dstLength = 6		
5	DstOffset + dstLength > dstBuffer.length	ArrayIndexOutOfBoundsException is	
	DstBuffer.length = 5 DstOffset = 3	thrown	
	DstLength = 3		
6	dstLength < 0	ArrayIndexOutOfBoundsException is	
	dstBuffer.length = 5	thrown	
	dstOffset = 0		
	dstLength = -1		
7	DstLength > length of the simple TLV list	ToolkitException.OUT_OF_TLV_BO	
	DstBuffer.length = 48 DstOffset = 0	UNDARIES is thrown	
	DstLength = 48		
8	Successful call, dstBuffer is the whole buffer	Result of copy() is 0X0047	
	DstBuffer.length = 47	result of sopy() to oxide in	
	DstOffset = 0		
	DstLength = 47		
9	Compare the buffer	Result of arrayCompare() is 0	
10	Successful call, dstBuffer is part of a buffer	Result of copy() is 0X0032	
	DstBuffer.length = 50		
	dstOffset = 3 dstLength = 47		
11	Compare the whole buffer	Result of arrayCompare() is 0	
12	Successful call, dstBuffer is part of a buffer	Result of copy() is 0X0009	
12	dstBuffer.length = 15	result of copy() is oxocos	
	dstOffset = 3		
	dstLength = 6		
13	Compare the whole buffer	Result of arrayCompare() is 0	
14	Successful call, dstBuffer is part of a buffer	Result of copy() is 0X0104	
	dstBuffer.length = 260		
	dstOffset = 257 dstLength = 3		
15	Compare the whole buffer	Result of arrayCompare() is 0	
16	Successful call, copy with length =0	Result of copy() is 0x104	
'0	dstBuffer.length = 260	Trocalt of copy() to ox for	
	dstOffset = 260		
	dstLength = 0		
	Send a Formatted SMS PP with the maximum		
	user data length = 0x010D, using 2		
	concatenated envelopes		
17	Successful call, copy with length =299	Result of copy() is 0x12B	
	dstBuffer.length = 299		
	dstOffset = 0		
L	dstLength = 299		

# 6.2.4.8.4 Test Coverage

CRR number	Test case number
N1	9, 11, 13, 15
N2	8, 10, 12, 14, 16, 17
P1	1
P2	2, 3, 4, 5, 6
P3	7
C1	Does not apply for EnvelopeHandler

#### 6.2.4.9 Method findTLV

Test Area Reference: API\_2\_ENH\_FINDBB

#### 6.2.4.9.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.9.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of the TLV list (handler buffer):

- CRRN1: the method is successful if the required occurrence exists then the corresponding TLV becomes current.
- CRRN2: if the method is successful then it returns TLV\_FOUND\_CR\_SET when Comprehension Required flag is set.
- CRRN3: if the method is successful then it returns TLV\_FOUND\_CR\_NOT\_SET when Comprehension Required flag is not set.
- CRRN4: if the required occurrence of the TLV element does not exist, the current TLV is no longer defined and TLV\_NOT\_FOUND is returned.
- CRRN5: The search method is comprehension required flag independent.

#### 6.2.4.9.1.2 Parameter errors

• CRRP1: if an input parameter is not valid (e.g. occurrence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException BAD\_INPUT\_PARAMETER.

#### 6.2.4.9.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.4.9.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_FINDBB\_1.scr

Test Applet: API\_2\_ENH\_FINDBB\_1.java

Load Script: API\_2\_ENH\_FINDBB\_1.ldr

Cleanup Script: API\_2\_ENH\_FINDBB\_1.clr

Parameter File: API\_2\_ENH\_FINDBB\_1.par

#### 6.2.4.9.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
	Trig the applet with SMS PP including one more tag 02 and one TAG 04		
1	Invalid input parameter  Occurrence = 0	ToolkitException.BAD_INPUT_PA	
2	Search 1 <sup>st</sup> TLV	Result is TLV FOUND CR SET	
	Tag = 02h	Result is TEV_FOUND_CR_SET	

ld	Description	API Expectation	APDU Expectation
	Occurrence = 1	·	•
3	Call the getValueLength() method	Result is 0x02	
4	Search 2 <sup>nd</sup> TLV	Result is TLV_FOUND_CR_SET	
	Tag = 06h		
	Occurrence = 1		
5	Call the getValueLength() method	Result is 0x05h	
6	Select a TLV (tag 02h)		
	Search a wrong tag	Result is TLV_NOT_FOUND	
	Tag = 03h		
	Occurrence = 1		
7	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown.	
8	Search a tag with wrong occurrence	Result is TLV_NOT_FOUND	
	Tag = 02h		
_	Occurrence = 3	T 11 11 11 11 11 11 11 11 11 11 11 11 11	
9	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown.	
10	Search the TLV	Result is	
	Tag = 02h	TLV_FOUND_CR_NOT_SET	
11	Occurrence = 2  Search the TLV	Result is	
111	Tag = 04h	TLV FOUND CR NOT SET	
	Occurrence = 1	TEV_FOUND_CK_NOT_SET	
12	Search tag 86h	Result is TLV_FOUND_CR_SET	
'-	Tag = 86h		
	Occurrence = 1		
13	Search tag 84h	Result is	
	Tag = 84h	TLV_FOUND_CR_NOT_SET	
	Occurrence = 1		

#### 6.2.4.9.4 Test Coverage

CRR number	Test case number
N1	3, 5
N2	2, 4
N3	10, 11
N4	6, 7, 8, 9
N5	12, 13
P1	1
C1	Does not apply for EnvelopeHandler

## 6.2.4.10 Method getValueLength

Test Area Reference: API\_2\_ENH\_GVLE

## 6.2.4.10.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.10.1.1 Normal execution

• CRRN1: gets and returns the binary length of the value field for the last TLV element which has been found in the handler.

#### 6.2.4.10.1.2 Parameter errors

No requirements.

#### 6.2.4.10.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

#### 6.2.4.10.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_GVLE\_1.scr

Test Applet: API\_2\_ENH\_GVLE\_1.java

Load Script: API\_2\_ENH\_GVLE\_1.ldr

Cleanup Script: API\_2\_ENH\_GVLE\_1.clr

Parameter File: API\_2\_ENH\_GVLE\_1.par

#### 6.2.4.10.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
	Fill the SMS PP with TLV: Tag 33, Length C8		
1	getValueLength()	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	
2	Search TLV 02h		
	getValueLength()	Result is 0X0002	
3	Search TLV 0Bh		
	getValueLength()	Result is 0X0024	
4	Search TLV 33h		
	getValueLength()	Result is 0X00C8	
	Send Formatted SMS PP with the maximum		
	user data length = 0x010D, using 2		
	concatenated envelopes		
5	Search SMS TPDU TAG		
	getValueLength()	Result is 0X0120	

#### 6.2.4.10.4 Test Coverage

CRR number	Test case number
N1	2, 3, 4, 5
C1	Does not apply for EnvelopeHandler
C2	1

#### 6.2.4.11 Method getValueByte

Test Area Reference: API\_2\_ENH\_GVBYS

#### 6.2.4.11.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

 $\label{eq:public_byte} \mbox{public byte getValueByte(short valueOffset)} \\ \mbox{throws ToolkitException}$ 

#### 6.2.4.11.1.1 Normal execution

• CRRN1: Gets a byte from the last TLV element which has been found in the handler and returns its value (1 byte).

#### 6.2.4.11.1.2 Parameter errors

• CRRP1: if valueOffset is out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.4.11.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

#### 6.2.4.11.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_GVBYS\_1.scr

Test Applet: API\_2\_ENH\_GVBYS\_1.java

Load Script: API\_2\_ENH\_GVBYS\_1.dr

Cleanup Script: API\_2\_ENH\_GVBYS\_1.clr

Parameter File: API\_2\_ENH\_GVBYS\_1.par

#### 6.2.4.11.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
	Fill the SMS PP with TLV: Tag 33, Length C8		-
	Value 01 02		
1	getValueByte(0)	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	
2	Search TLV 02h		
	getValueByte(2)	ToolkitException.OUT_OF_TLV_	
		BOUNDARIES is thrown	
3	Search TLV 02h		
	getValueByte(1)	Result is 0x81	
4	Search TLV 02h (Device Identities TLV)		
	getValueByte(0)	Result is 83h (Source)	
5	Search TLV 33h		
	getValueByte(7E)	Result is 0x7F	
6	Search TLV 33h		
	getValueByte(80)	Result is 0x81	
7	getValueByte(7F)	Result is 0x80	
8	Search TLV B3h		
	getValueByte(C7)	Result is 0xC8	
	Send Formatted SMS PP with the maximum		
	user data length = 0x010D, using 2		
	concatenated envelopes		
9	Search SMS TPDU TAG		
	getValueByte(0x011F)	Result is 0xFA	

## 6.2.4.11.4 Test Coverage

CRR number	Test case number
N1	3, 4, 5, 6, 7, 8, 9
P1	2
C1	Does not apply for EnvelopeHandler
C2	1

## 6.2.4.12 Method copyValue

Test Area Reference: API\_2\_ENH\_CPYVS\_BSS

#### 6.2.4.12.1 Conformance Requirement

The method with following header shall be compliant with its definition in the API.

#### 6.2.4.12.1.1 Normal execution

- CRRN1: copies a part of the last TLV element which has been found, into a destination. buffer.
- CRRN2: returns dstOffset + dstLength.

#### 6.2.4.12.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException is thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.4.12.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER NOT AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

#### 6.2.4.12.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_CPYVS\_BSS\_1.scr

Test Applet: API\_2\_ENH\_CPYVS\_BSS\_1.java

Load Script: API\_2\_ENH\_CPYVS\_BSS\_1.ldr

Cleanup Script: API\_2\_ENH\_CPYVS\_BSS\_1.clr

Parameter File: API\_2\_ENH\_CPYVS\_BSS\_1.par

## 6.2.4.12.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Search TLV 02h		
	copyValue() with a null dstBuffer	NullPointerException is thrown	
2	Search TLV 0Bh		
	dstOffset ≥ dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 5		
	dstLength = 1		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	

ld	Description	API Expectation	APDU Expectation
	dstBuffer.length = 5	n is thrown	
	<pre>dstOffset = -1 dstLength = 1</pre>		
4	dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	<pre>dstBuffer.length = 5 dstOffset = 0</pre>	n is thrown	
	dstLength = 6		
5	dstOffset + dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	<pre>dstBuffer.length = 5 dstOffset = 3</pre>	n is thrown	
	dstLength = 3		
6	dstLength < 0	ArrayIndexOutOfBoundsExceptio	
	<pre>dstBuffer.length = 5 dstOffset = 0</pre>	n is thrown	
	dstLength = -1		
7	Search TLV 06h		
	valueOffset ≥ TLV Length	ToolkitException.OUT_OF_TLV_	
	<pre>valueOffset = 6 dstBuffer.length = 15</pre>	BOUNDARIES is thrown	
	dstOffset = 0		
8	dstLength = 1  valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	valueOffset = -1	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0 dstLength = 1		
9	dstLength > TLV length	ToolkitException.OUT_OF_TLV_	
	<pre>valueOffset = 0 dstBuffer.length = 15</pre>	BOUNDARIES is thrown	
	dstBuffer.length = 15 dstOffset = 0		
	dstLength = 7		
10	valueOffset + dstLength > TLV length valueOffset = 2	ToolkitException.OUT_OF_TLV_	
	dstBuffer.length = 15	BOUNDARIES is thrown	
	dstOffset = 0		
11	dstLength = 5  Search TLV 01h		
	copyValue()	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown on the	
10	0	copyValue() method	
12	Search TLV 06h Successful call	Result of copyValue() is 0x0006	
	valueOffset = 0	Result of copy value() is 0x0000	
	dstBuffer.length = 6		
	<pre>dstOffset = 0 dstLength = 6</pre>		
13	Compare buffer	Result is 00h	
14	buffer = 81 11 22 33 44 F5 initialise dstBuffer		
14	dstBuffer = 55 55 55		
	Successful call	Result of copyValue() is 0x0007	
	<pre>valueOffset = 1 dstBuffer.length = 20</pre>		
	dstOffset = 3		
1-	dstLength = 4		
15	Compare buffer buffer =	Result is 00h	
	55 55 55 11 22		
	33 44 55 55 55 55 55 55 55 55		
L	55 55 55 55		
16	Successful call, copy with length =0	Result of copyValue() is 20	
	dstBuffer.length = 20 dstOffset = 20		
	dstLength = 0		
	Send Formatted SMS with the maximum user		
	data length = 0x010D, using 2 concatenated		
	envelopes		

ld	Description	API Expectation	APDU Expectation
17	Search SMS TPDU TAG		
	Successful call	Result of copyValue() is 0x010D	
	valueOffset = 0x11		
	dstBuffer.length = 0x010D		
	dstOffset = 0		
	dstLength = 0x010D		
18	Compare buffer	Result is 00h	
	buffer = 0348 header and secured data (01		
	FA)		
19	Initialise dstBuffer		
	dstBuffer = 55 55 55		
	Successful call	Result of copyValue() is 0x010D	
	valueOffset = 0x0111		
	dstBuffer.length = 0x010D		
	dstOffset = 0x0100		
	dstLength = 0x000D		
20	Compare buffer	Result is 00h	
	buffer =		
	55 55 55 55 55 55 55		
	55 55 EE EF F0 F1 F2 F3 F4 F5 F6 F7 F8 F9		
	FA		

#### 6.2.4.12.4 Test Coverage

CRR number	Test case number
N1	13, 15, 18, 20
N2	12, 14, 16, 17, 19
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for EnvelopeHandler
C2	11

## 6.2.4.13 Method compareValue

Test Area Reference: API\_2\_ENH\_CPRVS\_BSS

#### 6.2.4.13.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.13.1.1 Normal execution

Compares the last found TLV element with a buffer:

- CRRN1: returns 0 if identical.
- CRRN2: returns -1 if the first miscomparing byte in simple TLV List is less than that in compareBuffer.
- CRRN3: returns 1 if the first miscomparing byte in simple TLV List is greater than that in compareBuffer.

#### 6.2.4.13.1.2 Parameter errors

• CRRP1: if compareBuffer is null NullPointerException shall be thrown.

- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.4.13.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

#### 6.2.4.13.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_CPRVS\_BSS\_1.scr

Test Applet: API\_2\_ENH\_CPRVS\_BSS\_1.java

Load Script: API\_2\_ENH\_CPRVS\_BSS\_1.ldr

Cleanup Script: API\_2\_ENH\_CPRVS\_BSS\_1.clr

Parameter File: API\_2\_ENH\_CPRVS\_BSS\_1.par

#### 6.2.4.13.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Search TLV 02h	•	•
	compareValue() with a null compareBuffer	NullPointerException is thrown	
2	Search TLV 0Bh		
	<pre>compareOffset ≥ compareBuffer.length compareBuffer.length = 5 compareOffset = 5 compareLength = 1</pre>	ArrayIndexOutOfBoundsException is thrown	
3	<pre>compareOffset &lt; 0 compareBuffer.length = 5 compareOffset = -1 compareLength = 1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
4	<pre>compareLength &gt;compareBuffer.length compareBuffer.length = 5 compareOffset = 0 compareLength = 6</pre>	ArrayIndexOutOfBoundsException is thrown	
5	<pre>compareOffset + compareLength</pre>	ArrayIndexOutOfBoundsException is thrown	
6	<pre>compareLength &lt; 0 compareBuffer.length = 5 compareOffset = 0 compareLength = -1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
7	Search TLV 06h		
	<pre>valueOffset ≥ TLV Length valueOffset = 6 compareBuffer.length = 15 compareOffset = 0 compareLength = 1</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
8	<pre>valueOffset &lt; 0 valueOffset = -1 compareBuffer.length = 15 compareOffset = 0 compareLength = 1</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
9	<pre>compareLength &gt; TLV length valueOffset = 0</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	

ld	Description	API Expectation	APDU Expectation
iu	compareBuffer.length = 15	Al I Expectation	Al Do Expectation
	compareOffset = 0		
	compareLength = 7		
10	valueOffset + compareLength > TLV length	ToolkitException.OUT_OF_TLV_	
. •	valueOffset = 2	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	compareOffset = 0		
<u> </u>	compareLength = 5		
11	Search TLV 01h	Result is TLV_NOT_FOUND	
	compareValue()	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	
12	Search TLV 06h		
	Initialise compareBuffer		
	compareBuffer = 81 11 22 33 44 F5		
	Compare buffers	Result is 00h	
	valueOffset = 0	Result is oon	
	compareOffset = 0		
	compareLength = 6		
13	Initialise compareBuffer		
	compareBuffer =		
	7F 11 22 33 44 F5		
	Compare buffers with same parameters	Result is -1	
14	Initialise compareBuffer		
	compareBuffer =		
	83 11 22 33 44 F5		
	Compare buffers with same parameters	Result is -1	
15	Initialise compareBuffer		
	compareBuffer = 55 55 55 81 11 22 33 44 F5		
	55 55 55 55 55 55 55 55 55 55		
	Compare buffers	Result is 00h	
	valueOffset = 1	result is oon	
	compareOffset = 4		
	compareLength = 5		
16	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 81 10 22 33 44 F5		
	55 55 55 55 55	Danili and	
47	Compare buffers with same parameters	Result is +1	
17	Initialise compareBuffer		
	compareBuffer = 55 55 55 81 12 22 33 44 F5		
	55 55 55 55 55		
	Compare buffers with same parameters	Result is -1	
	parameter parame	rtodait id	
18	Successful call, compareValue with length =0	Result of compareValue() is 0	
	CompareBuffer.length = 15	,	
	CompareOffset = 15		
	CompareLength = 0		
	Send Formatted SMS PP with the maximum		
	user data length = 0x010D, using 2		
	concatenated envelopes		
	Search SMS TPDU TAG		
	Initialise compareBuffer		
	compareBuffer = 0348 header and formatted data(01 02 FA)		
19	Compare buffers	Result is 00h	
19	valueOffset = 0x11	IVESUIT IS ONLI	
	compareOffset = 0		
	compareLength = 0x010D		
	compareBufferLength = 0x010D		
20	Compare buffers	Result is 00h	
	valueOffset = 0x0111		
	compareOffset = 0x0100		
	compareLength = 0x000D		
	compareBufferLength = 0x010D		

# 6.2.4.13.4 Test Coverage

CRR number	Test case number
N1	12, 15, 19, 20
N2	13, 16, 18
N3	14, 17
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for EnvelopeHandler
C2	11

#### 6.2.4.14 Method findAndCopyValue(byte tag, byte[] dstBuffer, short dstOffset)

Test Area Reference: API\_2\_ENH\_FACYB\_BS

#### 6.2.4.14.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.14.1.1 Normal execution

- CRRN1: looks for the first occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + length of the copied value is returned.
- CRRN4: The search method is comprehension required flag independent.

#### 6.2.4.14.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

#### 6.2.4.14.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.4.14.2 Test Suite files

Specific triggering: None

Test Script: API\_2\_ENH\_FACYB\_BS\_1.scr
Test Applet: API\_2\_ENH\_FACYB\_BS\_1.java
Load Script: API\_2\_ENH\_FACYB\_BS\_1.ldr
Cleanup Script: API\_2\_ENH\_FACYB\_BS\_1.clr
Parameter File: API\_2\_ENH\_FACYB\_BS\_1.par

## 6.2.4.14.3 Test procedure

ld	Description	API Expectation	APDU Expectation
	Fill the SMS PP with TLV: Tag 02 Value 22 44		
	Tag 33, Length C4 Value 01 02	No III De interesti anni a the anni	
2	FindAndCopyValue() with a null dstBuffer	NullPointerException is thrown ArrayIndexOutOfBoundsExceptio	
	<pre>dstOffset ≥ dstBuffer.length tag = 06h dstBuffer.length = 06 dstOffset = 06</pre>	n is thrown	
3	<pre>dstOffset &lt; 0 dstBuffer.length = 06 dstOffset = -1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
4	<pre>length &gt; dstBuffer.length dstBuffer.length = 05 dstOffset = 0</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
5	DstOffset + length >dstBuffer.length DstBuffer.length = 06 DstOffset = 1	ArrayIndexOutOfBoundsExceptio n is thrown	
6	Select a TLV (tag 02h)		
	findAndCopyValue() tag = 03h	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
7	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ ELEMENT is thrown.	
8	Successful call  Tag = 06h  DstBuffer.length = 06  DstOffset = 0	Result of findAndCopyValue () is 0006	
9	<b>Compare buffer</b> buffer = 81 11 22 33 44 F5	Result is 00h	
10	initialise dstBuffer dstBuffer = 55 55 55		
	Successful call dstBuffer.length = 12 dstOffset = 2	Result of findAndCopyValue () is 0008	
11	Compare buffer buffer = 55 55 81 11 22 33 44 F5 55 55 55 55	Result is 00h	
12	Successful call tag = 02h dstBuffer.length = 2 dstOffset = 0	Result of findAndCopyValue () is 0002	
13	Compare buffer buffer = 83 81	Result is 00h	
14	Successful call (with tag 82h) tag = 82h dstBuffer.length = 02 dstOffset = 0	Result of findAndCopyValue () is 0002	
15	Compare buffer buffer = 83 81	Result is 00h	
16	Successful call (with tag B3h) tag = B3h dstBuffer.length = C4 dstOffset = 0	Result of findAndCopyValue () is 00C4	

ld	Description	API Expectation	APDU Expectation
17	Compare buffer	Result is 00h	
	buffer = 01 02 C4		
	Send Formatted SMS PP with the maximum		
	user data length = 0x010D, using 2		
	concatenated envelopes		
18	Successful call (with SMS TPDU TAG)	Result of findAndCopyValue () is	
	tag = 0Bh	0x011E	
	dstBuffer.length = 0x011E		
	dstOffset = 0		
19	Compare buffer	Result is 00h	
	buffer = 0348 Header + secured data (01		
	02 FA)		
20	Successful call (with SMS TPDU TAG)	Result of findAndCopyValue () is	
	tag = 0Bh	0x021E	
	dstBuffer.length = 0x0220		
	dstOffset = 0x0100		
21	Compare buffer	Result is 00h	
	buffer = 0348 Header + secured data (01		
	02 FA)		

#### 6.2.4.14.4 Test Coverage

CRR number	Test case number
N1	9, 11, 13
N2	6, 7
N3	8, 10, 12
N4	14, 15, 16, 17, 18, 19, 20, 21
P1	1
P2	2, 3, 4, 5
C1	Does not apply for EnvelopeHandler

# 6.2.4.15 Method findAndCopyValue(byte tag, byte occurrence, short valueOffset, byte[] dstBuffer, short dstOffset, short dstLength)

Test Area Reference: API\_2\_ENH\_FACYBS\_BSS

#### 6.2.4.15.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.15.1.1 Normal execution

- CRRN1: looks for the indicated occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + dstLength is returned.
- CRRN4: The search method is comprehension required flag independent.

#### 6.2.4.15.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.4.15.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.4.15.2 Test Suite files

Test Script: API\_2\_ENH\_FACYBS\_BSS\_1.scr

Test Applet: API\_2\_ENH\_FACYBS\_BSS\_1.java

Load Script: API\_2\_ENH\_FACYBS\_BSS\_1.ldr

Cleanup Script: API\_2\_ENH\_FACYBS\_BSS\_1.clr

Parameter File: API\_2\_ENH\_FACYBS\_BSS\_1.par

#### 6.2.4.15.3 Test procedure

ld	Description	API Expectation	APDU Expectation
	Fill the SMS PP with TLV: Tag 02 Value 22 44		
	Tag 33, Length C4 Value 01 02		
1	findAndCopyValue() with a null dstBuffer	NullPointerException is thrown	
2	dstOffset ≥ dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	tag = 06h, occurrence = 1	n is thrown	
	valueOffset = 0		
	<pre>dstBuffer.length = 5 dstOffset = 5</pre>		
	dstLength = 1		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = -1		
_	dstLength = 1	A manufacture Out Of Day and a Farrage tile	
4	dstLength >dstBuffer.length dstBuffer.length = 5	ArrayIndexOutOfBoundsExceptio	
	dstOffset = 0	n is thrown	
	dstLength = 6		
5	dstOffset + dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 3		
	dstLength = 3	1 1 2 10/2 15	
6	dstLength < 0 dstBuffer.length = 5	ArrayIndexOutOfBoundsExceptio	
	dstOffset = 0	n is thrown	
	dstLength = -1		
7	valueOffset ≥ Value Length	ToolkitException.OUT_OF_TLV_	
	tag = 06h, occurrence = 1	BOUNDARIES is thrown	
	valueOffset = 6		
	dstBuffer.length = 15		
	<pre>dstOffset = 0 dstLength = 1</pre>		
8	valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	valueOffset = -1	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
	dstLength = 1	T HIS COUT OF THE	
9	dstLength > Value length valueOffset = 0	ToolkitException.OUT_OF_TLV_	
	ValueOliset = U	BOUNDARIES is thrown	

ld	Description	API Expectation	APDU Expectation
	dstBuffer.length = 15	7.1 Exposition	Al De Expediation
	dstOffset = 0		
	dstLength = 7		
10	valueOffset + dstLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 2	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
44	dstLength = 5		
11	Select a TLV (tag 02h)		
	findAndCopyValue()	ToolkitException.UNAVAILABLE_	
	tag = 06h	ELEMENT is thrown	
40	occurrence = 2	Tablita vantina LINIA VAILADI E	
12	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
42	Cusassaful sall	ELEMENT is thrown.	
13	Successful call	Result of findAndCopyValue() is 6	
	<pre>tag = 06h, occurrence = 1 valueOffset = 0</pre>		
	dstBuffer.length = 06		
	dstOffset = 0		
	dstLength = 06		
14	Compare buffer	Result is 00h	
	buffer = 81 11 22 33 44 F5		
15	initialise dstBuffer		
	dstBuffer = 55 55 55		
	Successful call	Result of findAndCopyValue () is	
	tag = 06h, occurrence = 1	0007	
	valueOffset = 2		
	<pre>dstBuffer.length = 12 dstOffset = 3</pre>		
	dstLength = 04		
16	Compare buffer	Result is 00h	
10	buffer =	Tresult is oon	
	55 55 55 22 33 44 F5 55 55 55 55 55		
17	Successful call	Result of findAndCopyValue() is	
	tag = 02h, occurrence = 1	0002	
	valueOffset = 0		
	dstBuffer.length = 12		
	dstOffset = 0		
40	dstLength = 2	Result is 00h	
18	Compare buffer buffer = 83 81 55 55	Result is oon	
19	Successful call	Result of findAndCopyValue() is	
13	tag = 02h, occurrence = 2	0002	
	valueOffset = 0	0002	
	dstBuffer.length = 12		
	dstOffset = 0		
L	dstLength = 2		
20	Compare buffer	Result is 00h	
	buffer = 22 44 55 55	D 1: (5 14 10 )(1 0)	
21	Successful call (with tag 82h)	Result of findAndCopyValue () is	
	tag = 82h occurrence = 1	0002	
	valueOffset = 0		
	dstBuffer.length = 12		
	dstOffset = 0		
	dstLength = 02		
22	Compare buffer	Result is 00h	
	buffer = 83 81 55 55		
23	Successful call (with tag 82h)	Result of findAndCopyValue () is	
	tag = 82h	0002	
	occurrence = 2 valueOffset = 0		
	dstBuffer.length = 12		
	dstOffset = 0		
	dstLength = 02		
24	Compare buffer	Result is 00h	
<u></u>	Buffer = 22 44 55 55		
25	Successful call, findAndCopyValue with length	Result of findAndCopyValue () is	
	=0	12	
	DstBuffer.length = 12		
	dstOffset = 12		
	dstLength = 0		
	Send Formatted SMS PP with the maximum		

ld	Description	API Expectation	APDU Expectation
	user data length = 0x010D, using 2		
	concatenated envelopes		
26	Successful call	Result of findAndCopyValue() is	
	tag = OBh, occurrence = 1	0x010D	
	valueOffset = 0x11		
	dstBuffer.length = 0x010D		
	dstOffset = 0		
	dstLength = 0x010D		
27	Compare buffer	Result is 00h	
	buffer = 0348 Header + secured data (01		
	02 FA)		
28	initialise dstBuffer		
	dstBuffer = 55 55 55		
	Successful call	Result of findAndCopyValue () is	
	tag = 0Bh, occurrence = 1	0x010D	
	valueOffset = 0x0111		
	dstBuffer.length = 0x010D		
	dstOffset = 0x0100		
	dstLength = 0x0D		
29	Compare buffer	Result is 00h	
	buffer =		
	55 55 55 55 EE EF F0 F1 F2 F3 F4 F5 F6		
	F7 F8 F9 FA		

#### 6.2.4.15.4 Test Coverage

CRR number	Test case number
N1	14, 15, 17, 19, 20
N2	11, 12
N3	13, 15, 17, 19, 25
N4	21, 22, 23, 24, 26, 27, 28,29
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for EnvelopeHandler

# 6.2.4.16 Method findAndCompareValue(byte tag, byte[] compareBuffer, short compareOffset)

Test Area Reference: API\_2\_ENH\_FACRB\_BS

#### 6.2.4.16.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.16.1.1 Normal execution

Looks for the first occurrence of a TLV element from beginning of a TLV list and compare its value with a buffer:

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical returns 0.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer returns -1.

- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer returns 1.
- CRRN6: The search method is comprehension required flag independent.

#### 6.2.4.16.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

#### 6.2.4.16.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.4.16.2 Test Suite files

Test Script: API\_2\_ENH\_FACRB\_BS\_1.scr

Test Applet: API\_2\_ENH\_FACRB\_BS\_1.java

Load Script: API\_2\_ENH\_FACRB\_BS\_1.ldr

Cleanup Script: API\_2\_ENH\_FACRB\_BS\_1.clr

Parameter File: API\_2\_ENH\_FACRB\_BS\_1.par

#### 6.2.4.16.3 Test procedure

ld	Description	API Expectation	APDU Expectation
	Fill the SMS PP with TLV: Tag 02 Value 22 44		•
	Tag 33, Length C4 Value 01 02		
1	findAndCompareValue() with a null dstBuffer	NullPointerException is thrown	
2	compareOffset ≥ compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	tag = 06h	n is thrown	
	<pre>compareBuffer.length = 12 compareOffset = 12</pre>		
3	compareOffset < 0	ArrayIndexOutOfBoundsExceptio	
3	compareBuffer.length = 12	n is thrown	
	compareOffset = -1	ii is unown	
4	length > compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 05	n is thrown	
	compareOffset = 0	1 1 1 0 10/5	
5	compareOffset + length >	ArrayIndexOutOfBoundsExceptio n is thrown	
	<pre>compareBuffer.length compareBuffer.length = 12</pre>	n is thrown	
	compareOffset = 7		
6	Select a TLV (tag 02h)		
	findAndCompareValue()	ToolkitException.UNAVAILABLE_	
	tag = 03h	ELEMENT is thrown	
7	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown.	
8	Initialise compareBuffer		
	compareBuffer = 81 11 22 33 44 F5	DIt i- 00l-	
	Compare buffers tag = 06h	Result is 00h	
	compareOffset = 0		
9	Verify current TLV	Result is 06	
	getValueLength()		
10	Initialise compareBuffer		
	compareBuffer = 81 11 22 33 44 F4		
	Compare buffers with same parameters	Result is +1	
11	Initialise compareBuffer		
	compareBuffer = 81 11 22 33 44 F6	Result is -1	
12	Compare buffers with same parameters Initialise compareBuffer	Result is -1	
12	initialise comparebuller	1	

	compareBuffer =	
	55 55 81 11 22 33 44 F5 55 55 55 55	
	Compare buffers	Result is 00h
	compareOffset = 2	
13	Initialise compareBuffer	
	compareBuffer =	
	55 55 83 81 55 55 55 55 55 55 55	
	Compare buffers	Result is 00h
	compareOffset = 2	
14	Initialise compareBuffer	
17	compareBuffer =	
	55 55 83 80 55 55 55 55 55 55 55	
		Deput in 14
	Compare buffers	Result is +1
<u> </u>	compareOffset = 2	
15	Initialise compareBuffer	
	compareBuffer =	
	55 55 83 82 55 55 55 55 55 55 55	
	Compare buffers	Result is -1
	compareOffset = 2	
16	Initialise compareBuffer	
	compareBuffer =	
	83 81 55 55 55 55 55 55 55 55 55	
	Successful call (with tag 02h)	Result is 00h
	tag = 02h	Troodit to don
	compareBuffer.length = 12	
	compareOffset = 0	
17	Initialise compareBuffer	
17	CompareBuffer = 01 02 C4	
		Decult is 00h
	Successful call (with tag B3h)	Result is 00h
	Tag = B3h	
	CompareBuffer.length = C4	
	CompareOffset = 0	
	Send Unformatted SMS PP with the maximum	
	user data length = 0x010C, using 2	
	concatenated envelopes	
	Initialise compareBuffer	
	CompareBuffer = 0340 Header + user data	
	(00 01 02 FF 01 0C)	
18	Successful call (with SMS TPDU TAG)	Result is 00h
. •	Tag = 0Bh	
	CompareBuffer.length = 0x011E	
	CompareOffset = 0	
	Initialise compareBuffer	
	CompareBuffer = 55 55 55	
	CompareBuffer from offset 0x0100= 0340	
	Header + user data (00 01 02 FF 01	
	0C)	
19	Successful call (with SMS TPDU TAG)	Result is 00h
19	Tag = 0Bh	L/C2011 19 0011
	Tag = UBN CompareBuffer.length = 0x220	
<u> </u>	CompareOffset = 0x0100	

# 6.2.4.16.4 Test Coverage

CRR number	Test case number
N1	6,7
N2	9
N3	8, 12, 13, 18, 19
N4	10, 14
N5	11, 15
N6	16, 17
P1	1
P2	2, 3, 4, 5
C1	Does not apply for EnvelopeHandler

# 6.2.4.17 Method findAndCompareValue(byte tag, byte occurrence, short valueOffset, byte[] compareBuffer, short compareOffset, short compareLength)

Test Area Reference: API\_2\_ENH\_FACRBBS\_BSS

#### 6.2.4.17.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.17.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of a TLV list and compare its value with a buffer:

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical 0 is returned.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer -1 is returned.
- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer 1 is returned
- CRRN6: The search method is comprehension required flag independent.

#### 6.2.4.17.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, compareLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.
- CRRP4: if an input parameter is not valid (e.g. occurence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException BAD\_INPUT\_PARAMETER.

#### 6.2.4.17.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.4.17.2 Test Suite files

Test Script: API\_2\_ENH\_FACRBBS\_BSS\_1.scr
Test Applet: API\_2\_ENH\_FACRBBS\_BSS\_1.java
Load Script: API\_2\_ENH\_FACRBBS\_BSS\_1.ldr
Cleanup Script: API\_2\_ENH\_FACRBBS\_BSS\_1.clr
Parameter File: API\_2\_ENH\_FACRBBS\_BSS\_1.par

## 6.2.4.17.3 Test procedure

Fill the SMS PP with TLY: Tag 02 Value 22 44 Tag 33, Length C4 Value 01 02  findAndCompareValue() with a null compareBuffer.length tag = 060, occurrence = 1 compareBuffer = 0 compareBuffer.length tag = 060, occurrence = 1 compareBuffer = 0 compareBuffer.length tag = 060, occurrence = 1 compareBuffer = 1 compareBuffer.length tag = 060, occurrence = 1 compareBuffer = 1 compareBuffer.length = 0 compareBuffer.length = 0 compareBuffer.length = 1 compareBuffer = 1 compareBuffer.length compareBuffer.length = 1 compareBuffer = 1 compareBuffer.length compareBuffer.length compareBuffer.length = 1 compareBuffer = 1 compareBuffer.length compareBuffer.length compareBuffer.length = 3 compareBuffer = 1 compareBuffer.length compareBuffer.length = 3 compareBuffer = 1 compareBuffer.length = 1 compareBuffer = 1 compareBuffer.length = 1 tag = 060, occurrence = 1 valueOffset > ValueOffset > Value Length tag = 060, occurrence = 1 valueOffset = 0 compareBuffer.length = 15 compareBuffer.length > Value length valueOffset > 0 to compareBuffer.length = 15 compareBu		December (1 - 1)	ADI F	ADDII F
Tag 33, Length C4 Value of 102  1 findAndCompareValue() with a null compareDiffer compareOffset c compareOffset c compareOffset c ocmpareOffset c ocmpareO	Ia		API Expectation	APDU Expectation
IndianacompareBuffer   CompareBuffer   CompareBuffer   CompareOffset > compareBuffer   Compa				
compareOffset > compareBuffer   ag = 06h, occurrence = 1   valueOffset > 0   occupareOffset >				
compareOffset > compareBuffer   ag = 06h, occurrence = 1   valueOffset > 0   occupareOffset >	1	findAndCompareValue() with a null	NullPointerException is thrown	
CompareOffset ≥ compareOffset   CompareOffse		l		
tag = 06t, occurrence = 1 valueoffset = -0 compareOffset = 6 compareOffset = 6 compareOffset = 6 compareOffset = 0 compa	2		ArrayIndexOutOfBoundsExcentio	
valueOffset = 0   compareInfer.length = 6   compareLength = 6   compareLength = 1   compareUnifer.length = 6   compareLength > compareLength > compareUnifer.length   compareLength > compareLength = 6   compareLength > compareLength = 0   compareLength = 0   compareLength = 0   compareLength = 0   n   sithown   compareLength = 0   n   sithown   compareLength = 1   compareLen	_			
compare but fer.length = 6			II IS UIIOWII	
compareoffaet = 6 compareoffaet < 0 compareoffaet < 0 compareoffaet < 0 compareoffaet < 0 compareoffaet = 1 compareoffaet = 0 compareoffae				
compareLength = 1   CompareOffset < 0   ArrayIndexOutOfBoundsException on is thrown				
CompareDiffset   Comp				
compareDeffect = 1   compareDeffect = 1   compareDeffect = 1   compareDeffect = 1   compareDeffect = 0   compare	3		ArrayIndexOutOfBoundsExcentio	
compareLength = 1   compareLength > compareBuffer   length   compareDuffer   length   5   compareDuffer   length   1   compareDuffer   length   leng	3			
compareLength > compareBuffer.length			n is thrown	
CompareUngth > CompareBuffer length   CompareBuffer   CompareBuffer   CompareDiffer   CompareDiffer   CompareDiffer   CompareDiffer   CompareDiffer   CompareDiffer   CompareBuffer   CompareBuffer   CompareDiffer   Compa				
compareDiffect = 0   compareDifect   1   com	1		ArrayIndexOutOfBoundsExceptio	
compareOffset = 0 compareLength = 6  compareDifset + compareLength	4			
compareLength = 6   S			n is thrown	
SompareOffset + compareLength				
ScompareBuffer.length   5   compareLength   3   compareLength   5   compareLength   5   compareLength   3   compareLength   5   compareLength   5   compareLength   5   compareDellagth   5   compareDellagth   5   compareDellagth   5   compareDellagth   1   2   select a TLV (tag 02h)   compareDellagth   5   compareDellagth   6   compareDellagth   7   compareDellagth   7   compareDellagth   7   compareDellagth   7   compareDellagth   7   compareDellagth   7   compareDellagth   5   compareDellagth   6	-		ArrayladayOutOfPayadaEyaantia	
compareBuffer.length = 5 compareLength = 3 compareLength = 3 6 6 compareLength = 0 compareLength = 0 compareLength = 0 compareLength = 0 compareLength = 1 7 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	5			
compareLength = 3   compareLength = 3			n is infown	
compareLength = 3  6  compareLength < 0  compareBuffer.length = 5  compareLength = -1  7  valueOffset > Value Length  tag = 06h, occurrence = 1  valueOffset = 0  compareLength = 15  compareLength = 15  compareLength = 1  8  valueOffset = 0  compareLength = 1  compareLength = 1  9  compareLength = 1  10  valueOffset = 0  compareLength = 1  9  compareLength = 15  compareLength = 15  compareLength = 1  9  compareLength = 15  compareLength = 1  10  valueOffset = 0  compareLength = 7  valueOffset + compareLength > Value length  valueOffset = 0  compareLength = 5  10  valueOffset + compareLength > Value length  valueOffset = 0  compareLength = 5  11  invalid parameter  compareOffset = 0  compareLength = 5  12  Select a TLV (tag 02h)  findAndCompareValue()  tag = 06h  occurrence = 0  12  Select a TLV (tag 02h)  findAndCompareValue()  tag = 06h  cocurrence = 2  13  Call the getValueLength() method  ToolkitException.UNAVAILABLE  ELEMENT is thrown  ToolkitException.UNAVAILABLE  ELEMENT is thrown.  Result is 00h  tag = 06h, occurrence = 1  valueOffset = 0  compareLength = 6  15  Verify current TLV  getValueLength()  Initialise compareBuffer  compareDuffer = 81 11 22 33 44 F5  findAndCompareValue()  findAndCompareValue()  findAndCompareValue()  getValueLength()  Initialise compareBuffer  compareLength = 6  CompareBuffer = 81 11 22 33 44 F5  findAndCompareValue()  findAndCompareValue()  getValueLength()  Initialise compareBuffer  compareBuffer = 81 11 22 33 44 F4  Compare Buffers with same parameters  Result is +1  Initialise compareBuffer				
Compare   Comp		-		
compareBuffer 1 ength = 5 compareJeffset = 0 compareJeffset > 1  7	_		Amende de vOctOfD - viz 1 5 C	
compareOffset = 0 compareLength = -1  7	6			
compareLength = -1  7			n is thrown	
ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown				
tag = 06h, occurrence = 1 valueOffset = 6 compareBuffer.length = 15 compareOffset = 0 valueOffset = 1 valueOffset = 0 compareDength = 1 valueOffset = 0 compareLength = 1 valueOffset = 0 compareDength = 1 valueOffset = 0 va	<u> </u>		T 11:15	
valueOffset = 6   compareBuffer, length = 15   compareDuffset = 0   ToolkitException.OUT_OF_TLV_	7	l		
compareBuffer.length = 15 compareOffset = 0 compareLength = 1  8		l = -	BOUNDARIES is thrown	
compareOffset = 0 compareLength = 1  8				
compareLength = 1   8				
ValueOffset = -1				
valueOffset = -1   compareBuffer.length = 15   compareOffset = 0   compareOffset = 0   compareLength = 1   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown	<u> </u>		T HAT OUT OF THE	
compareBuffer.length = 15 compareOffset = 0 compareLength > Value length valueOffset = 0 compareBuffer.length = 15 compareBuffer.length = 15 compareBuffer.length = 15 compareDeffset = 0 compareDeffset = 0 compareDeffset = 0 compareDeffset = 0 compareBuffer.length = 7  10 ValueOffset + compareLength > Value length valueOffset = 2 compareBuffer.length = 15 compareDeffset = 0 compareDeffset = 81 11 22 33 44 F5  findAndCompareValue() tag = 06h, occurrence = 1 valueOffset = 0 compareDeffset = 81 11 22 33 44 F4 compareDeffset = 81 11 22 33 44 F4  CompareDeffset =	8			
compareLength = 0   compareLength > Value length   valueOffset = 0   compareDength = 15   compareDength = 15   compareDength = 15   compareDength = 7   valueOffset = 0   compareDength = 7   valueOffset = 0   compareDength = 7   valueOffset = 0   compareDength = 15   compareDength = 12   compareDength = 15   compareDength = 12   compareDength = 15   compareDength = 12   compareDength = 11   compareDength = 12   compareDength = 11   compareDength			BOUNDARIES is thrown	
compareLength = 1  9				
CompareLength > Value length valueOffset = 0				
valueOffset = 0 compareBuffer.length = 15 compareOffset = 0 compareLength = 7  10	<u>_</u>		T 11/15 (1 OUT OF TIL)	
compareBuffer.length = 15 compareOffset = 0 compareLength = 7  10	9			
compareOffset = 0 compareLength = 7  10			BOUNDARIES is thrown	
compareLength = 7  10				
ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown		-		
valueOffset = 2 compareBuffer.length = 15 compareOffset = 0 compareLength = 5  11	40		Tabilities of Tabi	
compareBuffer.length = 15 compareOffset = 0 compareLength = 5  11	10			
compareOffset = 0 compareLength = 5  11			BOUNDARIES IS thrown	
CompareLength = 5				
11		_		
Select a TLV (tag 02h)   ToolkitException.UNAVAILABLE_ELEMENT is thrown	11		ToolkitEveention BAD INDUT DA	
Select a TLV (tag 02h)   findAndCompareValue()   tag = 06h   occurrence = 2	11	<u>-</u>		
findAndCompareValue() tag = 06h occurrence = 2  13	<u></u>		KAIVIETER IS thrown	
tag = 06h occurrence = 2  13	12			
Occurrence = 2		findAndCompareValue()	ToolkitException.UNAVAILABLE_	
ToolkitException.UNAVAILABLE_ELEMENT is thrown.  14			ELEMENT is thrown	
Initialise compareBuffer   CompareBuffer   Standard CompareBuffer   S				
Initialise compareBuffer   CompareBuffer   Standard CompareBuffer   S	13	Call the getValueLength() method	ToolkitException.UNAVAILABLE	
Initialise compareBuffer compareBuffer = 81 11 22 33 44 F5  findAndCompareValue() tag = 06h, occurrence = 1 valueOffset = 0 compareOffset = 0 compareLength = 6  15 Verify current TLV getValueLength()  Result is 00h		- <del>-</del>	·	
compareBuffer = 81 11 22 33 44 F5  findAndCompareValue()  tag = 06h, occurrence = 1 valueOffset = 0 compareOffset = 0 compareLength = 6  15 Verify current TLV getValueLength()  Result is 0006  getValueLength = 81 11 22 33 44 F4  Compare buffers with same parameters  Result is +1  Initialise compareBuffer	14	Initialise compareBuffer		
findAndCompareValue() tag = 06h, occurrence = 1 valueOffset = 0 compareOffset = 0 compareLength = 6  15				
tag = 06h, occurrence = 1 valueOffset = 0 compareOffset = 0 compareLength = 6  15			Result is 00h	
valueOffset = 0 compareOffset = 0 compareLength = 6  15				
compareOffset = 0 compareLength = 6  15		l = -		
compareLength = 6  15				
15 Verify current TLV getValueLength()  16 Initialise compareBuffer compareBuffer = 81 11 22 33 44 F4  Compare buffers with same parameters  17 Initialise compareBuffer		_		
getValueLength()  16	15		Result is 0006	
16 Initialise compareBuffer  compareBuffer = 81 11 22 33 44 F4  Compare buffers with same parameters Result is +1  17 Initialise compareBuffer			1.0001110 0000	
compareBuffer = 81 11 22 33 44 F4   Compare buffers with same parameters   Result is +1   Initialise compareBuffer	16			
Compare buffers with same parameters   Result is +1   Initialise compareBuffer	10			
17 Initialise compareBuffer			Posult is ±1	
	4 -		VESUIT IS +1	
	1/			
	l	CompareBuiler = 81 11 22 33 44 F6	1	

ld	Description	API Expectation	APDU Expectation
	Compare buffers with same parameters	Result is -1	7 ii 20 Expositation
18	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 22 33 44 F5 55 55 55 55	-	
	Compare buffers	Result is 00h	
	<pre>valueOffset = 2 compareOffset = 3</pre>		
	compareUngth = 4		
19	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 22 33 45 F5 55 55 55 55		
	Compare buffers with same parameters	Result is -1	
20	Initialise compareBuffer		
	compareBuffer = 55 55 55 22 33 43 F5 55 55 55 55		
	Compare buffers with same parameters	Result is +1	
21	Initialise compareBuffer	1.Court to 1.1	
- '	compareBuffer =		
	83 81 55 55 55 55 55 55 55 55 55		
	findAndCompareValue()	Result is 00h	
	tag = 02h, occurrence = 1		
	<pre>valueOffset = 0 compareOffset = 0</pre>		
	compareLength = 2		
22	Initialise compareBuffer		
	compareBuffer =		
	22 44 55 55 55 55 55 55 55 55 55	-	
	findAndCompareValue()	Result is 00h	
	<pre>tag = 02h, occurrence = 2 valueOffset = 0</pre>		
	compareOffset = 0		
<u></u>	compareLength = 2		
23	Initialise compareBuffer		
	compareBuffer =		
	22 45 55 55 55 55 55 55 55 55 55 55 55 findAndCompareValue()	Result is -1	
	tag = 02h, occurrence = 2	IXESUIT IS - I	
	valueOffset = 0		
	compareOffset = 0		
0.4	compareLength = 2	+	
24	Initialise compareBuffer compareBuffer =		
	83 81 55 55 55 55 55 55 55 55 55		
	Successful call (with tag 02h)	Result is 00h	
	tag = 02h, occurrence = 1		
	valueOffset = 0		
	<pre>compareBuffer.length = 12 compareOffset = 0</pre>		
	compareLength = 2		
25	Initialise compareBuffer		
	compareBuffer = 01 02 C4		
	Successful call (with tag B3h)	Result is 00h	
	<pre>tag = B3h, occurrence = 1 valueOffset = 0</pre>		
	<pre>valueOffset = 0 compareBuffer.length = 00C4</pre>		
	compareOffset = 0		
	compareLength = 00C4		
26	Successful call, findAndCompareValue with	Result of findAndCompareValue()	
	length =0	is 00h	
	DstBuffer.length = C4		
	DstOffset = C4 DstLength = 0		
<u> </u>	Send Formatted SMS PP with the maximum	1	
	user data length = 0x010D, using 2		
	concatenated envelopes		
	,	· •	

ld	Description	API Expectation	APDU Expectation
	Initialise compareBuffer		
	CompareBuffer = 23.048 Header + secured		
	data (01 02 FA)		
27	Successful call (with SMS TPDU TAG)	Result is 00h	
	tag = 0Bh, occurrence = 1		
	valueOffset = 0x11		
	compareBuffer.length = 0x010D		
	compareOffset = 0		
ļ	compareLength = 0x010D		
	Initialise compareBuffer		
	CompareBuffer = 55 55 55 EE EF F0 F1		
	F2 F3 F4 F5 F6 F7 F8 F9 FA		
28	Successful call (with SMS TPDU TAG)	Result is 00h	
	tag = 0Bh, occurrence = 1		
	valueOffset = 0x11		
	compareBuffer.length = 0x010D		
	compareOffset = 0x0100		
	compareLength = 0x0D		

#### 6.2.4.17.4 Test Coverage

CRR number	Test case number
N1	12, 13
N2	15
N3	14, 18, 21, 22, 26, 27, 28
N4	16, 20
N5	17, 19, 23
N6	24, 25
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
P4	11
C1	Does not apply for EnvelopeHandler

## 6.2.4.18 Method getCapacity

Test Area Reference: API\_2\_ENH\_GCAP

#### 6.2.4.18.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

public byte getCapacity()

#### 6.2.4.18.1.1 Normal execution

• CRRN1: The method shall return the maximum size of the Simple TLV list managed by the handler.

#### 6.2.4.18.2 Test suite files

Test Script: API\_2\_ENH\_GCAP\_1.scr

Test Applet: API\_2\_ENH\_GCAP\_1.java

Load Script: API\_2\_ENH\_GCAP\_1.ldr

Cleanup Script: API\_2\_ENH\_GCAP\_1.clr

Parameter File: API\_2\_ENH\_GCAP\_1.par

#### 6.2.4.18.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	EnvelopeHandler available		
	3 - The applet calls getCapacity()method	1 - Applet is triggered 2 - No exception is thrown 3 - No exception is thrown; the capacity is greater than the BER TLV Length	

#### 6.2.4.18.4 Test Coverage

CRR number	Test case number
N1	1

#### 6.2.4.19 Method getUserDataLength

Test Area Reference: API\_2\_ENH\_GUDL

#### 6.2.4.19.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

public short getUserDataLength()

#### 6.2.4.19.1.1 Normal execution

- CRRN1: The method shall return the length of the User Data contained in the SMS TPDU TLV element.
- CRRN2: The length is from the first SMS TPDU TLV element.
- CRRN3: If the SMS TPDU TLV element is available, it becomes the selected TLV
- CRRN4: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_ENV.
- CRRN5: The method can be used if the event is EVENT\_FORMATTED\_SMS\_PP\_UPD.
- CRRN6: The method can be used if the event is EVENT\_UNFORMATED\_SMS\_PP\_ENV.
- CRRN7: The method can be used if the event is EVENT\_UNFORMATTED\_SMS\_PP\_UDP.

#### 6.2.4.19.1.2 Context errors

- CRRC1: The method shall throw UNAVAILABLE\_ELEMENT in case of unavailable TPDU TLV element.
- CRRC2: The method shall throw UNAVAILABLE\_ELEMENT in case of wrong data format.

#### 6.2.4.19.2 Test suite files

Specific triggering:

- UNFORMATTED\_SMS\_PP\_ENV
- FORMATTED\_SMS\_PP\_UPD
- UNFORMATED\_SMS\_PP\_UPD
- UNRECOGNIZED\_ENVELOPE
- For Formatted triggering if CC/RC/DS is used, the security parameters are those used for downloading applications.

Test Script: API\_2\_ENH\_GUDL\_1.scr

Test Applet: API\_2\_ENH\_GUDL\_1.java

Load Script: API\_2\_ENH\_GUDL\_1.ldr

Cleanup Script: API\_2\_ENH\_GUDL\_1.clr

Parameter File: API\_2\_ENH\_GUDL\_1.par

#### 6.2.4.19.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
	FORMATTED SMS PP ENV Triggering		
1	Test with FORMATTED_SMS_PP_ENV and TP-	Returns 0x003D	
	OA length of 2 and user data length of 0x3D		
2	Test with TP-OA length of 12 and user data length	Returns 0x003D	
_	of 0x3D	Datuma Ov0000	
3	Test with RC/CC/DS length of 0 and secured data length of 0x10	Returns 0x0023	
4		Returns 0x002B	
	length of 0x10	Trotains 6x662B	
5	Test with PCNTR = 0, no RC/CC/DS and data	Returns 0x0023	
	length of 0x10		
6	Test with PCNTR = 7, no RC/CC/DS and data	Returns 0x001F	
	length of 0x05		
7	Test with SecuredDataLength = 00 and no	Returns 0x0013	
	RC/CC/DS		
8	Test with UserDataLength = 0x7F	Returns 0x007F	
9	Test with UserDataLength = 0x80	Returns 0x0080	
10	Test with UserDataLength = maximum length	Returns 0x008C	
L	(0x8C) for a single SMS		
11	Verify it is the first TPDU TLV:	Returns 0x0018	
	Send a SMS PP with 2 TPDU TLV with two		
40	different user data lengths: 0x18 and 0x23	O = 1) / =   \cdot =   \cdot \cdot =   \cdot \cd	
12	Send envelope SMS-PP Formatted.	GetValueByte() returns 0x40(23.040	
	FindTLV() with TAG_DEVICE_IDENTITIES.	first byte)	
	GetUserDataLength() and then getValueByte() with offset 0		
13	Test with UserDataLength = 0xFF with 2	Returns 0x00FF	
13	concatenated SMS	INERGINIS OXOOF I	
14	Test with UserDataLength = 0x100 with 2	Returns 0x0100	
	concatenated SMS		
15	Test with UserDataLength = maximum length	Returns 0x010D	
	(0x010D) with 2 concatenated SMS		
	FORMATTED SMS PP UPD Triggering		
16	Test with FORMATTED_SMS_PP_UPD and TP-	Returns 0x003D	
	OA length of 2 and user data length of 0x3D		
17	Test with TP-OA length of 12 and user data length	Returns 0x003D	
40	of 0x3D	D 1 0 0000	
18	Test with RC/CC/DS length of 0 and secured data length of 0x10	Returns 0x0023	
19	· ·	Returns 0x002B	
	length of 0x10	TOTAL TIPO ONO ZED	
20	Test with PCNTR = 0, no RC/CC/DS and data	Returns 0x0023	
	length of 0x10		
21	Test with PCNTR = 7, no RC/CC/DS and data	Returns 0x001F	
	length of 0x05		
22	Test with SecuredDataLength = 00 and no	Returns 0x0013	
	RC/CC/DS		
	Test with UserDataLength = 0x7F	Returns 0x007F	
	Test with UserDataLength = 0x80	Returns 0x0080	
25	Test with UserDataLength = maximum	Returns 0x008C	
	length(0x8C) for a single SMS	D-4	
26	Verify it is the first TPDU TLV: Send a SMS PP with 2 TPDU TLV with two	Returns 0x0018	
	different user data lengths: 0x18 and 0x23		
	Juliterent user uata lengths. UX 10 and UX25		

27	Send envelope SMS-PP Formatted. FindTLV() with TAG_DEVICE_IDENTITIES.	GetValueByte() returns 0x40(23.040 first byte)
	GetUserDataLength() and then getValueByte()	illist byte)
	with offset 0	
28	Test with UserDataLength = 0xFF with 2	Returns 0x00FF
	concatenated SMS	
29	Test with UserDataLength = 0x100 with 2	Returns 0x0100
20	concatenated SMS Test with UserDataLength = maximum length	Returns 0x010D
30	(0x010D) with 2 concatenated SMS	Returns 0x010D
	UNFORMATTED SMS PP ENV Triggering	
31	Test with UNFORMATTED SMS_PP_ENV and	Returns 0x003D
	TP-OA length of 2, and user data length of 0x3D	
32	Test with TP-OA length of 12, and user data length	Returns 0x003D
	of 0x3D	
33	Test with UserDataLength = 0x00	Returns 0x0000
	Test with UserDataLength = 0x7F	Returns 0x007F
	Test with UserDataLength = 0x80 Test with UserDataLength = maximum length:	Returns 0x0080 Returns 0x008C
36	0x8C for a single SMS	Retuins 0x006C
37	Verify it is the first TPDU TLV:	Returns 0x0018
	Send a SMS PP with 2 TPDU TLV with two	
	different user data lengths: 0x18 and 0x23	0.07/1. 5.4.0.4.0.00
38	Send envelope SMS-PP Unformatted. FindTLV() with TAG_DEVICE_IDENTITIES.	GetValueByte() returns 0x00 (23.040 first byte)
	GetUserDataLength() and then getValueByte()	(23.040 IIISt byte)
	with offset 0 (first user data = 0x55)	
	UNFORMATTED SMS PP UPD Triggering	
39	Test with UNFORMATTED_SMS_PP_UPD and	Returns 0x003D
	TP-OA length of 2, and user data length of 0x3D	
40	Test with TP-OA length of 12, and user data length	Returns 0x003D
	of 0x3D	D
	Test with UserDataLength = 0x00	Returns 0x0000
	Test with UserDataLength = 0x7F Test with UserDataLength = 0x80	Returns 0x007F Returns 0x0080
43	Test with UserDataLength = 0x80  Test with UserDataLength = maximum length:	Returns 0x0080
+4	0x8C for a single SMS	INGIGITIS OXOUGO
45	Verify it is the first TPDU TLV:	Returns 0x0018
	Send a SMS PP with 2 TPDU TLV with two	
	different user data lengths: 0x18 and 0x23	
46	Send envelope SMS-PP Unformatted.	GetValueByte() returns 0x00
1	FindTLV() with TAG_DEVICE_IDENTITIES.	(23.040 first byte)
	GetUserDataLength() and then getValueByte()	
	with offset 0 UNRECOGNIZED_ENVELOPE Triggering	
17	Test with an UNRECOGNIZED_ENVELOPE	ToolkitException
41	1651 WILLI ALL DINNECOGNIZED_ENVELOPE	UNAVAILABLE ELEMENT
		OTT TO THE LEEP PROPERTY.

# 6.2.4.19.4 Test Coverage

CRR number	Test case number
N1	All test cases excepted:
	53
N2	11, 26, 37, 45
N3	12, 27, 38, 46
N4	1 to 15
N5	16 to 30
N6	31 to 38
N7	39 to 46
C1	47
C2	Not applicable

# 6.2.4.20 Method getChannelldentifier

Test Area Reference: API\_2\_ENH\_GCID

#### 6.2.4.20.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.4.20.1.1 Normal execution

- CRRN1: The method shall return the channel identifier byte value.
- CRRN2: The channel identifier byte value returned shall be from the first Channel status TLV element.
- CRRN3: If the element is available it becomes the currently selected TLV.
- CRRN4: The channel identifier is available for all triggered toolkit applets from the invocation to the termination of their processToolkit method if the EnvelopeHandler is available.

#### 6.2.4.20.1.2 Context errors

- CRRC1: The method shall throw ToolkitException (UNAVAILABLE\_ELEMENT) if the Channel status TLV is not present.
- CRRC2: The method shall throw ToolkitException (OUT\_OF\_TLV\_BOUNDARIES) if the Simple TLV Channel Status length is equal to 0.

#### 6.2.4.20.2 Test suite files

Test Script: API\_2\_ENH\_GCID\_1.scr

Test Applet: API\_2\_ENH\_GCID\_1.java

Load Script: API\_2\_ENH\_GCID\_1.ldr

Cleanup Script: API\_2\_ENH\_GCID\_1.clr

Parameter File: API\_2\_ENH\_GCID\_1.par

#### 6.2.4.20.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	1- Applet1 is installed with maximum number of		2- OPEN CHANNEL
	channel = 07.		proactive command is
	2- Applet1 builds proactive commands OPEN CHANNEL with init() method in order to open all channels.		fetched
	ProactiveHandler.send() methods are called.		
	rioactivenandier.sena() methods are carred.		TERMINAL RESPONSE is
			issued with Channel Id from
			01 to 07
1	1- Send envelope Event Download Channel Status	1- Applet1 is triggered	
	with channel status TLV:		
	channel status value = 0x8100.		
		2- Returns 0x01	
	2- Call EnvelopeHandler.getChannelIdentifier()		
2	method 1- Send envelope Event Download Channel Status	2- Returns 0x04	
-	with two channel status TLV:	Returns 0x04	
	first value = 0x8400	Returns 0x04	
	second value = 0x8500.		
	2- Call twice the		
	EnvelopeHandler.getChannelIdentifier() method		
3	1- Send envelope Event Download Channel Status	2- Returns 0x06	
	with channel status TLV: Channel Status value = 0x0605		
	Chamier Status value = 0x0005	3- GetChannelldentifier()	
	ViewHandler.FindTLV() with Device IdentityTag.	=getValueByte(0)	
	2- Call EnvelopeHandler.getChannelIdentifier()		
	method.		
	3- Compare EnvelopeHandler.getChannelIdentifier()		
<b>—</b>	and then ViewHandler.getValueByte(0).  1- Send envelope Menu Selection without Channel	O. A. T H.:t ti	
4	Status TLV.	2- A Toolkit exception	
	Status IIIV.	UNAVAILABLE_ELEMEN	
	2- Call EnvelopeHandler.getChannelIdentifier()	T is thrown.	
	method.		
5	1- Send Envelope Event Download Channel Status	1- Returns 0x06	
	with Channel Status TLV:		
	Channel status value = 0x0600		
	O Gall Broad and the discount of the control of the		
	2- Call EnvelopeHandler.getChannelIdentifier() method.		
6	1- Send unrecognized envelope with a Channel	2 A Tablkit avaanties	
6	Status TLV having a length equal to 0.	2- A Toolkit exception OUT_OF_TLV_BOUNDA	
	a rengen equal to	RIES is thrown.	
	2- Call EnvelopeHandler.getChannelIdentifier()	KIES IS IIIOWN.	
	method.		

## 6.2.4.20.4 Test Coverage

CRR number	Test case number
N1	1, 2
N2	3
N3	3
N4	5
C1	4
C2	6

# 6.2.5 Class EnvelopeResponseHandler

# 6.2.5.1 Method getTheHandler

Test Area Reference: API\_2\_ERH\_GTHD

## 6.2.5.1.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.5.1.1.1 Normal execution

- CRRN1: The method shall return the single system instance of the EnvelopeResponseHandler class.
- CRRN2: The EnvelopeResponseHandler is a Temporary JCRE Entry Point Object ( see Javacard 2.1 Runtime Environment (JCRE) Specification [12]).

#### 6.2.5.1.1.1 Parameter errors

No requirements.

#### 6.2.5.1.1.3 Context errors

- CRRC1: The method shall thrown ToolkitException (HANDLER\_NOT\_AVAILABLE) if the handler is busy.
- CRRC2: After the first invocation of the ProactiveHandler.send method the EnvelopeResponseHandler is no more available

6.2.5.1.2 Test suite files

Test Script: API\_2\_ERH\_GTHD\_1.scr

Test Applet: API\_2\_ERH\_GTHD\_1.java

Load Script: API\_2\_ERH\_GTHD\_1.ldr

Cleanup Script: API\_2\_ERH\_GTHD\_1.clr

Parameter File: API\_2\_ERH\_GTHD\_1.par

#### 6.2.5.1.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	getTheHandler twice	The returned objects shall be the	
		same	
2	Verify that getTheHandler returns an	The reference returned shall be an	
	EnvelopeHandler	EnvelopeResponseHandler	
	getTheHandler	(checkcast)	
3	Verify the returned value is not null	The reference returned shall not be	
	getTheHandler	null.	
4	Send a proactive command, and then	ToolkitException	
	getTheHandler()	HANDLER_NOT_AVAILABLE is	
		thrown	

## 6.2.5.1.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3	
N2	Checked in Framework tests: FWK_API_HEPO (test case 2)	
C1	Checked in Framework tests: FWK_MHA_ERHD	
C2	4	

## 6.2.5.2 Method post

Test Area Reference: API\_2\_ERH\_POSTB

#### 6.2.5.2.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.5.2.1.1 Normal execution

- CRRN1: When the method is called, the toolkit applet can continue it's processing (e.g. prepare a proactive command).
- CRRN2: The byte statusType is SW1 of the status.
- CRRN3: If the send method is called after a post method, the posted data are the first sent to the ME.
- CRRN4: The SIM Toolkit Framework shall take the optional Application Data posted by the triggered toolkit applet if present, secure and send the response packet. The SIM Toolkit Framework will return the response APDU defined by the toolkit applet.

#### 6.2.5.2.1.2 Parameter error

No requirements.

#### 6.2.5.2.1.3 Context errors

• CRRC1: The method shall thrown ToolkitException (HANDLER\_NOT\_AVAILABLE) if the handler is busy.

#### 6.2.5.2.2 Test suite files

Specific triggering: Unformatted SMS PP Env and Call control

Test Script: API\_2\_ERH\_POSTB\_1.scr

Test Applet: API\_2\_ERH\_POSTB\_1.java

Load Script: API\_2\_ERH\_POSTB\_1.ldr

Cleanup Script: API\_2\_ERH\_POSTB\_1.clr

Parameter File: API\_2\_ERH\_POSTB\_1.par

#### 6.2.5.2.3 Test procedure

ld	Description	API Expectation	APDU Expectation
	Call Control Triggering		
1	getTheHandler and then post		9000
	(the handler is empty)		
2	Fill the handler (appendTLV to have bytes		9FFD data are retrieved with GET
	in it )and then post data with status		RESPONSE command
	9F		
3	Verify that after a post the handler is no	ToolkitException	
	more available	HANDLER_NOT_AVAILABL	
	appendTLV, post and then appendTLV	E is thrown on the second	
		appendTLV	
	Unformatted SMS PP Env triggering		
4	construct the response (appendTLV with		9E12 and posted data retrieved by a
	0x10 data) and post it with status 9E and		GET RESPONSE with status 9113
	then send a display text		and display text retrieved by a FETCH
5	Verify that it is possible to send a proactive		91 13 and display text is retrieved by
	command after a post		a FETCH
	getTheHandler and post , then send a		
	display text		
6	Verify it is not possible to post after a	ToolkitException	
	proactive command	HANDLER_NOT_AVAILABL	
	getTheHandler, appendTLV, send a	E is thrown	
	display text, post.		
7	Verify that the handler is no more available	ToolkitException	9E12 and posted data retrieved by a

after a post	HANDLER_NOT_AVAILABL GET RESPONSE
getTheHandler, appendTLV, post with	E is thrown
status 9E, post with status 9F	

#### 6.2.5.2.4 Test Coverage

CRR number	Test case number
N1	3, 4, 7
N2	1, 2, 4, 7
N3	4, 5
N4	Checked in Framework tests: FWK_FWS_OUDA
C1	6

#### 6.2.5.3 Method postAsBERTLV

Test Area Reference: API\_2\_ERH\_POSTBB

#### 6.2.5.3.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.5.3.1.1 Normal execution

- CRRN1: When the method is called, the toolkit applet can continue it's processing (e.g. prepare a proactive command) the SIM Toolkit Framework will return the response APDU defined by the toolkit applet.
- CRRN2: The byte statusType is SW1 of the status
- CRRN3: If the send method is called after a postAsBERTLV method, the posted data are the first sent to the MF
- CRRN4: The byte tag is the BER Tag at the beginning of the simple TLV list.

#### 6.2.5.3.1.2 Parameter errors

No requirements.

#### 6.2.5.3.1.3 Context errors

• CRRC1: The method shall thrown ToolkitException (HANDLER\_NOT\_AVAILABLE) if the handler is busy.

#### 6.2.5.3.2 Test suite files

Specific triggering: Unformatted SMS PP Env and Call control

Test Script: API\_2\_ERH\_POSTBB\_1.scr
Test Applet: API\_2\_ERH\_POSTBB\_1.java
Load Script: API\_2\_ERH\_POSTBB\_1.ldr
Cleanup Script: API\_2\_ERH\_POSTBB\_1.clr

Parameter File: API\_2\_ERH\_POSTBB\_1.par

#### 6.2.5.3.3 Test procedure

	ld	Descri	otion	API Exp	ectation	APDU Ex	pectation
--	----	--------	-------	---------	----------	---------	-----------

	Call Control triggering		
1	getTheHandler and then postAsBERTLV		9F02 data are retrieved with
	(the handler is empty)		GET RESPONSE command,
			the tag shall be 33 and the length is 00
2	Fill the handler and then postAsBERTLV		9FFF data are retrieved with
_	the data with status 9F, and tag 33		GET RESPONSE command.
	, ,		the tag shall be 33
3	appendTLV, postAsBERTLV and then	ToolkitException	-
	appendTLV	HANDLER_NOT_AVAILABLE is	
		thrown on the second appendTLV	
	Unformatted SMS PP Env triggering		
4	construct the response (appendTLV with		9E14 and posted data
	0x10 data) and postAsBERTLV it with		retrieved by a GET
	status 9E, tag 75 and then send a display		RESPONSE the tag shall be
	text		75 with status 9113 and
			display text retrieved by a FETCH
5	getTheHandler and postAsBERTLV, then		. = . *
Э	send a display text		9E02 and posted data retrieved by a GET
	Seliu a display text		RESPONSE the tag 33 (and
			the length 00) with status
			9113 and display text is
			retrieved by a FETCH
6	Verify it is not possible to postAsBERTLV	ToolkitException	
	after a proactive command	HANDLER_NOT_AVAILABLE is	
	getTheHandler, appendTLV, send a	thrown on the postAsBERTLV	
7	display text, postAsBERTLV.  Verify that the handler is no more available	ToolkitException	9E14 and posted data
<b>'</b>	after a postAsBERTLV	HANDLER_NOT_AVAILABLE is	retrieved by a GET
	getTheHandler, appendTLV(with data	thrown on the second postAsBERTLV	RESPONSE the tag shall be
	length = 0x10, postAsBERTLV with status		56 with status 9000
	9E, tag 56, postAsBERTLV with status		
	9F, tag 28		

#### 6.2.5.3.4 Test Coverage

CRR number	Test case number
N1	3, 4, 7
N2	1, 2, 4, 7
N3	4, 5
N4	2, 4, 7
C1	6

# 6.2.5.4 Method getLength

Test Area Reference: API\_2\_ERH\_GLEN

## 6.2.5.4.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.5.4.1.1 Normal execution

• CRRN1: returns the length in bytes of the TLV list.

#### 6.2.5.4.1.2 Parameter errors

No requirements.

#### 6.2.5.4.1.3 Context errors

CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

#### 6.2.5.4.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_GLEN\_1.scr

Test Applet: API\_2\_ERH\_GLEN\_1.java

Load Script: API\_2\_ERH\_GLEN\_1.ldr

Cleanup Script: API\_2\_ERH\_GLEN\_1.clr

Parameter File: API\_2\_ERH\_GLEN\_1.par

#### 6.2.5.4.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Clear the handler	Result of getLength() is 0	-
	getLength()		
2	appendTLV with length of 7	Result of getLength() is 9	
	getLength()		
3	Clear the handler and appendTLV with Length	Result of getLength() is 253	
	of 250		
	getLength()		
4	Build a 7Fh Envelope response handler	Result of getLength() is 81h	
	getLength()		
5	Build a 80h Envelope response handler	Result of getLength() is 83h	
	getLength()		
6	Call the post() method		
	getLength()	A toolkit Exception with	
		HANDLER_NOT_AVAILABLE	
		reason is thrown.	
NOT	NOTE: Test case 3 is limited to 253 and not 256 because the current 3GPP TS 43.019 [7] is not clear enough on this		

point. So this test allows the two possible implementations.

#### 6.2.5.4.4 **Test Coverage**

CRR number	Test case number
N1	1, 2, 3, 4, 5
C1	6

#### 6.2.5.5 Method copy

Test Area Reference: API\_2\_ERH\_COPY\_BSS

#### 6.2.5.5.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

```
public short copy(byte[] dstBuffer,
                  short dstOffset,
                  short dstLength)
           throws java.lang.NullPointerException,
                  java.lang.ArrayIndexOutOfBoundsException,
                  ToolkitException
```

#### 6.2.5.5.1.1 Normal execution

• CRRN1: copies the simple TLV list contained in the handler to the destination byte array.

• CRRN2: returns dstOffset + dstLength.

#### 6.2.5.5.1.2 Parameter errors

- CRRP1: if dstBuffer is null a NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative, an ArrayIndexOutOfBoundsException is thrown.
- CRRP3: if dstLength is greater than the length of the simple TLV List, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.5.5.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

#### 6.2.5.5.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_COPY\_BSS\_1.scr
Test Applet: API\_2\_ERH\_COPY\_BSS\_1.java

Load Script: API\_2\_ERH\_COPY\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_COPY\_BSS\_1.clr

Parameter File: API\_2\_ERH\_COPY\_BSS\_1.par

## 6.2.5.5.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	appendTLV with value length of 7		
	NULL as parameter to dstBuffer	NullPointerException is thrown	
2			
	dstOffset ≥ dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 5		
	dstLength = 1	A 1 1 0 10'D 1 5 1'	
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	<pre>dstBuffer.length = 5 dstOffset = -1</pre>	n is thrown	
	dstLength = 1		
4	dstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 0		
	dstLength = 6		
5	dstOffset + dstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 3		
_	dstLength = 3	A d- d O- +O+D d- F ti-	
6	<pre>dstLength &lt; 0 dstBuffer.length = 5</pre>	ArrayIndexOutOfBoundsExceptio	
	dstOffset = 0	n is thrown	
	dstLength = -1		
7	dstLength > length of the simple TLV list	ToolkitException.OUT_OF_TLV_	
-	dstBuffer.length = 10	BOUNDARIES is thrown	
	dstOffset = 0		
	dstLength = 10		
8	Successful call, dstBuffer is the whole buffer	Result of copy() is 9	
	dstBuffer.length = 9		
	<pre>dstOffset = 0 dstLength = 9</pre>		
9	Compare the buffer	Result of arrayCompare() is 0	
10	Successful call, dstBuffer is part of a buffer	Result of copy() is 12	
10	dstBuffer.length = 15	Tresuit of copy() is 12	
	apenatici.iciiyeii - 13		

	In tage to a		
	dstOffset = 3		
	dstLength = 9		
11	Compare the whole buffer	Result of arrayCompare() is 0	
12	Successful call, dstBuffer is part of a buffer	Result of copy() is 9	
	dstBuffer.length = 15	·	
	dstOffset = 3		
	dstLength = 6		
13	Compare the whole buffer	Result of arrayCompare() is 0	
14	Successful call, copy with length =0	Result of copy() is 15	
	dstBuffer.length = 15		
	dstOffset = 15		
	dstLength = 0		
15	Call the post() method		
	Call copy():	A toolkit Exception with	
	dstBuffer.length = 10	HANDLER_NOT_AVAILABLE	
	dstOffset = 0		
	dstLength = 0	reason is thrown.	

#### 6.2.5.5.4 Test Coverage

CRR number	Test case number
N1	9, 11, 13
N2	8, 10, 12, 14
P1	1
P2	2, 3, 4, 5, 6
P3	7
C1	15

#### 6.2.5.6 Method findTLV

Test Area Reference: API\_2\_ERH\_FINDBB

#### 6.2.5.6.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.5.6.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of the TLV list (handler buffer):

- CRRN1: the method is successful if the required occurrence exists then the corresponding TLV becomes current.
- CRRN2: if the method is successful then it returns TLV\_FOUND\_CR\_SET when Comprehension Required flag is set.
- CRRN3: if the method is successful then it returns TLV\_FOUND\_CR\_NOT\_SET when Comprehension Required flag is not set.
- CRRN4: if the required occurrence of the TLV element does not exist, the current TLV is no longer defined and TLV\_NOT\_FOUND is returned.
- CRRN5: The search method is comprehension required flag independent.

#### 6.2.5.6.1.2 Parameter errors

• CRRP1: if an input parameter is not valid (e.g. occurrence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.BAD\_INPUT\_PARAMETER.

#### 6.2.5.6.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

# 6.2.5.6.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_FINDBB\_1.scr

Test Applet: API\_2\_ERH\_FINDBB\_1.java

Load Script: API\_2\_ERH\_FINDBB\_1.ldr

Cleanup Script: API\_2\_ERH\_FINDBB\_1.clr

Parameter File: API\_2\_ERH\_FINDBB\_1.par

# 6.2.5.6.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	append the handler with TLVs:		
	81 03 11 22 33		
	82 02 99 77		
	Invalid input parameter	ToolkitException.BAD_INPUT_PA	
	Occurrence = 0	RAMETER is thrown	
2			
	Search 1 <sup>st</sup> TLV	Result is TLV_FOUND_CR_SET	
	Tag = 01h Occurrence = 1		
3	Call the getValueLength() method	Result is 03h	
4	Search 2 <sup>nd</sup> TLV	Result is TLV_FOUND_CR_SET	
7	Tag = 02h	INESUR IS TEV_TOOND_CIN_SET	
	Occurrence = 1		
5	Call the getValueLength() method	Result is 02h	
6	Select a TLV (tag 02h)		
	Search a wrong tag	Result is TLV_NOT_FOUND	
	Tag = 03h		
	Occurrence = 1		
7	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown.	
8	Search a tag with wrong occurrence	Result is TLV_NOT_FOUND	
	Tag = 01h Occurrence = 2		
9	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
9	Can the getvalueLength() method	ELEMENT is thrown.	
10	Append a TLV with tag=02h	ELEMENT IS UITOWIT.	
10	Search the TLV	Result is	
	Tag = 02h	TLV_FOUND_CR_NOT_SET	
	Occurrence = 2	TEV_1 OUND_CIV_NO1_3E1	
11	Append a TLV with tag=04h		
	Search the TLV	Result is	
	Tag = 04h	TLV_FOUND_CR_NOT_SET	
	Occurrence = 1		
12	Search tag 81h	Result is TLV_FOUND_CR_SET	
	Tag = $81h$		
13	Occurrence = 1 Search tag 84h	Result is	
13	Tag = 84h		
	Occurrence = 1	TLV_FOUND_CR_NOT_SET	
14	Call the post() method then Search 1 <sup>st</sup> TLV		
	,	A toolkit Exception with	
	Tag = 81h	HANDLER_NOT_AVAILABLE	
	Occurrence = 1	reason is thrown.	

# 6.2.5.6.4 Test Coverage

CRR number	Test case number
N1	3, 5
N2	2, 4
N3	10, 11
N4	6, 7,8, 9
N5	12, 13
P1	1
C1	14

# 6.2.5.7 Method getValueLength

Test Area Reference: API\_2\_ERH\_GVLE

# 6.2.5.7.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

### 6.2.5.7.1.1 Normal execution

• CRRN1: gets and returns the binary length of the value field for the last TLV element which has been found in the handler.

### 6.2.5.7.1.2 Parameter errors

No requirements.

### 6.2.5.7.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.UNAVAILABLE\_ELEMENT.

# 6.2.5.7.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_GVLE\_1.scr

Test Applet: API\_2\_ERH\_GVLE\_1.java

Load Script: API\_2\_ERH\_GVLE\_1.ldr

Cleanup Script: API\_2\_ERH\_GVLE\_1.clr

Parameter File: API\_2\_ERH\_GVLE\_1.par

# 6.2.5.7.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	appendTLV 02 02 02 02		
	findTLV with TAG 03		
	getValueLength()	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
2	appendTLV with TAG 0D and length 00		
	Search TLV 0Dh		
	getValueLength()	Result is 00h	
3	Clear the handler and append TLV with TAG		

	0D and length 02	
	Search TLV 0Dh	
	getValueLength()	Result is 02h
4	Clear the handler and append TLV with TAG 0D and length 0x7F	
	Search TLV 0Dh	
	getValueLength()	Result is 7Fh
5	Clear the handler and append TLV with TAG 0D and length 0x80	
	Search TLV 0Dh	
	<pre>getValueLength()</pre>	Result is 80h
6	Clear the handler and append TLV with TAG 0D and length 0xF1	
	Search TLV 0Dh	
	getValueLength()	Result is F1h
7	Call the post() method	
	getValueLength()	A toolkit Exception with HANDLER_NOT_AVAILABLE reason is thrown.

### 6.2.5.7.4 Test Coverage

CRR number	Test case number
N1	2, 3, 4, 5, 6
C1	7
C2	1

# 6.2.5.8 Method getValueByte

Test Area Reference: API\_2\_ERH\_GVBYS

# 6.2.5.8.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

### 6.2.5.8.1.1 Normal execution

• CRRN1: Gets a byte from the last TLV element which has been found in the handler and returns its value (1 byte).

### 6.2.5.8.1.2 Parameter errors

• CRRP1: if valueOffset is out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.5.8.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.UNAVAILABLE\_ELEMENT.

### 6.2.5.8.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_GVBYS\_1.scr

Test Applet: API\_2\_ERH\_GVBYS\_1.java

Load Script: API\_2\_ERH\_GVBYS\_1.ldr

Cleanup Script: API\_2\_ERH\_GVBYS\_1.clr

Parameter File: API\_2\_ERH\_GVBYS\_1.par

# 6.2.5.8.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	appendTLV 82 02 81 82, appendTLV 81 03 11		_
	22 FE		
	findTLV with TAG 03		
	getValueByte(0x00)	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
2	Search TLV 01h		
	getValueByte(0x03)	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
3	Search TLV 01h		
	getValueByte(0x02)	Result is FEh	
4	Search TLV 02h		
	getValueByte(0x00)	Result is 81h	
5	appendTLV with TAG 0D, Length 0x7E, Value:		
	00, 01,, 7D		
	getValueByte(0x07D)	Result is 7Dh	
6	clear the handler, appendTLV with TAG 0D,		
	Length 0x80, Value: 00, 01,, 7F		
	getValueByte(0x07E)	Result is 7Eh	
7	getValueByte(0x07F)	Result is 7Fh	
8	clear the handler, appendTLV with TAG 0D,		
	Length 0xF1, Value: 00, 01,, F0		
	getValueByte(0x0F0)	Result is F0h	
9	Call the post() method		
	-	A toolkit Exception with	
	getValueByte(0)	HANDLER_NOT_AVAILABLE	
		reason is thrown.	

# 6.2.5.8.4 Test Coverage

CRR number	Test case number
N1	3, 4, 5, 6, 7, 8
P1	2
C1	9
C2	1

# 6.2.5.9 Method copyValue

Test Area Reference: API\_2\_ERH\_CPYVS\_BSS

# 6.2.5.9.1 Conformance requirement

The method with following header shall be compliant with its definition in the API.

short dstLength)
throws java.lang.NullPointerException,
 java.lang.ArrayIndexOutOfBoundsException,
 ToolkitException

### 6.2.5.9.1.1 Normal execution

- CRRN1: copies a part of the last TLV element which has been found, into a destination. buffer.
- CRRN2: returns dstOffset + dstLength.

#### 6.2.5.9.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException is thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.OUT\_OF\_TLV\_BOUNDARIES.

### 6.2.5.9.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.UNAVAILABLE\_ELEMENT.

### 6.2.5.9.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_CPYVS\_BSS\_1.scr

Test Applet: API\_2\_ERH\_CPYVS\_BSS\_1.java

Load Script: API\_2\_ERH\_CPYVS\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_CPYVS\_BSS\_1.clr

Parameter File: API\_2\_ERH\_CPYVS\_BSS\_1.par

### 6.2.5.9.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	appendTLV with TAG: 0D and length 16 Select Text String TLV		
	copyValue() with a null dstBuffer	NullPointerException is thrown	
2			
	<pre>dstOffset ≥ dstBuffer.length dstBuffer.length = 5 dstOffset = 5 dstLength = 1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
3	<pre>dstOffset &lt; 0 dstBuffer.length = 5 dstOffset = -1 dstLength = 1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
4	<pre>dstLength &gt;dstBuffer.length dstBuffer.length = 5 dstOffset = 0 dstLength = 6</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
5	<pre>dstOffset + dstLength &gt;dstBuffer.length dstBuffer.length = 5 dstOffset = 3 dstLength = 3</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
6	<pre>dstLength &lt; 0 dstBuffer.length = 5</pre>	ArrayIndexOutOfBoundsExceptio	

distOrfset = 0   distOrfset   distOrfset   distOrfset   distOrfset   distOrfset   distOrfset   distOrfset   distOrfset   di	ld	Description	API Expectation	APDU Expectation
7 clear the handler, appendTLV with TAG: 0D and length 6 Select Text String TLV  valueOffset = 16 distaufer: length = 15 distoring term   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown    8 valueOffset = 0 distaurance   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown    8 valueOffset = 11 destruit/ere: length = 15 distoring term   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown    9 distLength = 15 distoring tength   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown    10 valueOffset = 0 distLength > Text String length    11 valueOffset = 10 distLength > Text String length    12 valueOffset = 10 distLength = 15 distoring tength    13 copyvalue()   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown    14 limitalise the handler    15 copyvalue()   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown    16 distLength = 5    17 copyvalue()   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown    18 distOffset = 0 distLength > Text String length    19 distOffset = 0 distLength > Text String length    10 valueOffset = 2 distoring tength    11 limitalise the handler    12 clear the handler, appendTLV with TAG: 0D    13 compare buffer    14 distOffset = 0 distLength = 17 distOffset = 0 distLength = 17    15 compare buffer    16 successful call   Result of copyValue() is 17    17 collection    18 valueOffset = 2 distOffset = 3 distLength = 20 distOffset = 3 distLength = 12    18 compare buffer    19 compare buffer    10 distUffset = 0 distLength = 20 distOffset			n is thrown	-
and length 6 Select Text String TLV  valueOffset ≥ Text String Length valueOffset ≥ 1  8  8  valueOffset ≥ 0 detCength = 15 detCength = 16 detCength = 16 detCength = 16 detCength = 17 detCength = 16 detCength = 17 detCength = 18 d		dstLength = -1		
and length 6 Select Text String TLV  valueOffset ≥ Text String Length valueOffset ≥ 1  8  8  valueOffset ≥ 0 detCength = 15 detCength = 16 detCength = 16 detCength = 16 detCength = 17 detCength = 16 detCength = 17 detCength = 18 d	7	clear the handler appendTLV with TAG: 0D		
Select Text String TLV	'			
valueOffset ≥ Text String Length   valueOffset = 6   dateOffset = 0   dateBuffer   Length = 15   dateOffset = 0   dateLength = 1   dateLength = 1   dateLength = 1   dateDuffset < 0   valueOffset = 0   dateLength = 15   dateOffset = 0   dateLength = 1   dateDuffer   Length = 15   dateOffset = 0   dateLength = 1   dateDuffset = 0   dateLength = 1   dateDuffset = 0   dateLength = 1   dateLength = 0   dateLength				
dstBuffer.length = 15 dstCength = 1  8			ToolkitException.OUT_OF_TLV_	
datCffset = 0   datLength = 1   datOffset < 0   valueOffset = 0   datBuffer.length = 15   datCffset = 0   datLength = 7   datLength = 7   datLength = 15   datLength = 7   datLength = 15   datLength = 15   datLength = 7   datLength = 15   datLength = 7   datLength = 15   datLength = 5   datLength = 7   datLength = 15   datLength = 7   datLength = 5   datLength = 17   datLength = 12   datLength = 10			BOUNDARIES is thrown	
astLength = 1   ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown		3		
valueOffset = -1   dstBuffer.length = 15   dstDuffset = 0   dstLength = 1     9				
dat Butfer   length = 15   dat butfer   length   steep   length   steep   length	8			
dstLength = 1			BOUNDARIES is thrown	
distLength = 1				
valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dotLength = 7  10 valueOffset + dstLength > Text String length valueOffset = 12 dstBuffer.length = 15 dstDoffset = 0 dstLength = 5  11 Initialise the handler copyValue()  12 Clear the handler, appendTLV with TAG: 0D and value: 04 00 01 0F Select Text String TLV  Successful call valueOffset = 0 dstBuffer.length = 17 dstOffset = 0 dstBuffer = 04 00 01 0F buffer = 04 00 01 0F  Successful call valueOffset = 2 dstBuffer.length = 12 dstBuffer = 3 dstDength = 12  Compare buffer buffer = 04 00 01 0F  Successful call valueOffset = 0 dstBuffer.length = 20 dstDuffer = 2 dstBuffer.length = 20 dstDuffer = 20 dstDuffer = 20 dstDuffer = 3 dstDuffer = 20 dstDuffer = 3 dstDuffer = 20 dstDuffer.length = 20 dstD				
dstDefined = 15 dstOffset = 0 dstLength = 7  10	9			
datoEngth = 7   datLength > 7   ToolkitException.OUT_OF_TLV_ valueOffset + dstLength > Text String length valueOffset = 2 datBuffer.length = 15 datoffset = 0 dgtLength = 5   ToolkitException.UNAVAILABLE_ ELEMENT is thrown			BOUNDARIES is thrown	
ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown		3		
valueOffset = 2   dstBuffer.length = 15   dstOffset = 0   dstLength = 5		dstLength = 7		
dstDaffer   length   = 15 dstOffset   = 0 dstLength   = 5  11	10			
dstOffset = 0   dstLength = 5			BOUNDARIES is thrown	
Initialise the handler				
CopyValue()   ToolkitException.UNAVAILABLE_ELEMENT is thrown				
Clear the handler, appendTLV with TAG: 0D and value: 04 00 01 0F Select Text String TLV	11			
12   Clear the handler, appendTLV with TAG: 0D and value: 04 00 01 0F		copyValue()		
and value: 04 00 01 0F   Select Text String TLV	12	clear the handler appendTLV with TAG: 0D	ELEMENT IS INFOWN	
Select Text String TLV	12			
valueOffset = 0   dstBuffer.length = 17   dstOffset = 0   dstLength = 17     13		Select Text String TLV		
dstBuffer.length = 17   dstOffset = 0   dstLength = 17			Result of copyValue() is 17	
dstOffset = 0   dstLength = 17				
13				
buffer = 04 00 01 0F				
14	13		Result is 00h	
dstBuffer = 55 55 55		buffer = 04 00 01 0F		
Successful call   ValueOffset = 2   dstBuffer.length = 20   dstOffset = 3   dstLength = 12     15	14	initialise dstBuffer		
<pre>valueOffset = 2 dstBuffer.length = 20 dstOffset = 3 dstLength = 12  15</pre>		dstBuffer = 55 55 55		
dstBuffer.length = 20   dstOffset = 3   dstLength = 12			Result of copyValue() is 15	
dstoffset = 3   dstLength = 12				
Compare buffer				
buffer = 55 55 55 01 02 03 04 05 06 07 08 09 0A 0B 0C 55 55 55 55 16	4-		D. H. COL	
55 55 55 01 02 03 04 05 06 07 08 09 0A 0B 0C 55 55 55 55 55  16	15		Result is 00h	
03 04 05 06 07 08 09 0A 0B 0C 55 55 55 55 16				
55 55 55 55  16 Successful call, copyValue with length =0 dstBuffer.length = 20 dstOffset = 20 dstLength = 0  17 Call post() method then copyValue()		03 04 05 06 07		
16 Successful call, copyValue with length =0 dstBuffer.length = 20 dstOffset = 20 dstLength = 0  17 Call post() method then copyValue()				
dstBuffer.length = 20 dstOffset = 20 dstLength = 0  17 Call post() method then copyValue()	16		Result of copyValue() is 20	
dstLength = 0  17 Call post() method then copyValue()				
17 Call post() method then copyValue()				
	17			
	''	dstBuffer.length = 20	A toolkit Exception with	
dstOffset = 0 HANDLER_NOT_AVAILABLE				
dstLength = 0 reason is thrown.		dstLength = 0		

# 6.2.5.9.4 Test Coverage

CRR number	Test case number
N1	13, 15
N2	12, 14, 16
P1	1
P2	2, 3, 4, 5, 6

P3	7, 8, 9, 10
C1	17
C2	11

### 6.2.5.10 Method compareValue

Test Area Reference: API\_2\_ERH\_CPRVS\_BSS

### 6.2.5.10.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.5.10.1.1 Normal execution

Compares the last found TLV element with a buffer:

- CRRN1: returns 0 if identical.
- CRRN2: returns -1 if the first miscomparing byte in simple TLV List is less than that in compareBuffer.
- CRRN3: returns 1 if the first miscomparing byte in simple TLV List is greater than that in compareBuffer.

### 6.2.5.10.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.OUT\_OF\_TLV\_BOUNDARIES.

### 6.2.5.10.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.UNAVAILABLE\_ELEMENT.

# 6.2.5.10.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_CPRVS\_BSS\_1.scr

Test Applet: API\_2\_ERH\_CPRVS\_BSS\_1.java

Load Script: API\_2\_ERH\_CPRVS\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_CPRVS\_BSS\_1.clr

Parameter File: API\_2\_ERH\_CPRVS\_BSS\_1.par

### 6.2.5.10.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	appendTLV with TAG: 0D and length 16	·	•
	Select Text String TLV		
	compareValue() with a null compareBuffer	NullPointerException is thrown	
2	<pre>compareOffset ≥ compareBuffer.length compareBuffer.length = 5 compareOffset = 5 compareLength = 1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
3	<pre>compareOffset &lt; 0 compareBuffer.length = 5 compareOffset = -1 compareLength = 1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
4	<pre>compareLength &gt;compareBuffer.length compareBuffer.length = 5 compareOffset = 0 compareLength = 6</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
5	<pre>compareOffset + compareLength</pre>	ArrayIndexOutOfBoundsException is thrown	
6	<pre>compareLength &lt; 0 compareBuffer.length = 5 compareOffset = 0 compareLength = -1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
7	appendTLV with TAG: 0D and length 6 Select Text String TLV valueOffset ≥ Text String Length valueOffset = 6 compareBuffer.length = 15 compareOffset = 0 compareLength = 1	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown	
8	<pre>valueOffset &lt; 0 valueOffset = -1 compareBuffer.length = 15 compareOffset = 0 compareLength = 1</pre>	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown	
9	<pre>compareLength &gt; Text String length valueOffset = 0 compareBuffer.length = 15 compareOffset = 0 compareLength = 7</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
10	<pre>valueOffset + compareLength &gt; Text String</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
11	Initialise the handler compareValue()	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
12	appendTLV with TAG: 0D and value: 04 00 01 0F Select Text String TLV Initialise compareBuffer  compareBuffer = 04 00 01 0F  Compare buffers  valueOffset = 0 compareOffset = 0 compareLength = 17	Result is 00h	
13	Initialise compareBuffer  compareBuffer = 04 00 01 02 03 04 05 06 07 08 05 0A 0B 0C 0D 0E 10  Compare buffers with same parameters	Result is -1	
	1	i tosuit io i	

ld	Description	API Expectation	APDU Expectation
14	Initialise compareBuffer		
	compareBuffer =		
	03 00 01 OF		
	Compare buffers with same parameters	Result is +1	
15	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55		
	Compare buffers	Result is 00h	
	valueOffset = 2	Result is oon	
	compareOffset = 3		
	compareLength = 12		
16	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 02 01		
	03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55		
	Compare buffers with same parameters	Result is -1	
17	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0A 0D		
	55 55 55 55		
	Compare buffers with same parameters	Result is +1	
18	Successful call, compareValue with length =0	Result of compareValue() is 0	
	compareBuffer.length = 20		
	compareOffset = 15		
	compareLength = 0		
19	Call post() method then compareValue()		
	compareBuffer.length = 20	A toolkit Exception with	
	compareOffset = 0	HANDLER_NOT_AVAILABLE	
	compareLength = 0	reason is thrown.	

# 6.2.5.10.4 Test Coverage

CRR number	Test case number
N1	12, 15, 18
N2	13, 16
N3	14, 17
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	19
C2	11

# 6.2.5.11 Method findAndCopyValue(byte tag, byte[] dstBuffer, short valueOffset)

Test Area Reference: API\_2\_ERH\_FACYB\_BS

# 6.2.5.11.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

### 6.2.5.11.1.1 Normal execution

- CRRN1: looks for the first occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + length of the copied value is returned.
- CRRN4: The search method is comprehension required flag independent.

#### 6.2.5.11.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

### 6.2.5.11.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

#### 6.2.5.11.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_FACYB\_BS\_1.scr

Test Applet: API\_2\_ERH\_FACYB\_BS\_1.java

Load Script: API\_2\_ERH\_FACYB\_BS\_1.ldr

Cleanup Script: API\_2\_ERH\_FACYB\_BS\_1.clr

Parameter File: API\_2\_ERH\_FACYB\_BS\_1.par

### 6.2.5.11.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler		
	findAndCopyValue() with a null dstBuffer	NullPointerException is thrown	
2	appendTLV with TAG: 0D and length 16 Select Text String TLV		
	<pre>dstOffset ≥ dstBuffer.length tag = 0Dh dstBuffer.length = 20 dstOffset = 20</pre>	ArrayIndexOutOfBoundsException is thrown	
3	<pre>dstOffset &lt; 0 dstBuffer.length = 20 dstOffset = -1</pre>	ArrayIndexOutOfBoundsException is thrown	
4	<pre>dstOffset + length &gt;dstBuffer.length dstBuffer.length = 20 dstOffset = 5</pre>	ArrayIndexOutOfBoundsException is thrown	
5	<pre>length &gt; dstBuffer.length dstBuffer.length = 15 dstOffset = 0</pre>	ArrayIndexOutOfBoundsException is thrown	

ld	Description	API Expectation	APDU Expectation
6	clear the handler, appendTLV with TAG 02 and		_
	Length 02		
	Select a TLV (tag 02h)	Ta allaid Francisco LINIAN/ALI ADI F	
	<pre>findAndCopyValue() tag = 03h</pre>	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
	3.0	ELEMENT is thrown.	
7	appendTLV with TAG: 0D and value: 04 00 01	ELEMENT IS UNIOWIII	
	0F		
	Successful call	Result of findAndCopyValue() is	
	Tag = 0Dh	17	
	<pre>dstBuffer.length = 17 dstOffset = 0</pre>		
8	Compare buffer	Result is 00h	
	buffer = 04 00 01 0F	result is our	
9	initialise dstBuffer		
	dstBuffer = 55 55 55  Successful call	D 16 (6 14 10 17 1 0 :	
	dstBuffer.length = 20	Result of findAndCopyValue() is 19	
	dstOffset = 2	19	
10	Compare buffer	Result is 00h	
	buffer =		
	55 55 04 00 01 02 03 04 05 06		
	07 08 09 0A 0B		
	OC OD OE OF 55		
11	clear the handler, appendTLV with TAG: 0D		
	and value: 04 00 01 0F		
	append a 2 <sup>nd</sup> Text String TLV	D 1: ( C 1A 1O ) ( 1 O )	
	Successful call tag = 0Dh	Result of findAndCopyValue() is 17	
	dstBuffer.length = 17		
	dstOffset = 0		
12	Compare buffer	Result is 00h	
40	buffer = 04 00 01 0F		
13	clear the handler, appendTLV with TAG: 0D and value: 04 00 01 0F		
	Successful call (with tag 8Dh)	Result of findAndCopyValue() is	
	tag = 8Dh	17	
	dstBuffer.length = 17		
4.	dstOffset = 0	D. It is and	
14	Compare buffer buffer = 04 00 01 0F	Result is 00h	
15	Append tag 0Fh		
	buffer = 00 01 OF		
	Successful call (with tag 8Fh)	Result of findAndCopyValue() is	
	tag = 8Fh dstBuffer.length = 16	16	
	dstBuffer.length = 16 dstOffset = 0		
16	Compare buffer	Result is 00h	
'	buffer = 00 01 0F	1.100011	
17	Call post() method then findAndCopyValue()		
	tag = 8Fh	A toolkit Exception with	
	<pre>dstBuffer.length = 0 dstOffset = 0</pre>	HANDLER_NOT_AVAILABLE	
	MDCOTTDEC - 0	reason is thrown.	

# 6.2.5.11.4 Test Coverage

CRR number	Test case number
N1	8, 10, 12
N2	6
N3	7, 9, 11
N4	13, 14, 15, 16
P1	1
P2	2, 3, 4, 5
C1	17

# 6.2.5.12 Method findAndCopyValue(byte tag, byte occurrence, short valueOffset, byte[] dstBuffer, short dstOffset, short dstLength)

Test Area Reference: API\_2\_ERH\_FACYBBS\_BSS

### 6.2.5.12.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.5.12.1.1 Normal execution

- CRRN1: looks for the indicated occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + dstLength is
  returned.
- CRRN4: The search method is comprehension required flag independent.

### 6.2.5.12.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.OUT\_OF\_TLV\_BOUNDARIES.

### 6.2.5.12.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

### 6.2.5.12.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_FACYBBS\_BSS\_1.scr

Test Applet: API\_2\_ERH\_FACYBBS\_BSS\_1.java

Load Script: API\_2\_ERH\_FACYBBS\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_FACYBBS\_BSS\_1.clr

Parameter File: API\_2\_ERH\_FACYBBS\_BSS\_1.par

# 6.2.5.12.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler	NullPointerException is thrown	= Apotation
	findAndCopyValue() with a null dstBuffer	and the same of th	
2	appendTLV with TAG: 0D and length 16		
	dstOffset ≥ dstBuffer.length		
	tag = 0Dh, occurrence = 1	ArrayIndexOutOfBoundsExceptio	
	<pre>valueOffset = 0 dstBuffer.length = 5</pre>	n is thrown	
	dstOffset = 5		
	dstLength = 1		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = -1 dstLength = 1		
4	dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 0		
	dstLength = 6	A manufactory of Of Davis da Esta anti-	
5	<pre>dstOffset + dstLength &gt;dstBuffer.length dstBuffer.length = 5</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
	dstOffset = 3	II IS UIIOWII	
	dstLength = 3		
6	dstLength < 0	ArrayIndexOutOfBoundsExceptio	
	<pre>dstBuffer.length = 5 dstOffset = 0</pre>	n is thrown	
	dstLength = -1		
7	appendTLV with TAG: 0D and length 6	ToolkitException.OUT_OF_TLV_	
	valueOffset ≥ Text String Length	BOUNDARIES is thrown	
	tag = 0Dh, occurrence = 1		
	<pre>valueOffset = 6 dstBuffer.length = 15</pre>		
	dstOffset = 0		
	dstLength = 1		
8	valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	valueOffset = -1	BOUNDARIES is thrown	
	<pre>valueOffset = -1 dstBuffer.length = 15</pre>		
	valueOffset = -1		
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0</pre>		
	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength = 1      dstLength &gt; Text String length valueOffset = 0</pre>	BOUNDARIES is thrown	
	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength = 1      dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_	
	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength = 1      dstLength &gt; Text String length valueOffset = 0</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_	
	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength = 1</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7</pre> valueOffset + dstLength > Text String length valueOffset = 2 dstBuffer.length = 15	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7 valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5</pre> clear the handler, appendTLV with TAG 02 and Length 02	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and Length 02 Select a TLV (tag 02h)</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7 valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5 clear the handler, appendTLV with TAG 02 and Length 02 Select a TLV (tag 02h) findAndCopyValue()</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and Length 02 Select a TLV (tag 02h)</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7 valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5 clear the handler, appendTLV with TAG 02 and</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7 valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5 clear the handler, appendTLV with TAG 02 and</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ ELEMENT is thrown  ToolkitException.UNAVAILABLE_	
9	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7 valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5 clear the handler, appendTLV with TAG 02 and</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ ELEMENT is thrown  ToolkitException.UNAVAILABLE_	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ ELEMENT is thrown  ToolkitException.UNAVAILABLE_	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown.	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown.	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown.	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown.	
9 10 11	<pre>valueOffset = -1 dstBuffer.length = 15 dstOffset = 0 dstLength &gt; Text String length valueOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstBuffer.length = 15 dstOffset = 0 dstLength = 7  valueOffset + dstLength &gt; Text String length valueOffset = 2 dstBuffer.length = 15 dstOffset = 0 dstLength = 5  clear the handler, appendTLV with TAG 02 and</pre>	ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.OUT_OF_TLV_BOUNDARIES is thrown  ToolkitException.UT_OF_TLV_BOUNDARIES is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown  ToolkitException.UNAVAILABLE_ELEMENT is thrown.  Result of findAndCopyValue() is 17	

ld	Description	API Expectation	APDU Expectation
14	initialise dstBuffer	, a r Exposition	7.1. DO EXPONENTIAL
	dstBuffer = 55 55 55		
	Successful call	Result of findAndCopyValue() is	
	<pre>tag = 0Dh, occurrence = 1 valueOffset = 2</pre>	15	
	dstBuffer.length = 20		
	dstOffset = 3		
	dstLength = 12		
15	Compare buffer	Result is 00h	
	buffer =		
	55 55 55 01 02 03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55		
16	Append a Text String TLV		
	tag = 0D buffer = 00 11 22 33 44 55 (no specific		
	DCS byte)		
	Successful call	Result of findAndCopyValue() is	
	<pre>tag = 0Dh, occurrence = 1 valueOffset = 0</pre>	17	
	dstBuffer.length = 20		
	dstOffset = 0		
	dstLength = 17		
17	Compare buffer	Result is 00h	
40	buffer = 04 00 01 0F  Successful call		
18	tag = 0Dh, occurrence = 2	Result of findAndCopyValue() is 6	
	valueOffset = 0		
	dstBuffer.length = 6		
	<pre>dstOffset = 0 dstLength = 6</pre>		
19	Compare buffer	Result is 00h	
	buffer = 00 11 22 33 44 55		
20	clear the handler and appendTLV with TAG:		
	0D and value: 04 00 01 0F Successful call (with tag 8Dh)	Popult of find And Conv.\(\alpha\) is	
	tag = 8Dh	Result of findAndCopyValue () is 17	
	occurrence = 1	l''	
	valueOffset = 0		
	<pre>dstBuffer.length = 17 dstOffset = 0</pre>		
	dstLength = 17		
21	Compare buffer	Result is 00h	
	buffer = 04 00 01 0F		
22	Append tag 0Fh		
	buffer = 00 01 0F Successful call (with tag 8Fh)	Deput of find And Occasive to a Co	
	tag = 8Fh	Result of findAndCopyValue () is 16	
	occurrence = 1	10	
	valueOffset = 0		
	<pre>dstBuffer.length = 16 dstOffset = 0</pre>		
	dstLength = 16		
23	Compare buffer	Result is 00h	
Ľ	buffer = 00 01 0F		
24	Successful call, findAndCopyValue with length	Result of findAndCopyValue () is	
	dat Duffor longth - 16	16	
	<pre>dstBuffer.length = 16 dstOffset = 16</pre>		
	dstLength = 0		
25	Call post() method then findAndCopyValue()		
	<pre>dstBuffer.length = 16 dstOffset = 0</pre>	A toolkit Exception with	
	dstOffset = 0 dstLength = 0	HANDLER_NOT_AVAILABLE	
	J	reason is thrown.	

# 6.2.5.12.4 Test Coverage

CRR number	Test case number
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N1	13, 15, 17, 19
N2	11
N3	12, 14, 16, 18, 24
N4	20, 21, 22, 23
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	25

# 6.2.5.13 Method findAndCompareValue(byte tag, byte[] compareBuffer, short compareOffset)

Test Area Reference: API\_2\_ERH\_FACRB\_BS

### 6.2.5.13.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

### 6.2.5.13.1.1 Normal execution

Looks for the first occurrence of a TLV element from beginning of a TLV list and compare its value with a buffer:

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical returns 0.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer returns -1.
- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer returns 1.
- CRRN6: The search method is comprehension required flag independent.

#### 6.2.5.13.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

# 6.2.5.13.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

# 6.2.5.13.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_FACRB\_BS\_1.scr
Test Applet: API\_2\_ERH\_FACRB\_BS\_1.java
Load Script: API\_2\_ERH\_FACRB\_BS\_1.ldr

Cleanup Script: API\_2\_ERH\_FACRB\_BS\_1.clr

Parameter File: API\_2\_ERH\_FACRB\_BS\_1.par

6.2.5.13.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	appendTLV with TAG: 0D and length 16	NullPointerException is thrown	- p
	findAndCompareValue() with a null dstBuffer and		
	tag 0Dh		
<u> </u>			
2	compareOffset ≥ compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	tag = 0Dh compareBuffer.length = 20	n is thrown	
	compareOffset = 20		
3	compareOffset < 0	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 20	n is thrown	
	compareOffset = -1		
4	compareOffset + length >	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length	n is thrown	
	<pre>compareBuffer.length = 20 compareOffset = 5</pre>		
5	length > compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 15	n is thrown	
	compareOffset = 0		
6	clear the handler, appendTLV with TAG 02 and Length 02		
	Select a TLV (tag 02h)	ToolkitException.UNAVAILABLE_	
	findAndCompareValue()	ELEMENT is thrown	
	tag = 03h		
7	Verify current TLV	ToolkitException.UNAVAILABLE_	
	getValueLength()	ELEMENT is thrown.	
8	clear the handler and appendTLV with TAG: 0D and value: 04 00 01 0F		
	Initialise compareBuffer		
	compareBuffer =		
	04 00 01 OF		
	Compare buffers	Result is 00h	
	<pre>tag = 0Dh compareOffset = 0</pre>		
9	Verify current TLV	Result is 17	
	getValueLength()	result is 17	
10	Initialise compareBuffer		
	compareBuffer =		
	04 00 01 10		
4.4	Compare buffers with same parameters	Result is -1	
11	Initialise compareBuffer compareBuffer =		
	03 00 01 0F		
	Compare buffers with same parameters	Result is +1	
12	Initialise compareBuffer		
	compareBuffer =		
	55 55 04 00 01 02 03 04 05 06		
	07 08 09 0A 0B		
	OC OD OE OF 55		
	Compare buffers	Result is 00h	
<u> </u>	compareOffset = 2		
13	append a Text String TLV		
	tag = 0Dh buffer = 00 11 22 33 44 55		
	Initialise compareBuffer		
	compareBuffer =		
	55 55 04 00 01		
	02 03 04 05 06 07 08 09 0A 0B		
	OC OD OE OF 55		
	Compare buffers		
	compareOffset = 2	Result is 00h	

ld	Description	API Expectation	APDU Expectation
14	Initialise compareBuffer  compareBuffer =  55 55 04 01 01 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 55		
	Compare buffers compareOffset = 2	Result is -1	
15	Initialise compareBuffer  compareBuffer =  55 55 04 00 01  02 03 04 05 06  07 08 09 0A 0B  0C 0D 0D 10 55   Compare buffers  compareOffset = 2	Result is +1	
16	clear the handler and appendTLV with TAG:	Result is 00h	
17	Append tag 0Fh buffer = 00 01 0F	Result is 00h	
18	Call post() method then findAndCompareValue() tag = 8Fh compareBuffer.length = 0 compareOffset = 0	A toolkit Exception with HANDLER_NOT_AVAILABLE reason is thrown.	

# 6.2.5.13.4 Test Coverage

CRR number	Test case number
N1	6,7
N2	7,9
N3	8, 13, 12
N4	10, 14
N5	11, 15
N6	17, 16
P1	1
P2	2, 3, 4, 5
C1	18

# 6.2.5.14 Method findAndCompareValue(byte tag, byte occurrence, short valueOffset, byte[] compareBuffer, short compareOffset, short compareLength)

Test Area Reference: API\_2\_ERH\_FACRBBS\_BSS

# 6.2.5.14.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

short compareOffset,
 short compareLength)
throws java.lang.NullPointerException,
 java.lang.ArrayIndexOutOfBoundsException,
 ToolkitException

#### 6.2.5.14.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of a TLV list and compare its value with a buffer.

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical 0 is returned.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer -1 is returned.
- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer 1 is returned
- CRRN6: The search method is comprehension required flag independent.

### 6.2.5.14.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, compareLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.OUT\_OF\_TLV\_BOUNDARIES.
- CRRP4: if an input parameter is not valid (e.g. occurrence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.BAD\_INPUT\_PARAMETER.

### 6.2.5.14.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

### 6.2.5.14.2 Test Suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_FACRBBS\_BSS\_1.scr

Test Applet: API\_2\_ERH\_FACRBBS\_BSS\_1.java

Load Script: API\_2\_ERH\_FACRBBS\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_FACRBBS\_BSS\_1.clr

Parameter File: API 2 ERH FACRBBS BSS 1.par

### 6.2.5.14.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler		
	findAndCompareValue() with a null	NullPointerException is thrown	
	compareBuffer	·	

ld	Description	API Expectation	APDU Expectation
2	clear the handler and appendTLV with TAG:	AFT EXPECTATION	AFDO EXPECTATION
-	0D and value: 04 00 01 0F		
		ArrayIndexOutOfBoundsExceptio	
	compareOffset ≥ compareBuffer.length tag = 0Dh, occurrence = 1	n is thrown	
	valueOffset = 0	II IS UIIOWII	
	compareBuffer.length = 5		
	compareOffset = 5		
	compareLength = 1		
3	compareOffset < 0	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 5	n is thrown	
	compareOffset = -1		
_	compareLength = 1	A 1 1 0 10'D 1 5	
4	<pre>compareLength &gt;compareBuffer.length compareBuffer.length = 5</pre>	ArrayIndexOutOfBoundsExceptio	
	compareOffset = 0	n is thrown	
	compareLength = 6		
5	compareOffset + compareLength	ArrayIndexOutOfBoundsExceptio	
	>compareBuffer.length	n is thrown	
	compareBuffer.length = 5		
	compareOffset = 3		
6	compareLength = 3  compareLength < 0	ArrayIndexOutOfBoundsExceptio	
"	compareBuffer.length = 5	n is thrown	
	compareOffset = 0	II IO dillowiii	
	compareLength = -1		
<u></u>			
7	clear the handler and appendTLV with TAG		
	and length of 6	Tablist Expansion OUT OF TIV	
	valueOffset ≥ Text String Length	ToolkitException.OUT_OF_TLV_	
	<pre>tag = 0Dh, occurrence = 1 valueOffset = 6</pre>	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	compareOffset = 0		
	compareLength = 1		
8	valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	valueOffset = -1	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	<pre>compareOffset = 0 compareLength = 1</pre>		
9	compareLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 0	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	<pre>compareOffset = 0 compareLength = 7</pre>		
10	valueOffset + compareLength > Text String	ToolkitException.OUT_OF_TLV_	
'	length	BOUNDARIES is thrown	
	valueOffset = 2		
	compareBuffer.length = 15		
	compareOffset = 0		
11	compareLength = 5 Invalid parameter	ToolkitException.BAD_INPUT_PA	
' '	occurrence = 0	RAMETER is thrown	
12	appendTLV with TAG 02 and length 02	IV WILL LEIV 13 HILOWII	
'-	Select a TLV (tag 02h)		
	findAndCompareValue()	ToolkitException.UNAVAILABLE_	
	tag = 0Dh	ELEMENT is thrown	
	occurrence = 2		
13	Verify current TLV	ToolkitException.UNAVAILABLE_	
<b>.</b>	getValueLength()	ELEMENT is thrown.	
14	clear the handler and appendTLV with TAG:		
	0D and value: 04 00 01 0F		
	Initialise compareBuffer compareBuffer =		
	04 00 01 OF		
	findAndCompareValue()	Result is 00h	
	tag = 0Dh, occurrence = 1	Result is out	
	valueOffset = 0		
	compareOffset = 0		
	compareLength = 17		
15	Verify current TLV	Result is 17	
	getValueLength()		

ld	Description	API Expectation	APDU Expectation
16	Initialise compareBuffer		P
	compareBuffer = 04 00 01 10		
	Compare buffers with same parameters	Result is -1	
17	Initialise compareBuffer		
	compareBuffer =		
	03 00 01 0F  Compare buffers with same parameters	Result is +1	
18	Initialise compareBuffer	TOOUIL 10 T I	
	compareBuffer =		
	55 55 55 01 02 03 04 05 06 07		
	08 09 0A 0B 0C 55 55 55 55 55		
	Compare buffers	B #: 001	
	valueOffset = 2	Result is 00h	
	<pre>compareOffset = 3 compareLength = 12</pre>		
19	Initialise compareBuffer		
13	compareBuffer =		
	55 55 55 02 01 03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55 55  Compare buffers with same parameters		
	-	Result is -1	
20	Initialise compareBuffer compareBuffer =		
	55 55 55 01 02		
	03 04 05 06 07 08 09 0A 0A 0D		
	55 55 55 55		
	Compare buffers with same parameters	Result is +1	
21	append a Text String TLV		
	tag = 0Dh buffer = 00 11 22 33 44 55		
	Initialise compareBuffer		
	compareBuffer = 04 00 01 OF		
	findAndCompareValue()	Result is 00h	
	<pre>tag = 0Dh, occurrence = 1 valueOffset = 0</pre>		
	compareOffset = 0		
	compareLength = 17		
22	Initialise compareBuffer compareBuffer =	Result is 00h	
	00 11 22 33 44 55		
	<pre>findAndCompareValue() tag = 0Dh, occurrence = 2</pre>		
	valueOffset = 0		
	<pre>compareOffset = 0 compareLength = 6</pre>		
23	Initialise compareBuffer		
_5	compareBuffer =		
	00 11 22 33 44 66 findAndCompareValue()	Regult in 1	
	tag = 0Dh, occurrence = 2	Result is -1	
	<pre>valueOffset = 0 compareOffset = 0</pre>		
	compareLength = 6		
24	clear the handler and appendTLV with TAG:		
	0D and value: 04 00 01 0F Initialise compareBuffer		
	compareBuffer = 04 00 01 0F		
	Successful call (with tag 8Dh)	Result is 00h	
	<pre>tag = 8Dh, occurrence = 1 valueOffset = 0</pre>		
	compareBuffer.length = 17		
	<pre>compareOffset = 0 compareLength = 17</pre>		
I	<u>-</u>	I	I

ld	Description	API Expectation	APDU Expectation
25	Append tag 0Fh		
	buffer = 00 01 0F		
	Initialise compareBuffer		
	compareBuffer = 00 01 0F		
	Successful call (with tag 8Fh)	Result is 00h	
	tag = 8Fh, occurrence = 1		
	valueOffset = 0		
	compareBuffer.length = 16		
	compareOffset = 0		
	compareLength = 16		
26	Successful call, findAndCompareValue with	Result of findAndCompareValue	
	length =0	() is 00	
	CompareBuffer.length = 16	·	
	compareOffset = 16		
	compareLength = 0		
27	Call post() method then		
	findAndCompareValue()		
	CompareBuffer.length = 16	A toolkit Exception with	
	compareOffset = 0	HANDLER_NOT_AVAILABLE	
	compareLength = 0	reason is thrown.	

# 6.2.5.14.4 Test Coverage

CRR number	Test case number
N1	12,13
N2	15,13
N3	14, 18, 22, 21, 26
N4	16, 19, 23
N5	17, 19
N6	25, 24
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
P4	11
C1	27

# 6.2.5.15 Method appendArray

Test Area Reference: API\_2\_ERH\_APDA\_BSS

# 6.2.5.15.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

# 6.2.5.15.1.1 Normal execution

- CRRN1: appends a buffer into the EditHandler buffer.
- CRRN2: a successful append does not modify the TLV selected.

### 6.2.5.15.1.2 Parameters error

- CRRP1: if buffer is null, a java.lang.NullPointerException is thrown.
- CRRP2: if offset or length or both would cause access outside the array bounds, or if length is negative, a java.lang.ArrayIndexOutOfBoundsException is thrown.

### 6.2.5.15.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.

### 6.2.5.15.2 Test suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_APDA\_BSS\_1.scr

Test Applet: API\_2\_ERH\_APDA\_BSS\_1.java

Load Script: API\_2\_ERH\_APDA\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_APDA\_BSS\_1.clr

Parameter File: API\_2\_ERH\_APDA\_BSS\_1.par

# 6.2.5.15.3 Test procedure

Initialise the envelope response handler with a  TLV of length 1  1	ld	Description	API Expectation	APDU Expectation
TLV of length 1	IU			AFDO Expectation
Offset ≥ buffer.length   Successful call				
2     offset ≥ buffer.length = 5 offset = 5 length = 1     ArrayIndexOutOfBoundsException is thrown       3     offset < 0 buffer.length = 5 offset = -1 length = 5 offset = -1 length = 1     ArrayIndexOutOfBoundsException is thrown       4     length > buffer.length buffer.length buffer.length > buffer.length = 5 offset = 0 length = 6     ArrayIndexOutOfBoundsException is thrown       5     offset + length > buffer.length buffer.length buffer.length = 5 offset = 3 length = 3     ArrayIndexOutOfBoundsException is thrown       6     length < 0 huffer.length = 5 offset = 0 length = -1     ArrayIndexOutOfBoundsException is thrown       7     Handler overflow buffer.length = 256 offset = 0 length = 256 offset = 0 length = 256     ToolkitException.HANDLER_OVE RFLOW is thrown       8     append the handler with TLVs: 81 03 11 22 33 82 02 99 77     Successful call buffer = FF FE F8 offset = 0 length = 8       9     Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8     Call copy() method Compare handler    Call copy() method Compare handler	1	Null buffer	NullPointerException is thrown	
buffer.length = 5 offset = 5 length = 1  3	2	offset ≥ buffer.length		
length = 1			n is thrown	
Offset   O				
buffer.length = 5 offset = -1 length = 1  4	2		A rrough day Out Of Dough do Evantia	
offset = -1 length = 1  4	3			
A			II IS UIIOWII	
buffer.length = 5 offset = 0 length = 6  5		length = 1		
offset = 0 length = 6  offset + length > buffer.length buffer.length = 5 offset = 3 length = 3  length = 5 offset = 0 length = 5 offset = 0 length = -1  Thandler overflow buffer.length = 256 offset = 0 length = 256 offset = 0 length = 256  Show append the handler with TLVs: 81 03 11 22 33 82 02 99 77 findTLV 0x81 Successful call buffer = FF FE F8 offset = 0 length = 8  Verify Current TLV: Call getValueLength()  Call copy() method Compare handler  Result is 00h  ArrayIndexOutOfBoundsExceptio n is thrown  ToolkitException.HANDLER_OVE RFLOW is thrown  ToolkitException.HANDLER_OVE RFLOW is thrown  Result is 03h  Result is 03h  Result is 03h	4	length > buffer.length	ArrayIndexOutOfBoundsExceptio	
length = 6   S			n is thrown	
Solution				
buffer.length = 5 offset = 3 length < 0 buffer.length = 5 offset = 0 length = -1  7	5		ArrayIndexOutOfBoundsEvcentio	
offset = 3 length = 3  6				
Second			in lo unown	
buffer.length = 5 offset = 0 length = -1  7				
offset = 0 length = -1  7	6			
length = -1			n is thrown	
ToolkitException.HANDLER_OVE buffer.length = 256 offset = 0 length = 256  8				
buffer.length = 256 offset = 0 length = 256  8	7	-	ToolkitException.HANDLER OVE	
length = 256  8		_		
8 append the handler with TLVs: 81 03 11 22 33 82 02 99 77 findTLV 0x81 Successful call buffer = FF FE F8 offset = 0 length = 8 Verify Current TLV: Call getValueLength()  9 Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8 Call copy() method Compare handler Result is 00h				
81 03 11 22 33 82 02 99 77  findTLV 0x81 Successful call buffer = FF FE F8 offset = 0 length = 8  Verify Current TLV: Call getValueLength()  9  Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8  Call copy() method Compare handler  Result is 00h	0			
findTLV 0x81 Successful call  buffer = FF FE F8 offset = 0 length = 8  Verify Current TLV: Call getValueLength()  9  Clear the handler Successful call  buffer = FF FE F8 offset = 0 length = 8  Call copy() method Compare handler  Result is 00h	0			
Successful call buffer = FF FE F8 offset = 0 length = 8 Verify Current TLV: Call getValueLength()  9 Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8 Call copy() method Compare handler  Result is 00h				
buffer = FF FE F8 offset = 0 length = 8 Verify Current TLV: Call getValueLength()  9 Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8 Call copy() method Compare handler  Result is 00h		findTLV 0x81		
offset = 0 length = 8  Verify Current TLV: Call getValueLength()  9  Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8  Call copy() method Compare handler  Result is 00h				
length = 8 Verify Current TLV: Call getValueLength()  Result is 03h  9 Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8  Call copy() method Compare handler  Result is 00h				
Verify Current TLV: Call getValueLength()  Result is 03h  Clear the handler Successful call  buffer = FF FE F8 offset = 0 length = 8  Call copy() method Compare handler  Result is 03h  Result is 03h				
9 Clear the handler Successful call buffer = FF FE F8 offset = 0 length = 8 Call copy() method Compare handler  Result is 03h  Result is 03h  Result is 00h				
Successful call  buffer = FF FE F8 offset = 0 length = 8  Call copy() method Compare handler  Result is 00h			Result is 03h	
buffer = FF FE F8 offset = 0 length = 8  Call copy() method Compare handler  Result is 00h	9			
offset = 0 length = 8  Call copy() method Compare handler  Result is 00h				
length = 8  Call copy() method Compare handler  Result is 00h				
Call copy() method Compare handler Result is 00h				
Compare handler Result is 00h		3		
			Result is 00h	
			INCOURT IS OUT	

ld	Description	API Expectation	APDU Expectation
10	Successful call		
	buffer = 00 01 07		
	offset = 2		
	length = 6		
	Call copy() method		
	Compare handler	Result is 00h	
	compareBuffer = FF FE F8 02 03 07	Tresuit is oon	
11	Successful call		
	buffer = 11 22 88		
	offset = 2		
	length = 4		
	Call copy() method		
	Compare handler	Result is 00h	
	compareBuffer = FF FE F8 02 03 07 33	Result is oon	
	44 55 66		
12	Call post() method then appendArray()		
	buffer = 11 22 88	A toolkit Exception with	
	offset = 2	HANDLER NOT AVAILABLE	
	length = 4	reason is thrown.	

# 6.2.5.15.4 Test Coverage

CRR number	Test case number
N1	9, 10, 11
N2	8
P1	1
P2	2, 3, 4, 5, 6
C1	7
C2	12

# 6.2.5.16 Method appendTLV(byte tag, byte value)

Test Area Reference: API\_2\_ERH\_APTLBB

# 6.2.5.16.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

### 6.2.5.16.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (1-byte element).
- CRRN2: A successful append does not modify the TLV selected.

### 6.2.5.16.1.2 Parameters error

No requirements

### 6.2.5.16.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.

### 6.2.5.16.2 Test suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_APTLBB\_1.scr

Test Applet: API\_2\_ERH\_APTLBB\_1.java

Load Script: API\_2\_ERH\_APTLBB\_1.ldr

Cleanup Script: API\_2\_ERH\_APTLBB\_1.clr

Parameter File: API\_2\_ERH\_APTLBB\_1.par

# 6.2.5.16.3 Test procedure

ld	Description	API Expectation	APDU Expectation	
1	Call appendArray()			
	length = 253			
	Handler Overflow: Call twice the	ToolkitException.HANDLER_OVE		
	appendTLV()method	RFLOW is thrown by one of the		
		two.		
2	append the handler with TLVs:			
	81 03 11 22 33			
	82 02 99 77			
	Select Command Details TLV			
	Call the appendTLV() method			
	Verify Current TLV: Call getValueLength()	Result is 03h		
3	Clear the handler			
	Successful call			
	tag = 84h value = 00h			
	Call copy() method			
	Compare handler	B. W. OOL		
	compareBuffer = 84 01 00	Result is 00h		
4	Successful call			
i i	tag = 01h			
	value = FEh			
	Call copy() method			
	Compare handler	Result is 00h		
	compareBuffer = 84 01 00 01 01 FE	1.1000.11		
5	Call post() method then appendTLV()			
	tag = 01h	A toolkit Exception with		
	value = FEh	HANDLER_NOT_AVAILABLE		
		reason is thrown.		
NOT	NOTE: Test case 1 call twice appendTLV because the current 3GPP TS 43.019 [7] is not clear enough on this point.			

### 6.2.5.16.4 Test Coverage

CRR number	Test case number
N1	3, 4
N2	2
C1	1
C2	5

# 6.2.5.17 Method appendTLV(byte tag, byte value1, byte value2)

Test Area Reference: API\_2\_ERH\_APTLBBB

# 6.2.5.17.1 Conformance requirements:

The method with following header shall be compliant to its definition in the API.

So this test allows the two possible implementations.

 byte value2)
throws ToolkitException

### 6.2.5.17.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (2-byte element).
- CRRN2: A successful append does not modify the TLV selected.

### 6.2.5.17.1.2 Parameters error

No requirements

### 6.2.5.17.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.

### 6.2.5.17.2 Test suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_APTLBBB\_1.scr

Test Applet: API\_2\_ERH\_APTL BBB\_1.java

Load Script: API\_2\_ERH\_APTL BBB\_1.ldr

Cleanup Script: API\_2\_ERH\_APTLBBB\_1.clr

Parameter File: API\_2\_ERH\_APTLBBB\_1.par

# 6.2.5.17.3 Test procedure

Lal	Description	ADI Evmentation	ADDII Everentation
ld	Description	API Expectation	APDU Expectation
1	Call the appendArray with length of 253		
	Handler Overflow: Call the appendTLV()	ToolkitException.HANDLER_OVE	
	method	RFLOW is thrown	
2	clear the handler, append the handler with		
	TLVs:		
	81 03 11 22 33		
	82 02 99 77		
	Select Command Details TLV		
	Call the appendTLV() method		
	Verify Current TLV: Call getValueLength()	Result is 03h	
3	Clear the handler	Result is con	
3	Successful call		
	tag = 84h		
	value1 = 00h		
	value2 = 01h		
	Call copy() method		
	Compare handler		
	compareBuffer = 84 02 00 01	Result is 00h	
_			
4	Successful call		
	tag = 01h value1 = FEh		
	value1 = FEn value2 = FDh		
	Call copy() method		
	Compare handler compareBuffer = 84 02 00 01 01 02 FE FD	Result is 00h	
	-		
5	Call post() method then appendTLV()	A toolkit Exception with	
	tag = 01h	HANDLER_NOT_AVAILABLE	
	value1 = FEh	reason is thrown.	

ld	Description	API Expectation	APDU Expectation
	value2 = FDh		

### 6.2.5.17.4 Test Coverage

CRR number	Test case number
N1	3, 4
N2	2
C1	1
C2	5

# 6.2.5.18 Method appendTLV(byte tag, byte[] value, short valueoffset, short valuelength)

Test Area Reference: API\_2\_ERH\_APTLB\_BSS

### 6.2.5.18.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

### 6.2.5.18.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (byte-array element).
- CRRN2: A successful append does not modify the TLV selected.

### 6.2.5.18.1.2 Parameters error

- CRRP1: if value is null, a java.lang.NullPointerException is thrown
- CRRP2: if valueoffset or valuelength or both would cause access outside the array bounds, or if length is negative, a java.lang.ArrayIndexOutOfBoundsException is thrown.

### 6.2.5.18.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.
- CRRC3: if valuelength is greater than 255, a ToolkitException is thrown with reason code BAD\_INPUT\_PARAMETER.

### 6.2.5.18.2 Test suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_APTLB\_BSS\_1.scr

Test Applet: API\_2\_ERH\_APTLB\_BSS\_1.java

Load Script: API\_2\_ERH\_APTLB\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_APTLB\_BSS\_1.clr

Parameter File: API\_2\_ERH\_APTLB\_BSS\_1.par

# 6.2.5.18.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Null value	NullPointerException is thrown	
2	valueOffset ≥ value.length	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	valueOffset = 5		
	valueLength = 1		
3	valueOffset < 0	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	valueOffset = -1		
4	valueLength = 1  valueLength > value.length	ArrayIndexOutOfBoundsExceptio	
4	value.length = 5	n is thrown	
	valueOffset = 0	II IS UIIOWII	
	valueLength = 6		
5	ValueOffset + valueLength > value.length	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	valueOffset = 3		
	valueLength = 3		
6	valueLength < 0	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	valueOffset = 0		
	valueLength = -1	Tablide Constitution LIANDLED OVE	
7	Handler overflow	ToolkitException.HANDLER_OVE	
	<pre>value.length = 254 valueOffset = 0</pre>	RFLOW is thrown	
	valueLength = 254		
8	Bad parameter	ToolkitException.BAD_INPUT_PA	
~	value.length = 256	RAMETER is thrown	
	valueOffset = 0	TO AMETER 10 UNOWIT	
	valueLength = 256		
9	clear the handler, append the handler with		
	TLVs:		
	81 03 11 22 33		
	82 02 99 77		
	Select Command Details TLV		
	Successful call		
	tag = 04 value = FF FE F8		
	valueOffset = 0		
	valueLength = 8		
	Verify Current TLV: Call getValueLength()		
	-	Result is 03h	
10	Clear the handler		
	Successful call		
	tag = 04		
	<pre>value = FF FE F8 valueOffset = 0</pre>		
	valueLength = 8		
	Call copy() method		
	Compare handler		
	CompareBuffer = 04 08 FF FE F8	Result is 00	
11	Successful call		
' '	tag = 85h		
	value = 00 01 07		
	valueOffset = 2		
	valueLength = 6		
	Call copy() method		
	Compare handler	Result is 00	
	compareBuffer = 04 08 FF FE F8 85 06 02	1 toodit is oo	
	03 07		
_			

ld	Description	API Expectation	APDU Expectation
12	Successful call		
	tag = 01		
	value = 11 22 88		
	valueOffset = 2		
	valueLength = 4		
	Call copy() method		
	Compare handler	Result is 00	
	compareBuffer = 04 08 FF FE F8 85 06 02	Tresuit is ou	
	03 07 01 04 33 44 55 66		
13	Clear the handler		
	Successful call		
	tag = 04		
	value = 00 01 7F		
	valueOffset = 0		
	valueLength = 80h		
	Call copy() method		
	Compare handler	Result is 00	
	compareBuffer = 04 81 80 00 017F	Tresuit is 00	
14	Call post() method then appendTLV()		
	tag = 04	A toolkit Exception with	
	value = 00 01 7F	HANDLER_NOT_AVAILABLE	
	valueOffset = 0	reason is thrown.	
	valueLength = 80h		

### 6.2.5.18.4 Test Coverage

CRR number	Test case number
N1	10, 11, 12, 13
N2	9
P1	1
P2	2, 3, 4, 5, 6
C1	7
C2	14
C3	8

# 6.2.5.19 Method appendTLV(byte tag, byte value1, byte[] value2, short value2offset, short value2length)

Test Area Reference: API\_2\_ERH\_APTLBB\_BSS

# 6.2.5.19.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

### 6.2.5.19.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (1 byte and a byte-array element).
- CRRN2: A successful append does not modify the TLV selected.

### 6.2.5.19.1.2 Parameters error

• CRRP1: if value2 is null, a java.lang.NullPointerException is thrown.

• CRRP2: if value2offset or value2length or both would cause access outside the array bounds, or if length is negative, a java.lang.ArrayIndexOutOfBoundsException is thrown.

### 6.2.5.19.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.
- CRRC3: if valuelength is greater than 255, a ToolkitException is thrown with reason code BAD\_INPUT\_PARAMETER.

### 6.2.5.19.2 Test suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_APTLBB\_BSS\_1.scr

Test Applet: API\_2\_ERH\_APTLBB\_BSS\_1.java

Load Script: API\_2\_ERH\_APTLBB\_BSS\_1.ldr

Cleanup Script: API\_2\_ERH\_APTLBB\_BSS\_1.clr

Parameter File: API\_2\_ERH\_APTLBB\_BSS\_1.par

# 6.2.5.19.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Null value2	NullPointerException is thrown	
2	value2Offset ≥ value2.length	ArrayIndexOutOfBoundsExceptio	
	value2.length = 5	n is thrown	
	value2Offset = 5		
	value2Length = 1		
3	value2Offset < 0	ArrayIndexOutOfBoundsExceptio	
	value2.length = 5	n is thrown	
	value2Offset = -1		
	value2Length = 1		
4	value2Length > value2.length	ArrayIndexOutOfBoundsExceptio	
	value2.length = 5	n is thrown	
	value20ffset = 0		
	value2Length = 6		
5	value2Offset + value2Length > value2.length	ArrayIndexOutOfBoundsExceptio	
	value2.length = 5	n is thrown	
	value20ffset = 3		
<u> </u>	value2Length = 3		
6	value2Length < 0	ArrayIndexOutOfBoundsExceptio	
	value2.length = 5	n is thrown	
	value20ffset = 0		
	value2Length = -1	T 11:15 (1 LIANIDI ED OVE	
7	Handler overflow	ToolkitException.HANDLER_OVE	
	value2.length = 254	RFLOW is thrown	
	value20ffset = 0		
	value2Length = 254		

ld	Description	API Expectation	APDU Expectation
8	Bad parameter	ToolkitException.BAD_INPUT_PA	•
	value2.length = 256	RAMETER is thrown	
	<pre>value20ffset = 0 value2Length = 256</pre>		
9	clear the handler, append the handler with		
	TLVs:		
	81 03 11 22 33		
	82 02 99 77 Select Command Details TLV		
	Successful call		
	tag = 04		
	value1 = 05		
	<pre>value2 = FF FE F8 value20ffset = 0</pre>		
	value2Length = 8		
	Verify Current TLV: Call getValueLength()		
40	Clear the handler	Result is 03h	
10	Successful call		
	tag = 04		
	value1 = 05		
	<pre>value2 = FF FE F8 value20ffset = 0</pre>		
	value2Length = 8		
	Call copy() method		
	Compare handler	Result is 00	
	CompareBuffer = 04 09 05 FF FE F8	Result is 00	
11	Successful call		
	tag = 85h value1 = 55h		
	value2 = 00 01 07		
	value2Offset = 2		
	value2Length = 6		
	Call copy() method Compare handler		
	compareBuffer =	Result is 00	
	04 09 05 FF FE F8		
	85 07 55 02 03 07		
12	Successful call		
	tag = 01		
	value1 = 44h value2 = 11 22 88		
	value20ffset = 2		
	value2Length = 4		
	Call copy() method Compare handler		
	CompareBuffer =	Result is 00	
	04 09 05 FF FE F8		
	85 07 55 02 03 07 01 05 44 33 44 55 66		
L	07 07 44 22 44 22 00		
13	Clear the handler		
	Successful call		
	tag = 04 value1 = 00		
	value2 = 01 7F		
	value20ffset = 0		
	value2Length = 7Fh  Call copy() method		
	Compare handler		
	compareBuffer = 04 81 80 00 017F	Result is 00	
14	Call post() method then appendTLV()	1	
	tag = 04		
	value1 = 00	A toolkit Exception with	
	<pre>value2 = 01 7F value20ffset = 0</pre>	HANDLER_NOT_AVAILABLE	
	value2Length = 7Fh	reason is thrown.	

# 6.2.5.19.4 Test Coverage

CRR number	Test case number
N1	10, 11, 12, 13
N2	9
P1	1
P2	2, 3, 4, 5, 6
C1	7
C2	Does not apply for EnvelopeResponseHandler
C3	8

# 6.2.5.20 Method clear

Test Area Reference: API\_2\_ERH\_CLER

# 6.2.5.20.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

### 6.2.5.20.1.1 Normal execution

• CRRN1: Clears the TLV list of an EditHandler and resets the current TLV selected.

### 6.2.5.20.1.2 Parameters error

No requirements

### 6.2.5.20.1.3 Context errors

 CRRC1: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.

### 6.2.5.20.2 Test suite files

Specific triggering: Unrecognized Envelope

Test Script: API\_2\_ERH\_CLER\_1.scr

Test Applet: API\_2\_ERH\_CLER\_1.java

Load Script: API\_2\_ERH\_CLER\_1.ldr

Cleanup Script: API\_2\_ERH\_CLER\_1.clr

Parameter File: API\_2\_ERH\_CLER\_1.par

# 6.2.5.20.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	append the handler with TLVs:		
	81 03 11 22 33		
	82 02 99 77		
	Select Command Details TLV		
	Call the getLength() method	Result of getLength() is not null	
	Clear the handler	Result of getLerigiti() is not fiuli	
	Call the getLength() method	D 11 ( 11 (1/1): 0	
		Result of getLength() is 0	
2	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
		ELEMENT shall be thrown	
3	Call post() method then clear()	A toolkit Exception with	
	_	HANDLER_NOT_AVAILABLE	

	reason is thrown.	

# 6.2.5.20.4 Test Coverage

CRR number	Test case number
N1	1, 2
C1	3

# 6.2.5.21 Method getCapacity

Test Area Reference: API\_2\_ERH\_GCAP

# 6.2.5.21.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

Public byte getCapacity()

### 6.2.5.21.1.1 Normal execution

• CRRN1: The method shall return the maximum size of the Simple TLV list managed by the handler.

### 6.2.5.21.1.2 Context errors

• CRRC1: The method shall throw HANDLER\_NOT\_AVAILABLE ToolkitException if the handler is busy.

### 6.2.5.21.2 Test suite files

Test Script: API\_2\_ERH\_GCAP\_1.scr

Test Applet: API\_2\_ERH\_GCAP\_1.java

Load Script: API\_2\_ERH\_GCAP\_1.ldr

Cleanup Script: API\_2\_ERH\_GCAP\_1.clr

Parameter File: API\_2\_ERH\_GCAP\_1.par

# 6.2.5.21.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	EnvelopeResponseHandler available		
	1- Send envelope SMS-PP Formatted	1- Applet is triggered	
	2- The applet calls getTheHandler() method	2- No exception is thrown	
	3- The applet calls getCapacity() method on the	3- No exception is thrown	
	EnvelopeResponseHandler	·	
	4- The applet fills the handler with the maximum	4- No exception is thrown	
	capacity using AppendTLV() method	5- No exception is thrown	
	5- The applet calls clear() method on the		
	EnvelopeResponseHandler	6- HANDLER_OVERFLOW	
	6- The applet fills the handler with the maximum	exception is thrown	
	capacity plus one, using AppendTLV() method		

# 6.2.5.21.4 Test Coverage

CRR number	Test case number
N1	1
C1	Tested in Framework
	part: FWK_MHA_ERHD

# 6.2.6 Class MEProfile

# 6.2.6.1 Method check (byte index)

Test Area Reference: API\_2\_MEP\_CHECB

### 6.2.6.1.1 Conformance requirement:

The method with following header shall compliant to its definition in the API.

 $\begin{array}{c} \text{public static boolean check(byte index)} \\ \text{ throws } \underline{\text{ToolkitException}} \end{array}$ 

### 6.2.6.1.1.1 Normal execution

• CRRN1: The method checks a facility in the handset profile: returns true if supported and false otherwise.

### 6.2.6.1.1.2 Parameters error

No requirements.

### 6.2.6.1.1.3 Context errors

 CRRC1: The method shall throw ME\_PROFILE\_NOT\_AVAILABLE ToolkitException if Terminal Profile data are not available

### 6.2.6.1.2 Test suite files

Specific triggering:

### EVENT\_STATUS\_COMMAND

No Additional requirements for the GSM personalization:

Test Script: API\_2\_MEP\_CHECB\_1.scr

Test Applet: API\_2\_MEP\_CHECB\_1.java

Load Script: API\_2\_MEP\_CHECB\_1.ldr

Cleanup Script: API\_2\_MEP\_CHECB\_1.clr

Parameter File: API\_2\_MEP\_CHECB\_1.par

### 6.2.6.1.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	No Terminal Profile is registered	ME_PROFILE_NOT_AVAILABLE	
	Triggered by status command	ToolkitException is thrown	
	Index = 1	•	
2	Terminal Profile, Facility is supported	true is returned by the method	
	index = 0	-	
3	Terminal Profile, Facility is not supported	false is returned by the method	
	index = 15		

### 6.2.6.1.4 Test Coverage

CRR number	Test case number
N1	2,3
C1	1

# 6.2.6.2 Method check (byte [] mask, short offset, short length)

Test Area Reference: API\_2\_MEP\_CHEC\_BSS

# 6.2.6.2.1 Conformance requirement:

The method with following header shall compliant to its definition in the API.

### 6.2.6.2.1.1 Normal execution

- CRRN1: The method checks all the facilities corresponding to bits set to 1 in the mask buffer: returns true if they are all supported and false if not.
- CRRN2: The method returns true if the length to check is 0.

#### 6.2.6.2.1.2 Parameters error

- CRRP1: The method shall throw java.lang.NullPointerException if mask is null.
- CRRP2: The method shall throw java.lang.ArrayIndexOutOfBoundsException if offset or length or both would cause access outside array bounds.
- CRRP3: The method shall throw ME\_PROFILE\_NOT\_AVAILABLE ToolkitException if Terminal Profile data are not available.

### 6.2.6.2.1.3 Context errors

No requirements.

### 6.2.6.2.2 Test suite files

Specific triggering:

UNFORMATTED\_SMS\_PP\_UPD

No Additional requirements for the GSM personalization:

Test Script: API\_2\_MEP\_CHEC\_BSS\_1.scr

Test Applet: API\_2\_MEP\_CHEC\_BSS\_1.java

Load Script: API\_2\_MEP\_CHEC\_BSS\_1.ldr (the applet is loaded without INI after the reset (RST))

Cleanup Script: API\_2\_MEP\_CHEC\_BSS\_1.clr

Parameter File: API\_2\_MEP\_CHEC\_BSS\_1.par

### 6.2.6.2.3 Test procedure

ld	Description	API Expectation	APDU
			Expectation
1	No Terminal Profile is registered	ME_PROFILE_NOT_AVAIL	
	Triggered by unformatted SMS	ABLE ToolkitException is	
	Mask = 0xfffffffffffffffffffffffffffffffffff	thrown	
	Offset = 0		
	Length = 16		
2	NULL as parameter to check	NullPointerException is	
	mask= NULL	thrown	
3	Offset > mask.length	ArrayIndexOutOfBoundsExc	

	mask = 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	eption is thrown	
4	Offset = 17  Offset < 0  mask = 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	ArrayIndexOutOfBoundsExc eption is thrown	
5	Length > mask.length mask = 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	ArrayIndexOutOfBoundsExc eption is thrown	
6	Offset + length > mask.length  Mask = 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	ArrayIndexOutOfBoundsExc eption is thrown	
7	<pre>length = 0 mask = 0xfffffffffffffffffffffffffffffffffff</pre>	true is returned	
8	Check all the Terminal Profile mask = 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	false is returned by the method because facility 15 is not supported	
9	Check a part of the Terminal Profile mask = 0xFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF	true is returned by the method: the 16 first facilities except facility 15 have been successfully checked	
10	Check a part of the Terminal Profile mask = 0x0080 Offset = 0 Length = 2	false is returned by the method only facility 15 is checked and not supported.	

# 6.2.6.2.4 Test Coverage

CRR number	Test case number
N1	8, 9, 10
N2	7
P1	2
P2	3, 4, 5, 6
P3	1

# 6.2.6.3 Method check (short index)

Test Area Reference: API\_2\_MEP\_CHECS

# 6.2.6.3.1 Conformance requirement:

The method with following header shall compliant to its definition in the API.

 $\begin{array}{c} \text{public static boolean check(short index)} \\ & \text{throws } \underline{\text{ToolkitException}} \end{array}$ 

### 6.2.6.3.1.1 Normal execution

• CRRN1: The method checks a facility in the handset profile: returns true if the facility is supported, false if facility is not supported, or if facility-index outside MEProfile data.

### 6.2.6.3.1.2 Parameters error

No requirements.

# 6.2.6.3.1.3 Context errors

• CRRC1: The method shall throw ME\_PROFILE\_NOT\_AVAILABLE ToolkitException if Terminal Profile data are not available

6.2.6.3.2 Test suite files

Specific triggering:

EVENT\_STATUS\_COMMAND

No Additional requirements for the GSM personalization:

Test Script: API\_2\_MEP\_CHECS\_1.scr

Test Applet: API\_2\_MEP\_CHECS\_1.java

Load Script: API\_2\_MEP\_CHECS\_1.ldr

Cleanup Script: API\_2\_MEP\_CHECS\_1.clr

Parameter File: API\_2\_MEP\_CHECS\_1.par

### 6.2.6.3.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	No Terminal Profile is registered	ME_PROFILE_NOT_AVAILABLE	
	Triggered by status command	ToolkitException is thrown	
	index = 1	-	
2	Terminal Profile, Facility is supported	true is returned by the method	
	index = 0		
3	Terminal Profile, Facility is not supported	false is returned by the method	
	index = 15	-	
4	Facility index is outside MEProfile data	false is returned by the method	
	index = 0x0099	-	

# 6.2.6.3.4 Test Coverage

CRR number	Test case number
N1	2, 3, 4
C1	1

# 6.2.6.4 Method getValue (short indexMSB, short indexLSB)

Test Area Reference: API\_2\_MEP\_GVALSS

### 6.2.6.4.1 Conformance requirement:

The method with following header shall compliant to its definition in the API.

 $\label{eq:public_static} \mbox{public static short getValue(short indexMSB, short indexLSB)} \\ \mbox{throws } \mbox{ToolkitException}$ 

### 6.2.6.4.1.1 Normal execution

• CRRN1: The method returns the binary value of a parameter, delimited by two indexes, from the handset profile.

#### 6.2.6.4.1.2 Parameters error

• CRRP1: The method shall throw BAD\_INPUT\_PARAMETER ToolkitException if (indexMSB >= indexLSB +16) or (indexMSB < indexLSB) or (indexMSB < 0) or (indexLSB < 0).

#### 6.2.6.4.1.3 Context errors

• CRRC1: The method shall throw ME\_PROFILE\_NOT\_AVAILABLE ToolkitException if Terminal Profile data are not available.

6.2.6.4.2 Test suite files

Specific triggering:

EVENT\_STATUS\_COMMAND

No Additional requirements for the GSM personalization:

Test Script: API\_2\_MEP\_GVALSS\_1.scr

Test Applet: API\_2\_MEP\_GVALSS\_1.java

Load Script: API\_2\_MEP\_GVALSS\_1.ldr

Cleanup Script: API\_2\_MEP\_GVALSS\_1.clr

Parameter File: API\_2\_MEP\_GVALSS\_1.par

6.2.6.4.3 Test procedure

TP = FF 01 D2 F0 00 00 00 00 00 00 00 00 00 8D FF

ld	Description	API Expectation	APDU Expectation
1	No Terminal Profile is registered	ME_PROFILE_NOT_AVAILABLE	
	Triggered by status command	ToolkitException is thrown	
	indexMSB = 15, indexLSB = 0	·	
2	Retrieve number of character down ME display	13 is returned by the method	
	in Terminal Profile which is 13	·	
	indexMSB = 108, indexLSB = 104		
3	Retrieve byte 3 and byte 4 from terminal	0xF0D2 is returned by the method	
	profile.	·	
	Byte $3 = 0xD2$ , Byte $4 = 0xF0$		
	indexMSB = 31, indexLSB = 16		
4	indexMSB is negative	BAD_INPUT_PARAMETER	
	indexMSB = 0xFFFF, indexLSB = 0xFFFD	ToolkitException is thrown	
5	indexLSB is negative	BAD_INPUT_PARAMETER	
	indexMSB = 0x0002, indexLSB = 0xFFFD	ToolkitException is thrown	
6	indexMSB < indexLSB	BAD_INPUT_PARAMETER	
	indexMSB = 0x0002, indexLSB = 0x0003	ToolkitException is thrown	
7	indexMSB > indexLSB + 16	BAD_INPUT_PARAMETER	
	indexMSB = 0x0021, indexLSB = 0x0010	ToolkitException is thrown	

## 6.2.6.4.4 Test Coverage

CRR number	Test case number
N1	2,3
P1	4, 5, 6, 7
C1	1

# 6.2.6.5 Method copy (short startOffset, byte[] dstBuffer, short dstOffset, short dstLength)

Test Area Reference: API\_2\_MEP\_COPYS\_BSS

## 6.2.6.5.1 Conformance requirement:

The method with following header shall compliant to its definition in the API.

#### 6.2.6.5.1.1 Normal execution

• CRRN1: The method copies a part of the handset profile in a buffer.

• CRRN2: The method returns dstOffset + dstLength.

#### 6.2.6.5.1.2 Parameters error

- CRRP1: if dstBuffer is null NullPointerException is thrown.
- CRRP2 : If dstOffset or dstLength parameter is negative an ArrayIndexOutOfBoundsException exception is thrown and no copy is performed
- CRRP3: If dstOffset+dstLength is greater than dstBuffer.length, the length of the dstBuffer array an ArrayIndexOutOfBoundsException exception is thrown and no copy is performed

#### 6.2.6.5.1.3 Context errors

• CRRC1: The method shall throw ME\_PROFILE\_NOT\_AVAILABLE ToolkitException if Terminal Profile data are not available.

#### 6.2.6.5.2 Test suite files

Specific triggering:

# EVENT\_STATUS\_COMMAND

No Additional requirements for the GSM personalization:

Test Script: API\_2\_MEP\_COPYS\_BSS\_1.scr

Test Applet: API\_2\_MEP\_COPYS\_BSS\_1.java

Load Script: API\_2\_MEP\_COPYS\_BSS\_1.ldr

Cleanup Script: API\_2\_MEP\_COPYS\_BSS\_1.clr

Parameter File: API\_2\_MEP\_COPYS\_BSS\_1.par

## 6.2.6.5.3 Test procedure

TP = FF 01 D2 F0 01 02 00 00 00 00 00 00 00 8D FF

ld	Description	API Expectation	APDU Expectation
1	No Terminal Profile is registered	ME_PROFILE_NOT_AVAILABLE	
	Triggered by status command	ToolkitException is thrown	
	startOffset = 0	·	
	dstBuffer.length = 6		
	dstOffset = 0		
	dstLength = 6		
2	dstBuffer is null	NullPointerException is thrown	
3	dstOffset ≥ dstBuffer.length	ArrayIndexOutOfBoundsException	
	startOffset = 0	is thrown	
	dstBuffer.length = 5		
	dstOffset = 5		
	dstLength = 1		

ld	Description	API Expectation	APDU Expectation
4	dstOffset < 0	ArrayIndexOutOfBoundsException	
	startOffset = 0	is thrown	
	dstBuffer.length = 5		
	dstOffset = -1		
<u> </u>	dstLength = 1	1 1 2 2 2 2 2	
5	dstLength < 0	ArrayIndexOutOfBoundsException	
	startOffset = 0	is thrown	
	dstBuffer.length = 5		
	dstOffset = 1		
6	dstLength = -1  dstLength >dstBuffer.length	A recorded as your total and a Exposition	
Ь	usiLengin >usibuner.lengin  startOffset = 0	ArrayIndexOutOfBoundsException	
	dstBuffer.length = 5	is thrown	
	dstOffset = 0		
	dstLength = 6		
7	dstOffset + dstLength >dstBuffer.length	ArrayIndexOutOfBoundsException	
'	startOffset = 0	is thrown	
	dstBuffer.length = 5	13 tillowii	
	dstOffset = 3		
	dstLength = 3		
8	Successful call extreme values	Result of copy() is 6	
	startOffset = 0		
	dstBuffer.length = 6		
	dstOffset = 0		
	dstLength = 6	D 11 ( 0 : 7	
9	Successful call any values	Result of copy() is 7	
	startOffset = 1 dstBuffer.length = 20		
	dstOffset = 3		
	dstLength = 4		
10	Successful call, copy with length =0	Result of copy() is 20	
10	startOffset = 0	result of copy() is 20	
	dstBuffer.length = 20		
	dstOffset = 20		
	dstLength = 0		
11	Value outside MEProfile data available	Result of copy() is 6	
	startOffset = 13		
	dstBuffer.length = 6		
	dstOffset = 0		
	dstLength = 6		

## 6.2.6.5.4 Test Coverage

CRR number	Test case number
N1	8, 9, 10, 11
N3	8, 9, 10, 11
P1	2
P2	4, 5
P3	3, 6, 7
C1	1

# 6.2.7 Class ProactiveHandler

# 6.2.7.1 Method getTheHandler

Test Area Reference: API\_2\_PAH\_GTHD

## 6.2.7.1.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

```
\label{eq:public_static} \mbox{ProactiveHandler getTheHandler()} \\ \mbox{throws ToolkitException}
```

## 6.2.7.1.1.1 Normal execution

- CRRN1: The method shall return the single system instance of the ProactiveHandler class.
- CRRN2: The EnvelopeHandler is a Temporary JCRE Entry Point Object

#### 6.2.7.1.1.2 Parameter errors

No requirements.

## 6.2.7.1.1.3 Context errors

• CRRC1: The method shall throw ToolkitException.HANDLER\_NOT\_AVAILABLE if the handler is busy.

## 6.2.7.1.2 Test Suite files

Test Script: API\_2\_PAH\_GTHD\_1.scr

Test Applet: API\_2\_PAH\_GTHD\_1.java

Load Script: API\_2\_PAH\_GTHD\_1.ldr

Cleanup Script: API\_2\_PAH\_GTHD\_1.clr

Parameter File: API\_2\_PAH\_GTHD\_1.par

## 6.2.7.1.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	getTheHandler() twice	The returned objects shall be the	
		same	
2	getTheHandler()	The reference shall be a	
		ProactiveHandler	
3	getTheHandler()	The reference shall not be null	

## 6.2.7.1.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3	
N2	Checked in Framework tests: FWK_API_HEPO (test case 3)	
C1	Checked in Framework tests: FWK_MHA_PAHD	

## 6.2.7.2 Method init

Test Area Reference: API\_2\_PAH\_INITBBB

## 6.2.7.2.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.2.1.1 Normal execution

• CRRN1: The init() method initialises the next Proactive command in the ProactiveHandler, with Command details and Device Identities TLV. The source device is always the SIM Card (81h). The Comprehension Required flags are set.

• CRRN2: The Command number may take any value between 01h and FEh.

• CRRN3: The init() method clears the ProactiveHandler before initializing it.

• CRRN4: No TLV is selected after a call to the method.

• CRRN5: The handler is not sent to the mobile by the init() method.

6.2.7.2.1.2 Parameter errors

No requirements.

6.2.7.2.1.3 Context errors

No requirements.

6.2.7.2.2 Test Suite files

Test Script: API\_2\_PAH\_INITBBB\_1.scr

Test Applet: API\_2\_PAH\_INITBBB\_1.java

Load Script: API\_2\_PAH\_INITBBB\_1.ldr

Cleanup Script: API\_2\_PAH\_INITBBB\_1.clr

Parameter File: API\_2\_PAH\_INITBBB\_1.par

## 6.2.7.2.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Call the init() method  type = 01h qualifier = 02h dstDevice = 03h  Copy ProactiveHandler in a byte array (source)	source and reference are identical	
2	Verify the command number value	01h-FEh	
3	Call the init() method  type = FFh qualifier = FEh destination = FDh  Copy ProactiveHandler in a byte array (source)	source and reference are identical	
4	Select the 1 <sup>st</sup> TLV in the handler		
	Call the init() method with any value Call the getValueLength() method	UNAVAILABLE_ELEMENT	
		ToolkitException is thrown by getValueLength()	

## 6.2.7.2.4 Test Coverage

CRR number	Test case number
N1	1, 3
N2	2
N3	3
N4	4
N5	1, 3

# 6.2.7.3 Method initDisplayText

Test Area Reference: API\_2\_PAH\_INDTBB\_BSS

#### 6.2.7.3.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.3.1.1 Normal execution

- CRRN1: The method shall build a DISPLAY TEXT proactive command in the ProactiveHandler, using qualifier, dcs and buffer parameters. Comprehension required flags are set.
- CRRN2: A call to this method clears the handler then initialises it.
- CRRN3: No TLV is selected after a call to the method.
- CRRN4: The DISPLAY TEXT command is not sent by the method.
- CRRN5: The Command Number may take any value between 01h and FEh.
- CRRN6: If length is equal to zero, then the Text String TLV inserted in the command is a null text string TLV as defined in TS 11.14 [4].

## 6.2.7.3.1.2 Parameter errors

- CRRP1: The method shall throw NullPointerException if buffer is null.
- CRRP2: If offset or length or both would cause access outside array bounds, an ArrayIndexOutOfBoundsException shall be thrown.

## 6.2.7.3.1.3 Context errors

• CRRC1: A ToolkitException.HANDLER\_OVERFLOW shall be thrown if the ProactiveHandler is too small to put the requested data.

## 6.2.7.3.2 Test Suite files

Test Script: API\_2\_PAH\_INDTBB\_BSS\_1.scr

Test Applet: API\_2\_PAH\_INDTBB\_BSS\_1.java

Load Script: API\_2\_PAH\_INDTBB\_BSS\_1.ldr

Cleanup Script: API\_2\_PAH\_INDTBB\_BSS\_1.clr

Parameter File: API\_2\_PAH\_INDTBB\_BSS\_1.par

# 6.2.7.3.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	NULL as parameter to buffer	NullPointerException is thrown	
	buffer = NULL		
2	offset > buffer.length	ArrayIndexOutOfBoundsExceptio	
	<pre>buffer = "Text" offset = 5</pre>	n is thrown	
	length = 0		
3	offset < 0	ArrayIndexOutOfBoundsExceptio	
	buffer = "Text"	n is thrown	
_	offset = -1	A manufacture of Other and Free and Free	
4	<pre>length &gt; buffer.length buffer = "Text"</pre>	ArrayIndexOutOfBoundsExceptio	
	offset = 0	n is thrown	
	length = 5		
5	offset + length > buffer.length	ArrayIndexOutOfBoundsExceptio	
	buffer = "Text"	n is thrown	
	offset = 3 length = 2		
6	length < 0	ArrayIndexOutOfBoundsExceptio	
ľ	buffer = "Text"	In is thrown	
	offset = 3		
<u></u>	length = -1		
7	Successful call, buffer is the whole buffer	No exception is thrown	
	qualifier = 0 dcs = 4		
	buffer = "TextA"		
	offset = 0		
	length = 5		
	Verify the command number value	Command number between 01h	
_	Cond the commend	and FEh	DIODI AV TEVT Duo a stirra
8	Send the command		DISPLAY TEXT Proactive
			command
			qualifier = 00h
			dcs = 4
			Text = "TextA"
9	Successful call, buffer is part of a buffer with		DISPLAY TEXT Proactive
	the end part		command
	Send the command qualifier = 0		qualifier = 00h
	dcs = 4		dcs = 4
	buffer = "12TextB"		Text = "TextB"
	offset = 2		
40	length = 5		DIODI AV TEVT Duo e ations
10	Successful call, buffer is part of a buffer with the first part		DISPLAY TEXT Proactive
	Send the command		command
	qualifier = 0		qualifier = 00h
	dcs = 4		dcs = 4
	buffer = "TextC12"		Text = "TextC"
	offset = 0 length = 5		
11	Successful call, buffer is part of a buffer		DISPLAY TEXT Proactive
' '	Send the command		command
	qualifier = 0		
	dcs = 4		qualifier = 00h
	<pre>buffer = "12TextD34" offset = 2</pre>		dcs = 4
	length = 5		Text = "TextD"
12	Successful call, qualifier = 81h		DISPLAY TEXT Proactive
	Send the command		command
	qualifier = 81h		
	dcs = 4		qualifier = 81h
	<pre>buffer = "TextE" offset = 0</pre>		<pre>dcs = 4 Text = "TextE"</pre>
	length = 5		ICAC - ICACE
Ь	· ɔ · · ·	1	

ld	Description	API Expectation	APDU Expectation
13	Successful call, DCS=0 (7 bits)	1	DISPLAY TEXT Proactive
	Send the command		command
	qualifier = 0		
	<pre>dcs = 0 buffer = "TextF"</pre>		qualifier = 00h dcs = 0
	offset = 0		Text = "TextF"
	length = 5		
14	Successful call, DCS=8 (UCS2)		DISPLAY TEXT Proactive
	Send the command		command
	qualifier = 0 dcs = 8		qualifier = 00h
	buffer = "TextG"		dcs = 8
	offset = 0		Text = "TextG"
	length = 5		
15	Call the initDisplayText() method with any		DISPLAY TEXT Proactive
	value Then build and send a DISPLAY TEXT		command
	command		qualifier = 00h
	qualifier = 0		dcs = 4
	dcs = 4		Text = "TextHTextH"
	<pre>buffer = "TextHTextH" offset = 0</pre>		
	length = 10		
16	Successful call, text length is zero		DISPLAY TEXT Proactive
	Send the command		command
	qualifier = 0		3 ' 5 '
	<pre>dcs = 4 buffer = "TextHTextH"</pre>		qualifier = 00h Text String TLV = 8D 00
	offset = 0		Text Belling 111 = 05 00
	length = 0		
17	Select a TLV in the ProactiveHandler	UNAVAILABLE_ELEMENT	
	Call the initDisplayText() method	ToolkitException is thrown by	
	Call the getValueLength() method	getValueLength()	
18	Successful call, buffer length = 7Eh		DISPLAY TEXT Proactive
	qualifier = 0		command
	dcs = 4		Text String TLV =
	buffer = "UUU"		8D 7F 04 55 55
	offset = 0 length = 7Eh		
19	Successful call, buffer length = 7Fh		DISPLAY TEXT Proactive
			command
	qualifier = 0		
	dcs = 4 buffer = "UUU"		Text String TLV = 8D 81 80 04 55 55
	offset = 0		00 04 33 33
00	length = 7Fh		DIODI AV TEVT S
20	Successful call, buffer length = 240		DISPLAY TEXT Proactive command
	Qualifier = 0		Command
	dcs = 4		Text String TLV =
	<pre>buffer = "UUU" offset = 0</pre>		8D 81 F1 04 55 55
	length = 240		
21	Call the initDisplayText() method with a too	HANDLER_OVERFLOW	
	long buffer	ToolkitException is thrown	
	qualifier = 0		
	dcs = 4 buffer = "XXXX"		
	offset = 0		
	length = 241		
22	Call the initDisplayText() without sending the		No proactive command shall
	command		be sent expected status is '9000'
	1	1	I MITHIT

## 6.2.7.3.4 Test Coverage

CRR number	Test case number
N1	8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20
N2	15
N3	17
N4	22
N5	7
N6	16
P1	1
P2	2, 3, 4, 5, 6
C1	21

## 6.2.7.4 Method initGetInkey

Test Area Reference: API\_2\_PAH\_INGKBB\_BSS

## 6.2.7.4.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.4.1.1 Normal execution

- CRRN1: The method shall build a GET INKEY proactive command in the ProactiveHandler, using qualifier, dcs and buffer parameters. Comprehension Required flags are set.
- CRRN2: A call to this method clears the handler then initialises it.
- CRRN3: No TLV is selected after a call to the method.
- CRRN4: The GET INKEY command is not sent by the method.
- CRRN5: The Command Number may take any value between 01h and FEh.
- CRRN6: If length is equal to zero, then the Text String TLV inserted in the command is a null text string TLV as defined in TS 11.14 [4].

#### 6.2.7.4.1.2 Parameter errors

- CRRP1: The method shall throw NullPointerException if buffer is null.
- CRRP1: If offset or length or both would cause access outside array bounds, a ArrayIndexOutOfBoundsException shall be thrown.

#### 6.2.7.4.1.3 Context errors

• CRRC1: A ToolkitException.HANDLER\_OVERFLOW shall be thrown if the ProactiveHandler is to small to put the requested data.

#### 6.2.7.4.2 Test Suite files

Test Script: API\_2\_PAH\_INGKBB\_BSS\_1.scr
Test Applet: API\_2\_PAH\_INGKBB\_BSS\_1.java

Load Script: API\_2\_PAH\_INGKBB\_BSS\_1.ldr

Cleanup Script: API\_2\_PAH\_INGKBB\_BSS\_1.clr

Parameter File: API\_2\_PAH\_INGKBB\_BSS\_1.par

# 6.2.7.4.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	NULL as parameter to buffer	NullPointerException is thrown	Į.
	buffer = NULL	·	
2	offset > buffer.length	ArrayIndexOutOfBoundsExceptio	
	<pre>buffer = "Text" offset = 5</pre>	n is thrown	
3	offset < 0	ArrayIndexOutOfBoundsExceptio	
	buffer = "Text"	n is thrown	
	offset = -1	Amendada OutOfDavada Fire atta	
4	length > buffer.length	ArrayIndexOutOfBoundsException is thrown	
	offset = 0	II is unown	
	length = 5		
5	offset + length > buffer.length buffer = "Text"	ArrayIndexOutOfBoundsExceptio	
	offset = 3	n is thrown	
	length = 2		
6	length < 0	ArrayIndexOutOfBoundsExceptio	
	<pre>buffer = "Text" offset = 3</pre>	n is thrown	
	length = -1		
7	Successful call, buffer is the whole buffer	No exception is thrown	
	qualifier = 0 dcs = 4		
	buffer = "TextA"		
	offset = 0		
	length = 5		
	Verify the command number value	Command number between 01h and FEh	
8	Send the command	and i Lii	GET INKEY Proactive
			command
			qualifier = 00h dcs = 4
			Text = "TextA"
9	Successful call, buffer is part of a buffer with		GET INKEY Proactive
	the end part		command
	qualifier = 0 dcs = 4		qualifier = 00h
	buffer = "12TextB"		dcs = 4
	offset = 2		Text = "TextB"
10	Successful call, buffer is part of a buffer with		GET INKEY Proactive
10	the first part		command
	qualifier = 0		
	dcs = 4		qualifier = 00h
	<pre>buffer = "TextC12" offset = 0</pre>		dcs = 4 Text = "TextC"
	length = 5		
11	Successful call, buffer is part of a buffer		GET INKEY Proactive
	Send the command		command
	qualifier = 0 dcs = 4		qualifier = 00h
	buffer = "12TextD34"		dcs = 4
	offset = 2		Text = "TextD"
12	length = 5  Successful call, qualifier = 81h		GET INKEY Proactive
'-	qualifier = 81h		command
	dcs = 4		
	<pre>buffer = "TextE" offset = 0</pre>		qualifier = 81h
	length = 5		dcs = 4 Text = "TextE"
			I GAGE

ld	Description	API Expectation	APDU Expectation
13	Successful call, DCS=0 (7 bits)	AFT Expectation	GET INKEY Proactive
13	qualifier = 0		command
	dcs = 0		Command
	buffer = "TextF"		qualifier = 00h
	offset = 0		dcs = 0
	length = 5		Text = "TextF"
14	Successful call, DCS=8 (UCS2)		GET INKEY Proactive
	qualifier = 0		command
	dcs = 8		
	buffer = "TextG"		qualifier = 00h
	offset = 0 length = 5		dcs = 8
	Tengui - 5		Text = "TextG"
15	Call the initGetInkey() method with any value		GET INKEY Proactive
	Then build and send a GET INKEY command		command
	qualifier = 0		
	dcs = 4		qualifier = 00h
	<pre>buffer = "TextHTextH" offset = 0</pre>		dcs = 4 Text = "TextHTextH"
	length = 10		TOTAL TOTAL TOTAL
16	Successful call, text length is zero		GET INKEY Proactive
	Send the command		command
	qualifier = 0		
	<pre>dcs = 4 buffer = "TextHTextH"</pre>		qualifier = 00h
	offset = 0		Text String TLV = 8D 00
	length = 0		
17	Select a TLV in the ProactiveHandler	UNAVAILABLE_ELEMENT	
	Call the initGetInkey() method	ToolkitException is thrown by	
	Call the getValueLength() method	getValueLength()	
40	Cuses a ful sell buffer levelle 751		OFT INIVEN Description
18	Successful call, buffer length = 7Eh		GET INKEY Proactive
	qualifier = 0		command
	dcs = 4		Text String TLV =
	buffer = "UUU"		8D 7F 04 55 55
	offset = 0 length = 7Eh		
19	Successful call, buffer length = 7Fh		GET INKEY Proactive
13	oucocciai ouii, builoi icligiii – 71 li		command
	qualifier = 0		
	dcs = 4		Text String TLV = 8D 81
	buffer = "UUU" offset = 0		80 04 55 55
	length = 7Fh		
20	Successful call, buffer length = 240		GET INKEY Proactive
			command
	Qualifier = 0		
	dcs = 4 buffer = "UUU"		Text String TLV =
	offset = 0		8D 81 F1 04 55 55
	length = 240		
21	Call the initGetInkey() method with a too long	HANDLER_OVERFLOW	
	buffer	ToolkitException is thrown	
	qualifier = 0		
	dcs = 4		
	<pre>buffer = "XXXX" offset = 0</pre>		
	length = 241		
22	Call the initGetInkey() without sending the		No proactive command shall
	command		be sent expected status is
1			'9000'

## 6.2.7.4.4 Test Coverage

CRR number	Test case number
N1	8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20
N2	15
N3	17
N4	22
N5	7
N6	16
P1	1
P2	2, 3, 4, 5, 6
C1	21

## 6.2.7.5 Method initGetInput

Test Area Reference: API\_2\_PAH\_INGPBB\_BSSSS

## 6.2.7.5.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.5.1.1 Normal execution

- CRRN1: The method shall build a GET INPUT proactive command in the ProactiveHandler, using qualifier, dcs, buffer, minRespLength and maxRespLength parameters. Comprehension Required flags are set.
- CRRN2: A call to this method clears the handler then initialises it.
- CRRN3: No TLV is selected after a call to the method.
- CRRN4: The GET INPUT command is not sent by the method.
- CRRN5: The Command Number may take any value between 01h and FEh.
- CRRN6: If length is equal to zero, then the Text String TLV inserted in the command is a null text string TLV as defined in TS 11.14 [4].

#### 6.2.7.5.1.2 Parameter errors

- CRRP1: The method shall throw NullPointerException if buffer is null.
- CRRP2: If offset or length or both would cause access outside array bounds, a ArrayIndexOutOfBoundsException shall be thrown.

#### 6.2.7.5.1.3 Context errors

CRRC1: A ToolkitException.HANDLER\_OVERFLOW shall be thrown if the ProactiveHandler is to small to
put the requested data.

## 6.2.7.5.2 Test Suite files

Test Script: API\_2\_PAH\_INGPBB\_BSSSS\_1.scr

Test Applet: API\_2\_PAH\_INGPBB\_BSSSS\_1.java

Load Script: API\_2\_PAH\_INGPBB\_BSSSS\_1.ldr

Cleanup Script: API\_2\_PAH\_INGPBB\_BSSSS\_1.clr

Parameter File: API\_2\_PAH\_INGPBB\_BSSSS\_1.par

## 6.2.7.5.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	NULL as parameter to buffer	NullPointerException is thrown	•
	buffer = NULL		
2	offset > buffer.length	ArrayIndexOutOfBoundsExceptio	
	buffer = "Text"	n is thrown	
	offset = 5		
3	offset < 0	ArrayIndexOutOfBoundsExceptio	
	buffer = "Text"	n is thrown	
<b>—</b>	offset = -1	A de de conto (De conto de Conto d	
4	<pre>length &gt; buffer.length buffer = "Text"</pre>	ArrayIndexOutOfBoundsExceptio	
	offset = 0	n is thrown	
	length = 5		
5	offset + length > buffer.length	ArrayIndexOutOfBoundsExceptio	
	buffer = "Text"	n is thrown	
	offset = 3		
	length = 2		
6	length < 0	ArrayIndexOutOfBoundsExceptio	
	buffer = "Text"	n is thrown	
	offset = 3		
7	length = -1 Successful call, buffer is the whole buffer	No expension is through	
7	Successful call, buffer is the whole buffer	No exception is thrown	
	qualifier = 0		
	dcs = 4		
	buffer = "TextA"		
	offset = 0		
	length = 5		
	minRespLength = 00h		
	maxRespLength = FFh	0	
	Verify the command number value	Command number between 01h	
_	Cond the command	and FEh	OFT INDUIT December
8	Send the command		GET INPUT Proactive
			command
			qualifier = 00h
			dcs = 4
			Text = "TextA"
			Min Length = 00h
			Max Length = FFh
9	Successful call, buffer is part of a buffer with		GET INPUT Proactive
	the end part		command
	Send the command		munlifier - 00h
	qualifier = 0 dcs = 4		qualifier = 00h dcs = 4
	dcs = 4 buffer = "12TextB"		Text = "TextB"
	offset = 2		Min Length = 10h
	length = 5		Max Length = FFh
	minRespLength = 10h		
	maxRespLength = FFh		
10	Successful call, buffer is part of a buffer with		GET INPUT Proactive
	the first part		command
	Send the command		
	qualifier = 0		qualifier = 00h dcs = 4
	dcs = 4		Text = "TextC"
	<pre>buffer = "TextC12" offset = 0</pre>		Min Length = FFh
	length = 5		Max Length = FFh
	minRespLength = FFh		_
L	maxRespLength = FFh		

ld	Description	API Expectation	APDU Expectation
11	Successful call, buffer is part of a buffer	·	GET INPUT Proactive
	Send the command		command
	qualifier = 0		
	dcs = 4		qualifier = 00h
	buffer = "12TextD34"		dcs = 4
	offset = 2 length = 5		Text = "TextD" Min Length = 00h
	minRespLength = 00h		Max Length = 00h
	maxRespLength = 00h		nan Bengen – oon
12	Successful call, qualifier = 81h		GET INPUT Proactive
	qualifier = 81h		command
	dcs = 4		
	buffer = "TextE"		qualifier = 81h
	offset = 0 length = 5		dcs = 4
	minRespLength = 00h		Text = "TextE" Min Length = 00h
	maxRespLength = 10h		Max Length = 10h
13	Successful call, DCS=0 (7 bits)		GET INPUT Proactive
	qualifier = 0		command
	dcs = 0		
	buffer = "TextF"		qualifier = 00h
	offset = 0		dcs = 0
	<pre>length = 5 minRespLength = 10h</pre>		Text = "TextF"
	maxRespLength = 10h		Min Length = 10h Max Length = 10h
			Hax Bengen - 1011
14	Successful call, DCS=8 (UCS2)		GET INPUT Proactive
' '	qualifier = 0		command
	dcs = 8		55111114114
	buffer = "TextG"		qualifier = 00h
	offset = 0		dcs = 8
	length = 5 minRespLength = 00h		Text = "TextG"
	maxRespLength = FFh		Min Length = 00h Max Length = FFh
			riax bengen - FFN
15	Call the initGetInput() method with any value		GET INPUT Proactive
'	Then build and send a GET INPUT command		command
	qualifier = 0		
	dcs = 4		qualifier = 00h
	buffer = "TextHTextH"		dcs = 4
	offset = 0 length = 10		Text = "TextHTextH" Min Length = 00h
	minRespLength = 00h		Max Length = 10h
	maxRespLength = 10h		
16	Successful call, text length is zero		GET INPUT Proactive
	Send the command		command
	qualifier = 0		
	dcs = 4		qualifier = 00h
	<pre>buffer = "TextHTextH" offset = 0</pre>		Text String TLV = 8D 00 Min Length = 00h
	length = 0		Max Length = 10h
	minRespLength = 00h		
	maxRespLength = 10h		
17	Select a TLV in the ProactiveHandler	UNAVAILABLE_ELEMENT	
	Call the initGetInput() method	ToolkitException is thrown by	
	Call the getValueLength() method	getValueLength()	
40	0		OFT INDUIT D
18	Successful call, buffer length = 7Eh		GET INPUT Proactive
	qualifier = 0		command
	dcs = 4		Text String TLV =
	buffer = "UUU"		8D 7F 04 55 55
	offset = 0		Min Length = 00h
	length = 7Eh		Max Length = 10h
	minRespLength = 00h		
	maxRespLength = 10h	<u> </u>	

ld	Description	API Expectation	APDU Expectation
19	Successful call, buffer length = 7Fh  qualifier = 0		GET INPUT Proactive command
	dcs = 4  buffer = "UUU"		Text String TLV = 8D 81 80 04 55 55
	offset = 0 length = 7Fh		Min Length = 00h Max Length = 10h
	minRespLength = 00h maxRespLength = 10h		
20	Successful call, buffer length = 236  Oualifier = 0		GET INPUT Proactive command
	dcs = 4 buffer = "UUU"		Text String TLV = 8D 81 ED 04 55 55
	offset = 0 length = 236 minRespLength = 00h		
	maxRespLength = 10h		
21	Call the initGetInput() method with a too long buffer	HANDLER_OVERFLOW ToolkitException is thrown	
	<pre>qualifier = 0 dcs = 4 buffer = "XXXX"</pre>		
	offset = 0 length = 237		
	minRespLength = 00h maxRespLength = 10h		
22	Call the initGetInput() without sending the		No proactive command shall
	command		be sent expected status is '9000'

## 6.2.7.5.4 Test Coverage

CRR number	Test case number
N1	8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20
N2	15
N3	17
N4	22
N5	7
N6	16
P1	1
P2	2, 3, 4, 5, 6
C1	21

## 6.2.7.6 Method send

Test Area Reference: API\_2\_PAH\_SEND

## 6.2.7.6.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

public byte send()

#### 6.2.7.6.1.1 Normal execution

- CRRN1: The send() method send the current proactive command to the mobile.
- CRRN2: The returned byte is equal to general result of the command (first byte of Result TLV in Terminal Response).
- CRRN3: The handler remains unchanged after a call to send() method until the use of initXX() or appendTLV().
- CRRN4: There is no invocation of select() or deselect() method.

• CRRN5: A pending toolkit applet transaction at the method invocation is aborted.

## 6.2.7.6.1.2 Parameter errors

No requirements.

## 6.2.7.6.1.3 Context errors

- CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown is the Result Simple TLV is missing in Terminal Response.
- CRRC2: A ToolkitException.OUT\_OF\_TLV\_BOUNDARIES shall be thrown if the general result byte is missing in the Result Simple TLV in Terminal Response.
- CRRC3: A ToolkitException COMMAND\_NOT\_ALLOWED shall be thrown if the proactive command to be sent is not allowed by the SIM Toolkit Framework.
- CRRC4: A ToolkitException COMMAND\_NOT\_ALLOWED shall be thrown if one parameter of the proactive command to be sent is not allowed by the SIM Toolkit Framework.

## 6.2.7.6.2 Test Suite files

Test Script: API\_2\_PAH\_SEND\_1.scr

Test Applet: API\_2\_PAH\_SEND\_1.java

Load Script: API\_2\_PAH\_SEND\_1.ldr

Cleanup Script: API\_2\_PAH\_SEND\_1.clr

Parameter File: API\_2\_PAH\_SEND\_1.par

## 6.2.7.6.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a DISPLAY TEXT command	-	DISPLAY TEXT Proactive
	qualifier = 00h		command
	dcs = 04h buffer = 'Text'		
2	Terminal Response with General Result = 00	Result of send() is 00h	
_	Torriman Response with Constant Result = 00	result of seria() is con	
	Result TLV = 03 01 00 (command performed		
	successfully)		
3	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
	qualifier = 00h dcs = 04h		command
	buffer = 'Text'		
4	Terminal Response with General Result = 01,	Result of send() is 01h	
	without Additional information on result	_	
	Result TLV = 03 01 01 (command performed with partial comprehension)		
5	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
	qualifier = 00h		command
	dcs = 04h		
	buffer = 'Text'		
6	Terminal Response with General Result = 01,	Result of send() is 01h	
	with Additional information on result		
	Result TLV = 03 02 01 55 (command		
	performed with partial comprehension)		
7	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
	qualifier = 00h		command
	dcs = 04h buffer = 'Text'		
8	Terminal Response with General Result = 02	Result of send() is 02h	
		1.000.101.001.00	
	Result TLV = 03 04 02 65 43 21 (Missing		

ld	Description	API Expectation	APDU Expectation
	information)		DICDLAY TEXT Door office
9	Build and send a 7Fh byte command (DISPLAY TEXT)		DISPLAY TEXT Proactive
	qualifier = 00h		command
	dcs = 04h		BER-TLV = D0 7F
	buffer = "UUUUU"		Text String TLV = 8D 74
10	length = 73h		04 55 55 55 DISPLAY TEXT Proactive
10	Build and send a 80h byte command (DISPLAY TEXT)		command
	qualifier = 00h		Command
	dcs = 04h		BER-TLV = D0 81 80
	buffer = "UUUUU"		Text String TLV = 8D 75
44	length = 74h		04 55 55 55
11	Build and send a maximum length command		DISPLAY TEXT Proactive
	(length of the handler should be 253)		command
	DISPLAY TEXT:		BER-TLV = D0 81 FD
	Qualifier = 0		Text String TLV = 8D 81
	dcs = 4 buffer = "UUU"		F1 04 55 55
	offset = 0		
	length = 240		
12	Verify that the Proactive Handler is not		
	modified after a send()		
	Build a DISPLAY TEXT command		
	Const Dropotive London to accuracy but a proper		
	Copy ProactiveHandler to source byte array		
	Send command		
	Gena commana		
	Copy ProactiveHandler to destination byte		
	array		
	Compare source and destination	Source and destination are	
40	Duild and sand a DICDLAY TEXT same and	identical	DIODI AV TEVT Duo a stirra
13	Build and send a DISPLAY TEXT command Verify there is no invocation of select() or		DISPLAY TEXT Proactive command
	deselect() method.		Command
14	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
' '			command
	Terminal Response with 2 Result TLV	Result of send() is 02h	
	1st Develo (11)		
	$1^{\text{st}}$ Result TLV = 03 02 02 12 $2^{\text{nd}}$ Result TLV = 03 03 03 34 56		
15	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
			command
	Terminal Response without Result Simple TLV	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown by send()	
16	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
			command
	Township I Doon on a south sort was a select to the select	Tabilitative and the OUT OF THE	
	Terminal Response without general result byte in the Simple TLV	ToolkitException.OUT_OF_TLV_	
1	in the simple ILV	BOUNDARIES is thrown by send()	
	Result TLV = 03 00	John ()	

# 6.2.7.6.4 Test Coverage

CRR number	Test case number
N1	1, 3, 5, 7, 9, 10, 11, 12, 13, 14
N2	2, 4, 6, 8, 14
N3	12
N4	13
N5	checked in Framework tests: FWK_API_TRAN
C1	15

C2	16
C3	checked in the Framework test: FWK_PCS_PCCO (test case 1)
C4	checked in the Framework test : FWK_PCS_PCCO (test cases 2 to
	3)

# 6.2.7.7 Method getLength

Test Area Reference API\_2\_PAH\_GLEN

## 6.2.7.7.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.7.1.1 Normal execution

• CRRN1: returns the length in bytes of the TLV list.

#### 6.2.7.7.1.2 Parameter errors

No requirements.

#### 6.2.7.7.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

## 6.2.7.7.2 Test Suite files

Test Script: API\_2\_PAH\_GLEN\_1.scr

Test Applet: API\_2\_PAH\_GLEN\_1.java

Load Script: API\_2\_PAH\_GLEN\_1.ldr

Cleanup Script: API\_2\_PAH\_GLEN\_1.clr

Parameter File: API\_2\_PAH\_GLEN\_1.par

#### 6.2.7.7.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Clear the handler getLength()	Result of getLength() is 0	
2	Call the init() method getLength()	Result of getLength() is 9	
3	Call the initDisplayText() method, with buffer length = 240 getLength()	Result of getLength() is 253	
4	Build a 7Fh Proactive Handler getLength()	Result of getLength() is 7Fh	
5	Build a 80h Proactive Handler getLength()	Result of getLength() is 80h	

## 6.2.7.7.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3, 4, 5	
C1	Does not apply for Proactive Handler	

## 6.2.7.8 Method copy

Test Area Reference API\_2\_PAH\_COPY\_BSS

## 6.2.7.8.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

## 6.2.7.8.1.1 Normal execution

- CRRN1: copies the simple TLV list contained in the handler to the destination byte array.
- CRRN2: returns dstOffset + dstLength.

#### 6.2.7.8.1.2 Parameter errors

- CRRP1: if dstBuffer is null a NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative, an ArrayIndexOutOfBoundsException is thrown.
- CRRP3: if dstLength is grater than the length of the simple TLV List, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException. OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.7.8.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

## 6.2.7.8.2 Test Suite files

Test Script: API\_2\_PAH\_COPY\_BSS\_1.scr

Test Applet: API\_2\_PAH\_COPY\_BSS\_1.java

Load Script: API\_2\_PAH\_COPY\_BSS\_1.ldr

Cleanup Script: API\_2\_PAH\_COPY\_BSS\_1.clr

Parameter File: API\_2\_PAH\_COPY\_BSS\_1.par

## 6.2.7.8.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	NULL as parameter to dstBuffer	NullPointerException is thrown	
2	Call the init() method		
	DstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 6		
	dstLength = 0		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	

ld	Description	API Expectation	APDU Expectation
	dstOffset = -1		
	dstLength = 1		
4	DstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 0		
	dstLength = 6		
5	dstOffset + dstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 3		
	dstLength = 3		
6	dstLength < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 0		
	dstLength = -1	T 11:15 (1 OUT OF TILV	
7	dstLength > length of the simple TLV list	ToolkitException.OUT_OF_TLV_	
	<pre>dstBuffer.length = 10 dstOffset = 0</pre>	BOUNDARIES is thrown	
	dstLength = 10		
8	Successful call, dstBuffer is the whole buffer	Result of copy() is 9	
0	dstBuffer.length = 9	Result of copy() is 9	
	dstOffset = 0		
	dstLength = 9		
9	Compare the buffer	Result of arrayCompare() is 0	
10	Successful call, dstBuffer is part of a buffer	Result of copy() is 12	
	dstBuffer.length = 15	1,100	
	dstOffset = 3		
	dstLength = 9		
11	Compare the whole buffer	Result of arrayCompare() is 0	
12	Successful call, dstBuffer is part of a buffer	Result of copy() is 9	
	dstBuffer.length = 15		
	dstOffset = 3		
	dstLength = 6		
13	Compare the whole buffer	Result of arrayCompare() is 0	

## 6.2.7.8.4 Test Coverage

CRR number Test case number	
N1	9, 11, 13
N2	8, 10, 12
P1	1
P2	2, 3, 4, 5, 6
P3	7
C1	Does not apply for ProactiveHandler

## 6.2.7.9 Method findTLV

Test Area Reference API\_2\_PAH\_FINDBB

## 6.2.7.9.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.9.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of the TLV list (handler buffer):

- CRRN1: the method is successful if the required occurrence exists then the corresponding TLV becomes current.
- CRRN2: if the method is successful then it returns TLV\_FOUND\_CR\_SET when Comprehension Required flag is set.

- CRRN3: if the method is successful then it returns TLV\_FOUND\_CR\_NOT\_SET when Comprehension Required flag is not set.
- CRRN4: if the required occurrence of the TLV element does not exist, the current TLV is no longer defined and TLV\_NOT\_FOUND is returned.
- CRRN5: The search method is comprehension required flag independent.

## 6.2.7.9.1.2 Parameter errors

• CRRP1: if an input parameter is not valid (e.g. occurrence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException BAD\_INPUT\_PARAMETER.

#### 6.2.7.9.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

## 6.2.7.9.2 Test Suite files

Test Script: API\_2\_PAH\_FINDBB\_1.scr

Test Applet: API\_2\_PAH\_FINDBB\_1.java

Load Script: API\_2\_PAH\_FINDBB\_1.ldr

Cleanup Script: API\_2\_PAH\_FINDBB\_1.clr

Parameter File: API\_2\_PAH\_FINDBB\_1.par

## 6.2.7.9.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler	-	<u>-</u>
	Invalid input parameter Occurrence = 0	ToolkitException.BAD_INPUT_PA RAMETER is thrown	
2	Call the init() method		
	Search 1 <sup>st</sup> TLV	Deput is TIV FOUND OR SET	
	Tag = 01h	Result is TLV_FOUND_CR_SET	
	Occurrence = 1		
3	Call the getValueLength() method	Result is 03h	
4	Search 2 <sup>nd</sup> TLV	Result is TLV_FOUND_CR_SET	
	Tag = 02h		
	Occurrence = 1		
5	Call the getValueLength() method	Result is 02h	
6	Select a TLV (tag 02h)		
	Search a wrong tag	Result is TLV_NOT_FOUND	
	Tag = 03h Occurrence = 1		
7	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
<b>'</b>	Can the get value Length() method	ELEMENT is thrown.	
8	Search a tag with wrong occurrence	Result is TLV NOT FOUND	
	Tag = 01h	1.00dit 10 121_101_1 0011D	
	Occurrence = 2		
9	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ ELEMENT is thrown.	
10	Append a TLV with tag=02h		
	Search the TLV	Result is	
	Tag = 02h	TLV_FOUND_CR_NOT_SET	
	Occurrence = 2		
11	Append a TLV with tag=04h		
	Search the TLV	Result is	
	Tag = 04h Occurrence = 1	TLV_FOUND_CR_NOT_SET	
12	Search tag 81h	Result is TLV FOUND CR SET	
'-	Tag = 81h	1.000	
	Tag = 81h		

	Occurrence = 1		
13	Search tag 84h	Result is	
	Tag = 84h	TLV_FOUND_CR_NOT_SET	
	Occurrence = 1		

## 6.2.7.9.4 Test Coverage

CRR number Test case number		
N1	3, 5	
N2 2, 4		
N3	10, 11	
N4 6, 7,8, 9		
N5 12, 13		
P1 1		
C1	Does not apply for Proactive Handler	

# 6.2.7.10 Method getValueLength

Test Area Reference API\_2\_PAH\_GVLE

## 6.2.7.10.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

## 6.2.7.10.1.1 Normal execution

• CRRN1: gets and returns the binary length of the value field for the last TLV element which has been found in the handler.

## 6.2.7.10.1.2 Parameter errors

No requirements.

#### 6.2.7.10.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

## 6.2.7.10.2 Test Suite files

Test Script: API\_2\_PAH\_GVLE\_1.scr
Test Applet: API\_2\_PAH\_GVLE\_1.java
Load Script: API\_2\_PAH\_GVLE\_1.ldr

Cleanup Script: API\_2\_PAH\_GVLE\_1.clr

Parameter File: API\_2\_PAH\_GVLE\_1.par

## 6.2.7.10.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Call the init() method		
	getValueLength()	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	

ld	Description	API Expectation	APDU Expectation
2	Call the appendTLV() method		
	tag = 0D		
	<pre>valueOffset = 0</pre>		
	valueLength = 0		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is 00h	
3	Call the initDisplayText() method		
	length = 1 (+ dcs byte)		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is 02h	
4	Call the initDisplayText() method		
	length = 7Eh (+ dcs byte)		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is 7Fh	
5	Call the initDisplayText() method		
	length = 7Fh (+ dcs byte)		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is 80h	
6	Call the initDisplayText() method		
	length = F0h (maximum text length)		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is F1h	

## 6.2.7.10.4 Test Coverage

CRR number	Test case number	
N1	2, 3, 4, 5, 6	
C1	Does not apply for Proactive Handler	
C2	1	

## 6.2.7.11 Method getValueByte

Test Area Reference API\_2\_PAH\_GVBYS

## 6.2.7.11.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.11.1.1 Normal execution

• CRRN1: Gets a byte from the last TLV element which has been found in the handler and returns its value (1 byte).

#### 6.2.7.11.1.2 Parameter errors

• CRRP1: if valueOffset is out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

## 6.2.7.11.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

6.2.7.11.2 Test Suite files

Test Script: API\_2\_PAH\_GVBYS\_1.scr

Test Applet: API\_2\_PAH\_GVBYS\_1.java

Load Script: API\_2\_PAH\_GVBYS\_1.ldr

Cleanup Script: API\_2\_PAH\_GVBYS\_1.clr

Parameter File: API\_2\_PAH\_GVBYS\_1.par

## 6.2.7.11.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Call the init() method		<u>.</u>
	type = FFh		
	qualifier = FEh		
	destination = FDh		
	getValueByte(0)	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	
2	Search TLV 01h (Command Details TLV)		
	getValueByte(3)	ToolkitException.OUT_OF_TLV_	
		BOUNDARIES is thrown	
3	Search TLV 01h (Command Details TLV)		
	getValueByte(2)	Result is FEh (qualifier)	
4	Search TLV 02h (Device Identities TLV)		
	getValueByte(0)	Result is 81h (Source)	
5	initDisplayText()		
	buffer = 00 01 7D		
	length = 7Eh		
	Search TLV ODh (Text String TLV)		
	getValueByte(7E)	Result is 7Dh	
6	initDisplayText()		
	buffer = 00 01 7D 7E length = 7Fh		
	Search TLV ODh (Text String TLV)		
	getValueByte(7E)	Result is 7Dh	
	get value byte (1 L)	result is 7 bit	
7	getValueByte(7F)	Result is 7Eh	
'	gerranactic()	result to 7 Em	
8	initDisplayText()		
	buffer = 00 01 EF		
	length = F0h		
	Search TLV 0Dh (Text String TLV)		
	getValueByte(F0)	Result is EFh	

## 6.2.7.11.4 Test Coverage

CRR number	Test case number
N1	3, 4, 5, 6, 7, 8
P1	2
C1	Does not apply for Proactive Handler
C2	1

# 6.2.7.12 Method copyValue

Test Area Reference API\_2\_PAH\_CPYVS\_BSS

## 6.2.7.12.1 Conformance requirement

The method with following header shall be compliant with its definition in the API.

#### 6.2.7.12.1.1 Normal execution

- CRRN1: copies a part of the last TLV element which has been found, into a destination. buffer.
- CRRN2: returns dstOffset + dstLength.

#### 6.2.7.12.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException is thrown.
- CRRP3: if valueOffset is negative or valueOffset + dstLength > current TLV length, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

## 6.2.7.12.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE ELEMENT.

## 6.2.7.12.2 Test Suite files

Test Script: API\_2\_PAH\_CPYVS\_BSS\_1.scr
Test Applet: API\_2\_PAH\_CPYVS\_BSS\_1.java
Load Script: API\_2\_PAH\_CPYVS\_BSS\_1.ldr
Cleanup Script: API\_2\_PAH\_CPYVS\_BSS\_1.clr
Parameter File: API\_2\_PAH\_CPYVS\_BSS\_1.par

## 6.2.7.12.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler Select a TLV		
	copyValue() with a null dstBuffer	NullPointerException is thrown	
2	initDisplayText() with length = 15		
	Select Text String TLV		
	dstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 6		
	dstLength = 0		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = -1		
	dstLength = 1		

ld	Description	API Expectation	APDU Expectation
4	dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	•
	dstBuffer.length = 5	n is thrown	
	<pre>dstOffset = 0 dstLength = 6</pre>		
5	dstOffset + dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	<pre>dstOffset = 3 dstLength = 3</pre>		
6	dstLength < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	<pre>dstOffset = 0 dstLength = -1</pre>		
	abeligen = 1		
7	initDisplayText() with length = 5		
	Select Text String TLV	TWitEventing OUT OF TIVE	
	valueOffset > Text String Length valueOffset = 7	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
	dstBuffer.length = 15	BOONDAINES IS UNOWIT	
	dstOffset = 0		
8	dstLength = 0 [Select Text String TLV]	ToolkitException.OUT_OF_TLV_	
	valueOffset < 0	BOUNDARIES is thrown	
	valueOffset = -1		
	<pre>dstBuffer.length = 15 dstOffset = 0</pre>		
	dstLength = 1		
9	[Select Text String TLV]	ToolkitException.OUT_OF_TLV_	
	<pre>dstLength &gt; Text String length valueOffset = 0</pre>	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
10	dstLength = 7 [Select Text String TLV]	ToolkitException.OUT_OF_TLV_	
10	valueOffset + dstLength > Text String	BOUNDARIES is thrown	
	length		
	<pre>valueOffset = 2 dstBuffer.length = 15</pre>		
	dstOffset = 0		
	dstLength = 5		
11	Initialise the handler		
	copyValue()	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	
12	initDisplayText()		
	buffer = 00 01 0F		
	Select Text String TLV		
	Successful call valueOffset = 0	Result of copyValue() is 17	
	dstBuffer.length = 17		
	dstOffset = 0		
13	dstLength = 17  Compare buffer	Result is 00h	
'	buffer = 04 00 01 0F	result is som	
<u></u>			
14	initialise dstBuffer dstBuffer = 55 55 55		
	Successful call	Result of copyValue() is 15	
	valueOffset = 2	111111111111111111111111111111111111111	
	<pre>dstBuffer.length = 20 dstOffset = 3</pre>		
	dstOffset = 3 dstLength = 12		
15	Compare buffer	Result is 00h	
	buffer =		
	55 55 55 01 02 03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55		

## 6.2.7.12.4 Test Coverage

CRR number	Test case number
N1	13, 15
N2	12, 14
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for Proactive Handler
C2	11

## 6.2.7.13 Method compareValue

Test Area Reference API\_2\_PAH\_CPRVS\_BSS

## 6.2.7.13.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.13.1.1 Normal execution

Compares the last found TLV element with a buffer:

- CRRN1: returns 0 if identical.
- CRRN2: returns -1 if the first miscomparing byte in simple TLV List is less than that in compareBuffer.
- CRRN3: returns 1 if the first miscomparing byte in simple TLV List is greater than that in compareBuffer.

#### 6.2.7.13.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset is negative or valueOffset + dstLength > current TLV length, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

## 6.2.7.13.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

## 6.2.7.13.2 Test Suite files

Test Script: API\_2\_PAH\_CPRVS\_BSS\_1.scr
Test Applet: API\_2\_PAH\_CPRVS\_BSS\_1.java
Load Script: API\_2\_PAH\_CPRVS\_BSS\_1.ldr
Cleanup Script: API\_2\_PAH\_CPRVS\_BSS\_1.clr

Parameter File: API\_2\_PAH\_CPRVS\_BSS\_1.par

# 6.2.7.13.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler	7 ii Exposition	7 ti 20 2xpootation
'	Select a TLV		
	compareValue() with a null compareBuffer	NullPointerException is thrown	
	compare value() with a null compare buller	Null For ter Exception is thown	
2	initDisplayText() with length = 15		
_	Select Text String TLV		
	compareOffset > compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 5	n is thrown	
	compareOffset = 6	ii io unowii	
	compareLength = 0		
3	compareOffset < 0	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 5	n is thrown	
	compareOffset = -1		
	compareLength = 1		
4	compareLength >compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 5	n is thrown	
	<pre>compareOffset = 0</pre>		
_	compareLength = 6		
5	compareOffset + compareLength	ArrayIndexOutOfBoundsExceptio	
	>compareBuffer.length	n is thrown	
	compareBuffer.length = 5		
	compareOffset = 3		
	compareLength = 3		
6	compareLength < 0	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 5	n is thrown	
	compareOffset = 0		
	compareLength = -1		
7	initDisplayText() with length = 5		
	Select Text String TLV		
	valueOffset > Text String Length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 7	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	compareOffset = 0		
	compareLength = 0		
8	[Select Text String TLV]	ToolkitException.OUT_OF_TLV_	
	valueOffset < 0	BOUNDARIES is thrown	
	valueOffset = -1		
	compareBuffer.length = 15		
	compareOffset = 0		
9	compareLength = 1	ToolkitEveention OUT OF TIV	
-	[Select Text String TLV] compareLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 0	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	compareOffset = 0		
	compareLength = 7		
10	[Select Text String TLV]	ToolkitException.OUT_OF_TLV_	
-	valueOffset + compareLength > Text String	BOUNDARIES is thrown	
	length	DOGNE, INCLOSIO UNIOWIT	
	valueOffset = 2		
	compareBuffer.length = 15		
	compareOffset = 0		
	compareLength = 5		
11	Initialise the handler		
	compareValue()	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	

ld	Description	API Expectation	APDU Expectation
12	initDisplayText()	•	•
	dcs = 4		
	buffer = 00 01 0F		
	Select Text String TLV		
	Initialise compareBuffer		
	compareBuffer = 04 00 01 0F		
	Compare buffers	Result is 00h	
	valueOffset = 0	Troodit io oon	
	compareOffset = 0		
	compareLength = 17		
	1 W W		
13	Initialise compareBuffer		
	compareBuffer = 04 00 01 02 03		
	04 05 06 07 08		
	05 0A 0B 0C 0D		
	0E 10		
	Compare buffers with same parameters	Result is -1	
14	Initialise compareBuffer		
	compareBuffer =		
	03 00 01 0F	D 11: 4	
	Compare buffers with same parameters	Result is +1	
15	Initialise compareBuffer		_
15	compareBuffer =		
	55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55		
	Compare buffers	Result is 00h	
	valueOffset = 2		
	compareOffset = 3		
	compareLength = 12		
16	Initialise compareBuffer		
10	compareBuffer =		
	55 55 55 02 01		
	03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55		
	Compare buffers with same parameters	Result is -1	
17	Initialise compareBuffer		
' '	compareBuffer =		
	55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0A 0D		
	55 55 55 55 55	D Wi 4	
40	Compare buffers with same parameters	Result is +1	
18	Initialise compareBuffer		
	compareBuffer = 55		
	03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55		
	Compare buffers with same parameters	Result is +1	

## 6.2.7.13.4 Test Coverage

CRR number	Test case number
N1	12, 15
N2	13, 16
N3	14, 17, 18
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for Proactive Handler
C2	11

## 6.2.7.14 Method findAndCopyValue(byte tag, byte[] dstBuffer, short valueOffset)

Test Area Reference API\_2\_PAH\_FACYB\_BS

#### 6.2.7.14.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.14.1.1 Normal execution

- CRRN1: looks for the first occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + length of the copied value is returned.
- CRRN4: The search method is comprehension required flag independent.

#### 6.2.7.14.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

## 6.2.7.14.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.7.14.2 Test Suite files

Test Script: API\_2\_PAH\_FACYB\_BS\_1.scr
Test Applet: API\_2\_PAH\_FACYB\_BS\_1.java
Load Script: API\_2\_PAH\_FACYB\_BS\_1.ldr
Cleanup Script: API\_2\_PAH\_FACYB\_BS\_1.clr
Parameter File: API\_2\_PAH\_FACYB\_BS\_1.par

# 6.2.7.14.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler		
	FindAndCopyValue() with a null dstBuffer	NullPointerException is thrown	
2	InitDisplayToyt() with longth - 15		
2	InitDisplayText() with length = 15 dstOffset > dstBuffer.length	ArrayIndexOutOfRoundaEvacatio	
	dstOffset > dstBuffer.lengtf dstBuffer.length = 20 dstOffset = 21	ArrayIndexOutOfBoundsExceptio n is thrown	
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 20 dstOffset = -1	n is thrown	
4	<pre>length &gt; dstBuffer.length dstBuffer.length = 15 dstOffset = 0</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
5	DstOffset + length >dstBuffer.length DstBuffer.length = 20 DstOffset = 5	ArrayIndexOutOfBoundsExceptio n is thrown	
6	initDisplayText()		
	Select a TLV (tag 02h)		
	findAndCopyValue() tag = 03h	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ ELEMENT is thrown.	
7	initDisplayText() dcs = 4 buffer = 00 01 0F		
	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0	Result of findAndcopyValue() is 17	
8	Compare buffer buffer = 04 00 01 OF	Result is 00h	
9	initialise dstBuffer dstBuffer = 55 55 55		
	Successful call dstBuffer.length = 20 dstOffset = 2	Result of findAndcopyValue() is 19	
10	Compare buffer	Result is 00h	
	buffer = 55 55 04 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F 55		
11	initDisplayText() dcs = 4 buffer = 00 01 0F		
	append a 2 <sup>nd</sup> Text String TLV		
	Successful call tag = 0Dh dstBuffer.length = 17 dstOffset = 0	Result of findAndcopyValue() is 17	
12	Compare buffer buffer = 04 00 01 0F	Result is 00h	
13	initDisplayText() dcs = 4 buffer = 00 01 0F		
	Successful call (with tag 8Dh) tag = 8Dh dstBuffer.length = 17 dstOffset = 0	Result of findAndcopyValue() is 17	
14	Compare buffer buffer = 04 00 01 0F	Result is 00h	

ld	Description	API Expectation	APDU Expectation
15	Append tag 0Fh		
	buffer = 00 01 0F		
	Successful call (with tag 8Fh)	Result of findAndcopyValue() is	
	tag = 8Fh	16	
	dstBuffer.length = 16		
	dstOffset = 0		
16	Compare buffer	Result is 00h	
	buffer = 00 01 0F		

## 6.2.7.14.4 Test Coverage

CRR number	Test case number
N1	8, 10, 12
N2	6
N3	7, 9, 11
N4	13, 14, 15, 16
P1	1
P2	2, 3, 4, 5
C1	Does not apply for Proactive Handler

# 6.2.7.15 Method findAndCopyValue(byte tag, byte occurence, short valueOffset, byte[] dstBuffer, short dstOffset, short dstLength)

Test Area Reference API\_2\_PAH\_FACYBBS\_BSS

## 6.2.7.15.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

## 6.2.7.15.1.1 Normal execution

- CRRN1: looks for the indicated occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + dstLength is returned.
- CRRN4: The search method is comprehension required flag independent.

## 6.2.7.15.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset is negative or valueOffset + dstLength > current TLV length, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

## 6.2.7.15.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

6.2.7.15.2 Test Suite files

Test Script: API\_2\_PAH\_FACYBBS\_BSS\_1.scr

Test Applet: API\_2\_PAH\_FACYBBS\_BSS\_1.java

Load Script: API\_2\_PAH\_FACYBBS\_BSS\_1.ldr

Cleanup Script: API\_2\_PAH\_FACYBBS\_BSS\_1.clr

Parameter File: API\_2\_PAH\_FACYBBS\_BSS\_1.par

## 6.2.7.15.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler	AFI Expectation	AF DO Expectation
-	findAndCopyValue() with a null dstBuffer	NullDeinterEveentien in through	
	illidAlidCopyvalue() with a hull dstbuller	NullPointerException is thrown	
2	initDisplayText() with length = 15		
	dstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	tag = 0Dh, occurrence = 1	n is thrown	
	<pre>valueOffset = 0</pre>		
	dstBuffer.length = 5		
	dstOffset = 6		
_	dstLength = 0	1 1 1 0 10/0	
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	<pre>dstBuffer.length = 5 dstOffset = -1</pre>	n is thrown	
	dstLength = 1		
4	dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 0		
	dstLength = 6		
5	dstOffset + dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 3		
6	dstLength = 3	A recycle dox Out Of Dougla Cycontia	
О	<pre>dstLength &lt; 0 dstBuffer.length = 5</pre>	ArrayIndexOutOfBoundsException is thrown	
	dstOffset = 0	n is thrown	
	dstLength = -1		
7	initDisplayText() with length = 5		
	valueOffset > Text String Length	ToolkitException.OUT_OF_TLV_	
	<pre>tag = 0Dh, occurrence = 1 valueOffset = 7</pre>	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
	dstLength = 0		
8	valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	valueOffset = -1	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
	dstLength = 1	Tablist Conntinuo OUT OF TUV	
9	dstLength > Text String length valueOffset = 0	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
	dstBuffer.length = 15	DOUNDARIES IS UIIOWII	
	dstOffset = 0		
	dstLength = 7		
10	valueOffset + dstLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 2	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
	dstLength = 5		

ld	Description	API Expectation	APDU Expectation
11	InitDisplayText()	Airexpectation	Ai bo Expectation
	Select a TLV (tag 02h)		
	findAndCopyValue()	ToolkitException.UNAVAILABLE_	
	tag = 0Dh	ELEMENT is thrown	
	occurrence = 2		
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ ELEMENT is thrown.	
12	initDisplayText()	ELLIVIEIVI IS UIIOWII.	
'-	dcs = 4		
	buffer = 00 01 0F		
	Successful call	Result of findAndCopyValue() is	
	<pre>tag = 0Dh, occurrence = 1 valueOffset = 0</pre>	17	
	dstBuffer.length = 17		
	dstOffset = 0		
4.0	dstLength = 17	D 11: 001	
13	Compare buffer buffer = 04 00 01 0F	Result is 00h	
	buller = 04 00 01 0F		
14	initialise dstBuffer		
	dstBuffer = 55 55 55		
	Successful call	Result of findAndcopyValue() is	
	<pre>tag = 0Dh, occurrence = 1 valueOffset = 2</pre>	15	
	dstBuffer.length = 20		
	dstOffset = 3		
	dstLength = 12		
15	Compare buffer	Result is 00h	
	buffer = 55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0B 0C		
16	Append a Text String TLV		
10	tag = 0D		
	buffer = 00 11 22 33 44 55 (no specific		
	DCS byte)	Described final Anad Constal (1997)	
	Successful call tag = 0Dh, occurrence = 1	Result of findAndCopyValue() is 17	
	valueOffset = 0	17	
	dstBuffer.length = 17		
	<pre>dstOffset = 0 dstLength = 17</pre>		
17	Compare buffer	Result is 00h	
	buffer = 04 00 01 0F		
18	Successful call	Result of findAndCopyValue() is 6	
	<pre>tag = 0Dh, occurrence = 2 valueOffset = 0</pre>		
	dstBuffer.length = 6		
	dstOffset = 0		
19	dstLength = 6  Compare buffer	Result is 00h	
19	buffer = 00 11 22 33 44 55	IXESUIT IS OUT	
20	initDisplayText()		
	dcs = 4 buffer = 00 01 0F		
	Successful call (with tag 8Dh)	Result of findAndcopyValue() is	
	tag = 8Dh	17	
	occurrence = 1		
	<pre>valueOffset = 0 dstBuffer.length = 17</pre>		
	dstBuffer.length = 1/ dstOffset = 0		
	dstLength = 17		
21	Compare buffer	Result is 00h	
	buffer = 04 00 01 0F		
1	1	i	

ld	Description	API Expectation	APDU Expectation
22	Append tag 0Fh		
	buffer = 00 01 0F		
	Successful call (with tag 8Fh)	Result of findAndcopyValue() is	
	tag = 8Fh	16	
	occurrence = 1		
	valueOffset = 0		
	dstBuffer.length = 16		
	dstOffset = 0		
	dstLength = 16		
23	Compare buffer	Result is 00h	
	buffer = 00 01 0F		

#### 6.2.7.15.4 Test Coverage

CRR number	Test case number	
N1	13, 15, 17, 19	
N2	11	
N3	12, 14, 16, 18	
N4	20, 21, 22, 23	
P1	1	
P2	2, 3, 4, 5, 6	
P3	7, 8, 9, 10	
C1	Does not apply for ProactiveHandler	

# 6.2.7.16 Method findAndCompareValue(byte tag, byte[] compareBuffer, short compareOffset)

Test Area Reference API\_2\_PAH\_FACRB\_BS

## 6.2.7.16.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

## 6.2.7.16.1.1 Normal execution

Looks for the first occurrence of a TLV element from beginning of a TLV list and compare its value with a buffer:

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical returns 0.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer returns -1.
- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer returns 1.
- CRRN6: The search method is comprehension required flag independent.

#### 6.2.7.16.1.2 Parameter errors

• CRRP1: if compareBuffer is null NullPointerException shall be thrown.

• CRRP2: if compareOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

## 6.2.7.16.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

## 6.2.7.16.2 Test Suite files

Test Script: API\_2\_PAH\_FACRB\_BS\_1.scr
Test Applet: API\_2\_PAH\_FACRB\_BS\_1.java
Load Script: API\_2\_PAH\_FACRB\_BS\_1.ldr
Cleanup Script: API\_2\_PAH\_FACRB\_BS\_1.clr
Parameter File: API\_2\_PAH\_FACRB\_BS\_1.par

# 6.2.7.16.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler		
	findAndCompareValue() with a null dstBuffer	NullPointerException is thrown	
2	initDisplayText() with length = 15		
	<pre>compareOffset &gt; compareBuffer.length tag = 0Dh compareBuffer.length = 20 compareOffset = 21</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
3	<pre>compareOffset &lt; 0 compareBuffer.length = 20 compareOffset = -1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
4	<pre>length &gt; compareBuffer.length compareBuffer.length = 15 compareOffset = 0</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
5	<pre>compareOffset + length &gt; compareBuffer.length compareBuffer.length = 20 compareOffset = 5</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
6	InitDisplayText()		
	Select a TLV (tag 02h)		
	findAndCompareValue() tag = 03h	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ ELEMENT is thrown.	
7	<pre>initDisplayText() dcs = 4 buffer = 00 01 0F</pre>		
	Initialise compareBuffer compareBuffer = 04 00 01 0F		
	Compare buffers tag = 0Dh compareOffset = 0	Result is 00h	
8	Verify current TLV getValueLength()	Result is 17	
9	Initialise compareBuffer compareBuffer = 04 00 01 10		
	Compare buffers with same parameters	Result is -1	
10	Initialise compareBuffer compareBuffer = 03 00 01 0F		
	Compare buffers with same parameters	Result is +1	

ld	Description	API Expectation	APDU Expectation
11	Initialise compareBuffer		
	compareBuffer =		
	55 55 04 00 01		
	02 03 04 05 06		
	07 08 09 0A 0B 0C 0D 0E 0F 55		
	Compare buffers	Result is 00h	+
	compareOffset = 2		
	_		
12	append a Text String TLV		
	tag = 0Dh		
<u> </u>	buffer = 00 11 22 33 44 55		_
	Initialise compareBuffer compareBuffer =		
1	55 55 04 00 01		
1	02 03 04 05 06		
	07 08 09 0A 0B		
<u> </u>	OC OD OE OF 55	Popult is 00h	+
	Compare buffers compareOffset = 2	Result is 00h	
13	Initialise compareBuffer		
	compareBuffer =		
	55 55 04 01 01 02 03 04 05 06		
	02 03 04 05 06 07 08 09 0A 0B		
	0C 0D 0E 0F 55		
	Compare buffers	Result is -1	
	compareOffset = 2		
	Initiality		
14	Initialise compareBuffer compareBuffer =		
	CompareBuller		
	02 03 04 05 06		
	07 08 09 0A 0B		
	OC 0D 0D 10 55  Compare buffers	Result is +1	
	compare butters compareOffset = 2	INGGUIL IS T I	
L			
15	initDisplayText()		
	dcs = 4		
	buffer = 00 01 0F	+	_
1	Initialise compareBuffer CompareBuffer = 04 00 01 0F		
	Successful call (with tag 8Dh)	Result is 00h	<del> </del>
Ì	tag = 8Dh		
	compareBuffer.length = 17		
40	compareOffset = 0		
16	Append tag 0Fh buffer = 00 01 0F		
	Initialise compareBuffer		<del>-  </del>
	compareBuffer = 00 01 0F		
	Successful call (with tag 8Fh)	Result is 00h	
	tag = 8Fh		
	<pre>compareBuffer.length = 16 compareOffset = 0</pre>		
17	Initialise compareBuffer	<del> </del>	+
Ľ	compareBuffer = 00 99 01 03 0F		
l —	Successful call (with tag 8Fh)	Result is +1	
	tag = 8Fh compareBuffer length = 16		
	<pre>compareBuffer.length = 16 compareOffset = 0</pre>		

# 6.2.7.16.4 Test Coverage

CRR number	Test case number
N1	6
N2	8
N3	7, 11, 12, 17
N4	9, 13

CRR number	Test case number
N5	10, 14
N6	15, 16
P1	1
P2	2, 3, 4, 5
C1	Does not apply for Proactive Handler

# 6.2.7.17 Method findAndCompareValue(byte tag, byte occurence, short valueOffset, byte[] compareBuffer, short compareOffset, short compareLength)

Test Area Reference API 2 PAH FACRBBS BSS

#### 6.2.7.17.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.17.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of a TLV list and compare its value with a buffer:

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical 0 is returned.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer -1 is returned.
- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer 1 is returned.
- CRRN6: The search method is comprehension required flag independent.

#### 6.2.7.17.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset is negative or valueOffset + dstLength > current TLV length, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.
- CRRP4: if an input parameter is not valid (e.g. occurrence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException BAD\_INPUT\_PARAMETER.

#### 6.2.7.17.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

6.2.7.17.2 Test Suite files

Test Script: API\_2\_PAH\_FACRBBS\_BSS\_1.scr

Test Applet: API\_2\_PAH\_FACRBBS\_BSS\_1.java

Load Script: API\_2\_PAH\_FACRBBS\_BSS\_1.ldr

Cleanup Script: API\_2\_PAH\_FACRBBS\_BSS\_1.clr

Parameter File: API\_2\_PAH\_FACRBBS\_BSS\_1.par

# 6.2.7.17.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler	AFI Expectation	APDO Expectation
I	findAndCompareValue() with a null compareBuffer	NullPointerException is thrown	
2	initDisplayText() with length = 15		
	<pre>compareOffset &gt; compareBuffer.length tag = 0Dh, occurrence = 1 valueOffset = 0 compareBuffer.length = 5 compareOffset = 6 compareLength = 0</pre>	ArrayIndexOutOfBoundsException is thrown	
3	<pre>compareOffset &lt; 0 compareBuffer.length = 5 compareOffset = -1 compareLength = 1</pre>	ArrayIndexOutOfBoundsException is thrown	
4	<pre>compareLength &gt;compareBuffer.length compareBuffer.length = 5 compareOffset = 0 compareLength = 6</pre>	ArrayIndexOutOfBoundsException is thrown	
5	<pre>compareOffset + compareLength &gt;compareBuffer.length compareBuffer.length = 5 compareOffset = 3 compareLength = 3</pre>	ArrayIndexOutOfBoundsException is thrown	
6	<pre>compareLength &lt; 0 compareBuffer.length = 5 compareOffset = 0 compareLength = -1</pre>	ArrayIndexOutOfBoundsException is thrown	
7	initDisplayText() with length = 5		
	<pre>valueOffset &gt; Text String Length tag = 0Dh, occurrence = 1 valueOffset = 7 compareBuffer.length = 15 compareOffset = 0 compareLength = 0</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
8	<pre>valueOffset &lt; 0 valueOffset = -1 compareBuffer.length = 15 compareOffset = 0 compareLength = 1</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
9	<pre>compareLength &gt; Text String length valueOffset = 0 compareBuffer.length = 15 compareOffset = 0 compareLength = 7</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
10	<pre>valueOffset + compareLength &gt; Text String</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
11	Invalid parameter occurrence = 0	ToolkitException.BAD_INPUT_PA RAMETER is thrown	

ld	Description	API Expectation	APDU Expectation
12	InitDisplayText()	AFI Expectation	AF DO Expectation
12			
	Select a TLV (tag 02h)	ToolkitEveentien UNAVALI ADLE	
	<pre>findAndCompareValue() tag = 0Dh occurrence = 2</pre>	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ ELEMENT is thrown.	
13	initDisplayText()		
	dcs = 4		
	buffer = 00 01 0F Initialise compareBuffer		
	compareBuffer =		
	04 00 01 OF		
	findAndCompareValue()	Result is 00h	
	tag = 0Dh, occurrence = 1		
	<pre>valueOffset = 0 compareOffset = 0</pre>		
	compareLength = 17		
14	Verify current TLV getValueLength()	Result is 17	
15	Initialise compareBuffer		
'	compareBuffer =		
	04 00 01 10		
	Compare buffers with same parameters	Result is -1	
16	Initialise compareBuffer		
	compareBuffer = 03 00 01 OF		
	Compare buffers with same parameters	Result is +1	
	,		
17	Initialise compareBuffer  compareBuffer =  55 55 55 01 02  03 04 05 06 07  08 09 0A 0B 0C		
	55 55 55 55 55		
	Compare buffers valueOffset = 2 compareOffset = 3 compareLength = 12	Result is 00h	
18	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 02 01		
	03 04 05 06 07 08 09 0A 0B 0C		
	55 55 55 55		
	Compare buffers with same parameters	Result is -1	
19	Initialise compareBuffer		
	compareBuffer =		
	55 55 55 01 02 03 04 05 06 07		
	08 09 0A 0A 0D		
	55 55 55 55		
-	Compare buffers with same parameters	Result is +1	
20	append a Text String TLV		
	tag = 0Dh buffer = 00 11 22 33 44 55		
	Initialise compareBuffer  compareBuffer =		
	04 00 01 0F findAndCompareValue()	Result is 00h	
	tag = 0Dh, occurrence = 1	INGSUIL IS OUT	
	valueOffset = 0		
	compareOffset = 0		
	compareLength = 17		
1	İ		İ

ld	Description	API Expectation	APDU Expectation
21	Initialise compareBuffer	-	
	compareBuffer =		
	00 11 22 33 44 55		
	findAndCompareValue()	Result is 00h	
	tag = 0Dh, occurrence = 2		
	valueOffset = 0		
	<pre>compareOffset = 0 compareLength = 6</pre>		
	Comparehength = 6		
22	Initialise compareBuffer		
	compareBuffer =		
	00 11 22 33 44 66		
	findAndCompareValue()	Result is -1	
	tag = 0Dh, occurrence = 2		
	<pre>valueOffset = 0</pre>		
	compareOffset = 0		
	compareLength = 6		
23	initDisplayText()		
20	dcs = 4		
	buffer = 00 01 0F		
	Initialise compareBuffer		
	CompareBuffer = 04 00 01 0F		
	Successful call (with tag 8Dh)	Result is 00h	
	tag = 8Dh, occurrence = 1		
	<pre>valueOffset = 0 compareBuffer.length = 17</pre>		
	compareOffset = 0		
	compareLength = 17		
24	Append tag 0Fh		
	buffer = 00 01 0F		
	Initialise compareBuffer		
	compareBuffer = 00 01 0F	B 11: 001	
	Successful call (with tag 8Fh)	Result is 00h	
	<pre>tag = 8Fh, occurrence = 1 valueOffset = 0</pre>		
	compareBuffer.length = 16		
	compareOffset = 0		
	compareLength = 16		
25	Initialise compareBuffer		
	compareBuffer =0099 02 0F		
	findAndCompareValue()	Result is +1	
	tag = 0Dh, occurrence = 1		
	<pre>valueOffset = 0 compareOffset = 0</pre>		
	compareUniset = 0 compareLength = 17		
	COMPATCHCHACH - TI		

# 6.2.7.17.4 Test Coverage

CRR number	Test case number
N1	12
N2	14
N3	13, 17, 20, 21
N4	15, 18, 22
N5	16, 19
N6	23, 24
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
P4	11
C1	Does not apply for Proactive Handler

# 6.2.7.18 Method appendArray

Test Area Reference: API\_2\_PAH\_APDA\_BSS

#### 6.2.7.18.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.18.1.1 Normal execution

- CRRN1: appends a buffer into the Edithandler buffer.
- CRRN2: a successful append does not modify the TLV selected.

#### 6.2.7.18.1.2 Parameters error

- CRRP1: if buffer is null, a java.lang.NullPointerException is thrown.
- CRRP2: if offset or length or both would cause access outside the array bounds, or if length is negative, a java.lang.ArrayIndexOutOfBoundsException is thrown.

#### 6.2.7.18.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.

#### 6.2.7.18.2 Test suite files

Test Script: API\_2\_PAH\_APDA\_BSS\_1.scr

Test Applet: API\_2\_PAH\_APDA\_BSS\_1.java

Load Script: API\_2\_PAH\_APDA\_BSS\_1.ldr

Cleanup Script: API\_2\_PAH\_APDA\_BSS\_1.clr

Parameter File: API\_2\_PAH\_APDA\_BSS\_1.par

# 6.2.7.18.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Null buffer	NullPointerException is thrown	
2	offset > buffer.length	ArrayIndexOutOfBoundsExceptio	
	buffer.length = 5	n is thrown	
	offset = 6		
	length = 0		
3	offset < 0	ArrayIndexOutOfBoundsExceptio	
	buffer.length = 5	n is thrown	
	offset = -1		
	length = 1		
4	length > buffer.length	ArrayIndexOutOfBoundsExceptio	
	buffer.length = 5	n is thrown	
	offset = 0		
<u> </u>	length = 6	1 1 2 2 2 2	
5	offset + length > buffer.length	ArrayIndexOutOfBoundsExceptio	
	buffer.length = 5	n is thrown	
	offset = 3		
_	length = 3	A 1 1 0 (0/D 1 E //	
6	length < 0	ArrayIndexOutOfBoundsExceptio	
	buffer.length = 5	n is thrown	
	offset = 0 length = -1		
1	Tengun = -1		

ld	Description	API Expectation	APDU Expectation
7	Handler overflow	ToolkitException.HANDLER_OVE	- 1
•	buffer.length = 256	RFLOW is thrown	
	offset = 0		
	length = 256		
8	Initialise handler		
	Select Command Details TLV		
	Successful call		
	buffer = FF FE F8		
	offset = 0		
	length = 8		
	Verify Current TLV: Call getValueLength()	Result is 03h	
9	Clear the handler		
	Successful call		
	buffer = FF FE F8		
	offset = 0		
	length = 8  Call copy() method		
		Dogult of	
	Compare the arrays compareBuffer = FF FE F8	Result of	
	CompareBuller = FF FE Fo	javacard.framework.Util.arrayCom	
40	Cusassaful sall	pare() is 00h	
10	Successful call buffer = 00 01 07		
	offset = 2		
	length = 6		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = FF FE F8 02 03 07	javacard.framework.Util.arrayCom	
		pare() is 00h	
11	Successful call	pa. 5() 15 5011	
	buffer = 11 22 88		
	offset = 2		
	length = 4		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = FF FE F8 02 03 07 33	javacard.framework.Util.arrayCom	
	44 55 66	pare() is 00h	
12	Clear the handler		
	Successful call		
	buffer = 00 01 FC		
	offset = 0 length = 253		
	Call getLength() method	result = 253	
	Jan gettength() method	103dit - 230	
	Call copy() method		
	Can copy() moniou		
	Compare handler	Result of	
	compareBuffer = 00 01 FC	javacard.framework.Util.arrayCom	
		pare() is 00h	
	1	[F 5 () 10 0011	

# 6.2.7.18.4 Test Coverage

CRR number	Test case number
N1	9, 10, 11, 12
N2	8
P1	1
P2	2, 3, 4, 5, 6
C1	7
C2	Does not apply for ProactiveHandler

# 6.2.7.19 Method appendTLV(byte tag, byte value)

Test Area Reference: API\_2\_PAH\_APTLBB

#### 6.2.7.19.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.19.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (1-byte element).
- CRRN2: A successful append does not modify the TLV selected.

#### 6.2.7.19.1.2 Parameters error

No requirements

#### 6.2.7.19.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.

#### 6.2.7.19.2 Test suite files

Test Script: API\_2\_PAH\_APTLBB\_1.scr

Test Applet: API\_2\_PAH\_APTLBB\_1.java

Load Script: API\_2\_PAH\_APTLBB\_1.ldr

Cleanup Script: API\_2\_PAH\_APTLBB\_1.clr

Parameter File: API\_2\_PAH\_APTLBB\_1.par

#### 6.2.7.19.3 Test procedure

ld	Description	API Expectation	APDU Expectation
	•	AFIExpectation	APDO Expectation
1	Call appendArray()		
	length = 251		
	Handler Overflow: Call the appendTLV()	ToolkitException.HANDLER_OVE	
	method	RFLOW is thrown	
2	Initialise handler		
	Select Command Details TLV		
	Call the appendTLV() method		
	Verify Current TLV: Call getValueLength()	Result is 03h	
3	Clear the handler		
	Successful call		
	tag = 84h		
	value = 00h		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = 84 01 00	javacard.framework.Util.arrayCom	
		pare() is 00h	
4	Successful call	l V	
	tag = 01h		
	value = FEh		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = 84 01 00 01 01 FE	javacard.framework.Util.arrayCom	
		pare() is 00h	

ld	Description	API Expectation	APDU Expectation
5	Clear the handler		
	Call appendArray()  length = 250  buffer = 00 81 F7 03 04 F9  Successful call		
	tag = 84h value = 00h Call getLength() method Call copy() method	result = 253	
	Compare the array compareBuffer = 00 81 F7 03 04 F9 84 01 00	Result of javacard.framework.Util.arrayCom pare() is 00h	

#### 6.2.7.19.4 Test Coverage

CRR number	Test case number	
N1	3, 4, 5	
N2	2	
C1 1		
C2	Does not apply for Proactive Handler	

# 6.2.7.20 Method appendTLV(byte tag, byte value1, byte value2)

Test Area Reference: API\_2\_PAH\_APTLBBB

#### 6.2.7.20.1 Conformance requirements:

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.20.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (2-byte element).
- CRRN2: A successful append does not modify the TLV selected.

#### 6.2.7.20.1.2 Parameters error

No requirements

#### 6.2.7.20.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.

# 6.2.7.20.2 Test suite files

Test Script: API\_2\_PAH\_APTLBBB\_1.scr
Test Applet: API\_2\_PAH\_APTLBBB\_1.java
Load Script: API\_2\_PAH\_APTLBBB\_1.ldr

Cleanup Script: API\_2\_PAH\_APTLBBB\_1.clr

Parameter File: API\_2\_PAH\_APTLBBB\_1.par

6.2.7.20.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Call the initDisplayText()	·	
	length = 250		
	Handler Overflow: Call the appendTLV()	ToolkitException.HANDLER_OVE	
	method	RFLOW is thrown	
2	Initialise handler		
	Select Command Details TLV		
	Call the appendTLV() method		
	Verify Current TLV: Call getValueLength()	Result is 03h	
3	Clear the handler		
	Successful call		
	tag = 84h		
	value1 = 00h		
	value2 = 01h		
	Call copy() method	Deput of	
	Compare the arrays compareBuffer = 84 02 00 01	Result of javacard.framework.Util.arrayCom	
	Comparebuller - 04 02 00 01	pare() is 00h	
4	Successful call	pare() is oon	
7	tag = 01h		
	value1 = FEh		
	value2 = FDh		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = 84 02 00 01 01 02 FE FD	javacard.framework.Util.arrayCom	
		pare() is 00h	
5	Clear the handler		
	Call appendArray()		
	length = 249		
	buffer = 00 81 F6 03 04 F8		
	Successful call		
	tag = 84h value1 = 00h		
	value1 = 00h value2 = 01h		
	Call getLength() method	result = 253	
	Jan. 30.209()		
	Call copy() method		
	Compare handler	Result of	
	compareBuffer = 00 81 F6 03 04 F8 84 02	javacard.framework.Util.arrayCom	
	00 01	pare() is 00h	

# 6.2.7.20.4 Test Coverage

CRR number	r Test case number	
N1	3, 4, 5	
N2	2	
C1 1		
C2	Does not apply for Proactive Handler	

# 6.2.7.21 Method appendTLV(byte tag, byte[] value, short valueoffset, short valuelength)

Test Area Reference: API\_2\_PAH\_APTLB\_BSS

#### 6.2.7.21.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.21.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (byte-array element).
- CRRN2: A successful append does not modify the TLV selected.

#### 6.2.7.21.1.2 Parameters error

- CRRP1: if value is null, a java.lang.NullPointerException is thrown.
- CRRP2: if valueoffset or valuelength or both would cause access outside the array bounds, or if length is negative, a java.lang.ArrayIndexOutOfBoundsException is thrown.

#### 6.2.7.21.1.3 Context errors

- CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.
- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.
- CRRC3: if valuelength is greater than 255, a ToolkitException is thrown with reason code BAD INPUT PARAMETER.

#### 6.2.7.21.2 Test suite files

Test Script: API\_2\_PAH\_APTLB\_BSS\_1.scr
Test Applet: API\_2\_PAH\_APTLB\_BSS\_1.java
Load Script: API\_2\_PAH\_APTLB\_BSS\_1.ldr
Cleanup Script: API\_2\_PAH\_APTLB\_BSS\_1.clr
Parameter File: API\_2\_PAH\_APTLB\_BSS\_1.par

#### 6.2.7.21.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Null value	NullPointerException is thrown	
2	valueOffset > value.length	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	<pre>valueOffset = 6</pre>		
	valueLength = 0		
3	valueOffset < 0	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	<pre>valueOffset = -1</pre>		
	valueLength = 1		
4	valueLength > value.length	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	<pre>valueOffset = 0</pre>		
	valueLength = 6		

ld	Description	API Expectation	APDU Expectation
5	valueOffset + valueLength > value.length	ArrayIndexOutOfBoundsExceptio	2 0
	value.length = 5	n is thrown	
	valueOffset = 3		
	valueLength = 3		
6	valueLength < 0	ArrayIndexOutOfBoundsExceptio	
	value.length = 5	n is thrown	
	valueOffset = 0		
7	valueLength = -1  Handler overflow	ToolkitException.HANDLER_OVE	
<b>'</b>	value.length = 256	RFLOW is thrown	
	valueOffset = 0	KFLOW IS UITOWIT	
	valueLength = 251		
8	Bad parameter	ToolkitException.BAD_INPUT_PA	
	value.length = 256	RAMETER is thrown	
	valueOffset = 0		
	valueLength = 256		
9	Initialise handler		
	Select Command Details TLV		
	Successful call		
	tag = 04 value = FF FE F8		
	value = FF FE F8 valueOffset = 0		
	valueLength = 8		
	Verify Current TLV: Call getValueLength()	Result is 03h	
10	Clear the handler		
	Successful call		
	tag = 04		
	value = FF FE F8		
	valueOffset = 0		
	valueLength = 8		
	Call copy() method	Danit of	
	Compare the arrays compareBuffer = 04 08 FF FE F8	Result of	
	comparesurrer = 04 08 FF FE F8	javacard.framework.Util.arrayCom	
1.4	Successful call	pare() is 00h	
11	tag = 85h		
	value = 00 01 07		
	valueOffset = 2		
	valueLength = 6		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = 04 08 FF FE F8 85 06 02	javacard.framework.Util.arrayCom	
	03 07	pare() is 00h	
12	Successful call		
	tag = 01		
	value = 11 22 88 valueOffset = 2		
	valueOffset = 2 valueLength = 4		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = 04 08 FF FE F8 85 06 02	javacard.framework.Util.arrayCom	
	03 07 01 04 33 44 55 66	pare() is 00h	
13	Clear the handler	Y	
	Successful call		
	tag = 04		
	value = 00 01 7F		
	valueOffset = 0		
	valueLength = 80h		
	Call copy() method	Deput of	
	Compare the arrays compareBuffer = 04 81 80 00 017F	Result of	
	COMPATERALIET - 04 OT OU OU OT"'L	javacard.framework.Util.arrayCom	
		pare() is 00h	

ld	Description	API Expectation	APDU Expectation
14	Clear the handler		
	Successful call		
	tag = 04		
	value = 00 01 F9		
	<pre>valueOffset = 0</pre>		
	valueLength = 250		
	Call getLength() method	result = 253	
	Call copy() method		
	Compare handler	Result of	
	compareBuffer = 04 81 FA 00 01F9	javacard.framework.Util.arrayCom pare() is 00h	

#### 6.2.7.21.4 Test Coverage

CRR number	Test case number	
N1	10, 11, 12, 13, 14	
N2	9	
P1 1		
P2	2, 3, 4, 5, 6	
C1	7	
C2	Does not apply for Proactive Handler	
C3	8	

# 6.2.7.22 Method appendTLV(byte tag, byte value1, byte[] value2, short value2offset, short value2length)

Test Area Reference: API\_2\_PAH\_APTLBB\_BSS

#### 6.2.7.22.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.7.22.1.1 Normal execution

- CRRN1: Appends a TLV element to the current TLV list (1 byte and a byte-array element).
- CRRN2: A successful append does not modify the TLV selected.

#### 6.2.7.22.1.2 Parameters error

- CRRP1: if value2 is null, a java.lang.NullPointerException is thrown.
- CRRP2: if value2offset or value2length or both would cause access outside the array bounds, or if length is negative, a java.lang.ArrayIndexOutOfBoundsException is thrown.

#### 6.2.7.22.1.3 Context errors

 CRRC1: if the EditHandler buffer is too small to append the requested data, a ToolkitException is thrown with reason code HANDLER\_OVERFLOW.

- CRRC2: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE.
- CRRC3: if valuelength is greater than 255, a ToolkitException is thrown with reason code BAD\_INPUT\_PARAMETER.

# 6.2.7.22.2 Test suite files

Test Script: API\_2\_PAH\_APTLBB\_BSS\_1.scr

Test Applet: API\_2\_PAH\_APTLBB\_BSS\_1.java

Load Script: API\_2\_PAH\_APTLBB\_BSS\_1.ldr

Cleanup Script: API\_2\_PAH\_APTLBB\_BSS\_1.clr

Parameter File: API\_2\_PAH\_APTLBB\_BSS\_1.par

#### 6.2.7.22.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1 1	Null value2		AFDO Expectation
		NullPointerException is thrown	
2	value2Offset > value2.length	ArrayIndexOutOfBoundsExceptio	
	value2.length = 5	n is thrown	
	value20ffset = 6		
3	value2Length = 0  value2Offset < 0	Array Inday Out Of Day and Evantin	
3	value2.length = 5	ArrayIndexOutOfBoundsExceptio	
	value20ffset = -1	n is thrown	
	value2Length = 1		
4	value2Length > value2.length	ArrayIndexOutOfBoundsExceptio	
•	value2.length = 5	n is thrown	
	value20ffset = 0	II IS UIIOWII	
	value2Length = 6		
5	value2Offset + value2Length > value2.length	ArrayIndexOutOfBoundsExceptio	
-	value2.length = 5	n is thrown	
	value20ffset = 3		
	value2Length = 3		
6	value2Length < 0	ArrayIndexOutOfBoundsExceptio	
	value2.length = 5	n is thrown	
	value2Offset = 0		
	value2Length = -1		
7	Handler overflow	ToolkitException.HANDLER_OVE	
	value2.length = 254	RFLOW is thrown	
	value2Offset = 0		
	value2Length = 254		
8	Bad parameter	ToolkitException.BAD_INPUT_PA	
	value2.length = 256	RAMETER is thrown	
	value20ffset = 0		
9	value2Length = 256 Initialise handler		
9			
	Select Command Details TLV		
	Successful call		
	tag = 04		
	value1 = 05 value2 = FF FE F8		
	value2Offset = 0		
	value2Length = 8		
	Verify Current TLV: Call getValueLength()	Result is 03h	
10	Clear the handler	TOGULIS OUT	
10	Successful call		
	tag = 04		
	value1 = 05		
	value2 = FF FE F8		
	value2Offset = 0		
	value2Length = 8		
	Call copy() method		
	Compare the arrays	Result of	
	CompareBuffer = 04 09 05 FF FE F8	javacard.framework.Util.arrayCom	
	- 01 05 05 11 11 m 10		
		pare() is 00h	

ld	Description	API Expectation	APDU Expectation
11	Successful call	•	•
' '	tag = 85h		
	value1 = 55h		
	value2 = 00 01 07		
	value2Offset = 2		
	value2Length = 6		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer =	javacard.framework.Util.arrayCom	
	04 09 05 FF FE F8	pare() is 00h	
	85 07 55 02 03 <b></b> 07	F()	
12	Successful call		
	tag = 01		
	value1 = 44h		
	value2 = 11 22 88		
	value20ffset = 2		
-	value2Length = 4		
	Call copy() method	D 11 (	
	Compare the arrays	Result of	
	CompareBuffer =	javacard.framework.Util.arrayCom	
	04 09 05 FF FE F8	pare() is 00h	
	85 07 55 02 03 07 01 05 44 33 44 55 66		
13	Clear the handler		
13			
	Successful call		
	tag = 04 value1 = 00		
	value2 = 00 7F		
	value2Offset = 0		
	value2Length = 7Fh		
	Call copy() method		
	Compare the arrays	Result of	
	compareBuffer = 04 81 80 00 017F		
	Comparedured - or or or or or or/F	javacard.framework.Util.arrayCom	
1.4	Olean the Leave Hear	pare() is 00h	
14	Clear the handler		
	Ourses of all soll		
	Successful call		
	tag = 04 value1 = 00		
	value2 = 00 walue2 = 01 F9		
	value2Offset = 0		
	value2Length = 249		
	Call getLength() method	result = 253	
	Can gettengin() memou	100dit - 200	
	Call copy() method		
	Can copy() method		
	Compare handler	Dogult of	
	Compare handler	Result of	
	compareBuffer = 04 81 FA 00 01F9	javacard.framework.Util.arrayCom	
		pare() is 00h	

# 6.2.7.22.4 Test Coverage

CRR number	Test case number
N1	10, 11, 12, 13, 14
N2	9
P1	1
P2	2, 3, 4, 5, 6
C1	7
C2	Does not apply for Proactive Handler
C3	8

# 6.2.7.23 Method clear

Test Area Reference: API\_2\_PAH\_CLER

#### 6.2.7.23.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

void clear()
 throws ToolkitException EditHandler

#### 6.2.7.23.1.1 Normal execution

• CRRN1: Clears the TLV list of an EditHandler

• CRRN2: Resets the current TLV selected.

#### 6.2.7.23.1.2 Parameters error

No requirements

#### 6.2.7.23.1.3 Context errors

• CRRC1: if the EditHandler buffer is busy, a ToolkitException is thrown with reason code HANDLER\_NOT\_AVAILABLE

#### 6.2.7.23.2 Test suite files

Test Script: API\_2\_PAH\_CLER\_1.scr

Test Applet: API\_2\_PAH\_CLER\_1.java

Load Script: API\_2\_PAH\_CLER\_1.ldr

Cleanup Script: API\_2\_PAH\_CLER\_1.clr

Parameter File: API\_2\_PAH\_CLER\_1.par

#### 6.2.7.23.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Initialise the handler	Result of getLength() is not null	
	Select Command Details TLV		
	Call the getLength() method		
	Clear the handler	Result of getLength() is 0	
	Call the getLength() method		
2	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ELEMENT	
		is thrown	

# 6.2.7.23.4 Test Coverage

CRR number	Test case number	
N1	1	
N2 2		
C1	Does not apply for Proactive Handle	

# 6.2.7.24 Method getCapacity

Test Area Reference: API\_2\_PAH\_GCAP

#### 6.2.7.24.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

public byte getCapacity()

#### 6.2.7.24.1.1 Normal execution

• CRRN1: The method shall return the maximum size of the Simple TLV list managed by the handler.

#### 6.2.7.24.2 Test suite files

Test Script: API\_2\_PAH\_GCAP\_1.scr

Test Applet: API\_2\_PAH\_GCAP\_1.java

Load Script: API\_2\_PAH\_GCAP\_1.ldr

Cleanup Script: API\_2\_PAH\_GCAP\_1.clr

Parameter File: API\_2\_PAH\_GCAP\_1.par

#### 6.2.7.24.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	ProactiveHandler available		
	1- Send envelope SMS-PP Formatted 2- The applet calls getTheHandler() 3- The applet calls getCapacity() on the ProactiveHandler 4- The applet fills the handler with the maximum capacity, using appendTLV() method	1- Applet is triggered 2- No exception is thrown 3- No exception is thrown, the capacity shall not be null 4- No exception is thrown	
	5- The applet calls clear() on the proactive handler 6- The applet fills the handler with the maximum	5- No exception is thrown	
	capacity plus one, using appendTLV() method	6- HANDLER_OVERFLOW	

#### 6.2.7.24.4 Test Coverage

CRR number	Test case number
N1	1

#### 6.2.7.25 Method initCloseChannel

Test Area Reference: API\_2\_PAH\_ICCHB

#### 6.2.7.25.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

public void initCloseChannel(byte bChannelIdentifier)

#### 6.2.7.25.1.1 Normal execution

- CRRN1: The method shall build a Close Channel Proactive command, using Channel Identifier. Comprehension Required flags are set.
- CRRN2: A call to this method clears the handler then initialises it with Close Channel Proactive command.
- CRRN3: After the method invocation, no TLV is selected.
- CRRN4: The Close Channel Proactive command is not sent by the method.

#### 6.2.7.25.2 Test suite files

Test Script: API\_2\_PAH\_ICCHB\_1.scr

Test Applet: API\_2\_PAH\_ICCHB\_1.java

Load Script: API\_2\_PAH\_ICCHB\_1.ldr

Cleanup Script: API\_2\_PAH\_ICCHB\_1.clr

Parameter File: API\_2\_PAH\_ICCHB\_1.par

# 6.2.7.25.3 Test procedure

ld	Description	API Expectation	APDU Expectation
0	Applet1 is installed with maximum number	•	
1	of channel = 01.  Call initCloseChannel() method		1- OPEN CHANNEL
'	oan mitoroseonamen() method		proactive command is
	1- Call ProactiveHandler.init() method to	2- Applet1 is triggered.	fetched.
	Open a Channel.		
	Call the ProactiveHandler.send() method.		TERMINAL RESPONSE of
	2- Send an	5- Applet1 is not triggered.	OPEN CHANNEL is sent to the SIM with Channel Id =
	EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS Envelope.	3- Applet is not triggered.	01.
	Envelope.		
	3- Call the		
	ProactiveHandler.initCloseChannel() method with Channel Id = 01.		4- CLOSE CHANNEL
			proactive command is fetched.
	4- Call the ProactiveHandler.send() method.		Totolica.
	method.		TERMINAL RESPONSE of
	5- Send an		CLOSE CHANNEL is sent
	EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS Envelope.		to the SIM.
2	Call the initCloseChannel () method with any		1- OPEN CHANNEL
	value then build and send a CLOSE CHANNEL		proactive command is
	command	5- Applet1 is not triggered.	fetched.
	1- Call ProactiveHandler.init() to Open a		TERMINAL RESPONSE of
	Channel and ProactiveHandler.send()		OPEN CHANNEL is sent to
	methods.		the SIM with Channel Id =
	2- ProactiveHandler.initCloseChannel()		01.
	with Channel Id = 2		
	3- ProactiveHandler.initCloseChannel()		4- CLOSE CHANNEL
	with the Channel Id = 1.		proactive command is
	4 77 17		fetched.
	4- call the send() method.		
	5- Send an		TERMINAL RESPONSE of CLOSE CHANNEL is sent
	EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS Envelope.		to the SIM.
	Enverope.		to the chivi.
3	Select a TLV in the ProactiveHandler	3- UNAVAILABLE_ELEMENT	1- OPEN CHANNEL
	Call the initCloseChannel () method	ToolkitException is thrown by	proactive command is
	1- Call ProactiveHandler.init() method to	getValueLength() method.	fetched.
	open a Channel and call the		TERMINAL RESPONSE of
	ProactiveHandler.send() method. Select 1 <sup>st</sup> TLV of the Proactive Handler.		OPEN CHANNEL is sent to
	Select 1 Thy of the Proactive Handler.		the SIM with Channel Id =
	2- Call		01.
	ProactiveHandler.initCloseChannel() method with Channel Id = 01.		4- CLOSE CHANNEL
			proactive command is
	3- Call the ViewHandler.getValueLength()		fetched.
1	method.		TEDMINIAL DEODONOS (
	4- Call ProactiveHandler.send() method.		TERMINAL RESPONSE of CLOSE CHANNEL is sent
			to the SIM.
4	Call the initCloseChannel() without sending		1- OPEN CHANNEL
	the command	2 Applett is triggered	proactive command is
1	1- Call ProactiveHandler.init() method to	3- Applet1 is triggered.	fetched.
	.,	1	i

open a Channel and call the	TERMINAL RESPONSE of
ProactiveHandler.send() method.	OPEN CHANNEL is sent to
0 7 77 17	the SIM with Channel Id =
2- Call the	01.
ProactiveHandler.initCloseChannel()	UI.
method with Channel Id = 01 without	
ProactiveHandler.send().	
	No proactive command
3- Send an	shall be sent. Expected
EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS	status is '9000'
Envelope.	010.100 10 0000

#### 6.2.7.25.4 Test Coverage

CRR number	R number Test case number	
N1	1	
N2	2	
N3	3	
N4	2, 4	

# 6.2.8 Class ProactiveResponseHandler

# 6.2.8.1 Method copyAdditionalInformation

Test Area Reference: API\_2\_PRH\_CPAI\_BSS

#### 6.2.8.1.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.1.1.1 Normal execution

- CRRN1: The copyAdditionalInformation() method shall copy a part of the additional information field from Result TLV element in dstBuffer, using dstOffset and dstLength.
- CRRN2: dstBuffer shall only be modified from dstOffset to (dstOffset + dstLength 1) (included).
- CRRN3: The method returns (dstOffset + dstLength).
- CRRN4: If a Result TLV element is available, it becomes the TLV selected after a call to the method.
- CRRN5: The method shall copy from the first Result TLV.

### 6.2.8.1.1.2 Parameter errors

- CRRP1: A NullPointerException shall be thrown if dstBuffer is null.
- CRRP2: An ArrayIndexOutOfBoundsException shall be thrown if dstOffset or dstLength or both would cause
  access outside array bounds.

#### 6.2.8.1.1.3 Context errors

CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown in case of unavailable Result TLV element.

• CRRC2: A ToolkitException.OUT\_OF\_TLV\_BOUNDARIES shall be thrown if dstLength is greater than the value field of the available TLV.

6.2.8.1.2 Test Suite files

Test Script: API\_2\_PRH\_CPAI\_BSS\_1.scr

Test Applet: API\_2\_PRH\_CPAI\_BSS\_1.java

Load Script: API\_2\_PRH\_CPAI\_BSS\_1.ldr

Cleanup Script: API\_2\_PRH\_CPAI\_BSS\_1.clr

Parameter File: API\_2\_PRH\_CPAI\_BSS\_1.par

# 6.2.8.1.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
•	qualifier = 0		command
	dcs = 4		
	buffer = "Text"		
	Terminal Response with 11 additional bytes		
	Result TLV = 03 0C 01 01 23 45 67 89 AB		
	CD EF 01 23 45  NULL as parameter to dstBuffer	NullPointerException is thrown	+
	dstBuffer = NULL	Null-officerException is thrown	
2	dstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 10	n is thrown	
	dstOffset = 11		
	dstLength = 0		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 10	n is thrown	
	dstOffset = -1		
_	dstLength = 1	A 1 1 0 (0/D 1 5 );	
4	<pre>dstLength &gt; dstBuffer.length dstBuffer.length = 10</pre>	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 10 dstOffset = 0	n is thrown	
	dstLength = 11		
5	dstOffset + dstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
'	dstBuffer.length = 10	n is thrown	
	dstOffset = 6	III IS UIIOWII	
	dstLength = 5		
6	dstLength < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 10	n is thrown	
	dstOffset = 6		
	dstLength = -1		
7	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response with 5 additional bytes		
	Result TLV = 03 06 01 01 23 45 67 89		
	Successful call, dstBuffer is the whole buffer	result of	
	dstBuffer.length = 5	copyAdditionalInformation() is	
	dstOffset = 0	05h.	
	dstLength = 5		
8	Compare dstBuffer using arrayCompare()	result of arrayCompare() is 00h.	
	src = {01, 23, 45, 67, 89}		
	srcOffset = 00		
	dest = dstBuffer		
	destOffset = 0		
_	length = 5	D 11: 001	
9	Call the getValueLength() method	Result is 06h.	
10	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
<u> </u>	Torminal Decreases with 6 additional butes		command
l	Terminal Response with 6 additional bytes		

ld	Description	API Expectation	APDU Expectation
	Describe MIN		
	Result TLV = 03 07 01 AB CD EF FE DC BA  Successful call, dstBuffer is part of a buffer	result of	
	dstBuffer.length = 7	copyAdditionalInformation() is	
	dstOffset = 2	07h.	
11	dstLength = 5  Compare dstBuffer using arrayCompare()	result of arrayCompare() is 00h.	
' '		leadit of array compare() is con.	
	src = {AB, CD, EF, FE, DC}		
	<pre>srcOffset = 00 dest = dstBuffer</pre>		
	destOffset = 2		
12	length = 5  Build and send a DISPLAY TEXT command		DISDLAY TEXT Dropoting
12	Build and Send a DISPLAT TEXT Command		DISPLAY TEXT Proactive command
	Terminal Response with 7 additional bytes		Communa
	-		
	Result TLV = 03 08 01 FE DC BA 98 76 54 32		
	Successful call, dstBuffer is part of a buffer	result of	
	dstBuffer.length = 7	copyAdditionalInformation() is	
	dstOffset = 0 dstLength = 5	05h.	
13	Compare dstBuffer using arrayCompare()	result of arrayCompare() is 00h.	
	<pre>src = {FE, DC, BA, 98, 76} srcOffset = 00</pre>		
	dest = dstBuffer		
	destOffset = 0		
14	length = 5  Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
'-	Build and send a biol EAT TEXT command		command
	Terminal Response with 8 additional bytes		
	Result TLV = 03 09 01 00 11 22 33 44 55		
	66 77		
	Successful call, dstBuffer is the whole buffer	result of	
	<pre>dstBuffer.length = 9 dstOffset = 2</pre>	copyAdditionalInformation() is	
	dstLength = 5	07h.	
15	Compare dstBuffer using arrayCompare()	result of arrayCompare() is 00h.	
	src = {00, 11, 22, 33, 44}		
	srcOffset = 00		
	dest = dstBuffer		
	<pre>destOffset = 2 length = 5</pre>		
16	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
			command
	Terminal Response with F2h additional bytes		
	Result TLV = 03 81 F3 01 00 01 02 03		
	Successful call to the method	result of	
	dstBuffer.length = F2h dstOffset = 0	copyAdditionalInformation() is	
	dstLength = F2h	F2h.	
17	Compare dstBuffer using arrayCompare()	result of arrayCompare() is 00h.	
	src = {00, 01, 02, 03, 04}		
	srcOffset = 00		
	dest = dstBuffer		
	<pre>destOffset = 0 length = F2h</pre>		
18	Call the getValueLength() method	Result is F3h.	
40	Duild and cond - DIODI AV TEVT		DIODI AVITEVT D
19	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response with 5 additional bytes	+	Command
	-		
	Result TLV = 03 06 01 00 11 22 33 44		
<u> </u>	dstLength > data available	OUT_OF_TLV_BOUNDARIES	
	dstBuffer.length = 6		

ld	Description	API Expectation	APDU Expectation
	dstOffset = 0	ToolkitException is thrown	
	dstLength = 6		
20	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response with 5 additional bytes		
	Result TLV = 03 06 01 00 11 22 33 44		
	Initialise dstBuffer dstBuffer = {00h, 01h, 02h, 03h}		
	Call the copyAdditionalInformation() method		
	dstBuffer.length = 20		
	dstOffset = 5		
	dstLength = 5  Compare dstBuffer using arrayCompare()	result of arrayCompare() is 00h	
	src = {	lesuit of affayCompare() is our	
	00h, 01h, 02h, 03h, 04h,		
	00h, 11h, 22h, 33h, 44h,		
	0Ah, 0Bh, 0Ch, 0Dh, 0Eh,		
	0Fh, 10h, 11h, 12h, 13h}		
	<pre>srcOffset = 0 dest = dstBuffer</pre>		
	destOffset = 0		
	length = 20		
21	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response with 2 Result TLV elements		
	$1^{\text{st}}$ Result TLV = 03 06 01 01 23 45 67 89 $2^{\text{nd}}$ Result TLV = 03 01 00		
	Successful call to copyAdditionalInformation()	result of	
	dstBuffer.length = 5	copyAdditionalInformation() is	
	dstOffset = 0	05h.	
22	dstLength = 5 Compare dstBuffer using arrayCompare()	result of arrayCompare() is 00h.	
	src = {01, 23, 45, 67, 89}		
	srcOffset = 00		
	<pre>dest = dstBuffer destOffset = 0</pre>		
	length = 5		
23	Call the getValueLength() method	Result is 06h.	
24	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response without Result Simple TLV	ToolkitException.UNAVAILABLE_ ELEMENT is thrown by send()	
	ProactiveResponseHandler, getTheHandler call copyAdditionalInformation()	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	

# 6.2.8.1.4 Test Coverage

CRR number	Test case number
N1	8, 11, 13, 15, 17, 20, 22
N2	20
N3	7, 10, 12, 14, 16, 21
N4	9, 18, 23
N5	21, 22, 23
P1	1
P2	2, 3, 4, 5, 6
C1	24
C2	19

# 6.2.8.2 Method copyTextString

Test Area Reference: API\_2\_PRH\_CPTS\_BS

#### 6.2.8.2.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.2.1.1 Normal execution

- CRRN1: The copyTextString() method copies the text string value from the first Text String TLV element, using dstBuffer and dstOffset.
- CRRN2: If a Text String TLV element is available, it becomes the TLV selected.
- CRRN3: The method returns (dstOffset + length of copied value).

#### 6.2.8.2.1.2 Parameter errors

- CRRP1: A NullPointerException shall be thrown if dstBuffer is null.
- CRRP2: A ArrayIndexOutOfBoundsException shall be thrown if dstOffset or dstOffset + (length of the TextString to be copied, without the Data Coding Scheme included), as specified for the returned value, would cause access outside array bounds.

#### 6.2.8.2.1.3 Context errors

• CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown in case of unavailable Text String TLV element.

#### 6.2.8.2.2 Test Suite files

Test Script: API\_2\_PRH\_CPTS\_BS\_1.scr
Test Applet: API\_2\_PRH\_CPTS\_BS\_1.java
Load Script: API\_2\_PRH\_CPTS\_BS\_1.ldr
Cleanup Script: API\_2\_PRH\_CPTS\_BS\_1.clr
Parameter File: API\_2\_PRH\_CPTS\_BS\_1.par

#### 6.2.8.2.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a GET INPUT command		GET INPUT Proactive
	qualifier = 00h		command
	dcs = 04h		
	buffer = 'Text'		
	minRespLength = 00h		
	maxRespLength = FFh		
	Terminal Response		
	Text String TLV = 0D 02 04 41		
	ProactiveResponseHandler.getTheHandler();	NullPointerException is thrown	
	call the copyTextString() method with a null		
	dstBuffer		
	dstBuffer = null		
	dstOffset = 0		

IЧ	Description	API Expectation	APDU Expectation
1d 2	Description Build and send a GET INPUT command	AFI Expectation	GET INPUT Proactive
~	Build and Send a GET INFOT COMMINAID		command
			Proactive
	Terminal Response		
	-		
	Text String TLV = 0D 04 04 "ABC"	1 1 2 2072 15 3	
	dstOffset + text length > dstBuffer.length	ArrayIndexOutOfBoundsException is thrown	
	dstBuffer.length = 04h	is thrown	
	dstOffset = 02h		
3	dstOffset < 0	ArrayIndexOutOfBoundsException	
	dstBuffer.length = 04h	is thrown	
	dstOffset = -1		
4	Build and send a DISPLAY TEXT command		DISPLAY TEXT
	qualifier = 00h		Proactive command
	dcs = 04h buffer = 'Text'		
	Terminal Response without Text String TLV		
	10.7.1.1.1.1.1.1.1.2.2.2.1.1.2.4.1.1.1.1.1.1		
	ProactiveResponseHandler.getTheHandler() ;	UNAVAILABLE_ELEMENT	
	call the copyTextString() method	ToolkitException is thrown	
5	Build and send a GET INPUT command		GET INPUT Proactive
			command
	Torminal Boonance with a mult Taut Chrise		Proactive
	Terminal Response with a null Text String TLV		
	Text String TLV = 0D 00		
	Initialise dstBuffer		
	dstBuffer = {F00h, F01h, F02h, F03h}		
	Call the copyTextString() method	Result of copyTextString() is 02h	
	dstBuffer.length = 04h		
	dstOffset = 02h		
6	Compare dstBuffer using arrayCompare()	Result of arrayCompare() is 00h	
	(0-0)		
	<pre>src = {0F0h, 0F1h, 0F2h, 0F3h} srcOffset = 00h</pre>		
	dest = dstBuffer		
	destOffset = 00h		
7	length = 04h  Build and send a GET INPUT command	1	CET INDUT Description
7	build and send a GET INPUT command		GET INPUT Proactive
			command Proactive
	Terminal Response with text length = 01h		i iodolivo
	Text String TLV = 0D 02 04 41		
	Initialise dstBuffer		
	dstBuffer = {00h, 01h, 02h, 03h}  Call the copyTextString() method	Result of copyTextString() is 01h	
	Can the copy rextoring() method	result of copy rexisting() is orn	
	dstBuffer.length = 04h		
	dstOffset = 00h		
8	Compare dstBuffer using arrayCompare()	Result of arrayCompare() is 00h	
	src = {41h, 01h, 02h, 03h}		
	srcOffset = 00h		
	dest = dstBuffer		
	destOffset = 00h length = 04h		
9	Build and send a GET INPUT command		GET INPUT Proactive
ັ			command
			Proactive
	Terminal Response with text length = 02h		
	Text String TLV = 0D 03 04 42 43  Initialise dstBuffer		
	dstBuffer = {00h, 01h, 02h, 03h}		
	Call the copyTextString() method	Result of copyTextString() is 04h	
	dstBuffer.length = 04h	I	1

ld	Description	API Expectation	APDU Expectation
	dstOffset = 02h	•	
10	Compare dstBuffer using arrayCompare()	Result of arrayCompare() is 00h	
	src = {00h, 01h, 42h, 43h}		
	srcOffset = 00h		
	<pre>dest = dstBuffer destOffset = 00h</pre>		
	length = 04h		
11	Call the getValueLength() method	Result is 03h	
12	Build and send a GET INPUT command		GET INPUT Proactive
12	Build and send a GET IN GT Command		command
	Terminal Response with text length = 7Eh		
	Text String TLV = 0D 7F 04 01 02 7E		
	Initialise dstBuffer		
	dstBuffer = {00h, 00h 00h}		
	Call the copyTextString() method	Result of copyTextString() is 7Eh	
	dstBuffer.length = 7Eh		
10	dstOffset = 00h		
13	Compare dstBuffer using arrayCompare()	Result of arrayCompare() is 00h	
	src = {01h,, 7Eh}		
	<pre>srcOffset = 00h dest = dstBuffer</pre>		
	destOffset = 00h		
14	length = 7Eh  Call the getValueLength() method	Result is 7Fh	
14	Can the getvalueLength() method	Result is 7FII	
15	Build and send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response with text length = 7Fh		
	Text String TLV = 0D 81 80 04 01 027F		
	Initialise dstBuffer		
	dstBuffer = {00h, 01h FFh}  Call the copyTextString() method	Result of copyTextString() is 8Fh	
	., .,	research sopy rexisting() to or in	
	<pre>dstBuffer.length = FFh dstOffset = 10h</pre>		
16	Compare dstBuffer using arrayCompare()	Result of arrayCompare() is 00h	
	[00] 011 071		
	<pre>src = {00h, 01h, 0Fh, 01h,7Fh, 8Fh, FFh}</pre>		
	srcOffset = 00h		
	<pre>dest = dstBuffer destOffset = 00h</pre>		
	length = FFh		
17	Build and send a GET INPUT command		GET INPUT Proactive
	Terminal Response with text length = EFh		command
	Text String TLV = 0D 81 F0 04 01 02 EF  Initialise dstBuffer		
	dstBuffer = {00h, 00h 00h}		
	Call the copyTextString() method	Result of copyTextString() is EFh	
	dstBuffer.length = FFh		
<u> </u>	dstOffset = 00h		
18	Compare dstBuffer using arrayCompare()	Result of arrayCompare() is 00h	
	src = {01h,EFh, 00h 00h }		
	srcOffset = 00h		
	<pre>dest = dstBuffer destOffset = 00h</pre>		
	length = FFh		
19	Build and send a GET INPUT command		GET INPUT Proactive
	Terminal Response with two Text String TLV		command
l	$1^{\text{st}}$ Text String TLV = 0D 03 04 42 43	1	

ld	Description	API Expectation	APDU Expectation
	2 <sup>nd</sup> Text String TLV = 0D 02 04 44		
	Initialise dstBuffer		
	dstBuffer = {00h, 01h, 02h, 03h}		
	Call the copyTextString() method	Result of copyTextString() is 04h	
	dstBuffer.length = 04h dstOffset = 02h		
20	Compare dstBuffer using arrayCompare()	Result of arrayCompare() is 00h	
	<pre>src = {00h, 01h, 42h, 43h} srcOffset = 00h dest = dstBuffer destOffset = 00h length = 04h</pre>		
21	Call the getValueLength() method	Result is 03h	

#### 6.2.8.2.4 Test Coverage

CRR number	Test case number
N1	6, 8, 10, 13, 16, 18, 20
N2	11, 14, 21
N3	5, 7, 9, 12, 15, 17, 19
P1	1
P2	2, 3
C1	4

# 6.2.8.3 Method getAdditionalInformationLength

Test Area Reference: API\_2\_PRH\_GTIL

# 6.2.8.3.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

 $\label{lem:public_short} \mbox{\tt getAdditionalInformationLength()} \\ \mbox{\tt throws ToolkitException}$ 

#### 6.2.8.3.1.1 Normal execution

- CRRN1: This method returns the length of the additional information field from the first Result TLV in the ProactiveResponseHandler.
- CRRN2: After a successful execution of the method, the Result TLV becomes the selected TLV of the ProactiveResponseHandler.

# 6.2.8.3.1.2 Parameter errors

No requirements.

#### 6.2.8.3.1.3 Context errors

CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown in case of unavailable Result TLV element.

#### 6.2.8.3.2 Test Suite files

Test Script: API\_2\_PRH\_GTIL\_1.scr

Test Applet: API\_2\_PRH\_GTIL\_1.java

Load Script: API\_2\_PRH\_GTIL\_1.ldr

Cleanup Script: API\_2\_PRH\_GTIL\_1.clr

Parameter File: API\_2\_PRH\_GTIL\_1.par

6.2.8.3.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a DISPLAY TEXT command	<b>,</b>	DISPLAY TEXT Proactive
'	qualifier = 00h		command
	dcs = 04h		
	buffer = 'Text'		
	Terminal Response without additional		
	information		
		D # : 00!	
	ProactiveResponseHandler.getTheHandler(); call	Result is 00h	
	the getAdditionalInformationLength() method	D 11: 041	
2	Call the getValueLength() method	Result is 01h	
	D THE LEGISLAY TEXT		DIODI AVI TEVIT
3	Build and send a DISPLAY TEXT command		DISPLAY TEXT
			ProactiveProactive
			command
	Terminal Response with 1 additional byte		
	Result TLV = 03 02 02 55		
	ProactiveResponseHandler.getTheHandler();	Result is 01h	
	call the getAdditionalInformationLength()	Tresdit is offi	
	method		
4	Call the getValueLength() method	Result is 02h	
5	Build and send a DISPLAY TEXT command	Troodit to 0211	DISPLAY TEXT
"			ProactiveProactive
			command
	Terminal Response with 7Eh additional bytes		00111110110
	Result TLV = 03 7F 02 55 55 55		
	ProactiveResponseHandler.getTheHandler();	Result is 7Eh	
	call the getAdditionalInformationLength()		
	method		
6	Call the getValueLength() method	Result is 7Fh	
7	Build and send a DISPLAY TEXT command		DISPLAY TEXT
l ′	Build and Send a DISI EAT TEXT Command		Proactive command
	Terminal Response with 7Fh additional bytes		1 Todelive command
	Torrinia Rooponioo Willi 11 ii adalliona by ees		
	Result TLV = 03 81 80 02 55 55 55		
	ProactiveResponseHandler.getTheHandler();	Result is 7Fh	
	call the getAdditionalInformationLength()		
	method		
8	Call the getValueLength() method	Result is 80h	
9	Build and send a DISPLAY TEXT command		DISPLAY TEXT
	Tamainal Bassassassist Ook addistant butan		Proactive command
	Terminal Response with 80h additional bytes		
	Result TLV = 03 81 81 02 55 55 55		
	ProactiveResponseHandler.getTheHandler();	Result is 80h	
	call the getAdditionalInformationLength()	Troduit is doi!	
	method		
10	Call the getValueLength() method	Result is 81h	+
'	can and gerrandonomymity motified	Tresum to o m	
11	Build and send a DISPLAY TEXT command		DISPLAY TEXT
•			Proactive command
	Terminal Response with F2h additional bytes		
	•		
	Result TLV = 03 81 F3 02 55 55 55		
	ProactiveResponseHandler.getTheHandler();	Result is F2h	
	call the getAdditionalInformationLength()		
	method		

ld	Description	API Expectation	APDU Expectation
12	Call the getValueLength() method	Result is F3h	
13	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response with 2 Result TLV		
	1 <sup>st</sup> Result TLV = 03 03 02 01 23 2 <sup>nd</sup> Result TLV = 03 01 00		
	ProactiveResponseHandler.getTheHandler(); call the getAdditionalInformationLength() method	Result is 02h	
14	Call the getValueLength() method	Result is 03h	
15	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response without Result Simple TLV	ToolkitException.UNAVAILABLE_E LEMENT is thrown by send()	
	Get ProactiveResponseHandler		
	Call the getAdditionalInformationLength() method	ToolkitException.UNAVAILABLE_E LEMENT is thrown by getAdditionalInformationLength ()	

#### 6.2.8.3.4 Test Coverage

CRR number	Test case number	
N1	1, 3, 5, 7, 9, 11, 13	
N2	2, 4, 6, 8, 10, 12, 14	
C1	15	

# 6.2.8.4 Method getGeneralResult

Test Area Reference: API\_2\_PRH\_GTGR

#### 6.2.8.4.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

### 6.2.8.4.1.1 Normal execution

- CRRN1: This method returns the general result of a proactive command.
- CRRN2: After a successful execution of the method, the Result TLV becomes the selected TLV of the ProactiveResponseHandler.

#### 6.2.8.4.1.2 Parameter errors

No requirements.

#### 6.2.8.4.1.3 Context errors

- CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown in case of unavailable Result TLV element.
- CRRC2: A ToolkitException.OUT\_OF\_TLV\_BOUNDARIES shall be thrown if the general result byte is missing in the Result Simple TLV.

#### 6.2.8.4.2 Test Suite files

Test Script: API\_2\_PRH\_GTGR\_1.scr

Test Applet: API\_2\_PRH\_GTGR\_1.java

Load Script: API\_2\_PRH\_GTGR\_1.ldr

Cleanup Script: API\_2\_PRH\_GTGR\_1.clr

Parameter File: API\_2\_PRH\_GTGR\_1.par

6.2.8.4.3 Test procedure

	<b>5</b> • • •	ADI TO A CO	ABBU =
ld	Description	API Expectation	APDU Expectation
1	Build and send a DISPLAY TEXT command qualifier = 00h		DISPLAY TEXT Proactive
	dcs = 04h		command
	buffer = 'Text'		
	Terminal Response with General Result = 00		
	(command performed successfully)		
	ProactiveResponseHandler.getTheHandler()	Result of getGeneralResult() is 00h	
	Call the getGeneralResult() method		
_	Call the get\/alual angth/\ mathad	Describie 04h	
2	Call the getValueLength() method	Result is 01h	
3	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
3	Build alla sella a biol EAT TEXT command		command
	Terminal Response with General Result = 01,		Communic
	without Additional information on result		
	(command performed with partial		
	comprehension)		
	ProactiveResponseHandler.getTheHandler()	Result of getGeneralResult() is 01h	
	Call the getGeneralResult() method		
_	Oall the met Valued and the American	D 11: 041	
4	Call the getValueLength() method	Result is 01h	
5	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
3	Build and Send a DISPEAT TEXT Command		command
	Terminal Response with General Result = 01,		
	with Additional information on result		
	Result TLV = 03 02 01 55 (command		
	performed with partial comprehension)		
	ProactiveResponseHandler.getTheHandler()	Result of getGeneralResult() is 01h	
	Call the getGeneralResult() method		
6	Call the getValueLength() method	Result is 02h	
	oun the gervaluezengin() method	Tresult is ozii	
7	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
			command
	Terminal Response with General Result = 02		
	Result TLV = 03 04 02 65 43 21 (Missing		
	information)		
	ProactiveResponseHandler.getTheHandler()	Result of getGeneralResult() is 02h	
	Call the getGeneralResult() method		
	Call the matter to a till the state of the s	D III OA	
8	Call the getValueLength() method	Result is 04h	
9	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
٦	Dulid and Send a DISPLAT TEXT COMMINIO		command
			Communa
	Terminal Response with 7Fh additional bytes		
	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		
	Result TLV = 03 81 80 02 55 55 55		
	ProactiveResponseHandler.getTheHandler();	Result is 02h	
	call the getGeneralResult() method		
			1

ld	Description	API Expectation	APDU Expectation
10	Call the getValueLength() method	Result is 80h	
11	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response with 2 Result TLV		
	1 <sup>st</sup> Result TLV = 03 02 02 12 2 <sup>nd</sup> Result TLV = 03 03 03 34 56		
	<pre>ProactiveResponseHandler.getTheHandler(); call the getGeneralResult() method</pre>	Result is 02h	
12	Call the getValueLength() method	Result is 02h	
13	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response without Result Simple TLV		
	ProactiveResponseHandler.getTheHandler(); call the getGeneralResult() method	UNAVAILABLE_ELEMENT ToolkitException is thrown	
14	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response without General Result Byte in Result Simple TLV		
	ProactiveResponseHandler.getTheHandler(); call the getGeneralResult() method	OUT_OF_TLV_BOUNDARIES ToolkitException is thrown	
	Result TLV = 03 00		

### 6.2.8.4.4 Test Coverage

CRR number	Test case number
N1	1, 3, 5, 7, 9, 11
N2	2, 4, 6, 8, 10, 12
C1	13
C2	14

# 6.2.8.5 Method getItemIdentifier

Test Area Reference: API\_2\_PRH\_GTII

# 6.2.8.5.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.5.1.1 Normal execution

- CRRN1: The method returns the item identifier byte value from the first Item Identifier TLV element.
- CRRN2: If an Item Identifier TLV element is available, it becomes the TLV selected.

#### 6.2.8.5.1.2 Parameter errors

No requirements.

#### 6.2.8.5.1.3 Context errors

- CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown in case of unavailable Item Identifier TLV element.
- CRRC2: A ToolkitException.OUT\_OF\_TLV\_BOUNDARIES shall be thrown if the item identifier byte is missing in the Item Identifier Simple TLV.

6.2.8.5.2 Test Suite files

Test Script: API\_2\_PRH\_GTII\_1.scr

Test Applet: API\_2\_PRH\_GTII\_1.java

Load Script: API\_2\_PRH\_GTII\_1.ldr

Cleanup Script: API\_2\_PRH\_GTII\_1.clr

Parameter File: API\_2\_PRH\_GTII\_1.par

#### 6.2.8.5.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a DISPLAY TEXT command	AFFEXPECIATION	DISPLAY TEXT Proactive command
	Terminal Response (no Item Identifier TLV available)		
	Call to getItemIdentifier() with unavailable Item Identifier TLV	UNAVAILABLE_ELEMENT ToolkitException is thrown	
2	Build and send a SELECT ITEM command with 2 items (ID=01, 02)		SELECT ITEM Proactive command
	Terminal Response with Item 1 selected		
	Item Identifier TLV = 10 01 01		
	Call the getItemIdentifier() method	Result is 01h	
3	Call the getValueByte() method valueOffset = 00h	Result is 01h	
4	Build and send a SELECT ITEM command with 3 items (ID=03, 05, 07)		SELECT ITEM Proactive command
	Terminal Response with Item 5 selected		
	Item Identifier TLV = 10 01 05	D. W. OF	
	Call the getItemIdentifier() method	Result is 05h	
5	Call the getValueByte() method valueOffset = 00h	Result is 05h	
6	Build and send a SELECT ITEM command with 3 items (ID=FDh, FEh, FFh)		SELECT ITEM Proactive command
	Terminal Response with Item FFh selected		
	Item Identifier TLV = 10 01 FF	D 14: EE	
7	Call the getItemIdentifier() method	Result is FFh	
7	Call the getValueByte() method valueOffset = 00h	Result is FFh	
8	Build and send a SELECT ITEM command with 3 items (ID=FDh, FEh, FFh)		SELECT ITEM Proactive command
	Terminal Response with 2 Item Identifier TLV		
	$1^{\text{st}}$ Item Identifier TLV = 10 01 FFh $2^{\text{nd}}$ Item Identifier TLV = 10 01 FEh		
	Call the getItemIdentifier() method	Result is FFh	

ld	Description	API Expectation	APDU Expectation
9	Call the getValueByte() method	Result is FFh	
	valueOffset = 00h		
10	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive command
	Terminal Response without item identifier in the Item Identifier Simple TLV		
	Item Identifier TLV = 10 00		
	Call to getItemIdentifier()	OUT_OF_TLV_BOUNDARIES	
		ToolkitException is thrown	

#### 6.2.8.5.4 Test Coverage

CRR number	Test case number
N1	2, 4, 6, 8
N2	3, 5, 7, 9
C1	1
C2	10

# 6.2.8.6 Method getTextStringCodingScheme

Test Area Reference: API\_2\_PRH\_GTCS

#### 6.2.8.6.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.6.1.1 Normal execution

- CRRN1: This method returns the data coding scheme from the first Text String TLV element.
- CRRN2: If a Text String TLV element is available, it becomes the TLV selected.

#### 6.2.8.6.1.2 Parameter errors

No requirements.

#### 6.2.8.6.1.3 Context errors

- CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown in case of unavailable Text String TLV element.
- CRRC2: A ToolkitException.OUT\_OF\_TLV\_BOUNDARIES shall be thrown if the Text String TLV is present with a length of 0.

#### 6.2.8.6.2 Test Suite files

Test Script: API\_2\_PRH\_GTCS\_1.scr

Test Applet: API\_2\_PRH\_GTCS\_1.java

Load Script: API\_2\_PRH\_GTCS\_1.ldr

Cleanup Script: API\_2\_PRH\_GTCS\_1.clr

Parameter File: API\_2\_PRH\_GTCS\_1.par

# 6.2.8.6.3 Test procedure

ld	Description	ADI Evacetation	ADDII Expectation
	Description Display TEXT	API Expectation	APDU Expectation
1	Build and send a DISPLAY TEXT command		DISPLAY TEXT Proactive
			command
	Terminal Response (no Text String TLV		
	element available)		
	,		
	Call to getTextStringCodingScheme() with	UNAVAILABLE ELEMENT	
	unavailable Text String TLV  Build and send a GET INPUT command	ToolkitException is thrown	
2	Build and send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response with a null Text String TLV		
	Text String TLV = 0D 00		
	Call the getTextStringCodingScheme() method	OUT_OF_TLV_BOUNDARIES	
	can are get externing continue() meaned	ToolkitException is thrown	
3	Build and send a GET INPUT command	ToolkitException is thrown	GET INPUT Proactive
3	Build and send a GET INPUT command		
			command
	Terminal Response with text length = 01h, DCS		
	= 04h		
	Text String TLV = 0D 02 04 "A"		
	Call the getTextStringCodingScheme() method	Result is 04h	
	Joan and gott ontouring comments () incomed		
4	Call the getValueLength() method	Result is 02h	
4	Can the getvalueLength() method	Result is 0211	
<u> </u>			
5	Build and send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response with text length = 02h,		
	DCS = 00h		
	Text String TLV = 0D 03 00 "BB"		
	Call the getTextStringCodingScheme() method	Result is 00h	
	g,	. 1000 10 00	
6	Call the getValueLength() method	Result is 03h	
0	Can the getvalueLength() method	Result is USIT	
<u> </u>	B " I AFT NIBUT		
7	Build and send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response with text length = 7Eh,		
	DCS = 08h		
	Text String TLV = 0D 7F 08 01 02 7E		
	Call the getTextStringCodingScheme() method	Result is 08h	
	oun une genezuen ngeeum geenemet, memeu	Troodic to com	
8	Call the getValueLength() method	Result is 7Fh	
0	Can the getvalueLength() method	Result is 7 Fil	
<u></u>	Duild and and a OFT WOUT		OFT INIDIJE 6
9	Build and send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response with text length = 7Fh,		
	DCS = 04h		
	Text String TLV = 0D 81 80 04 01 02 7F		
	Call the getTextStringCodingScheme() method	Result is 04h	
	Can the getrextoring coding scheme() method	IVESUIT IS 0411	
	0.11.4	D IV. OOL	
10	Call the getValueLength() method	Result is 80h	

ld	Description	API Expectation	APDU Expectation
11	Build and send a GET INPUT command		GET INPUT Proactive command
	Terminal Response with text length = EFh, DCS = 08h		
	Text String TLV = 0D 81 F0 08 01 02 EE EF		
	Call the getTextStringCodingScheme() method	Result is 08h	
12	Call the getValueLength() method	Result is F0h	
13	Build and send a GET INPUT command		GET INPUT Proactive command
	Terminal Response with 2 Text String TLV		
	$1^{\text{st}}$ Text String TLV = 0D 02 04 41 $2^{\text{nd}}$ Text String TLV = 0D 03 08 42 43		
	Call the getTextStringCodingScheme() method	Result is 04h	
14	Call the getValueLength() method	Result is 02h	

#### 6.2.8.6.4 Test Coverage

CRR number	Test case number
N1	3, 5, 7, 9, 11, 13
N2	4, 6, 8, 10, 12, 14
C1	1
C2	2

# 6.2.8.7 Method GetTextStringLength

Test Area Reference: API\_2\_PRH\_GTTL

# 6.2.8.7.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.7.1.1 Normal execution

- CRRN1: The getTextStringLength() method returns the text string length value from the first Text String TLV element.
- CRRN2: If a Text String TLV element is available, it becomes the TLV selected.

# 6.2.8.7.1.2 Parameter errors

No requirements.

#### 6.2.8.7.1.3 Context errors

• CRRC1: A ToolkitException.UNAVAILABLE\_ELEMENT shall be thrown in case of unavailable Text String TLV element.

6.2.8.7.2 Test Suite files

Test Script: API\_2\_PRH\_GTTL\_1.scr

Test Applet: API\_2\_PRH\_GTTL\_1.java

Load Script: API\_2\_PRH\_GTTL\_1.ldr

Cleanup Script: API\_2\_PRH\_GTTL\_1.clr

Parameter File: API\_2\_PRH\_GTTL\_1.par

6.2.8.7.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a DISPLAY TEXT command	Exposition	DISPLAY TEXT Proactive
			command
	Terminal Response (no Text String TLV element available)		
	Call to getTextStringLength() with unavailable Text String TLV	UNAVAILABLE_ELEMENT ToolkitException is thrown	
2	Build and send a GET INPUT command	Toolini Exception to timown	GET INPUT Proactive command
	Terminal Response with a null Text String TLV Text String TLV = 0D 00		
	Call the getTextStringLength() method	Result is 00h	
3	Call the getValueLength() method	Result is 00h	
4	Build and send a GET INPUT command		GET INPUT Proactive command
	Terminal Response with text length = 01h,  DCS = 04h  Text String TLV = 0D 02 04 "A"		
	Call the getTextStringLength() method	Result is 01h	
5	Call the getValueLength() method	Result is 02h	
6	Build and send a GET INPUT command		GET INPUT Proactive command
	Terminal Response with text length = 02h, DCS = 00h		
	Text String TLV = 0D 03 00 "BB"		
	Call the getTextStringLength() method	Result is 02h	
7	Call the getValueLength() method	Result is 03h	
8	Build and send a GET INPUT command		GET INPUT Proactive command
	Terminal Response with text length = 7Eh, DCS = 08h Text String TLV = 0D 7F 08 01 02 7E		
	Call the getTextStringLength() method	Result is 7Eh	
9	Call the getValueLength() method	Result is 7Fh	

Description	API Expectation	APDU Expectation
Build and send a GET INPUT command		GET INPUT Proactive command
Terminal Response with text length = 7Fh,  DCS = 04h  Text String TLV = 0D 81 80 04 01 02 7F		
Call the getTextStringLength() method	Result is 7Fh	
Call the getValueLength() method	Result is 80h	
Build and send a GET INPUT command		GET INPUT Proactive command
Terminal Response with text length = EFh, DCS = 04h		
Text String TLV = 0D 81 F0 04 01 02 EE EF		
Call the getTextStringLength() method	Result is EFh	
Call the getValueLength() method	Result is F0h	
Build and send a GET INPUT command		GET INPUT Proactive command
Terminal Response with 2 Text String TLV  1st Text String TLV = 0D 02 04 41  2nd Text String TLV = 0D 03 08 42 43		
Call the getTextStringLength() method	Result is 01h	
Call the getValueLength() method	Result is 02h	
	Build and send a GET INPUT command  Terminal Response with text length = 7Fh, DCS = 04h  Text String TLV = 0D 81 80 04 01 02 7F  Call the getValueLength() method  Call the getValueLength() method  Build and send a GET INPUT command  Terminal Response with text length = EFh, DCS = 04h  Text String TLV = 0D 81 F0 04 01 02 EE EF  Call the getTextStringLength() method  Call the getValueLength() method  Build and send a GET INPUT command  Terminal Response with 2 Text String TLV 1st Text String TLV = 0D 02 04 41 2nd Text String TLV = 0D 03 08 42 43  Call the getTextStringLength() method	Build and send a GET INPUT command  Terminal Response with text length = 7Fh, DCS = 04h  Text String TLV = 0D 81 80 04 01 02 7F  Call the getTextStringLength() method Result is 7Fh  Call the getValueLength() method Result is 80h  Build and send a GET INPUT command  Terminal Response with text length = EFh, DCS = 04h  Text String TLV = 0D 81 F0 04 01 02 EE EF  Call the getTextStringLength() method Result is EFh  Call the getValueLength() method Result is F0h  Build and send a GET INPUT command  Terminal Response with 2 Text String TLV  1st Text String TLV = 0D 02 04 41 2nd Text String TLV = 0D 03 08 42 43  Call the getTextStringLength() method Result is 01h

# 6.2.8.7.4 Test Coverage

CRR number	Test case number
1	2, 4, 6, 8, 10, 12, 14
2	3, 5, 7, 9, 11, 13, 15
3	1

# 6.2.8.8 Method getTheHandler

Test Area Reference: API\_2\_PRH\_GTHD

# 6.2.8.8.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.8.1.1 Normal execution

- CRRN1: The method shall return the single system instance of the ProactiveHandler class.
- CRRN2: The EnvelopeHandler is a Temporary JCRE Entry Point Object

# 6.2.8.8.1.2 Parameter errors

No requirements.

#### 6.2.8.8.1.3 Context errors

• CRRC1: The method shall throw ToolkitException.HANDLER\_NOT\_AVAILABLE if the handler is busy.

6.2.8.8.2 Test Suite files

Test Script: API\_2\_PRH\_GTHD\_1.scr

Test Applet: API\_2\_PRH\_GTHD\_1.java

Load Script: API\_2\_PRH\_GTHD\_1.ldr

Cleanup Script: API\_2\_PRH\_GTHD\_1.clr

Parameter File: API\_2\_PRH\_GTHD\_1.par

#### 6.2.8.8.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a Proactive Command		Proactive Command
	Terminal Response		
	getTheHandler() twice	The returned objects shall be the	
		same	
2	getTheHandler()	The reference shall be a	
		ProactiveResponseHandler	
3	getTheHandler()	The reference shall not be null	

#### 6.2.8.8.4 Test Coverage

CRR number	Test case number	
N1 1, 2, 3		
N2 Checked in Framework tests: FWK_API_HEPO (test case 4		
C1	Checked in Framework tests: FWK_MHA_PRHD	

# 6.2.8.9 Method getLength

Test Area Reference API\_2\_PRH\_GLEN

#### 6.2.8.9.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.9.1.1 Normal execution

• CRRN1: returns the length in bytes of the TLV list.

#### 6.2.8.9.1.2 Parameter errors

No requirements.

# 6.2.8.9.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException.HANDLER\_NOT\_AVAILABLE.

6.2.8.9.2 Test Suite files

Test Script: API\_2\_PRH\_GLEN\_1.scr

Test Applet: API\_2\_PRH\_GLEN\_1.java

Load Script: API\_2\_PRH\_GLEN\_1.ldr

Cleanup Script: API\_2\_PRH\_GLEN\_1.clr

Parameter File: API\_2\_PRH\_GLEN\_1.par

#### 6.2.8.9.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Build and send a Display Text command		DISPLAY TEXT Proactive
			command
	Terminal Response without additional		
	information in General Result TLV		
	ProactiveResponseHandler.getTheHandler()	Result of getLength() is 12	
	getLength()		
2	Build and send a Display Text command		DISPLAY TEXT Proactive
			command
	Terminal Response with F2h additional		
	information in General Result TLV		
	ProactiveResponseHandler.getTheHandler()	Result of getLength() is FFh	
	getLength()		

#### 6.2.8.9.4 Test Coverage

CRR number	Test case number	
N1	1, 2	
C1	Does not apply for Proactive Response Handler	

#### 6.2.8.10 Method copy

Test Area Reference API\_2\_PRH\_COPY\_BSS

#### 6.2.8.10.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.10.1.1 Normal execution

- CRRN1: copies the simple TLV list contained in the handler to the destination byte array.
- CRRN2: returns dstOffset + dstLength.

#### 6.2.8.10.1.2 Parameter errors

- CRRP1: if dstBuffer is null a NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative, an ArrayIndexOutOfBoundsException is thrown.

• CRRP3: if dstLength is grater than the length of the simple TLV List, an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException. OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.8.10.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

6.2.8.10.2 Test Suite files

Test Script: API\_2\_PRH\_COPY\_BSS\_1.scr

Test Applet: API\_2\_PRH\_COPY\_BSS\_1.java

Load Script: API\_2\_PRH\_COPY\_BSS\_1.ldr

Cleanup Script: API\_2\_PRH\_COPY\_BSS\_1.clr

Parameter File: API\_2\_PRH\_COPY\_BSS\_1.par

## 6.2.8.10.3 Test procedure

14	Description	ADI Eventation	APDII Evacatation
ld	Description	API Expectation	APDU Expectation
1	Send a DISPLAY TEXT command		DISPLAY TEXT Proactive
			command
	Terminal Response without Additional		
	Information in General Result TLV:		
	81 03 01 21 00 02 02 82 81 03 01 00		
	ProactiveResponseHandler.getTheHandler()	NullPointerException is thrown	
	copy() with NULL as parameter to dstBuffer		
2	dstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
_	dstBuffer.length = 5	n is thrown	
	dstOffset = 6	II 13 tillowii	
	dstLength = 0		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = -1		
	dstLength = 1		
4	dstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	<pre>dstOffset = 0 dstLength = 6</pre>		
5	dstOffset + dstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
5	dstBuffer.length = 5	n is thrown	
	dstOffset = 3	II IS UIIOWII	
	dstLength = 3		
6	dstLength < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 0		
	dstLength = -1		
7	dstLength > length of the simple TLV list	ToolkitException.OUT_OF_TLV_	
	dstBuffer.length = 13	BOUNDARIES is thrown	
	<pre>dstOffset = 0 dstLength = 13</pre>		
8	Successful call, dstBuffer is the whole buffer	Result of copy() is 12	
0	dstBuffer.length = 12	Result of copy() is 12	
	dstOffset = 0		
	dstLength = 12		
9	Compare the buffer with buffer:	Result of arrayCompare() is 0	
	81 03 01 21 00 02 02 82 81 03 01 00		
10	Successful call, dstBuffer is part of a buffer	Result of copy() is 15	
	dstBuffer.length = 20		
	dstOffset = 3		
	dstLength = 12		

ld	Description	API Expectation	APDU Expectation
11	Compare the whole buffer	Result of arrayCompare() is 0	
	Reference =		
	00 01 02		
	81 03 01 21 00		
	02 02 82 81		
	03 01 00		
	OF 10 11 12 13		
12	Initialise dstBuffer		
	dstBuffer = 00h 01h 02h 13h		
	Successful call, dstBuffer is part of a buffer	Result of copy() is 12	
	dstBuffer.length = 20		
	dstOffset = 3		
	dstLength = 9		
13	Compare the whole buffer	Result of arrayCompare() is 0	
	Reference =		
	00 01 02		
	81 03 01 21 00		
	02 02 82 81		
	OC OD OE		
	OF 10 11 12 13		

#### 6.2.8.10.4 Test Coverage

CRR number	Test case number
N1	9, 11, 13
N2	8, 10, 12
P1	1
P2	2, 3, 4, 5, 6
P3	7
C1	Does not apply for Proactive Response Handler

#### 6.2.8.11 Method findTLV

Test Area Reference API\_2\_PRH\_FINDBB

### 6.2.8.11.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.11.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of the TLV list (handler buffer):

- CRRN1: the method is successful if the required occurrence exists then the corresponding TLV becomes current.
- CRRN2: if the method is successful then it returns TLV\_FOUND\_CR\_SET when Comprehension Required flag
  is set.
- CRRN3: if the method is successful then it returns TLV\_FOUND\_CR\_NOT\_SET when Comprehension Required flag is not set.
- CRRN4: if the required occurrence of the TLV element does not exist, the current TLV is no longer defined and TLV\_NOT\_FOUND is returned.
- CRRN5: The search method is comprehension required flag independent.

#### 6.2.8.11.1.2 Parameter errors

• CRRP1: if an input parameter is not valid (e.g. occurrence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException BAD\_INPUT\_PARAMETER.

#### 6.2.8.11.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

6.2.8.11.2 Test Suite files

Test Script: API\_2\_PRH\_FINDBB\_1.scr

Test Applet: API\_2\_PRH\_FINDBB\_1.java

Load Script: API\_2\_PRH\_FINDBB\_1.ldr

Cleanup Script: API\_2\_PRH\_FINDBB\_1.clr

Parameter File: API\_2\_PRH\_FINDBB\_1.par

# 6.2.8.11.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a DISPLAY TEXT command	AFI EXPECIATION	DISPLAY TEXT Proactive
1	Send a DISPLAY TEXT command		
	Towning   Dogwood with 2 Consul Descript Till		command
	Terminal Response with 2 General Result TLV 81 03 01 21 00		
	82 02 82 81		
	82 02 82 81 03 01 00		
	03 02 01 12		
	findTLV() with Invalid input parameter	ToolkitException.BAD_INPUT_PA	
	occurrence = 0	RAMETER is thrown	
	00041101100	TAMETER IS UNOWIT	
2	Search 1 <sup>st</sup> TLV	Result is TLV_FOUND_CR_SET	
_	tag = 01h	TROSURIS TEV_TOOTED_OTC_OET	
	occurrence = 1		
3	Call the getValueLength() method	Result is 03h	
4	Search 2 <sup>nd</sup> TLV	Result is TLV_FOUND_CR_SET	
	tag = 02h		
	occurrence = 1		
5	Call the getValueLength() method	Result is 02h	
6	Select a TLV (tag 02h)		
	Search a wrong tag	Result is TLV_NOT_FOUND	
	tag = 04h		
	occurrence = 1		
7	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
		ELEMENT shall be thrown	
8	Search a tag with wrong occurrence	Result is TLV_NOT_FOUND	
	tag = 01h		
	occurrence = 2		
9	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
		ELEMENT shall be thrown.	
10	Search 3 <sup>rd</sup> TLV	Result is	
	tag = 03h	TLV_FOUND_CR_NOT_SET	
11	occurrence = 1  Call the getValueLength() method	Result is 01h	
' '	Can the getvalueLength() method	IVESUIL IS O III	
12	Search 3 <sup>rd</sup> TLV	Result is	
12	tag = 03h	TLV_FOUND_CR_NOT_SET	
	occurrence = 2	ILV_FOUND_CK_NOT_SET	
13	Call the getValueLength() method	Result is 02h	
14	Search tag 83h	Result is	
' '	Tag = 83h	TLV_FOUND_CR_NOT_SET	
	Occurrence = 1		
15	Search tag 82h	Result is TLV_FOUND_CR_SET	
	Tag = 82h		
	Occurrence = 1		

#### 6.2.8.11.4 Test Coverage

CRR number	Test case number
N1	3, 5, 11, 13
N2	2, 4
N3	10, 12
N4	6, 7,8, 9
N5	14,15
P1	1
C1	Does not apply for Proactive Response Handler

# 6.2.8.12 Method getValueLength

Test Area Reference API\_2\_PRH\_GVLE

#### 6.2.8.12.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.12.1.1 Normal execution

• CRRN1: gets and returns the binary length of the value field for the last TLV element which has been found in the handler.

#### 6.2.8.12.1.2 Parameter errors

No requirements.

#### 6.2.8.12.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

# 6.2.8.12.2 Test Suite files

Test Script: API\_2\_PRH\_GVLE\_1.scr

Test Applet: API\_2\_PRH\_GVLE\_1.java

Load Script: API\_2\_PRH\_GVLE\_1.ldr

Cleanup Script: API\_2\_PRH\_GVLE\_1.clr

Parameter File: API\_2\_PRH\_GVLE\_1.par

#### 6.2.8.12.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response		
	Text String TLV = 0D 00		
	ProactiveResponseHandler.getTheHandler()	ToolkitException.UNAVAILABLE_	
	GetValueLength()	ELEMENT is thrown	
2	Search TLV 0Dh		
	getValueLength()	Result is 00h	

ld	Description	API Expectation	APDU Expectation
3	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response Text String TLV = 0D 02 04 41		Sommand .
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is 02h	
4	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response, Text String length = 7Eh Text String TLV = 0D 7F 04 01 02 7E		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is 7Fh	
5	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response, Text String length = 7Fh Text String TLV = 0D 81 80 04 01 02 7E 7F		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is 80h	
6	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response, Text String length = EFh Text String TLV = 0D 81 F0 04 01 02 EF		
	Search TLV 0Dh (Text String TLV)		
	getValueLength()	Result is F0h	

#### 6.2.8.12.4 Test Coverage

CRR number	Test case number	
N1	2, 3, 4, 5, 6	
C1	Does not apply for Proactive Response Handler	
C2	1	

# 6.2.8.13 Method getValueByte

Test Area Reference API\_2\_PRH\_GVBYS

#### 6.2.8.13.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

 $\label{eq:public_byte} \mbox{public byte getValueByte(short valueOffset)} \\ \mbox{throws ToolkitException}$ 

#### 6.2.8.13.1.1 Normal execution

• CRRN1: Gets a byte from the last TLV element which has been found in the handler and returns its value (1 byte).

# 6.2.8.13.1.2 Parameter errors

• CRRP1: if valueOffset is out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.8.13.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

• CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

6.2.8.13.2 Test Suite files

Test Script: API\_2\_PRH\_GVBYS\_1.scr

Test Applet: API\_2\_PRH\_GVBYS\_1.java

Load Script: API\_2\_PRH\_GVBYS\_1.ldr

Cleanup Script: API\_2\_PRH\_GVBYS\_1.clr

Parameter File: API\_2\_PRH\_GVBYS\_1.par

#### 6.2.8.13.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response, Text String length = 7Eh Text String TLV = 0D 7F 04 01 02 7E		
	ProactiveResponseHandler.getTheHandler()		
	getValueByte(0)	ToolkitException.UNAVAILABLE_ ELEMENT is thrown	
2	Search TLV 01h (Command Details TLV)		
	getValueByte(3)	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
3	Search TLV 01h (Command Details TLV)		
	getValueByte(2)	Result is 00h (qualifier)	
4	Search TLV 02h (Device Identities TLV)		
	getValueByte(0)	Result is 82h (Source)	
5	Search TLV 0Dh (Text String TLV)		
	getValueByte(7E)	Result is 7Eh	
6	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response, Text String length = EFh Text String TLV = 0D 81 F0 04 01 02 7E 7F EF		
	Search TLV 0Dh (Text String TLV)		
	getValueByte(7E)	Result is 7Eh	
7	GetValueByte(7F)	Result is 7Fh	
8	GetValueByte(EF)	Result is EFh	

## 6.2.8.13.4 Test Coverage

CRR number	Test case number
N1	3, 4, 5, 6, 7, 8
P1	2
C1	Does not apply for Proactive Response Handler
C2	1

# 6.2.8.14 Method copyValue

Test Area Reference API\_2\_PRH\_CPYVS\_BSS

#### 6.2.8.14.1 Conformance requirement

The method with following header shall be compliant with its definition in the API.

#### 6.2.8.14.1.1 Normal execution

- CRRN1: copies a part of the last TLV element which has been found, into a destination. buffer.
- CRRN2: returns dstOffset + dstLength.

#### 6.2.8.14.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException is thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException is thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.8.14.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE ELEMENT.

#### 6.2.8.14.2 Test Suite files

Test Script: API\_2\_PRH\_CPYVS\_BSS\_1.scr

Test Applet: API\_2\_PRH\_CPYVS\_BSS\_1.java

Load Script: API\_2\_PRH\_CPYVS\_BSS\_1.ldr

Cleanup Script: API\_2\_PRH\_CPYVS\_BSS\_1.clr

Parameter File: API\_2\_PRH\_CPYVS\_BSS\_1.par

#### 6.2.8.14.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 5		
	Text String TLV = 0D 06 04 01 02 05		
	ProactiveResponseHandler.getTheHandler()		
	Select Text String TLV		
	CopyValue() with a null dstBuffer	NullPointerException is thrown	
2	dstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 6		
<u> </u>	dstLength = 0		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = -1		
	dstLength = 1		

ld	Description	API Expectation	APDU Expectation
4	dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	_
	dstBuffer.length = 5	n is thrown	
	<pre>dstOffset = 0 dstLength = 6</pre>		
5	dstOffset + dstLength >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 3		
6	dstLength = 3  dstLength < 0	ArrayIndexOutOfBoundsExceptio	
0	dstBuffer.length = 5	n is thrown	
	dstOffset = 0	in io unewii	
	dstLength = -1		
7	valueOffset > Text String Length	ToolkitException.OUT_OF_TLV_	
ľ	valueOffset = 7	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	<pre>dstOffset = 0 dstLength = 0</pre>		
8	valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	valueOffset = -1	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	<pre>dstOffset = 0 dstLength = 1</pre>		
9	dstLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 0	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	<pre>dstOffset = 0 dstLength = 7</pre>		
10	ValueOffset + dstLength > Text String length	ToolkitException.OUT_OF_TLV_	
	ValueOffset = 2	BOUNDARIES is thrown	
	DstBuffer.length = 15		
	DstOffset = 0 DstLength = 5		
11	Send a GET INPUT command		GET INPUT Proactive
	Tarminal Bashansa Toyt String langth - 16		command
	Terminal Response, Text String length = 16 Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler		
	CopyValue()	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	
12	Select Text String TLV		
	Successful call	Result of copyValue() is 17	
	ValueOffset = 0 DstBuffer.length = 17		
	DstOffset = 0		
40	DstLength = 17	D III OOL	
13	Compare buffer Buffer = 04 00 01 0F	Result is 00h	
	Bullet - 01 00 01 01		
14	initialise dstBuffer		
	dstBuffer = 55 55 55  Successful call	Deput of pany (chief) is 45	
	ValueOffset = 2	Result of copyValue() is 15	
	DstBuffer.length = 20		
	DstOffset = 3		
15	DstLength = 12  Compare buffer	Popult in 00h	
15	Buffer =	Result is 00h	
	55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0B 0C 55 55 55 55 55		
1			

# 6.2.8.14.4 Test Coverage

CRR number	Test case number
N1	13, 15
N2	12, 14
P1	1

CRR number	Test case number
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for Proactive Response Handler
C2	11

#### 6.2.8.15 Method compareValue

Test Area Reference API\_2\_PRH\_CPRVS\_BSS

#### 6.2.8.15.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.15.1.1 Normal execution

Compares the last found TLV element with a buffer:

- CRRN1: returns 0 if identical.
- CRRN2: returns -1 if the first miscomparing byte in simple TLV List is less than that in compareBuffer.
- CRRN3: returns 1 if the first miscomparing byte in simple TLV List is greater than that in compareBuffer.

#### 6.2.8.15.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.8.15.1.3 Context errors

- CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.
- CRRC2: in case of unavailable TLV element an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException UNAVAILABLE\_ELEMENT.

#### 6.2.8.15.2 Test Suite files

Test Script: API\_2\_PRH\_CPRVS\_BSS\_1.scr

Test Applet: API\_2\_PRH\_CPRVS\_BSS\_1.java

Load Script: API\_2\_PRH\_CPRVS\_BSS\_1.ldr

Cleanup Script: API\_2\_PRH\_CPRVS\_BSS\_1.clr

Parameter File: API\_2\_PRH\_CPRVS\_BSS\_1.par

# 6.2.8.15.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command	•	GET INPUT Proactive
			command
	Terminal Response, Text String length = 5		
	Text String TLV = 0D 06 04 01 02 05		
	ProactiveResponseHandler.getTheHandler()		
	Select Text String TLV  compareValue() with a null compareBuffer	NullPointerException is thrown	
	Compare value() with a null compare built	Train officerException is thown	
2	compareOffset > compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 5	n is thrown	
	compareOffset = 6		
3	<pre>compareLength = 0 compareOffset &lt; 0</pre>	ArrayIndexOutOfBoundsExceptio	
3	compareBuffer.length = 5	n is thrown	
	compareOffset = -1	in io unown	
	compareLength = 1		
4	compareLength >compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	<pre>compareBuffer.length = 5 compareOffset = 0</pre>	n is thrown	
	compareLength = 6		
5	compareOffset + compareLength	ArrayIndexOutOfBoundsExceptio	
	>compareBuffer.length	n is thrown	
	<pre>compareBuffer.length = 5 compareOffset = 3</pre>		
	compareLength = 3		
6	compareLength < 0	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 5	n is thrown	
	compareOffset = 0		
	<pre>compareLength = -1</pre>		
7	valueOffset > Text String Length	ToolkitException.OUT_OF_TLV_	
-	valueOffset = 7	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	<pre>compareOffset = 0 compareLength = 0</pre>		
8	valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	valueOffset = -1	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	<pre>compareOffset = 0 compareLength = 1</pre>		
9	compareLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 0	BOUNDARIES is thrown	
	compareBuffer.length = 15		
	<pre>compareOffset = 0 compareLength = 7</pre>		
10	valueOffset + compareLength > Text String	ToolkitException.OUT_OF_TLV_	
	length	BOUNDARIES is thrown	
	valueOffset = 2		
	<pre>compareBuffer.length = 15 compareOffset = 0</pre>		
	compareLength = 5		
11	Send a GET INPUT command		GET INPUT Proactive
	Torreitad Decrease Test Of the Level 12	+	command
	Terminal Response, Text String length = 16 Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler()		1
	CompareValue()	ToolkitException.UNAVAILABLE_	
		ELEMENT is thrown	
12	Select Text String TLV		
	Initialise compareBuffer		
	CompareBuffer = 04 00 01 OF		
	Compare buffers	Result is 00h	
	ValueOffset = 0	Trocale to oon	
	CompareOffset = 0		
	CompareLength = 17		
			1

ld	Description	API Expectation	APDU Expectation
13	Initialise compareBuffer		-
	CompareBuffer =		
	04 00 01 10		
	Compare buffers with same parameters	Result is -1	
14	Initialise compareBuffer		
17	CompareBuffer =		
	03 00 01 OF		
	Compare buffers with same parameters	Result is +1	
15	Initialise compareBuffer		
. •	CompareBuffer =		
	55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0B 0C		
	55 55 55 55 55	ID It is and	
	Compare buffers	Result is 00h	
	<pre>ValueOffset = 2 CompareOffset = 3</pre>		
	CompareLength = 12		
	Compared charge in a 12		
16	Initialise compareBuffer		
	CompareBuffer =		
	55 55 55 02 01		
	03 04 05 06 07		
	08 09 0A 0B 0C 55 55 55 55 55		
	Compare buffers with same parameters	Result is -1	
	Compare buriers with same parameters	Nesult is -1	
17	Initialise compareBuffer		
	CompareBuffer =		
	55 55 55 01 02		
	03 04 05 06 07		
	08 09 0A 0A 0D 55 55 55 55 55		
		Popult in 11	
	Compare buffers with same parameters	Result is +1	

#### 6.2.8.15.4 Test Coverage

CRR number	Test case number
N1	12, 15
N2	13, 16
N3	14, 17
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for Proactive Response Handler
C2	11

# 6.2.8.16 Method findAndCopyValue(byte tag, byte[] dstBuffer, short valueOffset)

Test Area Reference API\_2\_PRH\_FACYB\_BS

# 6.2.8.16.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.16.1.1 Normal execution

- CRRN1: looks for the first occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + length of the copied value is returned.
- CRRN4: The search method is comprehension required flag independent.

#### 6.2.8.16.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

#### 6.2.8.16.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.8.16.2 Test Suite files

Test Script: API\_2\_PRH\_FACYB\_BS\_1.scr

Test Applet: API\_2\_PRH\_FACYB\_BS\_1.java

Load Script: API\_2\_PRH\_FACYB\_BS\_1.ldr

Cleanup Script: API\_2\_PRH\_FACYB\_BS\_1.clr

Parameter File: API\_2\_PRH\_FACYB\_BS\_1.par

# 6.2.8.16.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 15		
	Text String TLV = 0D 10 04 01 02 0F		
	ProactiveResponseHandler.getTheHandler()		
	FindAndCopyValue() with a null dstBuffer	NullPointerException is thrown	
2	dstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	tag = 0Dh	n is thrown	
	dstBuffer.length = 20		
<u> </u>	dstOffset = 21		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 20	n is thrown	
<u> </u>	dstOffset = -1		
4	length > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 15	n is thrown	
<u> </u>	dstOffset = 0		
5	dstOffset + length >dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 20	n is thrown	
	dstOffset = 5		

ld	Description	API Expectation	APDU Expectation
6	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 16		
	Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler()		
	Select a TLV (tag 02h)		
	findAndCopyValue()	ToolkitException.UNAVAILABLE_	
	tag = 04h	ELEMENT is thrown	
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
	oun the getvalue congin() method	ELEMENT is thrown.	
7	Successful call	Result of findAndcopyValue() is	
'	Tag = 0Dh	17	
	DstBuffer.length = 17	17	
	DstOffset = 0		
8	Compare buffer	Result is 00h	
	Buffer = 04 00 01 0F		
9	initialise dstBuffer		
	dstBuffer = 55 55 55		
	Successful call	Result of findAndcopyValue() is	
	DstBuffer.length = 20	19	
	DstOffset = 2		
10	Compare buffer	Result is 00h	
	Buffer =		
	55 55 04 00 01		
	02 03 04 05 06		
	07 08 09 0A 0B 0C 0D 0E 0F 55		
	OC OD OE OF 55		
11	Send a GET INPUT command		GET INPUT Proactive
	ocha a ozi imi or commana		command
	Terminal Response, with 2 Text String TLV		Command
	0D 11 04 00 01 0F		
	0D 02 04 41		
	ProactiveResponseHandler.getTheHandler()		
	ProactiveResponseHandler.getTheHandler() Successful call	Result of findAndconyValue() is	
	Successful call	Result of findAndcopyValue() is	
		Result of findAndcopyValue() is 17	
	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0		
	Successful call  Tag = 0Dh  DstBuffer.length = 17		
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F	17	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer	17	GET INPUT Proactive
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F	17	GET INPUT Proactive command
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16	17	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16  Text String TLV = 0D 11 04 00 01 0F	17	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16  Text String TLV = 0D 11 04 00 01 0F  ProactiveResponseHandler.getTheHandler()	Result is 00h	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16  Text String TLV = 0D 11 04 00 01 0F  ProactiveResponseHandler.getTheHandler()  Successful call (with tag 8Dh)	17	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16  Text String TLV = 0D 11 04 00 01 0F  ProactiveResponseHandler.getTheHandler()  Successful call (with tag 8Dh)  Tag = 8Dh	Result is 00h	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16  Text String TLV = 0D 11 04 00 01 0F  ProactiveResponseHandler.getTheHandler()  Successful call (with tag 8Dh)  Tag = 8Dh  DstBuffer.length = 17	Result is 00h  Result of findAndcopyValue() is	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16  Text String TLV = 0D 11 04 00 01 0F  ProactiveResponseHandler.getTheHandler()  Successful call (with tag 8Dh)  Tag = 8Dh  DstBuffer.length = 17  DstOffset = 0	Result is 00h  Result of findAndcopyValue() is 17	
12	Successful call  Tag = 0Dh  DstBuffer.length = 17  DstOffset = 0  Compare buffer  Buffer = 04 00 01 0F  Send a GET INPUT command  Terminal Response, Text String length = 16  Text String TLV = 0D 11 04 00 01 0F  ProactiveResponseHandler.getTheHandler()  Successful call (with tag 8Dh)  Tag = 8Dh  DstBuffer.length = 17	Result is 00h  Result of findAndcopyValue() is	

# 6.2.8.16.4 Test Coverage

CRR number	Test case number
N1	8, 10, 12
N2	6
N3	7, 9, 11
N4	13, 14
P1	1
P2	2, 3, 4, 5
C1	Does not apply for Proactive Response Handler

# 6.2.8.17 Method findAndCopyValue(byte tag, byte occurence, short valueOffset, byte[] dstBuffer, short dstOffset, short dstLength)

Test Area Reference API\_2\_PRH\_FACYBBS\_BSS

#### 6.2.8.17.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.17.1.1 Normal execution

- CRRN1: looks for the indicated occurrence of a TLV element from the beginning of a TLV list and copy its value into a destination buffer.
- CRRN2: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN3: if the method is successful then the corresponding TLV becomes current and dstOffset + dstLength is returned.
- CRRN4: The search method is comprehension required flag independent.

#### 6.2.8.17.1.2 Parameter errors

- CRRP1: if dstBuffer is null NullPointerException shall be thrown.
- CRRP2: if dstOffset or dstLength or both would cause access outside array bounds, or if dstLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, dstLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.

#### 6.2.8.17.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.8.17.2 Test Suite files

Test Script: API\_2\_PRH\_FACYBBS\_BSS\_1.scr

Test Applet: API\_2\_PRH\_FACYBBS\_BSS\_1.java

Load Script: API\_2\_PRH\_FACYBBS\_BSS\_1.ldr

Cleanup Script: API\_2\_PRH\_FACYBBS\_BSS\_1.clr

Parameter File: API\_2\_PRH\_FACYBBS\_BSS\_1.par

#### 6.2.8.17.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 15		
	Text String TLV = 0D 10 04 01 02 0F		
	ProactiveResponseHandler.getTheHandler()		
	findAndCopyValue() with a null dstBuffer	NullPointerException is thrown	
L	·		
2	dstOffset > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	tag = 0Dh, occurrence = 1	n is thrown	
	valueOffset = 0 dstBuffer.length = 5		
	dstOffset = 6		
	dstLength = 0		
3	dstOffset < 0	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = -1		
	dstLength = 1	Amendada QuitofDavada Fira anti-	
4	<pre>dstLength &gt; dstBuffer.length dstBuffer.length = 5</pre>	ArrayIndexOutOfBoundsExceptio	
	dstOffset = 0	n is thrown	
	dstLength = 6		
5	dstOffset + dstLength > dstBuffer.length	ArrayIndexOutOfBoundsExceptio	
	dstBuffer.length = 5	n is thrown	
	dstOffset = 3		
6	dstLength = 3  dstLength < 0	ArroyIndovOutOfDougdaEyearti-	
О	dstEuffer.length = 5	ArrayIndexOutOfBoundsException is thrown	
	dstOffset = 0	II IS UIIOWII	
	dstLength = -1		
7	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 5		
	Text String TLV = 0D 06 04 01 02 05		
	ProactiveResponseHandler.getTheHandler()	T 11:15 (1 OUT OF TIME	
	<pre>valueOffset &gt; Text String Length tag = 0Dh, occurrence = 1</pre>	ToolkitException.OUT_OF_TLV_	
	valueOffset = 7	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
	dstLength = 0		
8	valueOffset < 0	ToolkitException.OUT_OF_TLV_	
	<pre>valueOffset = -1 dstBuffer.length = 15</pre>	BOUNDARIES is thrown	
	dstOffset = 0		
	dstLength = 1		
9	dstLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 0	BOUNDARIES is thrown	
	dstBuffer.length = 15 dstOffset = 0		
	dstLength = 7		
10	valueOffset + dstLength > Text String length	ToolkitException.OUT_OF_TLV_	
	valueOffset = 2	BOUNDARIES is thrown	
	dstBuffer.length = 15		
	dstOffset = 0		
	dstLength = 5		
11	Send a GET INPUT command		GET INPUT Proactive
' '	Jena a Jen mar di Commana		command
	Terminal Response, Text String length = 16		
	Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler()		
	Select a TLV (tag 02h)		
	findAndCopyValue()	ToolkitException.UNAVAILABLE_	
	tag = 0Dh	ELEMENT is thrown	
	occurrence = 2		
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
İ		ELEMENT is thrown.	

ld	Description	API Expectation	APDU Expectation
12	Successful call	Result of findAndCopyValue() is	
	Tag = 0Dh, occurrence = 1	17	
	ValueOffset = 0		
	DstBuffer.length = 17		
	DstOffset = 0 DstLength = 17		
13	Compare buffer	Result is 00h	
_	Buffer = 04 00 01 0F	result is som	
14	initialise dstBuffer		
	dstBuffer = 55 55 55		
	Successful call	Result of findAndcopyValue() is	
	Tag = 0Dh, occurrence = 1	15	
	ValueOffset = 2 DstBuffer.length = 20		
	DstOffset = 3		
	DstLength = 12		
15	Compare buffer	Result is 00h	
	Buffer =		
	55 55 55 01 02		
	03 04 05 06 07 08 09 0A 0B 0C		
	55 55 55 55 55		
16	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, with 2 Text String TLV		
	0D 11 04 00 01 02 0F		
	0D 06 00 11 22 33 44 55 (no specific DCS		
	byte) ProactiveResponseHandler.getTheHandler()		
	Successful call	Result of findAndCopyValue() is	
	Tag = 0Dh, occurrence = 1	17	
	ValueOffset = 0	"	
	DstBuffer.length = 17		
	DstOffset = 0		
17	DstLength = 17  Compare buffer	Result is 00h	
	Buffer = 04 00 01 0F	Result is out	
18	Successful call	Result of findAndCopyValue() is 6	
	Tag = 0Dh, occurrence = 2		
	ValueOffset = 0		
	DstBuffer.length = 6 DstOffset = 0		
	DstLength = 6		
19	Compare buffer	Result is 00h	
	Buffer = 00 11 22 33 44 55		
20	Send a GET INPUT command		GET INPUT Proactive
	Torminal Dognance Toyt String langth 40		command
	Terminal Response, Text String length = 16 Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler()		
	Successful call (with tag 8Dh)	Result of findAndcopyValue() is	
	Tag = 8Dh, occurrence = 1	17	
	ValueOffset = 0		
	DstBuffer.length = 17		
	DstOffset = 0 DstLength = 17		
21	Compare buffer	Result is 00h	
	Buffer = 04 00 01 0F	1.00dit io ooil	
	Buller - 04 00 01 Ur		

# 6.2.8.17.4 Test Coverage

CRR number	Test case number
N1	13, 15, 17, 19
N2	11
N3	12, 14, 16, 18
N4	20, 21

CRR number	Test case number
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
C1	Does not apply for Proactive Response Handler

# 6.2.8.18 Method findAndCompareValue(byte tag, byte[] compareBuffer, short compareOffset)

Test Area Reference API\_2\_PRH\_FACRB\_BS

#### 6.2.8.18.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.18.1.1 Normal execution

Looks for the first occurrence of a TLV element from beginning of a TLV list and compare its value with a buffer:

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical returns 0.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer returns -1.
- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer returns 1.
- CRRN6: The search method is comprehension required flag independent.

#### 6.2.8.18.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset would cause access outside array bounds ArrayIndexOutOfBoundsException shall be thrown.

#### 6.2.8.18.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

#### 6.2.8.18.2 Test Suite files

Test Script: API\_2\_PRH\_FACRB\_BS\_1.scr
Test Applet: API\_2\_PRH\_FACRB\_BS\_1.java
Load Script: API\_2\_PRH\_FACRB\_BS\_1.ldr
Cleanup Script: API\_2\_PRH\_FACRB\_BS\_1.clr
Parameter File: API\_2\_PRH\_FACRB\_BS\_1.par

# 6.2.8.18.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command	THE EXPOSITION	GET INPUT Proactive
			command
	Terminal Response, Text String length = 15		
	Text String TLV = 0D 10 04 01 02 0F  ProactiveResponseHandler.getTheHandler()		
	FindAndCompareValue() with a null dstBuffer	NullPointerException is thrown	
	rindAndComparevalue() with a null dstBuller	NullPointerException is thrown	
2	compareOffset > compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	tag = ODh	n is thrown	
	<pre>compareBuffer.length = 20 compareOffset = 21</pre>		
3	compareOffset < 0	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length = 20	n is thrown	
	compareOffset = -1		
4	length > compareBuffer.length	ArrayIndexOutOfBoundsExceptio	
	<pre>compareBuffer.length = 15 compareOffset = 0</pre>	n is thrown	
5	CompareOffset + length >	ArrayIndexOutOfBoundsExceptio	
	compareBuffer.length	n is thrown	
	CompareBuffer.length = 20		
	CompareOffset = 5		
6	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 16		
	Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler()		
	Select a TLV (tag 02h) findAndCompareValue()	ToolkitException.UNAVAILABLE_	
	tag = 04h	ELEMENT is thrown	
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_	
	3 0	ELEMENT is thrown.	
7	Initialise compareBuffer		
	CompareBuffer = 04 00 01 0F		
	Compare buffers	Result is 00h	
	Tag = 0Dh	Trocal to con	
	CompareOffset = 0		
8	Verify current TLV GetValueLength()	Result is 17	
9	Initialise compareBuffer		
	CompareBuffer =		
	04 00 01 10		
	Compare buffers with same parameters	Result is -1	
10	Initialise compareBuffer		
10	CompareBuffer =		
	03 00 01 OF		
	Compare buffers with same parameters	Result is +1	
11	Initialiae compare Duffer		
11	Initialise compareBuffer CompareBuffer =		
	55 55 04 00 01		
	02 03 04 05 06		
	07 08 09 0A 0B 0C 0D 0E 0F 55		
	Compare buffers	Result is 00h	
	CompareOffset = 2		

ld	Description	API Expectation	APDU Expectation
12	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, with 2 Text String TLV		
	0D 11 04 00 01 0F		
	OD 06 00 11 22 33 44 55		
	ProactiveResponseHandler.getTheHandler()		
	Initialise compareBuffer		
	CompareBuffer =		
	55 55 04 00 01		
	02 03 04 05 06 07 08 09 0A 0B		
	0C 0D 0E 0F 55		
	Compare buffers	Result is 00h	
	CompareOffset = 2	Leant is out	
	Comparcorisec - 2		
13	Initialise compareBuffer		
	CompareBuffer =		
	55 55 04 01 01		
	02 03 04 05 06		
	07 08 09 0A 0B		
	OC OD OE OF 55		
	Compare buffers	Result is -1	
	CompareOffset = 2		
14	Initialise compareBuffer		
	CompareBuffer =		
	55 55 04 00 01		
	02 03 04 05 06		
	07 08 09 0A 0B 0C 0D 0D 10 55		
	Compare buffers	Result is +1	
	CompareOffset = 2	INESUIL IS TI	
	Comparcorisce - 2		
15	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 16		
	Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler()		
	Initialise compareBuffer		
	CompareBuffer =		
	04 00 01 0F		
	Compare buffers (with tag 8Dh)	Result is 00h	
	Tag = $8Dh$		
	CompareOffset = 0		

# 6.2.8.18.4 Test Coverage

CRR number	Test case number
N1	6
N2	8
N3	7, 11, 12
N4	9, 13
N5	10, 14
N6	15
P1	1
P2	2, 3, 4, 5
C1	Does not apply for Proactive Response Handler

6.2.8.19 Method findAndCompareValue(byte tag, byte occurence, short valueOffset, byte[] compareBuffer, short compareOffset, short compareLength)

Test Area Reference API\_2\_PRH\_FACRBBS\_BSS

#### 6.2.8.19.1 Conformance requirement

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.19.1.1 Normal execution

Looks for the indicated occurrence of a TLV element from the beginning of a TLV list and compare its value with a buffer:

- CRRN1: if no TLV element is found, the UNAVAILABLE\_ELEMENT exception is thrown and the current TLV is no longer defined.
- CRRN2: if the method is successful then the corresponding TLV becomes current.
- CRRN3: if identical 0 is returned.
- CRRN4: if the first miscomparing byte in simple TLV is less than that in compareBuffer -1 is returned.
- CRRN5: if the first miscomparing byte in simple TLV is greater than that in compareBuffer 1 is returned
- CRRN6: The search method is comprehension required flag independent.

#### 6.2.8.19.1.2 Parameter errors

- CRRP1: if compareBuffer is null NullPointerException shall be thrown.
- CRRP2: if compareOffset or compareLength or both would cause access outside array bounds, or if compareLength is negative ArrayIndexOutOfBoundsException shall be thrown.
- CRRP3: if valueOffset, compareLength or both are out of the current TLV an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException OUT\_OF\_TLV\_BOUNDARIES.
- CRRP4: if an input parameter is not valid (e.g. occurrence = 0) an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException BAD\_INPUT\_PARAMETER.

#### 6.2.8.19.1.3 Context errors

• CRRC1: if the handler is busy an instance of ToolkitException shall be thrown. The reason code shall be ToolkitException HANDLER\_NOT\_AVAILABLE.

## 6.2.8.19.2 Test Suite files

Test Script: API\_2\_PRH\_FACRBBS\_BSS\_1.scr

Test Applet: API\_2\_PRH\_FACRBBS\_BSS\_1.java

Load Script: API\_2\_PRH\_FACRBBS\_BSS\_1.ldr

Cleanup Script: API\_2\_PRH\_FACRBBS\_BSS\_1.clr

Parameter File: API\_2\_PRH\_FACRBBS\_BSS\_1.par

# 6.2.8.19.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Send a GET INPUT command	•	GET INPUT Proactive command
	Terminal Response, Text String length = 15 Text String TLV = 0D 10 04 01 02 0F		- Communication
	ProactiveResponseHandler.getTheHandler()		
	findAndCompareValue() with a null compareBuffer	NullPointerException is thrown	
2	<pre>compareOffset &gt; compareBuffer.length tag = 0Dh, occurrence = 1 valueOffset = 0 compareBuffer.length = 5 compareOffset = 6 compareLength = 0</pre>	ArrayIndexOutOfBoundsException is thrown	
3	<pre>compareOffset &lt; 0 compareBuffer.length = 5 compareOffset = -1 compareLength = 1</pre>	ArrayIndexOutOfBoundsExceptio n is thrown	
4	<pre>compareLength &gt;compareBuffer.length compareBuffer.length = 5 compareOffset = 0 compareLength = 6</pre>	ArrayIndexOutOfBoundsException is thrown	
	<pre>CompareOffset + compareLength &gt;compareBuffer.length CompareBuffer.length = 5 CompareOffset = 3 CompareLength = 3</pre>	ArrayIndexOutOfBoundsException is thrown	
6	<pre>compareLength &lt; 0 compareBuffer.length = 5 compareOffset = 0 compareLength = -1</pre>	ArrayIndexOutOfBoundsException is thrown	
7	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response, Text String length = 5		
	Text String TLV = 0D 06 04 01 02 05		
	ProactiveResponseHandler.getTheHandler()  valueOffset ≥ Text String Length  tag = 0Dh, occurrence = 1  valueOffset = 7  compareBuffer.length = 15  compareOffset = 0  compareLength = 0	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
8	<pre>valueOffset &lt; 0 valueOffset = -1 compareBuffer.length = 15 compareOffset = 0 compareLength = 1</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
9	<pre>compareLength &gt; Text String length valueOffset = 0 compareBuffer.length = 15 compareOffset = 0 compareLength = 7</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
10	<pre>valueOffset + compareLength &gt; Text String</pre>	ToolkitException.OUT_OF_TLV_ BOUNDARIES is thrown	
11	Invalid parameter  Occurrence = 0	ToolkitException.BAD_INPUT_PA RAMETER is thrown	

ld	Description	API Expectation	APDU Expectation
12	Send a GET INPUT command	74 i Expositation	GET INPUT Proactive
			command
	Terminal Response, Text String length = 16		
	Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler() Select a TLV (tag 02h)		
	findAndCompareValue()	ToolkitException.UNAVAILABLE_	
	tag = 0Dh occurrence = 2	ELEMENT is thrown	
	Call the getValueLength() method	ToolkitException.UNAVAILABLE_ ELEMENT is thrown.	
13	Initialise compareBuffer CompareBuffer = 04 00 01 0F		
	<pre>findAndCompareValue() tag = 0Dh, occurrence = 1 valueOffset = 0 compareOffset = 0 compareLength = 17</pre>	Result is 00h	
14	Verify current TLV GetValueLength()	Result is 17	
15	Initialise compareBuffer compareBuffer = 04 00 01 10		
	Compare buffers with same parameters	Result is -1	
16	Initialise compareBuffer compareBuffer = 03 00 01 0F		
	Compare buffers with same parameters	Result is +1	
17	Initialise compareBuffer compareBuffer = 55 55 55 01 02 03 04 05 06 07 08 09 0A 0B 0C 55 55 55 55 55		
	Compare buffers valueOffset = 2 compareOffset = 3 compareLength = 12	Result is 00h	
18	Initialise compareBuffer  compareBuffer =  55 55 55 02 01  03 04 05 06 07  08 09 0A 0B 0C  55 55 55 55 55   Compare buffers with same parameters	Result is -1	
19	Initialise compareBuffer	. Todak io	
19	compareBuffer = 55 55 55 01 02 03 04 05 06 07 08 09 0A 0A 0D 55 55 55 55 55 55 55 55 55 55 55 55 55	Result is +1	

ld	Description	API Expectation	APDU Expectation
20	Send a GET INPUT command		GET INPUT Proactive command
	Terminal Response, with 2 Text String TLV		Command
	0D 11 04 00 01 0F		
	0D 06 00 11 22 33 44 55		
	ProactiveResponseHandler.getTheHandler()		
	Initialise compareBuffer		
	compareBuffer =		
	04 00 01 0F	D 4: 001	
	<pre>findAndCompareValue() tag = 0Dh, occurrence = 1</pre>	Result is 00h	
	valueOffset = 0		
	compareOffset = 0		
	compareLength = 17		
21	Initialise compareBuffer		
	compareBuffer =		
	00 11 22 33 44 55	Result is 00h	
	<pre>findAndCompareValue() tag = 0Dh, occurrence = 2</pre>	Result is oon	
	valueOffset = 0		
	compareOffset = 0		
	compareLength = 6		
22	Initialise compareBuffer		
	compareBuffer =		
	00 11 22 33 44 66	Danishia 4	
	<pre>findAndCompareValue() tag = 0Dh, occurrence = 2</pre>	Result is -1	
	valueOffset = 0		
	compareOffset = 0		
	compareLength = 6		
23	Send a GET INPUT command		GET INPUT Proactive
			command
	Terminal Response, Text String length = 16		
	Text String TLV = 0D 11 04 00 01 0F		
	ProactiveResponseHandler.getTheHandler() Initialise compareBuffer		
	CompareBuffer =		
	04 00 01 OF		
	Compare buffers (with tag 8Dh)	Result is 00h	
	tag = 8Dh, occurrence = 1	33	
	valueOffset = 0		
	compareOffset = 0		
	compareLength = 17		

# 6.2.8.19.4 Test Coverage

CRR number	Test case number
N1	12
N2	14
N3	13, 17, 20, 21
N4	15, 18, 22
N5	16, 19
N6	23
P1	1
P2	2, 3, 4, 5, 6
P3	7, 8, 9, 10
P4	11
C1	Does not apply for Proactive Response Handler

# 6.2.8.20 Method getCapacity

Test Area Reference: API\_2\_PRH\_GCAP

#### 6.2.8.20.1 Conformance Requirement

The method with following header shall be compliant to its definition in the API.

public byte getCapacity()

#### 6.2.8.20.1.1 Normal execution

• CRRN1: The method shall return the maximum size of the Simple TLV list managed by the handler.

#### 6.2.8.20.2 Test suite files

Test Script: API\_2\_PRH\_GCAP\_1.scr

Test Applet: API\_2\_PRH\_GCAP\_1.java

Load Script: API\_2\_PRH\_GCAP\_1.ldr

Cleanup Script: API\_2\_PRH\_GCAP\_1.clr

Parameter File: API\_2\_PRH\_GCAP\_1.par

#### 6.2.8.20.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	ProactiveResponseHandler available		
	1- Send envelope SMS-PP Formatted 2- The applet sends a proactive command 3- Fetch the proactive command and send Terminal Response 4- The applet calls method getCapacity() method 5- The applet calls method getLength() method	<ul><li>1- Applet is triggered</li><li>4-No exception is thrown</li><li>5- The Capacity result is greater or equal to getLength() result</li></ul>	2- 91 XX 3- The proactive command is fetched

#### 6.2.8.20.4 Test Coverage

CRR number	Test case number	
N1	1	

# 6.2.8.21 Method getChannelldentifier

Test Area Reference: API\_2\_PRH\_GCID

#### 6.2.8.21.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

## 6.2.8.21.1.1 Normal execution

- CRRN1:The method shall return the channel identifier byte value.
- CRRN2:The channel identifier byte value returned shall be from the first Channel status TLV element.
- CRRN3: If the element is available it becomes the currently selected TLV.

#### 6.2.8.21.1.2 Context errors

• CRRC1: The method shall throw ToolkitException (UNAVAILABLE\_ELEMENT) if the Channel status TLV is not present.

• CRRC2: The method shall throw ToolkitException (OUT\_OF\_TLV\_BOUNDARIES) if the Simple TLV Channel Status length is equal to 0.

6.2.8.21.2 Test suite files

Test Script: API\_2\_PRH\_GCID\_1.scr

Test Applet: API\_2\_PRH\_GCID\_1.java

Load Script: API\_2\_PRH\_GCID\_1.ldr

Cleanup Script: API\_2\_PRH\_GCID\_1.clr

Parameter File: API\_2\_PRH\_GCID\_1.par

# 6.2.8.21.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
0	Applet1 is installed with maximum number of channel = 01.		
1	Channel status TLV is not present		1- DISPLAY TEXT
			Proactive command is
	1- Build and send a DISPLAY TEXT command		fetched.
	2- Call		
	ProactiveResponseHandler.getChannelIdentifier() method.		TERMINAL RESPONSE
	rei() method.	2- UNAVAILABLE_ELEMENT	with no Channel status TLV
2	Channel status TI V with a longth agual to 0	ToolkitException is thrown	available. 1- OPEN CHANNEL
2	Channel status TLV with a length equal to 0 1- Build and send a OPEN CHANNEL proactive		Proactive command is
	command		fetched.
	2- Call	O OUT OF THE POUNDABLES	
	2- Call ProactiveResponseHandler.getChannelIdentif	ToolkitException is thrown	TERMINAL RESPONSE
	<pre>ier() method.</pre>	Toolkit Zooption to timown	with Channel status TLV
			length equal to 0.
3	Get channel identifier value	2- Returns 0x01	1- OPEN CHANNEL Proactive Command is
	1- Call ProactiveHandler.init() and		fetched.
	ProactiveHandler.send() methods to open a channel.		
	Chamier.		TERMINAL RESPONSE is lissued with channel status
	2- Call ProactiveResponseHandler.getChannelIdentif		value = 0x8100.
	ier() method.		
	3- Call		
	ProactiveHandler.initCloseChannel() and		
	ProactiveHandler.send() methods.		
4	Get channel identifier value with 2 TLV	2- Returns 0x01	1- OPEN CHANNEL
	1- Call ProactiveHandler.init()and		Proactive Command is
	ProactiveHandler.send() methods to open a		fetched.
	channel		TERMINAL RESPONSE is
	2- Call		issued with channel status
	ProactiveResponseHandler.getChannelIdentif		value = 0x8100 and 0x8200.
	ier()		
	3- Call		
	ProactiveHandler.initCloseChannel() and ProactiveHandler.send() methods.		
5	Channel status TLV is currently selected TLV	2- Returns 0x03	1- OPEN CHANNEL
	1- Call ProactiveHandler.init() and	2 Chack gotChannalldontifior()	Proactive Command is
1	ProactiveHandler.send() methods to open a	3- Check getChannelIdentifier() =getValueByte(0)	fetched.
	channel. ViewHandler.FindTLV with Device Identity	3, ,(.,	TERMINAL RESPONSE is
	Tag.		issued with channel status
	2- Call		value = 0x0305 <del>.</del>
	ProactiveResponseHandler.getChannelIdentif		
	ier() method.		
	3- Compare		
	ProactiveResponseHandler.getChannelIdentif ier() and then ViewHandler.getValueByte(0)		
	methods.		

# 6.2.8.21.4 Test Coverage

CRR number	number Test case number	
N1	3	
N2	4	
N3	5	
C1	1	

C2	2

## 6.2.8.22 Method copyChannelData

Test Area Reference: API\_2\_PRH\_CCHD\_BSS

#### 6.2.8.22.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.8.22.1 Normal execution

- CRRN1: The method shall copy a part of the Channel data string field.
- CRRN2: The Channel data string field value returned shall be the first Channel data TLV element of the current response data field.
- CRRN3: If the element is available it becomes the currenly selected TLV.
- CRRN4: Returns dstOffset + dstLength.

#### 6.2.8.22.2 Parameters error

- CRRP1: If dstBuffer is null, a NullPointerException is thrown.
- CRRP2: If dstOffset or dstLength parameter is negative an ArrayIndexOutOfBoundsException exception is thrown and no copy is performed.
- CRRP3: If dstOffset+dstLength is greater than dstBuffer.length, the length of the dstBuffer array an ArrayIndexOutOfBoundsException exception is thrown and no copy is performed.
- CRRP4: If dstLength is greater than the value field of the available TLV, a OUT\_OF\_TLV\_BOUNDARIES ToolkitException is thrown.

#### 6.2.8.22.3 Context errors

 CRRC1: The method shall throw a UNAVAILABLE\_ELEMENT ToolkitException if the Result TLV is not present.

#### 6.2.8.22.2 Test suite files

Test Script: API\_2\_PRH\_CCHD\_BSS\_1.scr
Test Applet: API\_2\_PRH\_CCHD\_BSS\_1.java
Load Script: API\_2\_PRH\_CCHD\_BSS\_1.ldr
Cleanup Script: API\_2\_PRH\_CCHD\_BSS\_1.clr
Parameter File: API\_2\_PRH\_CCHD\_BSS\_1.par

# 6.2.8.22.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
	1- Applet1 is installed with maximum	7.1.1 <u> </u>	2- OPEN CHANNEL
	number of channel = 01.		proactive command is
			fetched
	2- Applet1 builds proactive commands OPEN		Totoriou
	CHANNEL with init() method in order to		TERMINAL RESPONSE is
	open one channel.		issued with Channel Id = 01
4	ProactiveHandler.send() method is called.		RECEIVE DATA Proactive
1	CopyChannelData() with NULL dstBuffer		
	Build and send a RECEIVE DATA command	No IID a interretion in the same	command is fetched.
	Darra and Dona a NEOETYE Billi Command	NullPointerException is thrown	TERMINIAL DECRONCE
			TERMINAL RESPONSE
			with not empty Channel Data TLV is issued.
	Call		Data TEV is issued.
	ProactiveResponseHandler.copyChannelData		
	dstBuffer = NULL dstOffset = 0		
	dstLength = 1		
2	CopyChannelData() with negative dstOffset		1- RECEIVE DATA
-			proactive command is
	1- call init() method for the RECEIVE DATA	2- an	fetched.
	proactive command.	ArrayIndexOutOfBoundsException	lotoriou.
		exception is thrown.	TERMINAL RESPONSE
	2- call ProactiveResponseHandler.copyChannelData()		with 6 bytes avalaible
	dstBuffer.length = 8	3- no copy is performed.	("Hello1")
	dstOffset = -1	a me dopy to performed.	( ,
	dstLength = 1		
	3- check dstBuffer is empty.		
3	CopyChannelData() with negative dstLength	1- an	
		ArrayIndexOutOfBoundsException	
	1- call	exception is thrown.	
	<pre>ProactiveResponseHandler.copyChannelData() dstBuffer.length = 8</pre>		
	dstOffset = 0	2- no copy is performed.	
	dstLength = -1		
	2- check dstBuffer is empty.		
4	CopyChannelData() with dstOffset+dstLength	1- an	
	greater than dstBuffer.length	ArrayIndexOutOfBoundsException	
	1- call	exception is thrown.	
	ProactiveResponseHandler.copyChannelData()	. , ,	
	with dstOffset+dstLength greater than	2- no copy is performed.	
	dstBuffer.length.		
	dstBuffer.length = 8		
	dstOffset = 5		
	dstLength = 5		
	2- check dstBuffer is empty.		
5	CopyChannelData() with dstLength too large	a OUT_OF_TLV_BOUNDARIES	
		ToolkitException is thrown.	
	Call		
	ProactiveResponseHandler.copyChannelData()		
	with dstLength greater than the value field of the available TLV.		
	dstBuffer.length = 8		
	dstOffset = 0		
	dstLength = 7		
6	CopyChannelData() without Channel Data TLV		1- RECEIVE DATA
	element		proactive command is
	l- call init() method for the DECETTE DATE	2- a UNAVAILABLE_ELEMENT	fetched
	1- call init() method for the RECEIVE DATA proactive command.	i oolkit⊨xception is thrown.	TEDMINIAL DECENIOS
	Call send() method.		TERMINAL RESPONSE
			without ChannelData TLV
	2- call		element.
	ProactiveResponseHandler.copyChannelData()		
	dstBuffer.length = 8		
	dstOffset = 0		

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dstLength = 6	

7	Successful copyChannelData()		1- RECEIVE DATA
1	Successial copyonalineibata()		proactive command is
	Call init() method for the RECEIVE DATA	2 the Channel Date TLV is senied	fetched
	proactive command.	3- the Channel Data TLV is copied into dstBuffer.	retcried
	Call send() method.	into astburier.	TERMINAL RECRONCE
		The condition of a first state of	TERMINAL RESPONSE
	2- Call findTLV() with TAG of DEVICE	The applet checks the returned	with one Channel data TLV
	IDENTITY.	value is dstOffset + dstLength = 6.	element. (6 bytes available
			= "Hello2")
	2 0-11		
	3- Call ProactiveResponseHandler.copyChannelData()		
	dstBuffer.length = 8		
	dstOffset = 0		
	dstLength = 6		
	dstBuffer is the whole Buffer.		
8	Compare copied Buffer		
		The applet checks that dstBuffer	
	Check dstBuffer.	contains the channel data from the	
		TERMINAL RESPONSE.	
9		The returned byte is the same than	
	Check the Channel Data TLV is selected	the first byte of the Channel data	
		TLV (i.e. "H")	
	Call the ViewHandler.getValueByte(0)		
	method		
10	Successful copyChannelData()		
		The Channel Data TLV is copied	
	Call	into dstBuffer.	
	ProactiveResponseHandler.copyChannelData()	The applet checks the returned	
	<pre>dstBuffer.length = 8 dstOffset = 2</pre>	value is dstOffset + dstLength = 5.	
	dstLength = 3		
	abeliengen – 3		
	DstBuffer is a part of Buffer.		
11	Compare copied Buffer		
		The applet checks that bytes from 2	
	Check dstBuffer.	to 4 of dstBuffer contain the first 3	
		bytes of channel data TLV from the	
		TERMINAL RESPONSE.	
12	Successful copyChannelData()		
	1 - 1 - 1 - 1 - 1 - 5 - 1 - 500 - 01 - 1	2- The Channel Data TLV is copied	
	1- Initialise dstBuffer to [00, 01]	into dstBuffer.	
	2- Call		
	ProactiveResponseHandler.copyChannelData()	The returned value is dstOffset +	
	dstBuffer.length = 8	dstLength = 5.	
	dstOffset = 2		
	dstLength = 3		
	Dat Duess in the second of the		
40	DstBuffer is a part of buffer.		
13			
'	Compare copied Buffer	The society of solice the standard control of the stan	
		The applet checks that only bytes	
	Check dstBuffer.	from 2 to 4 of dstBuffer have been	
		from 2 to 4 of dstBuffer have been updated with the first 3 bytes of	
		from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the	
	Check dstBuffer.	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of	4 DECENT DATA
14		from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the	1- RECEIVE DATA
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.	proactive command is
	Check dstBuffer.	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is	
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer.	proactive command is fetched
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command.	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched TERMINAL RESPONSE
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command. Call send() method.  2- call	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer.	proactive command is fetched TERMINAL RESPONSE with two Channel data TLV
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command. Call send() method.  2- call ProactiveResponseHandler.copyChannelData()	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched  TERMINAL RESPONSE with two Channel data TLV element
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command.  Call send() method.  2- call  ProactiveResponseHandler.copyChannelData() with dstLength lower than the value field	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched  TERMINAL RESPONSE with two Channel data TLV element  1st TLV : 6 bytes available =
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command.  Call send() method.  2- call  ProactiveResponseHandler.copyChannelData() with dstLength lower than the value field of the available TLV.	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched  TERMINAL RESPONSE with two Channel data TLV element  1st TLV: 6 bytes available = "Hello3"
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command.  Call send() method.  2- call  ProactiveResponseHandler.copyChannelData() with dstLength lower than the value field of the available TLV.  dstBuffer.length = 8	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched  TERMINAL RESPONSE with two Channel data TLV element 1st TLV: 6 bytes available = "Hello3" 2nd TLV: 6 bytes available =
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command.  Call send() method.  2- call  ProactiveResponseHandler.copyChannelData() with dstLength lower than the value field of the available TLV.  dstBuffer.length = 8  dstOffset = 0	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched  TERMINAL RESPONSE with two Channel data TLV element  1st TLV: 6 bytes available = "Hello3"
	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command.  Call send() method.  2- call  ProactiveResponseHandler.copyChannelData() with dstLength lower than the value field of the available TLV.  dstBuffer.length = 8  dstOffset = 0  dstLength = 6	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched  TERMINAL RESPONSE with two Channel data TLV element 1st TLV: 6 bytes available = "Hello3" 2nd TLV: 6 bytes available =
14	Check dstBuffer.  Successful copyChannelData(), with 2 TLV  1- call init() method for the RECEIVE DATA proactive command.  Call send() method.  2- call  ProactiveResponseHandler.copyChannelData() with dstLength lower than the value field of the available TLV.  dstBuffer.length = 8  dstOffset = 0	from 2 to 4 of dstBuffer have been updated with the first 3 bytes of channel data TLV from the TERMINAL RESPONSE.  2- the first Channel Data TLV is copied into dstBuffer. The returned value is	proactive command is fetched  TERMINAL RESPONSE with two Channel data TLV element 1st TLV: 6 bytes available = "Hello3" 2nd TLV: 6 bytes available =

Check dstBuffer.	first Channel Data TLV from the	
	TERMINAL RESPONSE.	

#### 6.2.8.22.4 Test Coverage

CRR number	Test case number	
N1	7, 10, 12, 14	
N2	14	
N3	9	
N4	8, 11, 13, 15	
P1	1	
P2	2, 3	
P3	4	
P4	5	
C1	6	

# 6.2.9 Class ToolkitRegistry

#### 6.2.9.1 Method allocateTimer

Test Area Reference: API\_2\_TKR\_ATIM

#### 6.2.9.1.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.9.1.1.1 Normal execution

- CRRN1: the returned timer identifier shall be between 01 and 08 inclusive.
- CRRN2: the returned timer identifier shall be different from a previously allocated but not released one.
- CRRN3: The SIM Toolkit Framework shall trigger the applet when receiving an ENVELOPE(TIMER EXPIRATION) command for the allocated timer.
- CRRN4: A call to isEventSet() method for EVENT\_TIMER\_EXPIRATION should return true if the applet has at least one timer allocated.

#### 6.2.9.1.1.2 Parameters error

No requirements.

#### 6.2.9.1.1.3 Context errors

- CRRC1: Shall throw a ToolkitException with reason NO\_TIMER\_AVAILABLE if all the timers are allocated.
- CRRC2: Shall throw a ToolkitException with reason NO\_TIMER\_AVAILABLE if the maximum number of timers have been allocated to this applet according to installation parameter.

#### 6.2.9.1.2 Test suite files

Test Script: API\_2\_TKR\_ATIM\_1.scr

Test Applet: API\_2\_TKR\_ATIM\_1.java

API\_2\_TKR\_ATIM\_2.java

API\_2\_TKR\_ATIM\_3.java

• Installation parameters:

• For this test procedure the non-volatile memory of each instance is 200 (Hexa).

• The maximum timer parameter value is as follows for each applet:

- applet1 (API\_2\_TKR\_ATIM\_1): 8 timers

- applet2 (API\_2\_TKR\_ATIM\_2): 4 timers

- applet3 (API\_2\_TKR\_ATIM\_3): 0 timer

Load Script: API\_2\_TKR\_ATIM\_1.ldr

• The load script installs the 6 instances.

Cleanup Script: API\_2\_TKR\_ATIM\_1.clr

Parameter File: API\_2\_TKR\_ATIM\_1.par

# 6.2.9.1.3 Test procedure

ld	Description	API Expectation	APDU Expectation
2	Allocates up to 8 timers (applet1)  8 * allocateTimer().  Allocate timers more than the maximum (applet1)  The applet1 allocates 1 more timer.	No exception shall be thrown. Timer ID returned shall be between 01 and 08 inclusive. It shall be different after each call. Shall throw a ToolkitException with reason NO_TIMER_AVAILABLE.	
3	Check applet is Triggered by ENVELOPE(TIMER_EXPIRATION) command (applet1) Send ENVELOPE(TIMER EXPIRATION) with all timers id (not in an increase order). Calls releaseTimer(id) each time a timer expires.	Shall trigger each time an ENVELOPE(TIMER EXPIRATION) is sent to the SIM, for Timer ID = '01' to '08'.	
5	Allocate up to 4 timers (applet2)  4 * allocateTimer().  Allocate timers more than the maximum	No exception shall be thrown. Each time, the returned timer identifier shall be between '01' and '08' inclusive. It shall be different after each call.  Shall throw a ToolkitException with	
J	(applet3)  The applet3 allocates 1 more timer.	reason NO_TIMER_AVAILABLE.	

# 6.2.9.1.4 Test Coverage

CRR number	Test case number	
N1	1, 4	
N2	1, 4	
N3	3	
N4	1	
C1	2	
C2	5	

# 6.2.9.2 Method changeMenuEntry

Test Area Reference: API\_2\_TKR\_CMETB\_BSSBZBS

#### 6.2.9.2.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.9.2.1.1 Normal execution

- CRRN1: The SIM Toolkit Framework shall dynamically update the menu stored in the ME by issuing a SET UP MENU proactive command. The later will reflect the changes done for the entry. The SIM Toolkit Framework shall use the data of the EF sume file in order to build the SET UP MENU command.
- CRRN2: The default state of the changed menu entry is 'enabled'.
- CRRN3: a call to isEventSet() method on EVENT\_MENU\_SELECTION shall return true before and after the
  call.
- CRRN4: if helpSupported was true then a call to isEventSet() method on EVENT\_MENU\_SELECTION\_HELP\_REQUEST event shall return true.
- CRRN5: if helpSupported was true then after the completion of the SETUP MENU command, if an ENVELOPE(MENU\_SELECTION\_HELP\_REQUEST) command is received by the SIM for this entry, then the SIM Toolkit framework shall trigger the applet.
- CRRN6: if help supported was true, the SIM Toolkit Framework shall issue a SETUP MENU command with command qualifier = '80'
- CRRN7: if helpSupported was false and if no entries is supporting help then a call to isEventSet() method on EVENT\_MENU\_SELECTION\_HELP\_REQUEST event shall return false.
- CRRN8: if helpSupported was false and if no entries is supporting help then after the completion of the SETUP
  MENU command, if an ENVELOPE(MENU\_SELECTION\_HELP\_REQUEST) command is received by the
  SIM, then the SIM Toolkit framework shall not trigger the applet.
- CRRN9: The SIM Toolkit Framework shall supply in the SET UP MENU command with the icon identifier provided in the icon identifier list within the item icon identifier list Simple TLV if all the applets registered to the EVENT\_MENU\_SELECTION provide it.
- CRRN10: The SIM Toolkit Framework shall set in the SET UP MENU command with the Icon list qualifier transmitted to the ME as 'icon is not self explanatory' if one of the applet registered prefers this qualifier.
- CRRN11: If Next Action Indicator was different from '00', the SIM Toolkit Framework shall issue a SETUP MENU proactive command containing an Items Next Action Indicator simple TLV with the comprehension flag set to 0 as defined in 3GPP TS 51.014 [4].

#### 6.2.9.2.1.2 Parameters error

- CRRP1: Shall throw java.lang.NullPointerException if menuEntry is null
- CRRP2: Shall throw java.lang.ArrayIndexOutOfBoundsException if offset would cause access outside array bounds
- CRRP3: Shall throw java.lang.ArrayIndexOutOfBoundsException if length would cause access outside array bounds

• CRRP4: Shall throw java.lang.ArrayIndexOutOfBoundsException - if both offset and length would cause access outside array bounds

#### 6.2.9.2.1.3 Context errors

- CRRC1: Shall throw a ToolkitException with MENU\_ENTRY\_NOT\_FOUND reason if the Menu Identifier isn't associated to the calling applet instance.
- CRRC2: Shall throw ALLOWED\_LENGTH\_EXCEEDED if the menu entry string is bigger than the allocated space.

#### 6.2.9.2.2 Test suite files

Additional requirements for the GSM personalization:

- content of EF sume shall be:
  - Title Alpha Identifier: "TOOLKIT TEST"

Test Script: API\_2\_TKR\_CMETB\_BBSSBZBS\_1.scr

Test Applet: API\_2\_TKR\_CMETB\_BBSSBZBS\_1.java

- entry '01' is "Init1"
- entry '02' is "Init2"
- Installation parameter:

Same as default applet but with:

- Maximum text length for a menu entry: 15
- Maximum number of menu entries: 2
- Position / Identifier for each menu entry: '01'/'01','02'/'02'

Load Script: API\_2\_TKR\_CMETB\_BBSSBZBS\_1.ldr

Cleanup Script: API\_2\_TKR\_CMETB\_BBSSBZBS\_1.clr

Parameter File: API\_2\_TKR\_CMETB\_BBSSBZBS\_1.par

#### 6.2.9.2.3 Test procedure

ld	Description		API Expectation	APDU Expectation
1	Applet changes the entry's title by menuEntry buffer, with a greater length than the initial length			
	1- ChangeMenuEntry()with parameters:			
	<pre>Id = '02' MenuEntry = "UseAllBuffer" Offset = 0 Length = menuEntry.length NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0.</pre>	2-	No exception shall be thrown. shall return true. shall return false.	
	2- isEventSet(EVENT_MENU_SELECTION).  3- isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST).			The SIM shall issue a SETUP MENU proactive command which contains the new text for entry ID '02'.

ld	Description		API Expectation	APDU Expectation
2	Changing the title with part of menuEntry		<u> </u>	
	buffer			
	1- changeMenuEntry()with parameters:			
	r changemendshery()with parameters:			
	Id = '01'	1-	No exception shall be thrown.	
	<pre>MenuEntry = "UsePartOfBuffer" Offset = 3</pre>	ľ	The exception on an electric	
	Length = 12	2-	Shall return true.	
	NextAction = 0			
	HelpSupported = false	3-	Shall return false.	
	<pre>IconQualifier = 0 IconIdentifier = 0.</pre>			
	2- isEventSet(EVENT_MENU_SELECTION).			The SIM shall issue a
	3-			SETUP MENU proactive
	isEventSet(EVENT_MENU_SELECTION_HELP_R			command which contains
	EQUEST)			the new text for entry ID
3	Length = 0			01'.
3	Lengin = 0			
	1- changeMenuEntry() for entry '01' and			
	entry '02', with parameters:			
	Id = '01'/'02'			
	MenuEntry = "LengthEquals0"	4	No expension shall be through	
	Offset = 0	1-	No exception shall be thrown.	
	Length = 0 NextAction = 0	2-	Shall return true.	
	HelpSupported = false			
	IconQualifier = 0	3-	shall return false.	
	<pre>IconIdentifier = 0.</pre>			
	2- isEventSet(EVENT_MENU_SELECTION).			
	3-			The SIM shall issue a
	isEventSet(EVENT_MENU_SELECTION_HELP_R			SETUP MENU proactive
	EQUEST).			command which contains
				for entry '01'and entry '02',
4	Setting a next action indicator != 0			no text part.
	1			
	<pre>1- changeMenuEntry()with parameters:</pre>			
	Id = '02'			
	MenuEntry = "NextActionIndic"			
	Offset = 0 Length = menuEntry.length			
	NextAction = '10' (SETUP CALL)			
	HelpSupported = false			
1	<pre>IconQualifier = 0 IconIdentifier = 0</pre>			
1				
1	2- isEventSet(EVENT_MENU_SELECTION).		No exception shall be thrown.	
	3-	_	Shall return true. Shall return false.	
1	isEventSet(EVENT_MENU_SELECTION_HELP_R	ა-	Onali letuiti laise.	
1	EQUEST).			
	4- changeMenuEntry()with parameters:			
1	Id = '02'			
	MenuEntry = "NextActionIndic"			
	Offset = 0 Length = menuEntry.length			
	NextAction = '10' (SETUP CALL)			The SIM shall issue a
	HelpSupported = true			SETUP MENU proactive command which contains an
	<pre>IconQualifier = 0 IconIdentifier = 0</pre>			Items Next Action Indicator
1	· · · · · · · · · · · · · · · · · · ·			list and which contains a
				command qualifier '80'.
		-		1

ld	Description	API Expectation	APDU Expectation
5	Checking applet is triggered by a	AirExpediation	Al Do Expectation
٦	MENU_SELECTION_HELP_REQUEST	Applet is trigged by a	
	WIENO_OLLEGIION_HELI _NEQUEST	MENU_SELECTION_HELP_REQU	
	Send ENVELOPE(MENU_SELECTION_HELP_REQUEST)	EST and the Item Identifier is 02	
	with Item Identifier = '02'	Let and the hem lecture to the	
6	help supported=true		
	<pre>1- changeMenuEntry()with parameters:</pre>		
	Id = '01'		
	MenuEntry = "HelpSupported"	1- No exception shall be thrown.	
	Offset = 0	1- No exception shall be thrown.	
	Length = menuEntry.length	2- Shall return true.	
	NextAction = 0	2- Shall return true.	
	HelpSupported = true	3- Shall return true.	
	<pre>IconQualifier = 0</pre>	3- Shall return true.	
	<pre>IconIdentifier = 0</pre>		
	2- isEventSet(EVENT_MENU_SELECTION).		
	Z- ISEVERICSEC(EVENI_MENO_SELECTION).		
	3-		The SIM shall issue a
	isEventSet(EVENT_MENU_SELECTION_HELP_R		SETUP MENU proactive
	EQUEST).		command which contains a
L			command qualifier '80'.
7	Checking applet is triggered by a		
	MENU_SELECTION_HELP_REQUEST	Applet is trigged by a	
		MENU_SELECTION_HELP_REQU	
	Send ENVELOPE(MENU_SELECTION_HELP_REQUEST)	EST and the Item Identifier is 01	
<u> </u>	with Item Identifier = '01'		
8	Setting icons, help supported = false		
	1 ghangoManuEntwy() for ontring		
	<pre>1- changeMenuEntry() for entries '01','02', with parameters:</pre>		
	or , oz , with parameters.		
	Id = '01'/'02'		
	MenuEntry = "IconQualifier"		
	Offset = 0	1- No exception shall be thrown.	
	Length = menuEntry.length	l ito oxeoption onaii so timotimi	
	NextAction = 0	2- Shall return true.	
	HelpSupported = false		
	<pre>IconQualifier = '01' IconIdentifier = '02' / '01'</pre>	3- Shall return false.	
	reomacheriter - 02 / 01		
	2- isEventSet(EVENT_MENU_SELECTION).		
	,		The CIM shall is seen
	3-		The SIM shall issue a
	isEventSet(EVENT_MENU_SELECTION_HELP_R		SETUP MENU proactive
	EQUEST).		command which contains an
	Manufaturia dia dia d		Icon Identifier List.
9	MenuEntry is disabled		
	1- disableMenuEntry('01').		
	T albabichenamicry ( of ).		
	2- changeMenuEntry()with parameters:		
	1 1 1		
	Id = '01'		
	MenuEntry = "EnableEntry"	<ol> <li>No exception shall be thrown.</li> </ol>	
	Offset = 0		
	Length = menuEntry.length NextAction = 0	<ol><li>No exception shall be thrown.</li></ol>	
	HelpSupported = false		
	IconQualifier = 0	3- Shall return true.	
	IconIdentifier = 0		
		4- Shall return false.	
	3- isEventSet(EVENT_MENU_SELECTION).		
	4		The SIM shall issue a
	4-		SETUP MENU proactive
	<pre>isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST).</pre>		command which contains
			the entry. Without Icon
			identifier List Simple TLV
		1	

ld	Description	API Expectation	APDU Expectation
10	MenuEntry is null		
	changeMenuEntry()with: MenuEntry = NULL	Shall throw java.lang.NullPointerException.	
11	Offset causes access outside array bounds  Id = '01' MenuEntry = "Violation" Offset = menuEntry.length +1 Length = 0 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
	Big Offset causes access outside array bounds  Id = '01' MenuEntry = "Violation" Offset = 255 Length = 1 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
13	Offset < 0 causes access outside array bounds  Id = '01' MenuEntry = "Violation" Offset = -1 Length = 1 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
14	Length causes access outside array bounds  Id = '01' MenuEntry = "Violation" Offset = 0 Length = MenuEntry.length + 1 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0.	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
15	Length < 0 causes access outside array bounds  Id = '01' MenuEntry = "Violation" Offset = 0 Length = -1 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0.	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
16	Both offset and length causes access outside array bounds  Id = '01' MenuEntry = "Violation" Offset \( \in \) [1, MenuEntry.length] Length = MenuEntry.length NextAction = 1 HelpSupported = false IconQualifier = 0 IconIdentifier = 0	Shall throw java.lang.ArrayIndexOutOfBoundsException.	

ld	Description	API Expectation	APDU Expectation
17	Invalid ID used		
	<pre>Id = '00' MenuEntry = contains text, != null Offset = 0 Length = menuEntry.length &lt; 16 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0</pre>	Shall throw a ToolkitException with MENU_ENTRY_NOT_FOUND reason code.	
18	ID isn't allocated to a menu entry of this applet		
	instance		
	<pre>Id = '0A' MenuEntry = contains text, != null Offset = 0 Length = menuEntry.length &lt; 16 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0</pre>	Shall throw a ToolkitException with reason code: MENU_ENTRY_NOT_FOUND.	
19	The text is bigger than the allocated space		
	<pre>Id = '02' MenuEntry = contains text, != null Offset = 0 Length = menuEntry.length &gt; 15 NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0</pre>	Shall throw a ToolkitException with reason code: ALLOWED_LENGTH_EXCEEDED.	
20	With a smaller text length than the initial length		
	<pre>1. changeMenuEntry()with parameters: Id = '02' MenuEntry = "Init" Offset = 0 Length = menuEntry.length NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0 2. isEventSet(EVENT_MENU_SELECTION)</pre>	<ol> <li>No exception shall be thrown.</li> <li>Shall return true.</li> <li>Shall return false.</li> </ol>	The SIM shall issue a SETUP MENU proactive command which contains the new text for entry ID '02'.
	<pre>3.     isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST)</pre>		

# 6.2.9.2.4 Test Coverage

CRR number	Test case number
N1	1, 2, 3, 4, 6, 8, 9, 20
N2	9
N3	1, 2, 3, 4, 6, 8, 9, 20
N4	6
N5	7,5
N6	6
N7	1, 2, 3, 4, 8, 9, 20
N8	Checked in framework tests: FWK_APT_EMSH
N9	8, 9
N10	8
N11	4
P1	10
P2	11, 12, 13
P3	14, 15
P4	16

CRR number	Test case number
C1	17, 18
C2	19

### 6.2.9.3 Method clearEvent

Test Area Reference: API\_2\_TKR\_CEVTB

#### 6.2.9.3.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.9.3.1.1 Normal execution

- CRRN1: A call to isEventSet() method for a cleared event should return false after a call to clearEvent.
- CRRN2: The SIM Toolkit Framework shall not trigger the applet on the occurrence of the cleared event anymore.
- CRRN3: if event was EVENT\_CALL\_CONTROL\_BY\_SIM and after the call, no applet is registered to it, The SIM Toolkit Framework shall allow an applet to register to this event.
- CRRN4: if event was EVENT\_CALL\_CONTROL\_BY\_SIM and one applet is still registered to these event, The SIM Toolkit Framework shall not allow an applet to register to this event.
- CRRN5: if event was EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM and after the call, no applet is registered to it, The SIM Toolkit Framework shall allow an applet to register to this event.
- CRRN6: if event was EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM and one applet is still registered to these event, The SIM Toolkit Framework shall not allow an applet to set this event.

### 6.2.9.3.1.2 Parameters error

- CRRP1: Shall throw a Toolkit Exception with reason EVENT\_NOT\_ALLOWED if event was EVENT\_MENU\_SELECTION.
- CRRP2: Shall throw a Toolkit Exception with reason EVENT\_NOT\_ALLOWED if event was EVENT\_MENU\_SELECTION\_HELP\_REQUEST.
- CRRP3: Shall throw a Toolkit Exception with reason EVENT\_NOT\_ALLOWED if event was EVENT\_TIMER\_EXPIRATION.
- CRRP4: Shall throw a Toolkit Exception with reason EVENT\_NOT\_ALLOWED if event was EVENT\_STATUS\_COMMAND.

### 6.2.9.3.1.3 Context errors

CRRC1: shall throw javacard.framework.TransactionException - if the operation would cause the commit
capacity to be exceeded.

## 6.2.9.3.2 Test suite files

Test Script: API\_2\_TKR\_CEVTB\_1.scr
Test Applet: API\_2\_TKR\_CEVTB\_1.java

• As default but applet registers to an event list which contains all defined events in 3GPP TS 43.019 [7] excepted those that are not allowed or supported by setEvent().

Load Script: API\_2\_TKR\_CEVTB\_1.ldr

Cleanup script: API\_2\_TKR\_CEVTB\_1.clr

Parameter File: API\_2\_TKR\_CEVTB\_1.par

6.2.9.3.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Clear ALLOWED unregistered events  For events ranging from -1, 1 to 24 and 127* excepted those that aren't allowed (7, 8, 11, 19), the applet calls:  1- clearEvent() method  2- isEventSet() method	<ul><li>1- No exception is thrown each time.</li><li>2- Shall return false each time.</li></ul>	
2	Clear registered events  1- For each ALLOWED and SUPPORTED event (-1, 1 to 24 and 127)* excepted those that aren't allowed (7, 8, 11, 19), the applet calls setEvent() method.  2- For each ALLOWED and SUPPORTED event (-1, 1 to 24 and 127)* excepted those that aren't allowed (7, 8, 11, 19), the applet calls:  2.1- clearEvent() method 2.2- isEventSet() method	<ul><li>1- No exception shall be thrown.</li><li>2.1- No exception shall be thrown.</li></ul>	
3	Clearing NOT ALLOWED events  For each event among: EVENT_MENU_SELECTION, EVENT_MENU_SELECTION_HELP_REQUEST, EVENT_TIMER_EXPIRATION, EVENT_STATUS_COMMAND  1- The applet calls clearEvent(event) method.	1- Each time, clearEvent shall throw a ToolkitException with reason EVENT_NOT_ALLOWED.	
4	Checking applet isn't triggered by an ENVELOPE(SMS-PP DOWNLOAD) command  1 - reset and initialise the card  2 - An ENVELOPE(SMS-PP DOWNLOAD) is sent with a TAR referencing applet.	Applet is not trigged by an ENVELOPE(SMS-PP DOWNLOAD) command	

NOTE: Although the method clearEvent is defined for a range from -128 to 127 only the allowed events are tested here, because the range from -128 to -2 is reserved for propriatary use in TS 43.019 [7] chapter 6.2 and the range from 25 to 126 is omitted for compatibility with future releases of TS 43.019 [7]

## 6.2.9.3.4 Test Coverage

CRR number	Test case number	
N1	1,2	
N2	4	
N3	Framework	
N4	Framework	
N5	Framework	
N6	Framework	
P1	3	
P2	3	
P3	3	
P4	3	

C1 not testable

## 6.2.9.4 Method disableMenuEntry

Test Area Reference: API\_2\_TKR\_DMETB

### 6.2.9.4.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.9.4.1.1 Normal execution

- CRRN1: A call to isEventSet() method on EVENT\_MENU\_SELECTION shall return the same result before and after the call to disableMenuEntry() method.
- CRRN2: A call to isEventSet() method on EVENT\_MENU\_SELECTION\_HELP\_REQUEST shall return the same result before and after the call to disableMenuEntry() method.
- CRRN3: After invocation of this method the SIM Toolkit Framework shall dynamically update the menu stored in the ME .
- CRRN4: After invocation of this method, if there is no more enabled menu entries then the SIM Toolkit framework shall issue a SETUP MENU proactive command containing Item Data Object for Item 1 TLV with a length of zero and no value part.

#### 6.2.9.4.1.2 Parameters error

No requirements.

## 6.2.9.4.1.3 Context errors

• CRRC1: shall throw a ToolkitException with reason = ENTRY\_NOT\_FOUND if the menu entry doesn't exist for this applet

#### 6.2.9.4.2 Test suite files

Additional requirements for the GSM personalization:

- content of EF sume shall be:
  - Title Alpha Identifier: "TOOLKIT TEST"

Test Script: API\_2\_TKR\_DMETB\_1.scr

Test Applet: API\_2\_TKR\_DMETB\_1.java

• Installation parameter:

Same as default applet but with:

- Maximum text length for a menu entry: 15

- Maximum number of menu entries: 2

- Position / Identifier for each menu entry: '01'/'01', '02'/'02'

Load Script: API\_2\_TKR\_DMETB\_1.ldr

Cleanup script: API\_2\_TKR\_DMETB\_1.clr

Parameter File: API\_2\_TKR\_DMETB\_1.par

# 6.2.9.4.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Check the menu state before disabling a previously enabled entry not registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- reset and initialise the card 2- isEventSet(EVENT_MENU_SELECTION) 3- isEventSet(EVENT_MENU_SELECTION_HELP_REQUEST)	<ul><li>1- Shall return true</li><li>2- Shall return false</li></ul>	1- The SIM shall issue a SET UP MENU proactive command with entry '01' and '02'.
2	Check the menu state after disabling a previously enabled entry not registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- disableMenuEntry('01') 2- isEventSet(EVENT_MENU_SELECTION) 3- isEventSet(EVENT_MENU_SELECTION_HELP_REQUEST)	<ol> <li>No exception shall be thrown</li> <li>Shall return true.</li> <li>Shall return false.</li> </ol>	· 3- The SIM shall issue a SET UP MENU proactive command with entry '02' only.
3	Check the menu before disabling a previously enabled entry registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- change Menu Entry '02' to indicate help supported 2- isEventSet(EVENT_MENU_SELECTION) 3- isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST)	<ul><li>2- Shall return true</li><li>3- Shall return true</li></ul>	3- The SIM shall issue a SET UP MENU proactive command with entry '02', indicating help supported.
4	Check the menu after disabling a previously enabled entry registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- disableMenuEntry('02') 2- isEventSet(EVENT_MENU_SELECTION) 3- isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST)	<ul><li>1- No exception shall be thrown</li><li>2- Shall return true.</li><li>3- Shall return true.</li></ul>	3- The SIM shall issue a SET UP MENU proactive command with 1 <sup>st</sup> Item TLV with a length of 0.
5	Disabling invalid entries  For ID ranging from '00' to 'FF' except '01' and '02', the applet calls disableMenuEntry(ID) method.	Each time a Toolkit Exception wi MENU_ENTRY_NOT_FOUND reason code shall be thrown.	th

# 6.2.9.4.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3, 4	
N2	1, 2, 3, 4	
N3	2,4	
N4	4	
C1	5	

## 6.2.9.5 Method enableMenuEntry

Test Area Reference: API\_2\_TKR\_EMETB

## 6.2.9.5.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.9.5.1.1 Normal execution

- CRRN1: A call to isEventSet() method on EVENT\_MENU\_SELECTION shall return the same result before and after the call to enableMenuEntry() method.
- CRRN2: A call to isEventSet() method on EVENT\_MENU\_SELECTION\_HELP\_REQUEST shall return the same result before and after the call to enableMenuEntry() method.
- CRRN3:The SIM Toolkit Framework shall dynamically issue a SETUP MENU proactive command which does contain an ITEM SIMPLE TLV object for this entry.

#### 6.2.9.5.1.2 Parameters error

No requirements.

#### 6.2.9.5.1.3 Context errors

• CRRC1: shall throw a ToolkitException with reason = MENU\_ENTRY\_NOT\_FOUND if the menu entry doesn't exist for this applet

### 6.2.9.5.2 Test suite files

Additional requirements for the GSM personalization:

- content of EF sume shall be:
  - Title Alpha Identifier: "TOOLKIT TEST"

Test Script: API\_2\_TKR\_EMETB\_1.scr

Test Applet: API\_2\_TKR\_EMETB\_1.java

• Installation parameter:

Same as default applet but with:

- Maximum text length for a menu entry: 15

- Maximum number of menu entries: 2

- Position / Identifier for each menu entry: '01'/'01', '02'/'02'

Load Script: API\_2\_TKR\_EMETB\_1.ldr

Cleanup script: API\_2\_TKR\_EMETB\_1.clr

Parameter File: API\_2\_TKR\_EMETB\_1.par

## 6.2.9.5.3 Test procedure

ld	Description	API Expectation		APDU Expectation
1	Check menu state before enabling a previously disabled entry not registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- isEventSet(EVENT_MENU_SELECTION) 2- isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST) 3- disableMenuEntry('01')	- Shall return tru - Shall return fals - No exception s	e se	3- The SIM shall issue a SET UP MENU proactive command with entry '02' only.
2	Check menu state after enabling a previously disabled entry not registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- enableMenuEntry('01') 2- isEventSet(EVENT_MENU_SELECTION) 3- isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST)	- No exception s - Shall return tru - Shall return fal:	e.	3- The SIM shall issue a SET UP MENU proactive command with entry '01' and '02'.
3	Check menu state before enabling a previously enabled entry registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- change Menu Entry '02' to indicate help supported 2- isEventSet(EVENT_MENU_SELECTION) 3- isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST) 4- disableMenuEntry('02')	e- Shall return tru - Shall return tru - No exception s	е	4- The SIM shall issue a SET UP MENU proactive command with entry '01'. The help information available flag.is not verified
4	Check menu state after enabling a previously enabled entry registered to EVENT_MENU_SELECTION_HELP_REQUEST  1- enableMenuEntry('02'). 2- isEventSet(EVENT_MENU_SELECTION)  3- isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST)	<ul> <li>No exception s</li> <li>Shall return tru</li> <li>Shall return tru</li> </ul>	e.	3- The SIM shall issue a SET UP MENU proactive command with entries '01' and '02' indicating help supported.
5	Enabling invalid entries  For ID ranging from '00' to 'FF' except '01' and '02', the applet calls enableMenuEntry(ID) method.	Each time a Toolki MENU_ENTRY_N eason code shall	OT_FÖUND	

# 6.2.9.5.4 Test Coverage

CRR number	Test case number
N1	1, 2, 3, 4
N2	1, 2, 3, 4
N3	1, 2, 3, 4
C1	5

# 6.2.9.6 Method getEntry

Test Area Reference: API\_2\_TKR\_GETY

## 6.2.9.6.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

### 6.2.9.6.1.1 Normal execution

- CRRN1: returns a reference to the applet ToolkitRegistry object of the calling applet.
- CRRN2: Each successive call to getEntry() method shall return the same object.

6.2.9.6.1.2 Parameters error

No requirements.

6.2.9.6.1.3 Context errors

No requirements.

6.2.9.6.2 Test suite files

Test Script: API\_2\_TKR\_GETY\_1.scr

Test Applet: API\_2\_TKR\_GETY\_1.java

Load Script: API\_2\_TKR\_GETY\_1.ldr

Cleanup script: API\_2\_TKR\_GETY\_1.clr

Parameter File: API\_2\_TKR\_GETY\_1.par

## 6.2.9.6.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Installalation	Returns a not null ToolkitRegistry	
	In the constructor, the applet instance calls the getEntry() method.	instance.	
2	Check it returns the same entry	Returns the same ToolkitRegistry	
	The applet calls the getEntry() method again.	instance as for test case 1.	

## 6.2.9.6.4 Test Coverage

CRR number	Test case number
N1	1
N2	2

## 6.2.9.7 Method getPollInterval

Test Area Reference: API\_2\_TKR\_GPOL

## 6.2.9.7.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

public short getPollInterval()

### 6.2.9.7.1.1 Normal execution

- CRRN1: shall return a value between 1 and 15300 if applet is registered to EVENT\_STATUS\_COMMAND event.
- CRRN2: shall return POLL\_NO\_DURATION value (0) if the toolkit applet is not registered to EVENT\_STATUS\_COMMAND event.

6.2.9.7.1.2 Parameters error

No requirements.

6.2.9.7.1.3 Context errors

No requirements.

6.2.9.7.2 Test suite files

Test Script: API\_2\_TKR\_GPOL\_1.scr

Test Applet: API\_2\_TKR\_GPOL\_1.java

Load Script: API\_2\_TKR\_GPOL\_1.ldr

Cleanup script: API\_2\_TKR\_GPOL\_1.clr

Parameter File: API\_2\_TKR\_GPOL\_1.par

## 6.2.9.7.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Applet isn't registered to EVENT_STATUS_COMMAND getPollInterval().	Shall return 0.	
2	Requesting max duration		
	1- requestPollInterval(15300)	1- No exception shall be thrown.	
	2- Reset and initialise the card	3- Shall return a value between 1 and 15300.	
	3- getPollInterval()	and 15500.	
3	Requesting System Duration		
	1- requestPollInterval(POLL_SYSTEM_DURATI ON)	<ol> <li>No exception shall be thrown.</li> </ol>	
	2- Reset and initialise the card	3- Shall return a value between 1 and 15300.	
	3- getPollInterval().		
4	Requesting no Duration		
	1- requestPollInterval(POLL_NO_DURATION)		
	2- Reset and initialise the card	<ul><li>1- No exception shall be thrown.</li><li>3- Shall return 0.</li></ul>	
	3- getPollInterval().		

### 6.2.9.7.4 Test Coverage

CRR number	Test case number
N1	2, 3
N2	1, 4

## 6.2.9.8 Method initMenuEntry

Test Area Reference: API\_2\_TKR\_IMET\_BSSBZBS

#### 6.2.9.8.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.9.8.1.1 Normal execution

- CRRN1: The SIM Toolkit Framework shall automatically update the menu stored in the ME by issuing a SETUP MENU proactive command. The later will reflect the changes done for the entry. The SIM Toolkit Framework shall use the data of the EF sume file in order to build the SET UP MENU command.
- CRRN2: a call to isEventSet() method on EVENT\_MENU\_SELECTION shall return true after the 1<sup>st</sup> successful call (without an exception).
- CRRN3: if helpSupported was true then a following call to isEventSet() method on EVENT\_MENU\_SELECTION\_HELP\_REQUEST event shall return true.
- CRRN4: if helpSupported was true then after the completion of the SETUP MENU command, if an ENVELOPE(MENU\_SELECTION\_HELP\_REQUEST) command is received by the SIM for this entry, then the SIM Toolkit framework shall trigger the applet.
- CRRN5: if help supported was true, the SIM Toolkit Framework shall issue a SETUP MENU command with command qualifier = '80'
- CRRN6: if helpSupported was false and there isn't any menu entry supporting help then a call to isEventSet() method on EVENT\_MENU\_SELECTION\_HELP\_REQUEST event shall return false.
- CRRN7: The SIM Toolkit Framework shall supply in the SET UP MENU command with the icon identifier provided in the icon identifier list within the item icon identifier list Simple TLV if all the applets registered to the EVENT\_MENU\_SELECTION provide it.
- CRRN8: The SIM Toolkit Framework shall set in the SET UP MENU command with the Icon list qualifier transmitted to the ME as 'icon is not self explanatory' if one of the applet registered prefers this qualifier.
- CRRN9: If Next Action Indicator was different from '00', the SIM Toolkit Framework shall issue a SETUP MENU proactive command containing an Items Next Action Indicator simple TLV with the comprehension flag set to 0.
- CRRN10: After the completion of the SETUP MENU command, if an ENVELOPE (MENU\_SELECTION) command is received by the SIM for this identifier, then the SIM Toolkit framework shall trigger the applet.

## 6.2.9.8.1.2 Parameters error

• CRRP1: Shall throw java.lang.NullPointerException - if menuEntry is null

- CRRP2: Shall throw java.lang.ArrayIndexOutOfBoundsException if offset would cause access outside array bounds
- CRRP3: Shall throw java.lang.ArrayIndexOutOfBoundsException if length would cause access outside array bounds
- CRRP4:Shall throw java.lang.ArrayIndexOutOfBoundsException if both offset and length would cause access
  outside array bounds

### 6.2.9.8.1.3 Context errors

- CRRC1: Shall throw ALLOWED\_LENGTH\_EXCEEDED if the menu entry string is bigger than the allocated space
- CRRC2: Shall throw REGISTRY\_ERROR if the menu entry cannot be initialised (eg no more item data in applet loading parameter)

#### 6.2.9.8.2 Test suite files

Additional requirements for the GSM personalization:

- content of EF sume shall be:
  - Title Alpha Identifier: "TOOLKIT TEST"
  - Test case trigger:
    - 1- Applet instantiation
    - 2- Menu selection
    - 3- Menu selection Help Supported

Test Script: API\_2\_TKR\_IMET\_BSSBZBS\_1.scr

Test Applet: API\_2\_TKR\_IMET\_BSSBZBS\_1.java

• Installation parameter:

Same as default applet but with:

- Maximum text length for a menu entry: 15

- Maximum number of menu entries: 6

- Position / Identifier for each menu entry: '01'/'01', '02'/'02', '03'/'03', '04'/'04', '05'/'05', and '06'/'06'

Load Script: API\_2\_TKR\_IMET\_BSSBZBS\_1.ldr

Cleanup script: API\_2\_TKR\_IMET\_BSSBZBS\_1.clr

Parameter File: API\_2\_TKR\_IMET\_BSSBZBS\_1.par

## 6.2.9.8.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	NULL as parameter to menuEntry	Shall throw a	
	MenuEntry = NULL	java.lang.NullPointerException.	
2	Offset > menuEntry.length	Shall throw	
	<pre>MenuEntry = "ToolkitTest" Offset = 12 Length = 0</pre>	java.lang.ArrayIndexOutOfBoundsException.	

ld	Description	API Expectation	APDU Expectation
3	Offset < 0		
	MenuEntry = "ToolkitTest" Offset = -1 Length = 11	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
4	Offset = 255		
	MenuEntry = "ToolkitTest" Offset = 255 Length = 11	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
5	Length = menuEntry.length+1		
	MenuEntry = "ToolkitTest" Offset = 0 Length = 12	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
6	Length < 0		
	MenuEntry = "ToolkitTest"  Offset = 0 Length = -1	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
7	Offset + length > menuEntry.length		
	MenuEntry = "ToolkitTest" Offset = 11 Length = 1	Shall throw java.lang.ArrayIndexOutOfBoundsE xception.	
8	MenuEntry.length > size allocated at loading		
	for each menu entry  MenuEntry = "ToolkitTest impossible"  Offset = 0  Length = 16	ALLOWED_LENGTH_EXCEEDED ToolkitException is thrown.	
9	Successful call,		
	menuEntry is the whole buffer		
	1- initMenuEntry()		
	MenuEntry = "TOOLKIT TEST 1"  Offset = 0 Length = 14 NextAction = '00' HelpSupported = false IconQualifier = '00' IconIdentifier = 0  2- isEventSet(EVENT_MENU_SELECTION)	<ul><li>1- No exception shall be thrown, Shall return ID '01'.</li><li>2- Shall return true.</li></ul>	
10	Successful call, menuEntry part of a buffer		
	1- initMenuEntry()		
	MenuEntry = "1234567TOOLKIT TEST 2" Offset = 7 Length = 14 NextAction = '00' HelpSupported = false IconQualifier = '00' IconIdentifier = 0	1- No exception shall be thrown,Shall return ID '02'. 2- Shall return false.	
	isEventSet(EVENT_MENU_SELECTION_HELP_R EQUEST)		

ld	Description	API Expectation	APDU Expectation
11	Successful call,		-
	menuEntry with help supported		
	1 initMonvEnters()		
	1- initMenuEntry()		
	MenuEntry = "TOOLKIT TEST 3"		
	Offset = 0	1 No expension shall be through	
	Length = 14 NextAction = '00'	1- No exception shall be thrown, Shall return ID '03'	
	HelpSupported = true	2- Shall return true.	
	IconQualifier = '00'	2 Gran retain trae.	
	<pre>IconIdentifier = 0</pre>		
	2-		
	isEventSet(EVENT_MENU_SELECTION_HELP_R		
	EQUEST)		
12	Successful call,		
	menuEntry with an Icon		
	MenuEntry = "TOOLKIT TEST 4"		
	Offset = 0	1- No exception shall be thrown.	
	Length = 14	2- Shall return ID '04'	
	NextAction = '00'	2 Gran retain 15 04	
	<pre>HelpSupported = false IconQualifier = '01' [icon not self</pre>		
	explanatory]		
	<pre>IconIdentifier = 1</pre>		
13	Successful call,		
	menuEntry with a next action indication		
	MenuEntry = "TOOLKIT TEST 5"		
	Offset = 0	1- No exception shall be thrown.	
	Length = 14	2- Shall return ID '05'	
	NextAction = '24' [Select Item]		
	<pre>HelpSupported = false IconQualifier = '00'</pre>		
	IconIdentifier = 0		
14	Successful call,	No exception shall be thrown, Shall	
	length = 0	return ID '06'.	
	<pre>initMenuEntry()</pre>		
	MenuEntry = "ToolkitTest"		
	Offset = 0 Length = 0		
	NextAction = '00'		
	HelpSupported = false		
	IconQualifier = '00'		
	<pre>IconIdentifier = 0</pre>		
15	Initialise more entry than allocated at loading		
		REGISTRY_ERROR	
	MenuEntry = "ToolkitTest"	ToolkitException is thrown.	
	Offset = 0	Toomic Acoption is unown.	
L	Length = 11		

ld	Description	API Expectation	APDU Expectation
16	Fetch		Card shall Send a SetUpMenu Proactive command: [CommandQualifier]=help supported [Alphald]="TOOLKIT TEST" [ItemId=1] = "TOOLKIT TEST 1" [ItemId=2] = "TOOLKIT TEST 2" [ItemId=3] = "TOOLKIT TEST 3" [ItemId=4] = "TOOLKIT TEST 4" [ItemId=5] = "TOOLKIT TEST 5" [ItemId=6] = "" [ItemSNextAction]=0600000 0002400
17	Check Applet is triggered by ENVELOPE(MENU_SELECTION) command  Menu Entry ID = '01'	Applet is trigged by an ENVELOPE(MENU_SELECTION) command & Menu Entry ID = '01'	
18	Check Applet is triggered by ENVELOPE(MENU_SELECTION) command  Menu Entry ID = '02'	Applet is trigged by an ENVELOPE(MENU_SELECTION) command & Menu Entry ID = '02'	
19	Check Applet is triggered by ENVELOPE(MENU_SELECTION) command  Menu Entry ID = '03'	Applet is trigged by an ENVELOPE(MENU_SELECTION) command & Menu Entry ID = '03'	
20	Check Applet is triggered by ENVELOPE(MENU_SELECTION) command  Menu Entry ID = '04'	Applet is trigged by an ENVELOPE(MENU_SELECTION) command & Menu Entry ID = '04'	
21	Check Applet is triggered by ENVELOPE(MENU_SELECTION) command  Menu Entry ID = '05'	Applet is trigged by an ENVELOPE(MENU_SELECTION) command & Menu Entry ID = '05'	
22	Check Applet is triggered by ENVELOPE (MENU_SELECTION_HELP_REQUEST) command		
	Menu Entry ID = '03'	Applet is trigged by an ENVELOPE(MENU_SELECTION_HELP_REQUEST) command & Menu Entry ID = '03'	
23	Check Applet is triggered by ENVELOPE(MENU_SELECTION) command  Menu Entry ID = '06'	Applet is trigged by an ENVELOPE(MENU_SELECTION) command & Menu Entry ID = '06'	
	-		

# 6.2.9.8.4 Test Coverage

CRR number	Test case number
N1	16
N2	9
N3	11

CRR number	Test case number
N4	22
N5	11, 16
N6	10
N7	12,16
N8	12,16
N9	13,16
N10	9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 21, 23
P1	1
P2	2, 3, 4
P3	5, 6
P4	7
C1	8
C2	14

## 6.2.9.9 Method is Event Set

Test Area Reference: API\_2\_TKR\_IEVSB

## 6.2.9.9.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

public boolean isEventSet(byte event)

### 6.2.9.9.1.1 Normal execution

- CRRN1: shall return true if the event is set in the Toolkit Registry for the applet.
- CRRN2: shall return false if the event isn't set in the Toolkit Registry for the applet.

#### 6.2.9.9.1.2 Parameters error

No requirements.

6.2.9.9.1.3 Context errors

No requirements.

6.2.9.9.2 Test suite files

Test Script: API\_2\_TKR\_IEVSB\_1.scr

Test Applet: API\_2\_TKR\_IEVSB\_1.java

API\_2\_TKR\_IEVSB\_2.java

• Installation parameter:

Same as default applet but with:

- Maximum text length for a menu entry: 15

- Maximum number of menu entries: 1

- Position / Identifier for each menu entry: '01'/'01'

- Maximum number of timers: 1

Load Script: API\_2\_TKR\_IEVSB\_1.ldr

Cleanup script: API\_2\_TKR\_IEVSB\_1.clr

Parameter File: API\_2\_TKR\_IEVSB\_1.par

# 6.2.9.9.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Install Applet1 only registered to EVENT FORMATTED_SMS_PP_ENV and EVENT_MENU_SELECTION  Test that events aren't set  Applet calls isEventSet() for each event ranging from -1, 1 to 24 and 127* excepted EVENT_FORMATTED_SMS_PP_ENV (2) and EVENT_MENU_SELECTION (7).	Shall return false each time.	
2	For EVENT_FORMATTED_SMS_PP_ENV  isEventSet(EVENT_FORMATTED_SMS_PP_ENV)	Shall return true.	
3	For EVENT_MENU_SELECTION  isEventSet(EVENT_MENU_SELECTION)	Shall return true	
4	After clearing EVENT_FORMATTED_SMS_PP_ENV  1- clearEvent(EVENT_FORMATTED_SMS_PP_ENV)  2- isEventSet(EVENT_FORMATTED_SMS_PP_ENV)	<ul><li>1- No exception shall be thrown.</li><li>2- Shall return false.</li></ul>	
5	Setting events  For all allowed events defined in TS  43.019[7] for method setEvent(): EVENT_PROFILE_DOWNLOAD, EVENT_FORMATTED_SMS_PP_ENV, EVENT_FORMATTED_SMS_PP_ENV, EVENT_FORMATTED_SMS_PP_UPD, EVENT_FORMATTED_SMS_PP_UPD, EVENT_UNFORMATTED_SMS_PP_ENV, EVENT_UNFORMATTED_SMS_PP_UPD, EVENT_UNFORMATTED_SMS_CB, EVENT_UNFORMATTED_SMS_CB, EVENT_CALL_CONTROL_BY_SIM, EVENT_EVENT_DOWNLOAD_MT_CALL, EVENT_EVENT_DOWNLOAD_CALL_CONNECTED, EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED, EVENT_EVENT_DOWNLOAD_LOCATION_STATUS, EVENT_EVENT_DOWNLOAD_USER_ACTIVITY, EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE, EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION, EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION, EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION, EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS, EVENT_EVENT_SOMMENTATION, EVENT_EVENT_SO	<ul><li>1- No exception shall be thrown.</li><li>2- Shall return true each time.</li></ul>	
6	For EVENT_MENU_SELECTION_HELP_ REQUEST  1- isEventSet(EVENT_MENU_SELECTION_HELP_ REQUEST)  2- call changeMenuEntry() with help supported	1- Shall return false.	
	3- isEventSet(EVENT_MENU_SELECTION_HELP_ REQUEST)	Shall return true.	
7	For EVENT_TIMER_EXPIRATION	1- Shall return false.	

	1- isEventSet(EVENT_TIMER_EXPIRATION) 2- call allocateTimer() 3- isEventSet(EVENT_TIMER_EXPIRATION)	3- Shall return true.
8	For EVENT_STATUS_COMMAND	
	1- isEventSet(EVENT_STATUS_COMMAND) 2- call requestPollInterval(POLL_SYSTEM_DURATION) 3- isEventSet(EVENT_STATUS_COMMAND)	1- Shall return false.  3- Shall return true.
9	Install Applet2 only registered to EVENT FORMATTED SMS PP ENV	
	EVENT FORWATTED_SW3_PP_ENV	
	isEventSet(EVENT_MENU_SELECTION)	Shall return false.

NOTE: Although the method isEventSet() is defined for a range from -128 to 127 only the allowed events are tested, because the range from -128 to -2 is reserved for propriatary use in TS 43.019 [7] chapter 6.2 and the range from 25 to 126 is omitted for compatibility with future releases of TS 43.019 [7]

#### 6.2.9.9.4 Test Coverage

CRR number	Test case number	
N1	2,3,4,5,6,7,8	
N2	1,5,6,7,8,9	

## 6.2.9.10 Method releaseTimer

Test Area Reference: API\_2\_TKR\_RTIMB

## 6.2.9.10.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

### 6.2.9.10.1.1 Normal execution

- CRRN1: if it was the last allocated timer for the applet then a following call to isEventSet() method for EVENT\_TIMER\_EXPIRATION should return false.
- CRRN2: if applet has timers allocated then a call to isEventSet(EVENT\_TIMER\_EXPIRATION) shall return true.
- CRRN3: After invocation of the method the indicated timer shall be released and available for reallocation.
- CRRN4: The applet is deregistered of the EVENT\_TIMER\_EXPIRATION for the indicated Timer Identifier.

## 6.2.9.10.1.2 Parameters error

• CRRP1: shall throw a ToolkitException with INVALID\_TIMER\_ID reason if the timer identifier isn't between 1 and 8.

### 6.2.9.10.1.3 Context errors

• CRRC1: shall throw a ToolkitException with INVALID\_TIMER\_ID reason if the timer is valid but isn't allocated to this applet.

## 6.2.9.10.2 Test suite files

Test Script: API\_2\_TKR\_RTIMB\_1.scr

Test Applet: API\_2\_TKR\_RTIMB\_1.java

• Installation parameter:

- As Default, except max timer which is set to 8.

Load Script: API\_2\_TKR\_RTIMB\_1.ldr

Cleanup script: API\_2\_TKR\_RTIMB\_1.clr

Parameter File: API\_2\_TKR\_RTIMB\_1.par

# 6.2.9.10.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Releasing not allocated timers  For each timer ID ranging from '00' to 'FF', applet calls releaseTimer(ID).	Each time, method shall throw a ToolkitException with reason code INVALID_TIMER_ID.	
2	Releasing allocated timers		
	1- 8 * allocateTimer() .	<ul><li>1- No exception shall be thrown.</li><li>2- Each time, no exception shall be</li></ul>	
	2- 7 * releaseTimer(id).	thrown.	
	3- isEventSet(EVENT_TIMER_EXPIRATION)	3- Shall return true	
3	Releasing invalid timer ID	1- Shall throw a ToolkitException	
	1- releaseTimer('FF') method	with INVALID_TIMER_ID reason code.	
	2- isEventSet(EVENT_TIMER_EXPIRATION)	2- Shall return true.	
4	Releasing last timer		
	1- releaseTimer(last timer allocated)	1- No exception shall be thrown.	
	2- isEventSet(EVENT_TIMER_EXPIRATION)	2- Shall return false.	
5	Checking we can allocate timers after they have been released		
	8 * allocateTimer().	No exception shall be thrown.	
6	Releasing all timers.		
	For 1 to 8, releaseTimer(id).	No exception shall be thrown.	
7	Checking applet isn't triggered by ENVELOPE(TIMER_EXPIRATION) command	Applet is not trigged by an ENVELOPE(TIMER_EXPIRATION)	
	Send ENVELOPE(TIMER_EXPIRATION)	command	

## 6.2.9.10.4 Test Coverage

CRR number	Test case number	
N1	4	
N2	2, 3	
N3	5, 6	
N4	7	
P1	1, 3	
C1	Framework	

## 6.2.9.11 Method requestPollInterval

Test Area Reference: API\_2\_TKR\_RPOLS

## 6.2.9.11.1 Conformance requirement:

The method with following header shall be compliant to its definition in the API.

#### 6.2.9.11.1.1 Normal execution

- CRRN1: If duration is between 1 and 15300 or equal to POLL\_SYSTEM\_DURATION, the applet registers to EVENT\_STATUS\_COMMAND.
- CRRN2: If duration is POLL\_NO\_DURATION, the applet is deregistered from EVENT\_STATUS\_COMMAND.

#### 6.2.9.11.1.2 Parameters error

• CRRP1: the method should throw a ToolkitException with REGISTRY\_ERROR reason if duration is > 15300 or is < -1 (POLL\_SYSTEM\_DURATION).

#### 6.2.9.11.1.3 Context errors

No requirements.

6.2.9.11.2 Test suite files

Test Script: API\_2\_TKR\_RPOLS\_1.scr

Test Applet: API\_2\_TKR\_RPOLS\_1.java

Load Script: API\_2\_TKR\_RPOLS\_1.ldr

Cleanup script: API\_2\_TKR\_RPOLS\_1.clr

Parameter File: API\_2\_TKR\_RPOLS\_1.par

### 6.2.9.11.3 Test procedure

· · ·	B	ADI E	ADDUE
ld	Description	API Expectation	APDU Expectation
1	Requesting a value between 1 and 15300 s		
	<pre>1- isEventSet(EVENT_STATUS_COMMMAND) 2- requestPollInterval(duration) for boundaries values: 1, 255, 256, 15300.</pre>	<ol> <li>Shall return false.</li> <li>No exception shall be thrown.</li> </ol>	
	3- isEventSet(EVENT_STATUS_COMMAND).	3- Shall return true.	
2	Check Applet is triggered by a STATUS command		
	1- reset and card initialization	2- Applet is trigged by a STATUS command	
	2- Send STATUS command		
3	Requesting POLL SYSTEM DURATION	1- Shall return true.	
	1- isEventSet(EVENT_STATUS_COMMMAND).	2- No exception shall be thrown.	
	2- RequestPollInterval(POLL_SYSTEM_DURATI ON).	3- Shall return true.	

	3- IsEventSet(EVENT_STATUS_COMMAND).		
4	Check Applet is triggered by a STATUS command 1- reset and card initialization 2- Send STATUS command	2- Applet is trigged by a STATUS command	
5	Requesting invalid duration requestPollInterval(duration) for following values: 15301, 32767, -2, -32768	Each time, a ToolkitException with REGISTRY_ERROR reason code, shall be thrown.	
6	Requesting POLL NO DURATION  1- isEventSet(EVENT_STATUS_COMMMAND)	1- Shall return true.	
	2- requestPollInterval(POLL_NO_DURATION) 3- isEventSet(EVENT STATUS COMMAND)	No exception shall be thrown.     Shall return false.	
7	Check Applet isn't triggered by an STATUS		
	command.  1- reset and card initialization  2- Send STATUS command	2- Applet is not trigged by a STATUS command	

## 6.2.9.11.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3, 4	
N2	6, 7	
P1	5	

## 6.2.9.12 Method setEvent

Test Area Reference: API\_2\_TKR\_SEVTB

### 6.2.9.12.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

## 6.2.9.12.1.1 Normal execution

- CRRN1: a following call to isEventSet() method with the same event id shall answer true for the applet.
- CRRN2: the SIM Toolkit Framework shall trigger the applet if an occurrence of the set event happens.
- CRRN3: the method shall accept all the events defined in 3GPP TS 43.019 [7] except: EVENT\_MENU\_SELECTION, EVENT\_MENU\_SELECTION\_HELP\_REQUEST, EVENT\_TIMER\_EXPIRATION, EVENT\_STATUS\_COMMAND
- CRRN4: no exception shall be thrown if the applet registers more than once to the same event.
- CRRN5: all updates in the ToolkitRegistry are atomic.

### 6.2.9.12.1.2 Parameters error

• CRRP1: shall throw a ToolkitException with EVENT\_NOT\_SUPPORTED reason if event is 0.

- CRRP2: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if event is EVENT\_MENU\_SELECTION.
- CRRP3: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if event is EVENT\_MENU\_SELECTION\_HELP\_REQUEST.
- CRRP4: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if event is EVENT TIMER EXPIRATION.
- CRRP5: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if event is EVENT\_STATUS\_COMMAND.

#### 6.2.9.12.1.3 Context errors

- CRRC1: shall throw a ToolkitException with EVENT\_ALREADY\_REGISTERED if event is EVENT\_CALL\_CONTROL\_BY\_SIM but another applet is already registered to it.
- CRRC2: shall throw a ToolkitException with EVENT\_ALREADY\_REGISTERED if event is EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM but another applet is already registered to it.
- CRRC3: shall throw a ToolkitException with TAR\_NOT\_DEFINED if event is FORMATTED\_SMS\_PP\_ENV
  and the applet has no TAR defined.
- CRRC4: shall throw a ToolkitException with TAR\_NOT\_DEFINED if event is FORMATTED\_SMS\_PP\_UPD and the applet has no TAR defined.
- CRRC5: shall throw a ToolkitException with TAR\_NOT\_DEFINED if event is FORMATTED\_SMS\_CB\_ENV and the applet has no TAR defined.
- CRRC6: shall throw javacard.framework.TransactionException if the operation would cause the commit capacity to be exceeded.

## 6.2.9.12.2 Test suite files

Test Script: API\_2\_TKR\_SEVTB\_1.scr

Test Applet: API 2 TKR SEVTB 1.java

API\_2\_TKR\_SEVTB\_2.java

API\_2\_TKR\_SEVTB\_3.java

API\_2\_TKR\_SEVTB\_4.java

Load Script: API\_2\_TKR\_SEVTB\_1.ldr

The load script installs the 4 instances.

Cleanup script: API\_2\_TKR\_SEVTB\_1.clr

Parameter File: API\_2\_TKR\_SEVTB\_1.par

## 6.2.9.12.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	Applet1 is triggered by ENVELOPE(SMS_ PP_FORMATTED) command.		
	Send ENVELOPE(SMS_PP_FORMATTED)	Applet1 shall be triggered	
2	Setting ALLOWED and SUPPORTED events		
	1- For all allowed events (-1, 1 to 24 and 127 excepted 7, 8, 11, 19) defined in TS 43.019 [7]*: EVENT_PROFILE_DOWNLOAD,		

ld	Description	API Expectation	APDU Expectation
	EVENT_FORMATTED_SMS_PP_ENV,	·	·
	EVENT_FORMATTED_SMS_PP_UPD, EVENT_FORMATTED_SMS_CB,		
	EVENT_UNFORMATTED_SMS_PP_ENV,		
	EVENT_UNFORMATTED_SMS_PP_UPD,		
	EVENT_UNFORMATTED_SMS_CB,		
	EVENT_CALL_CONTROL_BY_SIM, EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM,		
	EVENT_EVENT_DOWNLOAD_MT_CALL,		
	EVENT_EVENT_DOWNLOAD_CALL_CONNECTED,		
	EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED, EVENT_EVENT_DOWNLOAD_LOCATION_STATUS,		
	EVENT_EVENT_DOWNLOAD_USER_ACTIVITY,		
	EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABL		
	E, EVENT_EVENT_DOWNLOAD_CARD_READER_STATUS,		
	EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION,		
	EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION,		
	EVENT_EVENT_DOWNLOAD_DATA_AVAILABLE, EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS,		
	EVENT_FIRST_COMMAND_AFTER_SELECT,		
	EVENT_UNRECOGNIZED_ENVELOPE	1.1- No exception shall be thrown.	
	1.1- clearEvent(event)	1.1- No exception shall be thrown.	
		1.2- Shall return false.	
	1.2- isEventSet(event)		
	1.3- setEvent(event)	1.3- No exception shall be thrown.	
	1.4- isEventSet(event)	1.4- Shall return true.	
	1.5- clearEvent(event)	1.5- No exception shall be thrown.	
3	Event 0		
	Call setEvent(0)	Shall throw a ToolkitException with	
	call seedvene(0)	EVENT_NOT_SUPPORTED reason code.	
		code.	
4	Setting EVENT_MENU_SELECTION		
	Call setEvent(EVENT_MENU_SELECTION)	Shall throw a ToolkitException with	
	call seesvene(bysavi_nsavo_sssscrion)	EVENT_NOT_ALLOWED reason code.	
		code.	
5	Setting		
	EVENT_MENU_SELECTION_HELP_REQUEST	Shall throw a ToolkitException with	
	Call	EVENT_NOT_ALLOWED reason	
	setEvent(EVENT_MENU_SELECTION_HELP_REQUES	code.	
	Т)		
6	Setting EVENT_TIMER_EXPIRATION	Chall throw a Tablist Cycontian with	
	Call setEvent(EVENT_TIMER_EXPIRATION)	Shall throw a ToolkitException with EVENT_NOT_ALLOWED reason	
	,	code.	
7	Setting EVENT_STATUS_COMMAND	0	
	Call setEvent(EVENT_STATUS_COMMAND)	Shall throw a ToolkitException with EVENT_NOT_ALLOWED reason	
		code.	
L			
8	Setting EVENT_CALL_CONTROL_BY_SIM		
	Call setEvent(EVENT_CALL_CONTROL_BY_SIM)	No Exception shall be thrown	
9	Setting		
	EVENT_MO_SHORT_MESSAGE_CONTROL_B		
	Y_SIM	No Evention shall be the server	
	Call	No Exception shall be thrown	
	setEvent(EVENT_MO_SHORT_MESSAGE_CONTROL_B		
	Y_SIM)		
10	Check applet is triggered by an ENVELOPE(CALL_CONTROL_BY_SIM)	Applet is trigged by an	
	Trigger the applet	ENVELOPE(CALL_CONTROL_BY_SIM)	
	1118801 the applet	O)	

ld	Description	API Expectation	APDU Expectation
11	Check applet is triggered by an ENVELOPE(MO_SHORT_MESSAGE_CONTRO L_BY_SIM) Trigger the Applet	Applet is trigged by an ENVELOPE(MO_SHORT_MESSAG E_CONTROL_BY_SIM)	
12	Applet2 is triggered by ENVELOPE(SMS_PP_DOWNLOAD) command. Trigger the Applet2	Applet2 is trigged by an ENVELOPE(SMS_ PP_DOWNLOAD) command	
13	Applet2 registers to CALL_CONTROL_BY_SIM but it is already assigned setEvent(EVENT_CALL_CONTROL_BY_SIM)	Shall throw a ToolkitException with EVENT_ALREADY_REGISTERED reason code.	
14	Applet2 registers to MO_MESSAGE_CONTROL_BY SIM but it is already assigned setEvent(EVENT_MO_SHORT_MESSAGE_CONTROL_B Y_SIM)	Shall throw a ToolkitException with EVENT_ALREADY_REGISTERED reason code.	
15	Applet3 with no TAR defined registers to EVENT_UNFORMATTED_SMS_CB		
	<pre>1- send ENVELOPE(CELL_BROADCAST_DATA_</pre>	1- Applet3 shall be triggered	
	2- setEvent(FORMATTED_SMS_PP_ENV)	2- ToolkitException with reason code TAR_NOT_DEFINED should be thrown	
	3- setEvent(FORMATTED_SMS_PP_UPD)	3- ToolkitException with reason code TAR_NOT_DEFINED should be thrown	
	4- setEvent(FORMATTED_SMS_CB_ENV)	ToolkitException with reason code TAR_NOT_DEFINED should be thrown	
16	Applet4 registers multiple to EVENT_FORMATTED_SMS_PP_ENV	1- Applet4 shall be triggered	
	1- send ENVELOPE(EVENT_FORMATTED_ SMS_PP_ENV)	2- no Exception shall be thrown	
	2- setEvent(EVENT_FORMATTED_SMS_PP_ UPD)  3- setEvent(EVENT_FORMATTED_SMS_PP_ UPD)	3- no Exception shall be thrown	
	4- send ENVELOPE(EVENT_FORMATTED_ SMS_PP_UPD)	4- Applet4 shall be triggered	

NOTE: Although the method setEvent is defined for a range from -128 to 127 only the allowed events are tested, because the range from -128 to -2 is reserved for propriatary use in TS TS 43.019 [7] chapter 6.2 and the range from 25 to 126 is omitted for compatibility with future releases of TS 43.019 [7]

## 6.2.9.12.4 Test Coverage

CRR number	Test case number	
N1	2	
N2	1,8,9,10,11,12	
N3	2,4,5,6,7	
N4	16	
N5	not testable	
P1	3	
P2	4	
P3	5	
P4	6	
P5	7	
C1	13	

C2	14	
C3	15	
C4	15	
C5	15	
C6	not testable	

### 6.2.9.13 Method setEventList

Test Area Reference: API\_2\_TKR\_SEVL\_BSS

#### 6.2.9.13.1 Conformance Requirement:

The method with following header shall be compliant to its definition in the API.

## 6.2.9.13.1.1 Normal execution

- CRRN1: for all events set successfully by this method, a call to isEventSet() method should return true.
- CRRN2: the SIM Toolkit Framework shall trigger the applet if an occurrence of one of the successfully registered events happens.
- CRRN3: this method shall accept all the events defined in 3GPP TS 43.019 [7] except: EVENT\_MENU\_SELECTION, EVENT\_MENU\_SELECTION\_HELP\_REQUEST, EVENT\_TIMER\_EXPIRATION, EVENT\_STATUS\_COMMAND.
- CRRN4: all updates on the ToolkitRegistry are atomic
- CRRN5: No exception shall be thrown if the applet registers more than once to the same event.

#### 6.2.9.13.1.2 Parameters error

- CRRP1: shall throw a java.lang.NullPointerException if eventList is null.
- CRRP2: shall throw a java.lang.ArrayIndexOutOfBoundsException if offset would cause access outside array bounds.
- CRRP3: shall throw a java.lang.ArrayIndexOutOfBoundsException if length would cause access outside array bounds.
- CRRP4: shall throw a java.lang.ArrayIndexOutOfBoundsException if both offset and length would cause access outside array bounds.
- CRRP5: shall throw a ToolkitException with EVENT\_NOT\_SUPPORTED reason if event is 0.
- CRRP6: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if eventList contains EVENT\_MENU\_SELECTION.
- CRRP7: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if eventList contains EVENT\_MENU\_SELECTION\_HELP\_REQUEST.
- CRRP8: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if eventList contains EVENT\_TIMER\_EXPIRATION.
- CRRP9: shall throw a ToolkitException with EVENT\_NOT\_ALLOWED reason if eventList contains EVENT\_STATUS\_COMMAND.

#### 6.2.9.13.1.3 Context errors

- CRRC1: shall throw a ToolkitException with EVENT\_ALREADY\_REGISTERED if eventList contains EVENT\_CALL\_CONTROL\_BY\_SIM but another applet is already registered to it.
- CRRC2: shall throw a ToolkitException with EVENT\_ALREADY\_REGISTERED if eventList contains EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM but another applet is already registered to it.
- CRRC3: shall throw a ToolkitException with TAR\_NOT\_DEFINED if event is FORMATTED\_SMS\_PP\_ENV and the applet has no TAR defined.
- CRRC4: shall throw a ToolkitException with TAR\_NOT\_DEFINED if event is FORMATTED\_SMS\_PP\_UPD and the applet has no TAR defined.
- CRRC5: shall throw a ToolkitException with TAR\_NOT\_DEFINED if event is FORMATTED\_SMS\_CB\_ENV and the applet has no TAR defined.
- CRRC6: shall throw javacard.framework.TransactionException if the operation would cause the commit capacity to be exceeded.

#### 6.2.9.13.2 Test suite files

Test Script: API\_2\_TKR\_SEVL\_BSS\_1.scr

Test Applet: API\_2\_TKR\_SEVL\_BSS\_1.java

API\_2\_TKR\_SEVL\_BSS\_2.java

API\_2\_TKR\_SEVL\_BSS\_3.java

Load Script: API\_2\_TKR\_SEVL\_BSS\_1.ldr

The load script installs the 4 instances.

Cleanup script: API\_2\_TKR\_SEVL\_BSS\_1.clr

Parameter File: API\_2\_TKR\_SEVL\_BSS\_1.par

# 6.2.9.13.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	Applet1 Registering all eventList buffer	·	•
	Applet1 Registering all eventList buffer  EventList = all allowed events (-1, 1 to 24 and 127 excepted 7, 8, 11, 19) defined in Ts 43.019[7]:  EVENT_PROFILE_DOWNLOAD,  EVENT_FORMATTED_SMS_PP_ENV,  EVENT_FORMATTED_SMS_PP_UPD,  EVENT_FORMATTED_SMS_PP_UPD,  EVENT_FORMATTED_SMS_PP_UPD,  EVENT_UNFORMATTED_SMS_PP_UPD,  EVENT_UNFORMATTED_SMS_PP_UPD,  EVENT_UNFORMATTED_SMS_PP_UPD,  EVENT_UNFORMATTED_SMS_CB,  EVENT_UNFORMATTED_SMS_CB,  EVENT_EVENT_DOWNLOAD_MT_CALL,  EVENT_EVENT_DOWNLOAD_MT_CALL,  EVENT_EVENT_DOWNLOAD_CALL_CONNECTED,  EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED,  EVENT_EVENT_DOWNLOAD_LOCATION_STATUS,  EVENT_EVENT_DOWNLOAD_LOCATION_STATUS,  EVENT_EVENT_DOWNLOAD_LOCATION_STATUS,  EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION,  EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION,  EVENT_EVENT_DOWNLOAD_DATA_AVAILABLE,  EVENT_EVENT_DOWNLOAD_DATA_AVAILABLE,  EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS,  EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS,  EVENT_FIRST_COMMAND_AFTER_SELECT,  EVENT_UNRECOGNIZED_ENVELOPE  1- For each event in EventList  clearEvent(event)  2- setEventList(eventList)  Offset = 0  Length = eventList.lentgh  3- For all events in eventList	1- No exception shall be thrown. 2- No exception shall be thrown. 3- Each time shall return true.	APDU Expectation
	<pre>isEventSet(event) 4- For each event in EventList</pre>	4- No exception shall be thrown.	
	clearEvent(event)		
2	Registering part of eventList buffer		
	EventList = all allowed events defined in TS 43.019[7] (see test case 1).		
	<pre>1- For each event in EventList     clearEvent(event) 2- setEventList(eventList, offset,</pre>	<ol> <li>No exception shall be thrown.</li> <li>No exception shall be thrown.</li> </ol>	
	<pre>length)  Offset &gt; 0 Length = eventList.lentgh - offset  3- For all events in eventList:</pre>	<ul><li>3- Each time shall return true for events ranging from offset to offset+length else shall return false.</li><li>4- No exception shall be thrown.</li></ul>	
	<pre>isEventSet(event) 4- For each event in EventList:    clearEvent(event)</pre>		
3	Null buffer  EventList = null	Shall throw a java.lang.NullPointerException Exception	_
4	Out of bounds offset  Offset = eventList.length Length = 1	Shall throw a java.lang.ArrayIndexOutOfBounds Exception	

ld	Description	API Expectation	APDU Expectation
_	Out of hounds and him offers		
5	Out of bounds and big offset  Offset = 255  Length = 1	Shall throw a java.lang.ArrayIndexOutOfBounds Exception	
6	Offset < 0	Shall throw a	
	Offset = -1 Length = 1	java.lang.ArrayIndexOutOfBounds Exception	
7	Out of bounds length	G	
	Offset = 0 Length = eventList.length + 1	Shall throw a java.lang.ArrayIndexOutOfBounds Exception	
8	Out of bounds and big length	Chall throws	
	Offset = 0 Length = 255	Shall throw a java.lang.ArrayIndexOutOfBounds Exception	
9	Length < 0	Shall throw a	
	Offset = 0 Length = -1	java.lang.ArrayIndexOutOfBounds Exception	
10	Out of bounds offset + Length	Shall throw a	
	Offset + length > eventList.length + 1	java.lang.ArrayIndexOutOfBounds Exception	
11	Event 0	Chall throw a Tablist Cyconting with	
	Call setEventList(eventList) with eventList indicating event 0	Shall throw a ToolkitException with EVENT_NOT_SUPPORTED reason code.	
12	EVENT_MENU_SELECTION		
	Call setEventList(eventList) with eventList indicating EVENT_MENU_SELECTION	Shall throw a ToolkitException with reason code EVENT_NOT_ALLOWED.	
13	EVENT_MENU_SELECTION_HELP_REQUEST		
	Call setEventList(eventList) with eventList indicating EVENT_MENU_SELECTION_HELP_REQUEST	Shall throw a ToolkitException with reason code EVENT_NOT_ALLOWED.	
14	EVENT_TIMER_EXPIRATION		
	Call setEventList(eventList) with eventList indicating EVENT_TIMER_EXPIRATION	Shall throw a ToolkitException with reason code EVENT_NOT_ALLOWED.	
15	EVENT_STATUS_COMMAND		
	Call setEventList(eventList) with eventList indicating EVENT_STATUS_COMMAND	Shall throw a ToolkitException with reason code EVENT_NOT_ALLOWED.	
16	Setting EVENT_CALL_CONTROL_BY_SIM		
	<pre>setEventList(List, 0, 2) with List containing EVENT_CALL_CONTROL_BY_SIM &amp; EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM</pre>	Shall not throw an exception	
17	Check applet is triggered by an ENVELOPE(CALL_CONTROL_BY_SIM) Reset and initialise the card Trigger the applet	Applet is trigged by an ENVELOPE(CALL_CONTROL_BY _SIM)	
18	Check applet is triggered by an ENVELOPE(MO_SHORT_MESSAGE_CONTROL _BY_SIM) Trigger the applet	Applet is trigged by an ENVELOPE(MO_SHORT_MESSA GE_CONTROL_BY_SIM)	

ld	Description	API Expectation	APDU Expectation
19	Applet2 registers to CALL_CONTROL_BY_SIM but it is already assigned setEventList(MonoEventList,0,1) with MonoEventList containing EVENT_CALL_CONTROL_BY_SIM	Shall throw a ToolkitException with EVENT_ALREADY_REGISTERED reason code.	
20	Applet2 registers to MO_SHORT_MESSAGE_CONTROL_BY_SIM but it is already assigned setEventList(MonoEventList,0,1) with MonoEventList containing EVENT_MO_SHORT_MESSAGE_CONTROL_BY _SIM	Shall throw a ToolkitException with EVENT_ALREADY_REGISTERED reason code.	
21	Applet3 with no TAR defined registers to EVENT_UNFORMATTED_SMS_CB		
	1- send ENVELOPE(EVENT_UNFORMATTED_SMS_CB) 2-	1- Applet3 shall be triggered	
	<pre>setEventList(EVENT_FORMATTED_SMS_PP_ENV , EVENT_UNFORMATTED_SMS_PP_ENV, EVENT_UNFORMATTED_SMS_PP_ENV)</pre>	2- ToolkitException with reason code TAR_NOT_DEFINED should be thrown	
	3- setEventList(EVENT_UNFORMATTED_SMS_PP_ ENV, EVENT_FORMATTED_SMS_PP_UPD, EVENT_UNFORMATTED_SMS_PP_ENV)	3- ToolkitException with reason code TAR_NOT_DEFINED should be thrown	
	setEventList(EVENT_UNFORMATTED_SMS_PP_E NV, EVENT_UNFORMATTED_SMS_PP_ENV, EVENT_FORMATTED_SMS_CB_ENV)  5-	4- ToolkitException with reason code TAR_NOT_DEFINED should be thrown	
	isEventSet(EVENT_UNFORMATTED_SMS_PP_ENV)	5- method should return FALSE	
	6- isEventSet(EVENT_UNFORMATTED_SMS_PP_UPD )	6- method should return FALSE 7- method should return FALSE	
	7- isEventSet(EVENT_FORMATTED_SMS_PP_ENV)	8- method should return FALSE	
	8- isEventSet(EVENT_FORMATTED_SMS_PP_UPD)	9- method should return FALSE	
	9- isEventSet(EVENT_FORMATTED_SMS_CB_ENV)		
22	1- setEventList(EVENT_UNFORMATTED_SMS_PP_E NV, EVENT_UNFORMATTED_SMS_PP_ENV)	1- no exception should be thrown	
	2- isEventSet(EVENT_UNFORMATTED_SMS_PP_ENV )	2- method should return true	

# 6.2.9.13.4 Test Coverage

CRR number	Test case number	
N1	1,2	
N2	16,17,18	
N3	1,2,11,12,13,14,15	
N4	21	
N5	22	
P1	3	
P2	4,5,6	
P3	7,8,9	
P4	10	
P5	11	
P6	12	

P7	13
P8	14
P9	15
C1	19
C2	20
C3	21
C4	21
C5	21
C6	not testable

## 6.2.10 Class ViewHandler

It is not possible to test the methods provided by this class as it is declared 'abstract'; it will be done in the class inheriting it: EditHandler, EnvelopeHandler, ProactiveResponseHandler, ProactiveHandler.

# 6.2.11 Class ToolkitException

## 6.2.11.1 Exception Constants

Test Area Reference: API\_2\_TKE\_CONS

## 6.2.11.1.1 Conformance requirement:

There is no API, only constants.

### 6.2.11.1.1.1 Normal execution

• CRRN1: The Constants of the class ToolkitException shall all have the same name and value defined in the 3GPP TS 43.019 [7].

#### 6.2.11.1.1.2 Parameters error

No requirements.

#### 6.2.11.1.3 Context errors

No requirements.

## 6.2.11.1.2 Test suite files

None.

### 6.2.11.1.3 Test procedure

The constants in Java are resolved at compilation time, therefore a runtime test is not useful. No test of constants will be performed.

## 6.2.11.2 Constructor ToolkitException

Test Area Reference: API\_2\_TKE\_COORS

## 6.2.11.2.1 Conformance requirement:

The constructor with following headershall compliant to its definition in the API.

public ToolkitException(short reason)

## 6.2.11.2.1.1 Normal execution

• CRRN1: Construct a ToolkitException instance with the specified reason.

6.2.11.2.1.2 Parameters error

No requirements.

6.2.11.2.1.3 Context errors

No requirements.

6.2.11.2.2 Test suite files

No additional requirements for the GSM personalization:

Test Script: API\_2\_TKE\_COORS\_1.scr

Test Applet: API\_2\_TKE\_COORS\_1.java

Load Script: API\_2\_TKE\_COORS\_1.ldr

Cleanup script: API\_2\_TKE\_COORS\_1.clr

Parameter File: API\_2\_TKE\_COORS\_1.par

### 6.2.11.2.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	reason = (short) 19	ToolkitException.getReason() =	
		(short)19	

## 6.2.11.2.4 Test Coverage

CRR number	Test case number
N1	1

### 6.2.11.3 Method throwlt

Test Area Reference: API\_2\_TKE\_THITS

## 6.2.11.3.1 Conformance requirement:

The method with following header shall compliant to its definition in the API.

#### 6.2.11.3.1.1 Normal execution

- CRRN1: Throws the JCRE instance of the ToolkitException class with the specified reason.
- CRRN2: extends javacard.framework.CardRuntimeException

# 6.2.11.3.1.2 Parameters error

No requirements.

## 6.2.11.3.1.3 Context errors

No requirements.

### 6.2.11.3.2 Test suite files

No additional requirements for the GSM personalization:

Test Script: API\_2\_TKE\_THITS\_1.scr

Test Applet: API\_2\_TKE\_THITS\_1.java

Load Script: API\_2\_TKE\_THITS\_1.ldr

Cleanup Script: API\_2\_TKE\_THITS\_1.clr

Parameter File: API\_2\_TKE\_THITS\_1.par

## 6.2.11.3.3 Test procedure

ld	Description	API Expectation	APDU Expectation
1	Throws the JCRE instance of ToolkitException	Reason = 0	
	with the specified reason		
2	Throws the JCRE instance of ToolkitException	Reason = 1	
	with the specified reason		
3	Throws the JCRE instance of ToolkitException	Reason = 15	
	with the specified reason		
4	ToolkitException extends	Reason = 0	
	javacard.framework.CardRuntimeException		
5	ToolkitException extends	Reason = 1	
	javacard.framework.CardRuntimeException		
6	ToolkitException extends	Reason = 15	
	javacard.framework.CardRuntimeException		

### 6.2.11.3.4 Test Coverage

CRR number	Test case number
N1	1, 2, 3
N2	4, 5, 6

# 6.3 SIM Toolkit Framework

# 6.3.1 Minimum Handler Availability

This test area tests the rules that define the minimum requirements for the availability of the system handlers.

## 6.3.1.1 ProactiveHandler

Test Area Reference: FWK\_MHA\_PAHD

6.3.1.1.1 Conformance Requirement

### 6.3.1.1.1.1 Normal Execution

• CRRN1: If a proactive session is not ongoing the ProactiveHandler is available from the invocation to the termination of the processToolkit method for the following events:

EVENT\_FORMATTED\_SMS\_PP\_ENV

EVENT\_UNFORMATTED\_SMS\_PP\_ENV

EVENT\_FORMATTED\_SMS\_PP\_UPD

EVENT\_UNFORMATTED\_SMS\_PP\_UPD

EVENT\_FORMATTED\_SMS\_CB

EVENT\_UNFORMATTED\_SMS\_CB

EVENT\_MENU\_SELECTION

EVENT\_MENU\_SELECTION\_HELP\_REQUEST

EVENT\_TIMER\_EXPIRATION

EVENT\_EVENT\_DOWNLOAD\_MT\_CALL

EVENT\_EVENT\_DOWNLOAD\_CALL\_CONNECTED

EVENT\_EVENT\_DOWNLOAD\_CALL\_DISCONNECTED

EVENT\_EVENT\_DOWNLOAD\_LOCATION\_STATUS

EVENT\_EVENT\_DOWNLOAD\_USER\_ACTIVITY

EVENT\_EVENT\_DOWNLOAD\_IDLE\_SCREEN\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CARD\_READER\_STATUS

EVENT\_EVENT\_DOWNLOAD\_LANGUAGE\_SELECTION

EVENT\_EVENT\_DOWNLOAD\_BROWSER\_TERMINATION

EVENT\_UNRECOGNIZED\_ENVELOPE

EVENT\_STATUS\_COMMAND

EVENT\_CALL\_CONTROL

EVENT\_SMS\_MO\_CONTROL

EVENT\_PROFILE\_DOWNLOAD

EVENT\_EVENT\_DOWNLOAD\_DATA\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CHANNEL\_STATUS

#### 6.3.1.1.1.2 Parameters error

No requirements.

#### 6.3.1.1.3 Context errors

• CRRC1: The ProactiveHandler and its content are not available for any toolkit applet triggered from the invocation to the termination of their processToolkit method for the following events:

EVENT\_FIRST\_COMMAND\_AFTER\_SELECT

6.3.1.1.2 Test Suite Files

Test Script: FWK\_MHA\_PAHD\_1.scr

Test Applet: FWK\_MHA\_PAHD\_1.java

FWK\_MHA\_PAHD\_2.java

Load Script: FWK\_MHA\_PAHD\_1.ldr

Cleanup Script: FWK\_MHA\_PAHD\_1.clr

Parameter File: FWK\_MHA\_PAHD\_1.par

# Test Procedure

ld	Description	API /Framework Expectation	APDU Expectation
1	Applets registration to all events and Proactive Handler availability with EVENT_FIRST_COMMAND_AFTER_SELECT		
	Applet1 is registered to all events defined in TS 43.019 [7]. Using the methods initMenuEntry() for EVENT_MENU_SELECTION, requestPollInterval() for EVENT_STATUS_COMMAND, allocateTimer() for EVENT_TIMER_EXPIRATION and setEventList() for the rest of the events.		
	Applet2 is registered to all events defined in TS 43.019 [7], EVENT_CALL_CONTROL_BY_SIM and EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM. Using the methods initMenuEntry() for EVENT_MENU_SELECTION, requestPollInterval() for EVENT_STATUS_COMMAND, allocateTimer() for EVENT_TIMER_EXPIRATION and setEventList() for the rest of the events.		
	The priority of applet1 is higher than priority of applet2 1- Select MF		
	2- Applet1 gets the Proactive Handler. Applet1 is deregistered from EVENT_FIRST_COMMAND_AFTER_SELECT.	1- Applet1 is triggered by EVENT_FIRST_COMMAND_AFTE R_SELECT	
	3- Applet2 gets the Proactive Handler Applet2 is deregistered to EVENT_FIRST_COMMAND_AFTER_SELECT.	2- A Toolkit Exception HANDLER_NOT_AVAILABLE is thrown.	
		Applet1 finalizes	
		Applet2 is triggered by EVENT_FIRST_COMMAND_AFTE R_SELECT	
		3- A Toolkit Exception HANDLER_NOT_AVAILABLE is thrown. Applet2 finalizes	

ld	Description	API /Framework Expectation	APDU Expectation
2	Proactive Handler availability with	1- Applet1 is triggered by	-
	EVENT_PROFILE_DOWNLOAD	EVENT_PROFILE_DOWNLOAD	
	1- Terminal Profile command is sent to the		
	SIM without the facility of SET_EVENT_LIST, POLL_INTERVAL,SET UP IDLE	2. No expension in through	
	MODE TEXT and SET UP MENU.	2- No exception is thrown. Applet1 finalizes.	
	2- Applet1 gets the Proactive Handler		
	Applet1 is deregistered to EVENT_PROFILE_DOWNLOAD	Applet2 is triggered by EVENT_PROFILE_DOWNLOAD	
	3- Applet2 gets the Proactive Handler	3- No exception is thrown	
	Applet2 is deregistered to EVENT_PROFILE_DOWNLOAD		
3	Proactive Handler availability with EVENT_MENU_SELECTION_HELP_REQUEST		
	Perform SIM initialization with all the facilities supported		
	1- Envelope menu selection with help request is sent to the SIM		
	_	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
		2- No exception is thrown	
		Applet1 finalizes	
4	Proactive Handler availability with EVENT_MENU_SELECTION		
	1- Envelope menu selection is sent to the		
	SIM	1- Applet1 is triggered	
	O Personal makes the Property 22		
	2- Applet1 gets the Proactive Handler	2- No exception is thrown.	
		Applet1 finalizes	
5	Proactive Handler availability with		
5	EVENT_FORMATTED_SMS_PP_ENV		
	1- Envelope dataDownLoad formatted is sent	1- Applet1 is triggered	
	to the SIM		
	2- Applet1 gets the Proactive Handler	2- No exception is thrown.	
		Applet1 finalizes	

ld	Description	API /Framework Expectation	APDU Expectation
6	Proactive Handler availability with		-
	EVENT_UNFORMATTED_SMS_PP_ENV		
	1- Envelope dataDownLoad unformatted is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
		2- No exception is thrown.	
		Applet1 finalizes	
	3- Applet2 gets the Proactive Handler	Applet2 is triggered	
		3 No exception is thrown.	
7	Proactive Handler availability with EVENT_FORMATTED_CELL_BROADCAST		
	1- Envelope cell broadcast formatted is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
		2-No exception is thrown	
		Applet1 finalizes	
8	Proactive Handler availability with EVENT_UNFORMATTED_CELL_BROADCAST		
	1- Envelope cell broadcast unformatted is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2- No exception is thrown	
	3- Applet2 gets the Proactive Handler	Applet1 finalizes Applet2 is triggered	
		3 No exception is thrown	
9	Proactive Handler availability with EVENT_TIMER_EXPIRATION		
	1- Timer Id =1 Envelope Timer Expiration is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
		2- No exception is thrown.	
		Applet1 finalizes	
10	Proactive Handler availability with EVENT_CALL_CONTROL_BY_SIM		
	1- Envelope call control by SIM is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2- No exception is thrown.	

ld	Description	API /Framework Expectation	APDU Expectation
11	Proactive Handler availability with EVENT_MO_SHORT_MESSAGE_CONTROL		
	1- Envelope mo short message control by SIM is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2- No exception is thrown	
12	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_MT_CALL		
	1- Envelope event download mt call is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
		2- No exception is thrown.	
	3- Applet2 gets the Proactive Handler	Applet1 finalizes	
		Applet2 is triggered	
		3-No exception is thrown	
13	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_CALL_CONNECT ED		
	1- Envelope event download call connected is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2- No exception is thrown.	
	3- Applet2 gets the Proactive Handler	Applet1 finalizes Applet2 is triggered	
		3- No exception is thrown	
14	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_CALL_DISCONN ECTED		
	1- Envelope event download call disconnected is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
	3- Applet2 gets the Proactive Handler	2- No exception is thrown.	
		Applet1 finalizes Applet2 is triggered	
		3- No exception is thrown.	

ld	Description	API /Framework Expectation	APDU Expectation
15	Applets triggering with	•	•
	EVENT_EVENT_LOCATION_STATUS		
	1- Envelope event download location status		
	is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
		O No constitution in the second	
		2- No exception is thrown.	
	3- Applet2 gets the Proactive Handler	Applet1 finalizes	
		Applet2 is triggered	
		3- No exception is thrown	
16	Proactive Handler availability with		
	EVENT_EVENT_DOWNLOAD_USER_ACTIVITY		
	1- Envelope event download user activity		
	is sent to the SIM	1- Applet1 is triggered	
	2 Applet1 gets the Dresstive Handley		
	2- Applet1 gets the Proactive Handler	2- No exception is thrown	
		Applet1 finalizes	
		Applet2 is triggered	
	3- Applet2 gets the Proactive Handler		
		3- No exception is thrown	
17	Proactive Handler availability with		
	EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_ AVAILABLE		
	AVAILABLE		
	1- Envelope event download idle screen available is sent to the SIM	1- Applet1 is triggered	
	avariable is some of one bin	T- Applett is triggered	
	2- Applet1 gets the Proactive Handler		
		2- No exception is thrown.	
	3- Applet2 gets the Proactive Handler	Applet1 finalizes	
	o impress good one rrougerve indicater	Applet2 is triggered	
18	Proactive Handler availability with	3- No exception is thrown	
	EVENT_EVENT_DOWNLOAD_CARD_READER		
	_STATUS		
	1- Envelope event download card reader		
	status is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler		
		2. No expension is through	
		2- No exception is thrown.	
	3- Applet2 gets the Proactive Handler	Applet1 finalizes	
		Applet2 is triggered	
		3- No exception is thrown	

ld	Description	API /Framework Expectation	APDU Expectation
19	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_LANGUAGE_SE LECTION	AFT/Framework Expectation	APDO Expectation
	1- Envelope event download language selection is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2-No exception is thrown.	
	3- Applet2 gets the Proactive Handler	Applet1 finalizes Applet2 is triggered	
		3-No exception is thrown	
20	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_BROWSER_TER MINATION	·	
	1- Envelope event download browser termination is sent to the SIM 2- Applet1 gets the Proactive Handler	1- Applet1 is triggered	
	2 Appleti gets the Floattive handler	2-No exception is thrown.	
		Applet1 finalizes	
	3- Applet2 gets the Proactive Handler	Applet2 is triggered	
		3-No exception is thrown	
21	Proactive Handler availability with EVENT_STATUS_COMMAND	A Appleté is triangues d	
	1- Status command is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2- No exception is thrown.	
		Applet1 finalizes	
	3- Applet2 gets the Proactive Handler	Applet2 is triggered	
		3- No exception is thrown.	
22	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_DATA_AVAILAB LE	2-Applet1 is triggered	OPEN CHANNEL proactive Command is fetched
	1- Applet1 builds a proactive command OPEN CHANNEL proactiveHandler.send() method is called.	3-No exception is thrown.	TERMINAL RESPONSE is issued with Channel Id = 01
		Applet1 finalizes	
	2- An Envelope Event Download Data Available is sent to the SIM, with channelId=01.		
	3- Applet1 gets the Proactive Handler		
23	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_CHANNEL_STAT US	1- Applet1 is triggered	
	1- An Envelope Event Download Channel Status is sent to the SIM, with ChannelId=01	2- No exception is thrown.	
	2- Applet1 gets the Proactive Handler	Applet1 finalizes	

ld	Description	API /Framework Expectation	APDU Expectation
24	Proactive Handler availability with UNRECOGNIZED_ENVELOPE  1- An unrecognized Envelope (BER TLV Tag unrecognized) is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2- No exception is thrown.	
	3-Applet2 gets the Proactive Handler	Applet1 finalizes Applet2 is triggered  3- No exception is thrown	
25	Proactive Handler availability with EVENT FORMATTED SMS PP UPD		
	1- Update Record EFsms instruction formatted is sent to the SIM	1- Applet1 is triggered	
	2- Applet1 gets the Proactive Handler	2- No exception is thrown.	
		Applet1 finalizes	
26	Proactive Handler availability with EVENT_UNFORMATTED_SMS_PP_UPD		
	1- Update Record EFsms instruction unformatted is sent to the SIM	1- Applet1 is triggered	
	1- Applet1 gets the Proactive Handler	2- No exception is thrown.	
	2- Applet2 gets the Proactive Handler	Applet1 finalizes  3- Applet2 is triggered	
		4- No exception is thrown.	

# 6.3.1.1.4 Test Coverage

CRR Number	Test Case Number
CRRN1	2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21,
	22, 23, 24, 25, 26
CRRC1	1

# 6.3.1.2 ProactiveResponseHandler

Test Area Reference: FWK\_MHA\_PRHD

# 6.3.1.2.1 Conformance Requirement

# 6.3.1.2.1.1 Normal Execution

• CRRN1: The ProactiveResponseHandler is available after the first call to the ProactiveHandler.send() method to the termination of the processToolkit method for the following events:

EVENT\_FORMATTED\_SMS\_PP\_ENV

EVENT\_UNFORMATTED\_SMS\_PP\_ENV

EVENT\_FORMATTED\_SMS\_PP\_UPD

EVENT\_UNFORMATTED\_SMS\_PP\_UPD

EVENT FORMATTED SMS CB

EVENT\_UNFORMATTED\_SMS\_CB

EVENT\_MENU\_SELECTION

EVENT\_MENU\_SELECTION\_HELP\_REQUEST

EVENT\_TIMER\_EXPIRATION

EVENT\_EVENT\_DOWNLOAD\_MT\_CALL

EVENT\_EVENT\_DOWNLOAD\_CALL\_CONNECTED

EVENT\_EVENT\_DOWNLOAD\_CALL\_DISCONNECTED

EVENT EVENT DOWNLOAD LOCATION STATUS

EVENT\_EVENT\_DOWNLOAD\_USER\_ACTIVITY

EVENT\_EVENT\_DOWNLOAD\_IDLE\_SCREEN\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CARD\_READER\_STATUS

EVENT\_EVENT\_DOWNLOAD\_LANGUAGE\_SELECTION

EVENT\_EVENT\_DOWNLOAD\_BROWSER\_TERMINATION

EVENT UNRECOGNIZED ENVELOPE

EVENT\_STATUS\_COMMAND

EVENT\_CALL\_CONTROL

EVENT\_SMS\_MO\_CONTROL

EVENT\_PROFILE\_DOWNLOAD

EVENT\_EVENT\_DOWNLOAD\_DATA\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CHANNEL\_STATUS

#### 6.3.1.2.1.2 Parameters error

No requirements.

## 6.3.1.2.1.3 Context errors

• CRRC1: The ProactiveResponseHandler and its content are not available for any toolkit applet triggered from the invocation to the termination of their processToolkit method for the following events:

EVENT\_FIRST\_COMMAND\_AFTER\_SELECT

6.3.1.2.2 Test Suite Files

Test Script: FWK\_MHA\_PRHD\_1.scr

Test Applet: FWK\_MHA\_PRHD\_1.java

FWK\_MHA\_PRHD\_2.java

Load Script: FWK\_MHA\_PRHD\_1.ldr

Cleanup Script: FWK\_MHA\_PRHD\_1.clr
Parameter File: FWK\_MHA\_PRHD\_1.par

6.3.1.2.3 Test Procedure

1-Applet1 is triggered by EVENT_PROFILE_DOWNLOAD No exception is thrown	APDU Expectation
EVENT_PROFILE_DOWNLOAD	
EVENT_PROFILE_DOWNLOAD	
	1
	3- The proactive command DISPLAY TEXT is fetched
4- No exception is thrown	TERMINAL RESPONSE
Applet1 finalizes	
Applet2 is triggered by EVENT_PROFILE_DOWNLOAD	
7- No exception is thrown	6- The proactive command DISPLAY TEXT is fetched TERMINAL RESPONSE
	Applet2 is triggered by EVENT_PROFILE_DOWNLOAD

ld	Description	API/Framework Expectation	APDU Expectation
2	Proactive Response Handler availability with EVENT_MENU_SELECTION_HELP_REQUEST		
	EVENT_MENO_SELECTION_HELF_REQUEST		
	Perform SIM initialization with all the facilities supported		
	1-Envelope menu selection with help request is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2- ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
			TERMINAL RESPONSE
	3- ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	
3	Proactive Response Handler availability with EVENT_MENU_SELECTION		
	1-Envelope menu selection is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2- ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
			TERMINAL RESPONSE
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	
4	Proactive Response Handler availability with		
	EVENT_FORMATTED_SMS_PP_ENV		
	1-Envelope dataDownLoad formatted is sent to the SIM	1- Applet1 is triggered	
	Applet builds a proactive command DISPLAY TEXT		2- A proactive command
	2-ProactiveHandler.send() method is called		DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
5	Proactive Response Handler availability with EVENT_UNFORMATTED_SMS_PP_ENV		
	1-Envelope dataDownLoad unformatted is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		2- A proactive command
	2- ProactiveHandler.send() method is called		DISPLAY TEXT is fetched TERMINAL RESPONSE
	3- ProactiveResponseHandler.getTheHandler()	3- No exception is thrown	. ERWIN VIET REGIONAL
	method is called	Applet1 finalizes Applet2 is triggered	
		11 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	
	Applet2 builds a proactive command DISPLAY		

ld	Description	API/Framework Expectation	APDU Expectation
	TEXT	P	
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5- ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	TERMINAL RESPONSE
6	Proactive Response Handler availability with EVENT_FORMATTED_SMS _CB		
	1-Envelope cell broadcast formatted is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called.	3- No exception is thrown	TERMINAL RESPONSE
7	Proactive Response Handler availability with EVENT_UNFORMATTED_SMS _CB		
	1-Envelope call broadcast unformatted is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		2- A proactive command
	2-ProactiveHandler.send() method is called		DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called.	3- No exception is thrown	TERMINAL RESPONSE
		Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
			TERMINAL RESPONSE
	5- ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	
8	Proactive Response Handler availability with EVENT_TIMER_EXPIRATION		
	Timer id=1 1-Envelope Timer Expiration is sent to the SIM	1- Applet1 is triggered	
	Applet builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
9	Proactive Response Handler availability with EVENT_CALL_CONTROL_BY_SIM	1- Applet1 is triggered	
	1-Envelope call control by sim is sent to the SIM	11- Applett is triggered	
	Applet builds a proactive command DISPLAY TEXT		

ld	Description	API/Framework Expectation	APDU Expectation
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
10	Proactive Response Handler availability with _ MO_SHORT_MESSAGE_CONTROL_BY_SIM		
	1-Envelope mo short message control by sim is sent to the SIM	1- Applet1 is triggered	
	Applet builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	method is called	3- No exception is thrown	TERMINAL RESPONSE
11	Proactive Response Handler availability with EVENT_EVENT_DOWNLOAD_MT_CALL		
	1-Envelope event download mt call is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	<pre>3-ProactiveResponseHandler.getTheHandler() method is called.</pre>	3- No exception is thrown Applet1 finalizes	TERMINAL RESPONSE
	Applet2 builds a proactive command DISPLAY TEXT	Applot2 is triggored	
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5-		TERMINAL RESPONSE
	ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
12	Proactive Response Handler availability with		- P
	EVENT_EVENT_DOWNLOAD_CALL_CONNECT		
	ED		
	1-Envelope event download call connected is sent to the SIM	1- Applet1 is triggered	
	is sent to the Sim		
	Applet1 builds a proactive command DISPLAY TEXT		2- A proactive command DISPLAY TEXT is fetched
	2-ProactiveHandler.send() method is called		TERMINAL RESPONSE
			TERMINAL RESPONSE
	<pre>3-ProactiveResponseHandler.getTheHandler() method is called</pre>	3- No exception is thrown	
		Applet1 finalizes	
	Applet builds a proactive command DISPLAY TEXT	Applet2 is triggered	
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
			TERMINAL RESPONSE
	5-	5- No exception is thrown	TERMINAL RESPONSE
	ProactiveResponseHandler.getTheHandler() method is called	·	
13	Proactive Response Handler availability with		
	EVENT_EVENT_DOWNLOAD_CALL_DISCONN ECTED		
	1-Envelope event download call disconnected is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
		Applet1 finalizes	
		Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is		
	called		4- A proactive command DISPLAY TEXT is fetched
	_		TEDMINIAL DECENSES
	5- ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	TERMINAL RESPONSE
14	Proactive Response Handler availability with		
	EVENT_EVENT_DOWNLOAD_LOCATION_STATUS		
	1-Envelope event download location status is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		2-A proactive command
	2-ProactiveHandler.send() method is called		DISPLAY TEXT is fetched
			TERMINAL RESPONSE

ld	Description	API/Framework Expectation	APDU Expectation
	<pre>3-ProactiveResponseHandler.getTheHandler() method is called</pre>	3- No exception is thrown	
	inctifod 15 carred	Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5- ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	TERMINAL RESPONSE
15	Proactive Response Handler availability with EVENT_EVENT_DOWNLOAD_USER_ACTIVITY		
	1-Envelope event download user activity is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2-A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
	Applet2 builds a proactive command DISPLAY	Applet1 finalizes Applet2 is triggered	
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
			TERMINAL RESPONSE
	5- ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	
16	Proactive Response Handler availability with EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_ AVAILABLE		
	1-Envelope event download idle screen available is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
		Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5-		TERMINAL RESPONSE
47	ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	
17	Proactive Response Handler availability with	<u> </u>	

ld	Description	API/Framework Expectation	APDU Expectation
	EVENT_EVENT_DOWNLOAD_CARD_READER		'
	_STATUS		
	1-Envelope event download card reader	1- Applet1 is triggered	
	status is sent to the SIM	T- Applett is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2-A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
		Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5- ProactiveResponseHandler.getTheHandler() method is called		TERMINAL RESPONSE
40		5- No exception is thrown	
18	Proactive Response Handler availability with EVENT_EVENT_DOWNLOAD_LANGUAGE_ SELECTION		
	1-Envelope event download language selection is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2-A proactive command DISPLAY TEXT is fetched
			TERMINAL RESPONSE
	3-ProactiveResponseHandler.getTheHandler() method is called	3-No exception is thrown	
		Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4-A proactive command DISPLAY TEXT is fetched
	5-		
	ProactiveResponseHandler.getTheHandler() method is called	5-No exception is thrown	TERMINAL RESPONSE

ld	Description	API/Framework Expectation	APDU Expectation
19	Proactive Response Handler availability with		
	EVENT_EVENT_DOWNLOAD_BROWSER_ TERMINATION		
	1-Envelope event download Browser termination is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2-A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3-No exception is thrown	TERMINAL RESPONSE
		Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4-A proactive command DISPLAY TEXT is fetched
	5- ProactiveResponseHandler.getTheHandler() method is called	5-No exception is thrown	TERMINAL RESPONSE
20	Proactive Response Handler availability with EVENT_STATUS_COMMAND		
	1-Status command is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is <b>called</b>	3- No exception is thrown	TERMINAL RESPONSE
		Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5-	E No expension is thrown	TERMINAL RESPONSE
	ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	
21	Proactive Handler availability with EVENT_EVENT_DOWNLOAD_DATA_AVAILAB LE		
	1- Applet1 builds a proactive command OPEN CHANNEL. proactiveHandler.send() method is called	1- Applet1 is registered to EVENT_EVENT_DOWNLOAD_DA TA_AVAILABLE and EVENT_EVENT_DOWNLOAD_CH ANNEL_STATUS	1- OPEN CHANNEL proactive command is fetched TERMINAL RESPONSE is
	2- An Envelope Event Download Data Available is sent to the SIM, with ChannelId=01.	2- Applet1 is triggered	issued with Channel Id = 01
	3-Applet1 builds a proactive command DISPLAY TEXT		

ld	Description	API/Framework Expectation	APDU Expectation
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
			TERMINAL RESPONSE
	5- ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
22	Proactive Handler availability with	A WITAMONOIN Expectation	AI DO EXPOSICION
	EVENT_EVENT_DOWNLOAD_CHANNEL_STAT US	1- Applet1 is triggered	
	1-An Envelope Event Download Channel Status is sent to the SIM with ChannelId=01.		
	Applet1 builds a proactive command DISPLAY TEXT		
	2- ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3- ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
23	Proactive Response Handler availability with UNRECOGNIZED_ENVELOPE		
	1-An unrecognized Envelope is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown Applet1 finalizes	TERMINAL RESPONSE
	Applet2 builds a proactive command DISPLAY TEXT	Applet2 is triggered	
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5- ProactiveResponseHandler.getTheHandler() method is called	5- No exception is thrown	TERMINAL RESPONSE
24	Proactive Response Handler availability with EVENT_FORMATTED_SMS_PP_UPD		
	1- Update Record EFsms instruction formatted is sent to the SIM	1- Applet1 is triggered	
	Applet builds a proactive command DISPLAY TEXT		2- A proactive command
	2-ProactiveHandler.send() method is called		DISPLAY TEXT is fetched TERMINAL RESPONSE
	3-ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TENVIINAL NEOFONOE
25	Proactive Response Handler availability with EVENT_UNFORMATTED_SMS_PP_UPD		
	1- Update Record EFsms instruction unformatted is sent to the SIM	1- Applet1 is triggered	
	Applet1 builds a proactive command DISPLAY TEXT		

ld	Description	API/Framework Expectation	APDU Expectation
	2- ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is fetched
	3- ProactiveResponseHandler.getTheHandler() method is called	3- No exception is thrown	TERMINAL RESPONSE
		Applet1 finalizes Applet2 is triggered	
	Applet2 builds a proactive command DISPLAY TEXT		
	4- ProactiveHandler.send() method is called		4- A proactive command DISPLAY TEXT is fetched
	5-		TERMINAL RESPONSE
		5- No exception is thrown	

## 6.3.1.2.4 Test Coverage

CRR Number	Test Case Number		
CRRN1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20,		
	21, 22, 23, 24, 25		
CRRC1	Not testable		

# 6.3.1.3 EnvelopeHandler

Test Area Reference: FWK\_MHA\_ENHD

## 6.3.1.3.1 Conformance Requirement

## 6.3.1.3.1.1 Normal Execution

• CRRN1: The EnvelopeHandler and its content are available for all toolkit applets triggered from the invocation to the termination of their processToolkit method for the following events:

EVENT\_FORMATTED\_SMS\_PP\_ENV

EVENT\_UNFORMATTED\_SMS\_PP\_ENV

EVENT\_FORMATTED\_SMS\_PP\_UPD

EVENT\_UNFORMATTED\_SMS\_PP\_UPD

EVENT\_FORMATTED\_SMS\_CB

EVENT\_UNFORMATTED\_SMS\_CB

EVENT\_MENU\_SELECTION

EVENT\_MENU\_SELECTION\_HELP\_REQUEST

EVENT\_TIMER\_EXPIRATION

EVENT\_EVENT\_DOWNLOAD\_MT\_CALL

EVENT\_EVENT\_DOWNLOAD\_CALL\_CONNECTED

EVENT\_EVENT\_DOWNLOAD\_CALL\_DISCONNECTED

EVENT\_EVENT\_DOWNLOAD\_LOCATION\_STATUS

EVENT\_EVENT\_DOWNLOAD\_USER\_ACTIVITY

EVENT\_EVENT\_DOWNLOAD\_IDLE\_SCREEN\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CARD\_READER\_STATUS

EVENT\_EVENT\_DOWNLOAD\_LANGUAGE\_SELECTION

EVENT\_EVENT\_DOWNLOAD\_BROWSER\_TERMINATION

EVENT\_UNRECOGNIZED\_ENVELOPE

EVENT\_CALL\_CONTROL

EVENT\_SMS\_MO\_CONTROL

EVENT\_EVENT\_DOWNLOAD\_DATA\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CHANNEL\_STATUS

#### 6.3.1.3.1.2 Parameters error

No requirements.

#### 6.3.1.3.1.3 Context Errors

• CRRC1: The EnvelopeHandler and its content are not available for any toolkit applet triggered from the invocation to the termination of their processToolkit method for the following events:

EVENT\_STATUS\_COMMAND

EVENT\_PROFILE\_DOWNLOAD

EVENT\_FIRST\_COMMAND\_AFTER\_SELECT

#### 6.3.1.3.2 Test Suite Files

Test Script: FWK\_MHA\_ENHD\_1.scr

Test Applet: FWK\_MHA\_ENHD\_1.java

FWK\_MHA\_ENHD\_2.java

Load Script: FWK\_MHA\_ENHD\_1.ldr

Cleanup Script: FWK\_MHA\_ENHD\_1.clr

Parameter File: FWK\_MHA\_ENHD\_1.par

# 6.3.1.3.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet1 and Applet2 registration and Envelope Handler availability with EVENT_FIRST_COMMAND_AFTER_SELECT		·
	1.Applet1 is registered to all events defined TS 43.019 [7]. The registration is done using the methods initMenuEntry() for EVENT_MENU_SELECTION, requestPollInterval() for EVENT_STATUS_COMMAND, allocateTimer() for EVENT_TIMER_EXPIRATION and setEventList() for the rest of the events.	1- No exception is thrown	
	Applet2 is registered to all events defined TS 43.019 [7] except EVENT_PROFILE_DOWNLOAD, EVENT_CALL_CONTROL_BY_SIM and EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM. The registration is done using the methods initMenuEntry() for EVENT_MENU_SELECTION, requestPollInterval() for EVENT_STATUS_COMMAND, allocateTimer for EVENT_TIMER_EXPIRATION and setEventList for the rest of the events.	2- Applet1 is triggered by EVENT_FIRST_COMMAND_AFTE R_SELECT	
	2- Select MF.		
	3-EnvelopeHandler.getTheHandler() method is called by Applet1 Applet1 is deregistered from EVENT_FIRST_COMMAND_AFTER_SELECT. 4-EnvelopeHandler.getTheHandler() method is called by Applet2	3- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown Applet1 finalizes Applet2 is triggered	
	Applet2 is deregistered to EVENT_FIRST_COMMAND_AFTER_SELECT.	4- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
2	Handler availability with EVENT_PROFILE_DOWNLOAD		
	1- Terminal Profile command is sent to the SIM without the facility of SET_EVENT_LIST, SETUP_IDLE_MODE_TEXT, POLL_INTERVAL and SETUP MENU	1- Applet1 is triggered by EVENT_PROFILE_DOWNLOAD 2- A Toolkit exception	
	2- EnvelopeHandler.getTheHandler() method is called by Applet1	HANDLER_NOT_AVAILABLE is thrown	
	Applet1 is deregistered to EVENT_PROFILE_DOWNLOAD	Applet1 finalizes	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2 Applet2 is deregistered to	Applet2 is triggered by EVENT_PROFILE_DOWNLOAD	
	EVENT_PROFILE_DOWNLOAD	3- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
3	Envelope Handler availability with	·	•
	EVENT_MENU_SELECTION_HELP_REQUEST		
	Perform SIM initialization with all the		
	facilities supported		
	Envelope menu selection with help request		
	is sent to the SIM	1- Applet1 is triggered	
	1-EnvelopeHandler.getTheHandler() method	2- No exception is thrown.	
	is called by Applet1	·	
4	Envelope Handler availability with		
	EVENT_MENU_SELECTION		
	1-Envelope menu selection is sent to the		
	SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method	2- No exception is thrown.	
	is called by Applet1	'	
_	Favolone Hondler eveilebility with		
5	Envelope Handler availability with EVENT_FORMATTED_SMS_PP_ENV		
	1-A EVENT_FORMATTED_SMS_PP_ENV envelope is	1- Applet1 is triggered	
	sent to the SIM		
		2- No exception is thrown.	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	is curred by Appreci		
6	Envelope Handler availability with		
	EVENT_UNFORMATTED_SMS_PP_ENV		
	1-An unformatted sms pp envelope is sent	1- Applet1 is triggered	
	to the SIM		
1	2-EnvelopeHandler.getTheHandler() method	2- No exception is thrown.	
	is called by Applet1	2- 140 evcebuon is miromii.	
		Applet1 finalizes	
		3- Applet2 is triggered	
	3-EnvelopeHandler.getTheHandler() method		
	is called by Applet2		
<u> </u>		4- No exception is thrown.	
7	Envelope Handler availability with EVENT_FORMATTED_CB		
	EVERT_I ORIGINITED_OD		
1	1-Envelope cell broadcast formatted is		
1	sent to the SIM	1- Applet1 is triggered	
1	2-EnvelopeHandler.getTheHandler() method	2-No exception is thrown	
8	is called by Applet1  Envelope Handler availability with	2 110 GAOGPHOIT IS HITOWIT	
	EVENT_UNFORMATTED_CB		
1			
	1-Envelope cell broadcast unformatted is		

ld	Description	API/Framework Expectation	APDU Expectation
	sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown	
	2 EnvelopeHandler getTheHandler() method	Applet1 finalizes	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	3- Applet2 is triggered	
		4- No exception is thrown	
9	Envelope Handler availability with EVENT_TIMER_EXPIRATION		
	Timer id=1 1-Envelope Timer Expiration is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
10	Envelope Handler availability with EVENT_CALL_CONTROL_BY_SIM		
	1-Envelope call control by sim is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
11	Envelope Handler availability with EVENT_MO_SHORT_MESSAGE_CONTROL_B Y_SIM		
	1-Envelope mo short message control by sim is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1.	2- No exception is throw	
12	Envelope Handler availability with EVENT_EVENT_DOWNLOAD_MT_CALL		
	1-Envelope event download mt call is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-EnvelopeHandler.getTheHandler() method	Applet1 finalizes	
	is called by Applet2	3- Applet2 is triggered	
13	Envelope Handler availability with	4- No exception is thrown.	
_	EVENT_EVENT_DOWNLOAD_CALL_CONNECT ED		
	1-Envelope event download call connected is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	Applet1 finalizes	
		3- Applet2 is triggered	

ld	Description	API/Framework Expectation	APDU Expectation
		4- No exception is thrown.	
14	Envelope Handler availability with EVENT_EVENT_DOWNLOAD_CALL_DISCONE CTTED		
	1-Envelope event download call disconnected is sent to the SIM	1- Applet1 is triggered.	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	Applet1 finalizes	
	10 001100 27 App 1001	3- Applet2 is triggered	
15	Envelope Handler availability with EVENT_EVENT_DOWNLOAD_LOCATION_STA TUS	4- No exception is thrown.	
	1-Envelope event download location status is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-EnvelopeHandler.getTheHandler() method	Applet1 finalizes	
	is called by Applet2	3- Applet2 is triggered	
16	Envelope Handler availability with	4- No exception is thrown.	
	EVENT_EVENT_DOWNLOAD_USER_ACTIVITY		
	1-Envelope event download user activity is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown	
		Applet1 finalizes	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	3- Applet2 is triggered	
17	Envelope Handler availability with	4- No exception is thrown	
''	EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_ AVAILABLE		
	1-Envelope event download idle screen available is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	Applet1 finalizes  3- Applet2 is triggered	
18	Envelope Handler availability with	4- No exception is thrown.	
	EVENT_EVENT_DOWNLOAD_CARD_READER		

ld	Description	API/Framework Expectation	APDU Expectation
	_STATUS		-
	1-Envelope event download card reader status is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
		Applet1 finalizes	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	3- Applet2 is triggered	
		4- No exception is thrown.	
19	Envelope Handler availability with EVENT_EVENT_DOWNLOAD_LANGUAGE_ SELECTION		
	1-Envelope event download language selection is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1 Applet1 finalizes.	2-No exception is thrown.	
	Appreci iliaitzes.	Applet1 finalizes. Applet2 is triggered	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2		
20	Envelope Handler availability with	3-No exception is thrown.	
20	EVENT_EVENT_DOWNLOAD_BROWSER_ TERMINATION		
	1-Envelope event download browser termination is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2-No exception is thrown.	
		Applet1 finalizes. Applet2 is triggered	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	3-No exception is thrown.	
21	Envelope Handler availability with EVENT_STATUS_COMMAND		
	1-Status command is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
		Applet1 finalizes.	
		3- Applet2 is triggered	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	4- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
22	Envelope Handler availability with EVENT_EVENT_DOWNLOAD_DATA_AVAILAB LE		
	1- Applet1 builds a proactive command OPEN CHANNEL. proactiveHandler.send() method is called		1- OPEN CHANNEL proactive command is fetched

ld	Description	API/Framework Expectation	APDU Expectation
		ANNEL_STATUS	TERMINAL RESPONSE is
	2-Envelope event download data available is sent to the SIM with ChannelId=01.	2- Applet1 is triggered	issued with Channel Id = 01
	3-EnvelopeHandler.getTheHandler() method is called by Applet1	3-No exception is thrown.	
23	Envelope Handler availability with EVENT_EVENT_DOWNLOAD_CHANNEL_STAT US		
	1-Envelope event download channel status is sent to the SIM with ChannelId=01.	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2-No exception is thrown.	
24	Envelope Handler availability with EVENT_ UNRECOGNIZED_ENVELOPE		
	1-An unrecognized Envelope is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
		Applet1 finalizes Applet2 is triggered	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	3- No exception is thrown.	
25	Envelope Handler availability with EVENT_FORMATTED_SMS_PP_UPD		
	1- A formatted Update Record EFsms instruction is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
26	Envelope Handler availability with EVENT_UNFORMATTED_SMS_PP_UPD		
	1-An unformatted Update Record EFsms instruction is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
		Applet1 finalizes Applet2 is triggered	
	3-EnvelopeHandler.getTheHandler() method is called by Applet2	3- No exception is thrown.	

# 6.3.1.3.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19,	
	20, 22, 23, 24, 25, 26	
CRRC1	1, 2, 21	

# 6.3.1.4 EnvelopeResponseHandler

Test Area Reference: FWK\_MHA\_ERHD

## 6.3.1.4.1 Conformance Requirement

#### 6.3.1.4.1.1 Normal Execution

• CRRN1: The handler is available for all triggered toolkit applets from the invocation of the processToolkit method of the toolkit applet until a toolkit applet has posted an envelope response or the first invocation of the ProactiveHandler.send method for the following events:

EVENT\_FORMATTED\_SMS\_PP\_ENV

EVENT\_UNFORMATTED\_SMS\_PP\_ENV

EVENT\_CALL\_CONTROL

EVENT\_SMS\_MO\_CONTROL

EVENT\_UNRECOGNIZED\_ENVELOPE

- CRRN2: After a call to the post method the handler is not longer available.
- CRRN3: After a call to the send method the handler is not longer available.

#### 6.3.1.4.1.2 Parameters error

No requirements.

#### 6.3.1.4.1.3 Context Errors

• CRRC1: The handler is not available for the following events:

EVENT\_FORMATTED\_SMS\_CB

EVENT UNFORMATTED SMS CB

EVENT\_MENU\_SELECTION

EVENT\_MENU\_SELECTION\_HELP\_REQUEST

EVENT\_TIMER\_EXPIRATION

EVENT\_EVENT\_DOWNLOAD\_MT\_CALL

EVENT\_EVENT\_DOWNLOAD\_CALL\_CONNECTED

EVENT\_EVENT\_DOWNLOAD\_CALL\_DISCONNECTED

EVENT\_EVENT\_DOWNLOAD\_LOCATION\_STATUS

EVENT\_EVENT\_DOWNLOAD\_USER\_ACTIVITY

EVENT\_EVENT\_DOWNLOAD\_IDLE\_SCREEN\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CARD\_READER\_STATUS

EVENT\_EVENT\_DOWNLOAD\_LANGUAGE\_SELECTION

EVENT\_EVENT\_DOWNLOAD\_BROWSER\_TERMINATION

EVENT\_STATUS\_COMMAND

EVENT\_PROFILE\_DOWNLOAD

EVENT\_FIRST\_COMMAND\_AFTER\_SELECT

EVENT\_EVENT\_DOWNLOAD\_DATA\_AVAILABLE

EVENT\_EVENT\_DOWNLOAD\_CHANNEL\_STATUS

EVENT\_FORMATTED\_SMS\_PP\_UPD

EVENT\_UNFORMATTED\_SMS\_PP\_UPD

6.3.1.4.2 Test Suite Files

Test Script: FWK\_MHA\_ERHD\_1.scr

Test Applet: FWK\_MHA\_ERHD\_1.java

FWK\_MHA\_ERHD\_2.java

Load Script: FWK\_MHA\_ERHD\_1.ldr

Cleanup Script: FWK\_MHA\_ERHD\_1.clr

Parameter File: FWK\_MHA\_ERHD\_1.par

### 6.3.1.4.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Toolkit Applet1 and Toolkit Applet2 registration and Envelope Response Handler availability with EVENT_FIRST_COMMAND_AFTER_SELECT		·
	1- Applet1 is registered to all events defined in TS 43.019 [7]. Using the methods initMenuEntry() for EVENT_MENU_SELECTION, requestPollInterval() for EVENT_STATUS_COMMAND, allocateTimer() for EVENT_TIMER_EXPIRATION and setEventList() for the rest of the events.		
	Applet2 is registered to EVENT_UNFORMATTED_SMS_PP_ENV and EVENT_UNRECOGNIZED_ENVELOPE.	1- No exception is thrown	
	3- Select MF.  3-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- Applet1 is triggered by EVENT_FIRST_COMMAND_AFTE R_SELECT	
	Applet1 is deregistered to EVENT_FIRST_COMMAND_AFTER_SELECT.		
		3- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
2	Handler availability with EVENT_PROFILE_DOWNLOAD		
	1- Terminal Profile command is sent to the SIM without the facility of SET_EVENT_LIST, SETUP_IDLE_MODE_TEXT, SETUP_MENU and POLL_INTERVAL.	1- Applet1 Is Triggered By EVENT_PROFILE_DOWNLOAD	
	2- EnvelopeResponseHandler.getTheHandler() method is called by Applet1 Applet1 is deregistered to EVENT_PROFILE_DOWNLOAD	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
3	Envelope Response Handler availability with		
	EVENT_MENU_SELECTION_HELP_REQUEST		
	Perform SIM initialization with all the facilities supported		
	lacificies supported		
	1-Envelope menu selection with help request is sent to the SIM	1- Applet1 is triggered.	
	request is sent to the Sim		
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1		
	method is carred by Appreti	2. A Tablist assention	
		2- A Toolkit exception HANDLER_NOT_AVAILABLE is	
		thrown	
4	Envelope Response Handler availability with		
	EVENT_MENU_SELECTION		
	1 7	A Appleted in this paper	
	1-A envelope menu selection is sent to the SIM	1- Applet 1 is triggered	
	2 EnvisioneDegner settendier vermierverdi ()		
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1		
		2- A Toolkit exception	
		HANDLER_NOT_AVAILABLE is	
		thrown	
5	Envelope Response Handler availability with		
	EVENT_FORMATTED_CB		
	1-Envelope cell broadcast formatted is sent to the SIM	1- The applet1 is triggered.	
	sent to the SIM		
	O Figure law of Description and I are a set mile of the all and law ()	2-A Toolkit exception	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	HANDLER_NOT_AVAILABLE is	
		thrown	
6	Envelope Response Handler availability with		
	EVENT_UNFORMATTED_CB		
	1-Envelope cell broadcast unformatted is	1- Applet1 is triggered.	
	sent to the SIM	T Applet to inggered.	
	2-EnvelopeResponseHandler.getTheHandler()		
	method is called by Applet1	2- A Toolkit exception	
		HANDLER_NOT_AVAILABLE is	
		thrown	
7	Envelope Response Handler availability with		
	EVENT_TIMER_EXPIRATION		
	1-Envelope Timer Expiration is sent to the		
	1-Envelope Timer Expiration is sent to the $\operatorname{SIM}$	11- Applet1 is triggered.	
	2-EnvelopeResponseHandler.getTheHandler()	2- A Toolkit exception	
	method is called by Applet1	HANDLER_NOT_AVAILABLE is	
		thrown	
0	Envolono Posnenco Handler availability with		
8	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_MT_CALL		
1	1-Envelope event download mt call is sent	1- Applet1 is triggered.	
	to the SIM		
		i .	

ld	Description	API/Framework Expectation	APDU Expectation
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2 -A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
9	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_CALL_CONNECT ED		
	1-Envelope event download call connected is sent to the SIM	1- Applet1 is triggered.	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
10	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_CALL_DISCONN ECTED		
	1-Envelope event download call disconnected is sent to the SIM	1- Applet1 is triggered.	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
11	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_LOCATION_STATUS		
	1-Envelope event download location status is sent to the SIM	1- Applet1 is triggered.	
	2-Applet1 obtains the Envelope Response Handler	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
12	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_USER_ACTIVITY		
	1-Envelope event download user activity is sent to the SIM		
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
13	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_ AVAILABLE		
	1-Envelope event download idle screen available is sent to the SIM	1- Applet1 is triggered.	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
14	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_CARD_READERSTATUS		
	1-Envelope event download card reader status is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
15	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_LANGUAGE_ SELECTION		
	1-Envelope event download language selection is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2-A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
16	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_BROWSER_ TERMINATION		
	1-Envelope event download browser termination is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2-A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
17	Envelope Response Handler availability with EVENT_STATUS_COMMAND		
	1-Status command is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
18	Envelope Response Handler availability with EVENT_EVENT_DOWNLOAD_DATA_AVAILAB LE		1- The OPEN CHANNEL command is fetched.
	1- Applet1 initialises a proactive command OPEN CHANNEL and calls the send() method.	2- Applet1 is triggered	TERMINAL RESPONSE IS SENT TO THE SIM with
	2- Envelope event download data avalaible is sent to the SIM with channelId=01	3- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	channelld=01
	3-EnvelopeResponseHandler.getTheHandler() method is called by Applet1		

ld	Description	API/Framework Expectation	APDU Expectation
19	Envelope Response Handler availability with		
	EVENT_EVENT_DOWNLOAD_CHANNEL_STAT		
	US		
		1- Applet1 is triggered	
	1- Envelope event download channel status is sent to the SIM with channelId=01	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1		

ld	Description	API/Framework Expectation	APDU Expectation
20	Envelope Response Handler availability with EVENT_FORMATTED_SMS_PP_UPD		
	1- Update Record EFsms instruction formatted is sent to the SIM	1- The applet1 is triggered.	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2-A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
21	Envelope Response Handler availability with EVENT_UNFORMATTED_SMS_PP_UPD		
	1- Update Record EFsms instruction unformatted is sent to the SIM	1- Applet1 is triggered.	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
22	Envelope Response Handler availability with EVENT_FORMATTED_SMS_PP_ENV		
	1-A formatted sms pp envelope is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-Applet1 builds an additional information for response packet and it calls the post method		3- The response packet is sent
	4-Applet1 calls all methods of the Envelope Response Handler (including the inherited method)	4- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method	
	5-A EVENT_FORMATTED_SMS_PP_ENV envelope is sent to the SIM	Applet1 finalizes 5- Applet1 is triggered	
	6-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	6- No Exception is thrown	7. The proceeding common of
	7-Applet1 builds a proactive command and it calls the send() method		7- The proactive command is sent
	8-Applet1 calls all methods of the Envelope Response Handler (including the inherited method)	8- Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method	

ld	Description	API/Framework Expectation	APDU Expectation
23	Envelope Response Handler availability with EVENT_UNFORMATTED_SMS_PP_ENV		
	1-An unformatted sms pp envelope is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-Applet1 builds the envelope response and it calls the post() method		3- The envelope response is
	4- Applet1 calls all methods of the Envelope Response Handler (including the inherited method)	4- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method Applet1 finalizes	sent
		5- Applet2 is triggered.	
	5-EnvelopeResponseHandler.getTheHandler() method is called	A Toolkit exception HANDLER_NOT_AVAILABLE is thrown.	
	6-An unformatted sms pp envelope is sent to the SIM	Applet2 finalizes	
	to the bin	6- Applet1 is triggered.	
	7-EnvelopeResponseHandler.getTheHandler() method is called.	7- No exception is thrown.	
	8-Applet1 builds a proactive command and it calls the send() method	·	
	9-Applet1 calls all methods of the Envelope Response Handler (including the inherited method)		9- The proactive command is fetched and the Terminal response is issued.
	Inherited method)	9- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method.	
		Applet1 finalizes	
	10-EnvelopeResponseHandler.getTheHandler() method is called by Applet2	10- Applet2 is triggered.	
	- <del></del>	A Toolkit exception HANDLER_NOT_AVAILABLE is thrown.	

ld	Description	API/Framework Expectation	APDU Expectation
24	Envelope Response Handler availability with EVENT_CALL_CONTROL_BY_SIM		
	1-Envelope call control by sim is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1		
	3-Applet1 builds the envelope response and it calls the postAsBERTLV() method	2- No exception is thrown.	3- The envelope response is sent
	4-Applet1 calls all methods of the Envelope Response Handler (including the inherited method)	4- Toolkit exception	SOM
	5-Envelope call control by sim is sent to the SIM	HANDLER_NOT_AVAILABLE is thrown for each method Applet1 finalizes	
	6-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	5- Applet1 is triggered	
	7-Applet1 builds a proactive command and it calls the send() method	6- No Exception is thrown	
	8-Applet1 calls all methods of the Envelope Response Handler (including the inherited method)		7- The proactive command is fetched and the Terminal response is issued
		8- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method	

ld	Description	API/Framework Expectation	APDU Expectation
25	Envelope Response Handler availability with EVENT_MO_SHORT_MESSAGE_CONTROL_B Y_SIM  1-Envelope mo short message control by sim is sent to the SIM  2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1		
	3-Applet1 builds the envelope response and it calls the postAsBERTLV() method		3-The envelope response is sent
	4-Applet1 calls all methods of the Envelope Response Handler (including the inherited method)	4- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method	
	5-Envelope mo short message control by sim is sent to the SIM 6-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	Applet1 finalizes 5- Applet1 is triggered	
	7-Applet1 builds a proactive command and it calls the send method  8-Applet1 calls all methods of the Envelope Response Handler (including the	6- No exception is thrown	7- The proactive command is fetched and the Terminal Response is issued
	inherited method)	8- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method	

ld	Description	API/Framework Expectation	APDU Expectation
26	Envelope Response Handler availability with EVENT_UNRECOGNIZED_ENVELOPE		
	1-An unrecognized Envelope is sent to the SIM	1- Applet1 is triggered	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-Applet1 builds the envelope response and it calls the postAsBERTLV() or post method		3- The envelope response is
	4-Applet1 calls all methods of Envelope Response Handler (including the inherited method)	4- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method	sent
	5-EnvelopeResponseHandler.getTheHandler() method is called		
		Applet1 finalizes 5- Applet2 is triggered.	
	6-An unrecognized Envelope is sent to the SIM	A Toolkit exception HANDLER_NOT_AVAILABLE is	
	7-EnvelopeResponseHandler.getTheHandler() method is called	thrown.	
	8-Applet1 builds a proactive command and it calls the send() method	Applet2 finalizes 6- Applet1 is triggered.	
	9-Applet1 calls all methods of the Envelope Response Handler (including the inherited method)	7- No exception is thrown.	9- The proactive command is fetched and the Terminal response is issued
	10-EnvelopeResponseHandler.getTheHandler() method is called by Applet2	9- A Toolkit exception HANDLER_NOT_AVAILABLE is thrown for each method	
		Applet1 finalizes	
		10- Applet2 is triggered	
		A Toolkit exception HANDLER_NOT_AVAILABLE is thrown.	

ld	Description	API/Framework Expectation	APDU Expectation
27	The envelope response is sent when a proactive session is ongoing  1-A formatted SMS PP envelope is sent to the SIM.	1- Applet1 is triggered.	
	2-Proactive command DISPLAY TEXT is built and it calls the send() method.		2- 91 XX
	3-A call control by sim envelope is sent to the SIM.	3- Applet1 is triggered	
	4-EnvelopeResponseHandler.getTheHandler() method is called by Applet1 5-Applet1 builds the envelope response and it calls the postAsBERTLV	4- No exception is thrown	
	-		5-The envelope response is sent 9F YY
			GET RESPONSE Data 91 XX Fetch DISPLAY TEXT
			Terminal Response DISPLAY TEXT

ld	Description	API/Framework Expectation	APDU Expectation
28	Envelope Response Handler availability with EVENT_UNFORMATTED_SMS_PP_ENV in case of multi-triggering		
		1- Applet1 is triggered	
	1-A unformatted sms pp envelope is sent to the SIM	2- No exception is thrown.	
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	3- Applet1 finalizes	
		4- Applet2 is triggered.	
	5-EnvelopeResponseHandler.getTheHandler() method is called by Applet 2	5- No Exception is thrown	6. The response is checked.
	6- Applet2 calls the post( ) method		
		Applet2 finalizes	

ld	Description	API/Framework Expectation	APDU Expectation
29	Envelope Response Handler availability with EVENT_UNRECOGNIZED_ENVELOPE in case of multi-triggering	1- Applet1 is triggered	
		2- No exception is thrown.	
	1-An unrecognized Envelope is sent to the SIM		
	2-EnvelopeResponseHandler.getTheHandler() method is called by Applet1	3- Applet1 finalizes	
		4- Applet2 is triggered.	
		5- No Exception is thrown	
	5-EnvelopeResponseHandler.getTheHandler() method is called by Applet 2		
		Applet2 finalizes	6- The response is checked
	6- Applet2 calls the post( ) method		

#### 6.3.1.4.4 Test Coverage

CRR Number	Test Case Number
CRRN1	20, 21, 22, 23, 24, 25,26,27
CRRN2	20, 21, 22, 23, 24, 25
CRRN3	20, 21, 22, 23, 24, 25
CRRC1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 28, 29
	14, 15, 16, 17, 18, 19, 28, 29

# 6.3.2 Handler Integrity

### 6.3.2.1 ProactiveHandler

Test Area Reference: FWK\_HIN\_PAHD

6.3.2.1.1 Conformance Requirement

#### 6.3.2.1.1.1 Normal Execution

• CRRN1: At the processToolkit invocation the TLV-List is cleared.

• CRRN2: After a call to ProactiveHandler.send method the handler will remain unchanged until the ProactiveHandler.init or appendTLV method are called.

6.3.2.1.1.2 Parameters error

No requirements.

6.3.2.1.1.3 Context Errors

No requirements.

6.3.2.1.2 Test Suite Files:

Test Script: FWK\_HIN\_PAHD\_1.scr

Test Applet: FWK\_HIN\_PAHD\_1.java

FWK\_HIN\_PAHD\_2.java

Load Script: FWK\_HIN\_PAHD\_1.ldr

Cleanup Script: FWK\_HIN\_PAHD\_1.clr

Parameter File: FWK\_HIN\_PAHD\_1.par

### 6.3.2.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	At the processToolkit invocation the TLV-List is cleared		
	Applet1 and Applet2 are registered to EVENT_UNFORMATTED_SMS_PP_ENV.		
	1-An envelope containing an unformatted sms pp is sent to the SIM	1- Applet1 is triggered.	
	2-ProactiveHandler.getLength() method is called by Applet1	2- The return value is 0	
2	TLV-List change after the init method invocation		
	ProactiveHandler.init() method is called by Applet1		
	<pre>1-ProactiveHandler.getLength() method is called by Applet1</pre>	1- The return value is 9	
3	The TLV-List remains unchanged after the send() method invocation		
	1-ProactiveHandler.send() method is called by Applet1		1- The proactive command is fetched and the terminal response is issued.
	2-ProactiveHandler.getLength() method is called by Applet1	2- The return value is 9, and its contents is the same than before the calling to send method	response is issued.
	It's checked that the content is the same than before the calling to send method using ProactiveHandler.copyValue and Util.arrayCompare methods		
4	At the processToolkit invocation the TLV-List		
	is cleared	1- Applet2 is triggered	
	1-ProactiveHandler.getLength() method is called by Applet2	2- The return value is 0	
	2-ProactiveHandler.getValueLength() method is called by Applet2	3- ToolkitException UNAVAILABLE_ELEMENT is thrown	

## 6.3.2.1.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	N1 1, 2, 3, 4	
CRRN2	3	

### 6.3.2.2 ProactiveResponseHandler

Test Area Reference: FWK\_HIN\_PRHD

6.3.2.2.1 Conformance Requirement

#### 6.3.2.2.1.1 Normal Execution

- CRRN1: The ProactiveResponseHandler content is changed after the call to ProactiveHandler.send method and remains unchanged until next call to the ProactiveHandler.send method.
- CRRN2: The ProactiveResponseHandler may not be available before the first call to ProactiveHandler.send method, if available the content is cleared.

6.3.2.2.1.2 Parameters error

No requirements.

6.3.2.2.1.3 Context Errors

No requirements.

6.3.2.2.2 Test Suite Files

Test Script: FWK\_HIN\_PRHD\_1.scr

Test Applet: FWK\_HIN\_PRHD\_1.java

Load Script: FWK\_HIN\_PRHD\_1.ldr

Cleanup Script: FWK\_HIN\_PRHD\_1.clr

Parameter File: FWK\_HIN\_PRHD\_1.par

## 6.3.2.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration and		
	ProactiveResponseHandler obtaining		
	1-Applet is registered to all events defined in [7]. Using the methods initMenuEntry for EVENT_MENU_SELECTION,		
	requestPollInterval() for EVENT_STATUS_COMMAND, allocateTimer() for EVENT_TIMER_EXPIRATION and setEventList() for the rest of the events.	1- No exception is thrown	
	Terminal Profile command is sent to the SIM without the facilities of SET_EVENT_LIST ,SETUP_IDLE_MODE_TEXT, SETUP_MENU and POLL_INTERVAL.	2- Applet is triggered.	
		2- Applet is triggered.	
	For each event: 2-ProactiveResponseHandler.getTheHandler() is called	3- Behaviour 1: Toolkit Exception HANDLER_NOT_AVAILABLE is thrown.	
	If handler is available, ProactiveResponseHandler.getLength() is called	Behaviour 2: No exception is thrown, the return value is 0	
2	The ProactiveResponseHandler remains unchanged after send method invocation until next send method invocation		
	1-Applet builds a proactive command ProactiveHandler.send() method is called	1- The ProactiveResponseHandler contains the terminal response	2- A proactive command is fetched
			The terminal response is sent with length 12
	2-ProactiveResponseHandler.getLength() method is called	3- The return value is 12	
	3-ProactiveHandler.init() method is called	4- No exception is thrown and the Proactive Response Handler remains unchanged	
	4-ProactiveHandler.send() method is called	5- The ProactiveResponseHandler contains the terminal response of the second proactive command	6- A proactive command is fetched The terminal response is sent with length 15
	5-ProactiveResponseHandler.getLength() method is called	7- The return value is 15	

## 6.3.2.2.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	1	

## 6.3.2.3 EnvelopeHandler

Test Area Reference: FWK\_HIN\_ENHD

6.3.2.3.1 Conformance Requirement

### 6.3.2.3.1.1 Normal Execution

- CRRN1: The EnvelopeHandler and its content are available for all triggered toolkit applets, from the invocation to the termination of their processToolkit method
- CRRN2: The SIM Toolkit Framework guarantees that all triggered toolkit applets receive the data.
- CRRN3: The SIM Toolkit Framework shall convert the Update Record EFsms in the EnvelopeHandler TLV List containing Device Identities TLV, Address TLV and SMS TPDU TLV.
- CRRN4: The getEnvelopeTag() method shall return BTAG\_SMS\_PP\_DOWNLOAD.
- CRRN5: The getLength() method shall return the Simple TLV list length.
- CRRN6 The Device Identity Simple TLV is used to store the information about the absolute record number in the EFsms file and the value of the EFsms record status byte.

6.3.2.3.1.2 Parameters error

No requirements.

6.3.2.3.1.3 Context Errors

No requirements.

6.3.2.3.2 Test Suite Files

Test Script: FWK\_HIN\_ENHD\_1.scr

Test Applet: FWK\_HIN\_ENHD\_1.java

Load Script: FWK\_HIN\_ENHD\_1.ldr

Cleanup Script: FWK\_HIN\_ENHD\_1.clr

Parameter File: FWK\_HIN\_ENHD\_1.par

## 6.3.2.3.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet initialization and Envelope Handler integrity checks with EVENT_MENU_SELECTION_HELP_REQUEST		•
	1- Applet is registered to all events defined in TS 43.019 [7] except EVENT_PROFILE_DOWNLOAD and EVENT_STATUS_COMMAND. Using the methods initMenuEntry() for EVENT_MENU_SELECTION, allocateTimer() for EVENT_TIMER_EXPIRATION, and setEventList() for the rest of the events. Perform SIM initialization with all the facilities supported	1-No exception is thrown	
	2-Envelope menu selection with help request is sent to the SIM	2- Applet is triggered	
	3-EnvelopeHandler.getTheHandler() method is called	3- No exception is thrown.	
	4-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	4- No exception is thrown	
	The EnvelopeHandler.findTLV() method is called with TAG_HELP_REQUEST		
	5-A proactive command DISPLAY TEXT is sent 6-Envelope call control by sim is sent to SIM	6- Applet is triggered	5- 91 xx.
	EnvelopeHandler.getTheHandler() method is called		
	7- It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	7- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		A proactive command
			Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	Check that the TAG_HELP_REQUEST is the TLV selected		
	8-The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	8- The contents of the envelope handler shall be the same as stored in buffer 1	
2	Envelope Handler integrity checks with EVENT_MENU_SELECTION		
	1-An envelope menu selection is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	

ld	Description	API/Framework Expectation	APDU Expectation
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()  The EnvelopeHandler.findTLV() method is called with TAG_ITEM_IDENTIFIER	3- No exception is thrown.	
	4-A proactive command DISPLAY TEXT is sent 5-Envelope call control by sim is sent to		4- 91 XX
	EnvelopeHandler.getTheHandler() method is called	5- Applet is triggered	
	6- It"s checked the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods  The EnvelopeHandler.findTLV() method is	6- No exception is thrown and the handler contains the envelope call control by SIM	
	called with TAG_DEVICE_IDENTITIES  Call Control execution is finished.		
	It"s checked that the TAG_ITEM_IDENTIFIER is the TLV selected		Proactive command Display Text is fetched The terminal Response of DISPLAY TEXT is sent to the SIM
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
3	Envelope Handler integrity checks with EVENT_FORMATTED_SMS_PP_ENV		·
	1-A formatted sms pp envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy( )	3- No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_SMS_TPDU		
	4-A proactive command DISPLAY TEXT is sent		4- 91 XX
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched The terminal Response of DISPLAY TEXT is sent to the SIM
	It's checked that the TAG_SMS_TPDU is the TLV selected		
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
4	Envelope Handler integrity checks with EVENT_UNFORMATTED_SMS_PP_ENV		
	1-A unformatted sms pp envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy( )	3- No exception is thrown.	
	The EnvelopeHandler.findTLV method is called with TAG_DEVICE_IDENTITIES		4- 91 XX
	4-A proactive command DISPLAY TEXT is sent 5-Envelope call control by sim is sent to SIM	5- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It"s checked that the TAG_DEVICE_IDENTITIES is the TLV selected		
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1.	

ld	Description	API/Framework Expectation	APDU Expectation
5	Envelope Handler integrity checks with	·	•
	EVENT_UNFORMATTED_SMS_CB		
	1-A unformatted gellbroadgagt envelope is	1 Applet is triggered	
	1-A unformatted cellbroadcast envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is	2- No exception is thrown.	
	called		
	3-Copy the contents of the envelope handler	3- No exception is thrown.	
	in buffer 1 using EnvelopeHandler.copy()		
	The EnvelopeHandler.findTLV() method is called with TAG_CELLBROADCAST_PAGE		
			4- 91 XX
	4-A proactive command DISPLAY TEXT is sent	_ , , , , , , ,	
	5-Envelope call control by sim is sent to	5- Applet is triggered	
	SIM		
	EnvelopeHandler.getTheHandler() method is		
	called		
	6-It"s checked that the contents of the	6- No exception is thrown and the handler contains the envelope call	
	envelope handler is the envelope call	control by SIM	
	control using EnvelopeHandler.copy and	,	
	Util.arrayCompare() methods		
	The EnvelopeHandler.findTLV() method is		
	called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			Text is lettried
			The terminal Response of
			DISPLAY TEXT is sent to
			the SIM
	It"s checked that the TAG_CELLBROADCAST_PAGE is the TLV selected		
	_	7- The contents of the envelope	
	7- The contents of EnvelopeHandler are compared with bufferl using	handler shall be the same as stored in buffer 1.	
	Util.arrayCompare()	in builer 1.	
6	Envelope Handler integrity checks with		
	EVENT_TIMER_EXPIRATION		
	1-A timer expiration envelope is sent to	1- Applet is triggered	
	SIM		
	2-EnvelopeHandler.getTheHandler() method is	2- No exception is thrown.	
	called	oxcopaon lo anown.	
	2 Garage the mark of 5 12		
	3-Copy the contents of the envelope handler in buffer 1 using	2. No expension is through	
	EnvelopeHandler.copy()	3- No exception is thrown.	
	The EnvelopeHandler.findTLV() method is		
	called with TAG_TIMER_ID		
1	4. A proportion command DIGDLAY mayor 4.		1- 01 YY
	4-A proactive command DISPLAY TEXT is sent		4- 91 XX
	5-Envelope call control by sim is sent to	5- Applet is triggered	
1	SIM		

ld	Description	API/Framework Expectation	APDU Expectation
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It"s checked that the TAG_TIMER_ID is the TLV selected		
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
7	Envelope Handler integrity checks with	•	•
	EVENT_CALL_CONTROL_BY_SIM		
	1-A call control envelope is sent to SIM	1- Applet is triggered	
		, Applot is triggered	
	2-EnvelopeHandler.getTheHandler() method is	2- No exception is thrown.	
	called		
	2 Come the contents of the consists		
	3-Copy the contents of the envelope handler in buffer 1 using	3- No exception is thrown.	
	EnvelopeHandler.copy()	The exception is thrown.	
	The EnvelopeHandler.findTLV() method is		
	called with TAG_ADDRESS		
	4-A proactive command DISPLAY TEXT is sent		4- 91 XX
	5-Envelope call control by sim is sent to	5- Applet is triggered	
	SIM	, ipplet is alignered	
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call	6- No exception is thrown and the	
	control using EnvelopeHandler.copy() and	handler contains the envelope call control by SIM	
	Util.arrayCompare() methods	Control by Givi	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display
			Text is fetched
			The terminal Response of
			DISPLAY TEXT is sent to
			the SIM
	It"s checked that the TAG_ADDRESS is the		
	TLV selected	7- The contents of the envelope	
	7- The contents of EnvelopeHandler are	handler shall be the same as stored	
	compared with buffer1 using	in buffer 1	
8	Util.arrayCompare() Envelope Handler integrity checks with EVENT_		
	MO_SHORT_MESSAGE_CONTROL_BY_SIM		
	1-A mo short message control by sim	1. Applet is triggored	
	envelope is sent to SIM	1- Applet is triggered	
		2. No exception is thrown	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	332234		
	3-Copy the contents of the envelope	3. No exception is through	
	handler in buffer 1 using	3- No exception is thrown.	
	EnvelopeHandler.copy()		
	The EnvelopeHandler.findTLV() method is		
	called with TAG_ADDRESS		4- 91 XX
	4-A proactive command DISPLAY TEXT is sent		
	5-Envelope call control by sim is sent to	5- Applet is triggered	
	SIM	- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is		
	called		

ld	Description	API/Framework Expectation	APDU Expectation
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		Proactive command Display
			Text is fetched
	It is shocked that the TAC ADDRESS is the		The terminal Response of DISPLAY TEXT is sent to the SIM
	It's checked that the TAG_ADDRESS is the TLV selected	7 7	
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1.	
9	Envelope Handler integrity checks with EVENT_ EVENT_DOWNLOAD_MT_CALL		
	1-A event download mt call envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3- No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_ADDRESS		
	4-A proactive command DISPLAY TEXT is sent		4- 91 XX
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
	It"s checked that the TAG_ADDRESS is the TLV selected		The terminal Response of DISPLAY TEXT is sent to the SIM
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
10	Envelope Handler integrity checks with EVENT_ EVENT_DOWNLOAD_CALL_CONNECTED		
	1-A event download call connected envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3- No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_ADDRESS		4- 91 XX
	4-A proactive command DISPLAY TEXT is sent		4- 91 77
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It"s checked that the TAG_ADDRESS is the TLV selected	7- The contents of the envelope	
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	handler shall be the same as stored in buffer 1.	

ld	Description	API/Framework Expectation	APDU Expectation
11	Envelope Handler integrity checks with EVENT_		
	EVENT_DOWNLOAD_CALL_DISCONNECTED		
	1-A event download call disconnected	1- Applet is triggered	
	envelope is sent to SIM		
	2-EnvelopeHandler.getTheHandler() method is		
	called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using		
	EnvelopeHandler.copy()	3- No exception is thrown.	
	****		
	The EnvelopeHandler.findTLV() method is		
	called with TAG_ADDRESS		
	4-A proactive command DISPLAY TEXT is sent		4- 91 XX
	5-Envelope call control by sim is sent to	5- Applet is triggered	
	SIM		
	EnvelopeHandler.getTheHandler() method is		
	called		
	6-It's checked that the contents of the	6- No exception is thrown and the	
	envelope handler is the envelope call control using EnvelopeHandler.copy and	handler contains the envelope call	
	Util.arrayCompare() methods	control by SIM	
	• • • • • • • • • • • • • • • • • • • •		
	The EnvelopeHandler.findTLV() method is		
	called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
	call concret execution is limitanea.		
			Proactive command Display
			Text is fetched
			The terminal Response of
			DISPLAY TEXT is sent to
			the SIM
	It"s checked that the TAG_ADDRESS is the TLV selected		
	7- The contents of EnvelopeHandler are	7- The contents of the envelope	
	compared with buffer1 using	handler shall be the same as stored	
	Util.arrayCompare()	in buffer 1.	
12	Envelope Handler integrity checks with EVENT_		
	EVENT_DOWNLOAD_LOCATION_STATUS		
	1-A event download location status envelope	1 Applet is triggered	
	is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is	2- No exception is thrown.	
	called	·	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3- No exception is thrown.	
	In Salier I asing Envelopenanuler.copy()		
	The EnvelopeHandler.findTLV() method is		
	called with TAG_LOCATION_STATUS		
	1-1 projective gommand DICDLAY MAYER :-		4-91 XX
	4-A proactive command DISPLAY TEXT is sent		<del>4-</del> 3  ^^
	5-Envelope call control by sim is sent to		
		5- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is		
L	called		

ld	Description	API/Framework Expectation	APDU Expectation
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It"s checked that the TAG_LOCATION_STATUS is the TLV selected		
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	
13	Envelope Handler integrity checks with EVENT_ EVENT_DOWNLOAD_USER_ACTIVITY		
	1-A event download user activity envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3- No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	4-A proactive command DISPLAY TEXT is sent		4- 91 XX
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It's checked that the TAG_DEVICE_IDENTITIES is the TLV selected		
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
14	Envelope Handler integrity checks with EVENT_ EVENT_DOWNLOAD_IDLE_SCREEN_AVAILAB LE		
	1-A event download idle screen available envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3- No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	4-A proactive command DISPLAY TEXT is sent		
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	4- 91 XX
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It's checked that the TAG_DEVICE_IDENTITIES is the TLV selected		and divi
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
15	Envelope Handler integrity checks with EVENT_ EVENT_DOWNLOAD_CARD_READER_STATUS		
	1-A event download card reader status envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3- No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_CARD_READER_STATUS		
	4-A proactive command DISPLAY TEXT is sent		
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	4- 91 XX
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy and Util.arrayCompare() methods	6- No exception is thrown and the	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES	handler contains the envelope call control by SIM	
			Proactive command Display Text is fetched
	It"s checked that the TAG_CARD_READER_STATUS is the TLV selected		The terminal Response of DISPLAY TEXT is sent to the SIM
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
16	Envelope Handler integrity checks with UNRECOGNIZED_ENVELOPE		
	1-A unrecognized envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3- No exception is thrown.	
	4-A proactive command DISPLAY TEXT is sent 5-Envelope call control by sim is sent to SIM	5- Applet is triggered	4- 91 XX
	EnvelopeHandler.getTheHandler() method is called The EnvelopeHandler.getValueLength() is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	7- The contents of EnvelopeHandler are compared with bufferl using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
17	Envelope Handler integrity checks with EVENT_EVENT_DOWNLOAD_LANGUAGE_SEL ECTION		
	1-A event download language selection envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2-No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3-No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_EVENT_LIST  4-A proactive command DISPLAY TEXT is sent		
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	4-91 XX
	EnvelopeHandler.getTheHandler() method is called		
	6-It's checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It's checked that the TAG_EVENT_LIST is the TLV selected		
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
18	Envelope Handler integrity checks with EVENT_EVENT_DOWNLOAD_BROWSER_TERM INATION		
	1-A event download browser termination envelope is sent to SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2-No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()	3-No exception is thrown.	
	The EnvelopeHandler.findTLV() method is called with TAG_EVENT_LIST  4-A proactive command DISPLAY TEXT is sent		
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	4-91 XX
	EnvelopeHandler.getTheHandler() method is called		
	6-It's checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It's checked that the TAG_EVENT_LIST is the TLV selected		
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
19	Envelope Handler integrity checks with EVENT_FORMATTED_SMS_PP_UPD		
	1-Update Record EFsms instruction single and formatted is sent to the SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy()		
	The EnvelopeHandler.findTLV() method is called with TAG_SMS_TPDU	3- No exception is thrown.	
	4-A proactive command DISPLAY TEXT is sent		4- 91 XX
	5-Envelope call control by sim is sent to SIM	5 Applet is triument	
	EnvelopeHandler.getTheHandler() method is called	5- Applet is triggered	
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare methods	6- No exception is thrown and the	
	The EnvelopeHandler.findTLV() method is called with TAG_SMS_TPDU	handler contains the envelope call control by SIM	
	Call Control execution is finished.		
			Proactive command Display Text is fetched The terminal Response of DISPLAY TEXT is sent to
	It"s checked that the TAG_SMS_TPDU is the TLV selected		the SIM
	7- The contents of EnvelopeHandler are compared with buffer1 using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1	

ld	Description	API/Framework Expectation	APDU Expectation
20	Envelope Handler integrity checks with EVENT_UNFORMATTED_SMS_PP_UPD		
	1- Update Record EFsms instruction single and unformatted is sent to the SIM	1- Applet is triggered	
	2-EnvelopeHandler.getTheHandler() method is called	2- No exception is thrown.	
	3-Copy the contents of the envelope handler in buffer 1 using EnvelopeHandler.copy( )	3- No exception is thrown.	
	The EnvelopeHandler.findTLV method is called with TAG_SMS_TPDU		4- 91 XX
	4-A proactive command DISPLAY TEXT is sent		1 01700
	5-Envelope call control by sim is sent to SIM	5- Applet is triggered	
	EnvelopeHandler.getTheHandler() method is called		
	6-It"s checked that the contents of the envelope handler is the envelope call control using EnvelopeHandler.copy() and Util.arrayCompare() methods	6- No exception is thrown and the handler contains the envelope call control by SIM	
	The EnvelopeHandler.findTLV() method is called with TAG_DEVICE_IDENTITIES		
	Call Control execution is finished.		
			Proactive command Display Text is fetched
			The terminal Response of DISPLAY TEXT is sent to the SIM
	It's checked that the TAG_DEVICE_IDENTITIES is the TLV selected		
	7- The contents of EnvelopeHandler are compared with bufferl using Util.arrayCompare()	7- The contents of the envelope handler shall be the same as stored in buffer 1.	
	, , , , , , , , , , , , , , , , , , ,		

ld	Description	API/Framework Expectation	APDU Expectation
21	Check the TLV list conversion for EVENT_FORMATTED_SMS_PP_UPD		
	1- An EVENT_FORMATTED_SMS_PP_UPD is sent to the SIM.	1- Applet is triggered	
	2- The findTLV(tag == device identities	2- No exception is thrown.	
	Tag) is called.	3- return the absolute record.	
	3- The getValueByte(offset == 0) is called.	4- return the record status	
	4- The getValueByte(offset == 1) is called.	5- No exception is thrown.	
	5- The findTLV(tag == address Tag) is called.	·	
	6- Check the content	7- No exception is thrown.	
	7- The findTLV(tag == SMS TPDU Tag) is called.	7- No exception is thown.	
	8- Check the content		

ld	Description	API/Framework Expectation	APDU Expectation
22	Check TLV list conversion for		
	EVENT_FORMATTED_SMS_PP_UPD		
	1- The getLength() method is called	return the Simple TLV list length	

ld	Description	API/Framework Expectation	APDU Expectation
23	Check TLV list conversion for		
	EVENT_FORMATTED_SMS_PP_UPD		
	1- The getEnvelopeTag() method is called	1- return BTAG_SMS_PP_DOWNLOAD	

ld	Description	API/Framework Expectation	APDU Expectation
24	Check the TLV list conversion for EVENT_UNFORMATTED_SMS_PP_UPD		
	1- An EVENT_UNFORMATTED_SMS_PP_UPD is sent to the SIM.	1- Applet is triggered	
	2- The findTLV(tag == device identities	2- No exception is thrown.	
	Tag) is called.	3- return the absolute record.	
	<ul><li>3- The getValueByte(offset == 0) is called.</li><li>4- The getValueByte(offset == 1) is called.</li></ul>	4- return the record status	
	5- The findTLV(tag == address Tag) is called.	5- No exception is thrown.	
	6- Check the content		
	7- The findTLV(tag == SMS TPDU Tag) is called.	7- No exception is thrown.	
	8- Check the content		

ld	Description	API/Framework Expectation	APDU Expectation
25	Check TLV list conversion for		
	EVENT_UNFORMATTED_SMS_PP_UPD		
	1- The getLength() method is called	return the Simple TLV list length	

ld	Description	API/Framework Expectation	APDU Expectation
26	Check TLV list conversion for		
	EVENT_UNFORMATTED_SMS_PP_UPD		
	1- The getEnvelopeTag() method is called	1- return BTAG_SMS_PP_DOWNLOAD	

### 6.3.2.3.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18,
	19, 20
CRRN2	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18,
	19, 20
CRRN3	21, 24
CRRN4	22, 25
CRRN5	23, 26
CRRN6	21, 24

## 6.3.2.4 EnvelopeResponseHandler

Test Area Reference: FWK\_HIN\_ERHD

6.3.2.4.1 Conformance Requirement

6.3.2.4.1.1 Normal Execution

• CRRN1: At the processToolkit invocation the TLV-List is cleared.

6.3.2.4.2 Test Suite Files:

Test Script: FWK\_HIN\_ERHD\_1.scr

Test Applet: FWK\_HIN\_ERHD\_1.java

Load Script: FWK\_HIN\_ERHD\_1.ldr

Cleanup Script: FWK\_HIN\_ERHD\_1.clr

Parameter File: FWK\_HIN\_ERHD\_1.par

#### 6.3.2.4.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet1 is registered to EVENT_UNRECOGNIZED_ENVELOPE.		
	1-An unrecognised envelope is sent to the SIM	1- Applet 1 is triggered.	
	2- EnvelopeResponseHandler.getTheHandler()is called by the Applet1.		
	<pre>3- EnvelopeResponseHandler.getLength() method is called by Applet1</pre>	2- The return value shall be 0.	

### 6.3.2.4.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1	

## 6.3.3 Applet Triggering

### 6.3.3.1 EVENT\_PROFILE\_DOWNLOAD

Test Area Reference: FWK\_APT\_EPDW

### 6.3.3.1.1 Conformance Requirement

### 6.3.3.1.1.1 Normal Execution

- CRRN1: Upon the reception of Terminal Profile command by the SIM, the STF stores the ME Profile and then triggers the registered toolkit applets.
- CRRN2: The applet is not triggered by the EVENT\_PROFILE\_DOWNLOAD once it has deregistered from this event.
- CRRN3: The STF shall not reply busy to a Terminal Profile command

#### 6.3.3.1.1.2 Parameters error

No requirements.

6.3.3.1.1.3 Context Errors

No requirements.

6.3.3.1.2 Test Suite Files

Test Script: FWK\_APT\_EPDW\_1.scr

Test Applet: FWK\_APT\_EPDW\_1.java

FWK\_APT\_EPDW\_2.java

FWK\_APT\_EPDW\_3.java

Load Script: FWK\_APT\_EPDW\_1.ldr

Cleanup Script: FWK\_APT\_EPDW\_1.clr

Parameter File: FWK\_APT\_EPDW\_1.par

### 6.3.3.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applets registration to EVENT_PROFILE_DOWNLOAD and triggering		
	Applet1 is registered to the EVENT_PROFILE_DOWNLOAD		
	Applet2 is registered to the EVENT_PROFILE_DOWNLOAD		
	Applet3 is not registered to the EVENT_PROFILE_DOWNLOAD and is registered to EVENT_FORMATTED_SMS_PP_ENV.		
	1-Terminal Profile command is sent to SIM	1- Applet1 is triggered	
		Applet1 finalizes 2- Applet2 is triggered	

ld	Description	API/Framework Expectation	APDU Expectation
		Applet2 finalizes 3- Applet3 is not triggered	
2	The STF shall not reply busy to a Terminal Profile command		
	1-Formatted sms pp envelope is sent to SIM	1- Applet3 is triggered by the EVENT_FORMATTED_SMS_PP_ENV	
	Applet3 builds a REFRESH proactive command in sim initialization mode 2-ProactiveHandler.send() method is called by applet3		2- A proactive command is
		Applet3 is suspended until the terminal response	sent
	3-Terminal Profile command is sent to SIM	3- Applet1 is triggered by EVENT_PROFILE_DOWNLOAD	
	Applet1 calls Toolkit Registry.clearEvent( EVENT_PROFILE_DOWNLOAD)		
	4-Applet2 calls Toolkit Registry.clearEvent( EVENT_PROFILE_DOWNLOAD) ToolkitRegistry.setEvent(EVENT_PROFILE_DOWNLOAD) method is called	Applet1 finalizes 4- Applet2 is triggered by EVENT_PROFILE_DOWNLOAD	The terminal Response of the proactive command is sent
		Applet2 finalizes	
		Applet3 finalizes	
3	Deregistered applets are not triggered  Terminal Profile command is sent to SIM	Applet3 is triggered (Applet1 and Applet2 are not triggered)	

### 6.3.3.1.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1
CRRN2	3
CRRN3	2

## 6.3.3.2 EVENT\_MENU\_SELECTION

Test Area Reference: FWK\_APT\_EMSE

6.3.3.2.1 Conformance Requirement

### 6.3.3.2.1.1 Normal Execution

• CRRN1: The applet is triggered by the EVENT\_MENU\_SELECTION when an Envelope Menu Selection is received with the item identifier of a menu entry of this applet if no proactive session is ongoing.

6.3.3.2.1.2 Parameters error

No requirements.

6.3.3.2.1.3 Context Errors

No requirements.

6.3.3.2.2 Test Suite Files

Test Script: FWK\_APT\_EMSE\_1.scr

Test Applet: FWK\_APT\_EMSE\_1.java

FWK\_APT\_EMSE\_2.java

Load Script: FWK\_APT\_EMSE\_1.ldr

Cleanup Script: FWK\_APT\_EMSE\_1.clr

Parameter File: FWK\_APT\_EMSE\_1.par

### 6.3.3.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1d 1	Description  Applet registration to EVENT_MENU_SELECTION and triggering  ToolkitRegistry.initMenuEntry() method is called in the constructor of applet1 and Applet2.  For applet1: MenuEntry="Applet1" Offset=0 Length=menuEntry.length HelpSupported=false IconQualifier=0 IconIdentifier=0 For applet2: MenuEntry="Applet2" Offset=0 Length=menuEntry.length HelpSupported=false IconQualifier=0 IconIdentifier=0 Length=menuEntry.length HelpSupported=false IconQualifier=0 IconIdentifier=0 IconIdentifier=0  event= EVENT_MENU_SELECTION 1-ToolkitRegistry.isEventSet() is called in constructor.	1- The method must return true.	APDU Expectation
	Perform SIM initialization the facility SET UP MENU and without the facilities SET EVENT LIST and POLL INTEVAL features  2-Item Identifier = 1 Event Menu Selection envelope is sent to the SIM with the item identifier of a menu entry of applet	2- Applet1 is triggered and applet2 is not triggered	
	3-Item Identifier = 2 Event Menu Selection envelope is sent to the SIM with the item identifier of a menu entry of applet	Applet1 finalizes 3- Applet2 is triggered and applet1 is not triggered	

### 6.3.3.2.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1

# 6.3.3.3 EVENT\_MENU\_SELECTION\_HELP\_REQUEST

Test Area Reference: FWK\_APT\_EMSH

6.3.3.3.1 Conformance Requirement

6.3.3.3.1.1 Normal Execution

- CRRN1: If an ENVELOPE (MENU\_SELECTION\_HELP\_SUPPORTED) command is received for one entry supporting help, then STF shall trigger the corresponding applet.
- CCRN2: A toolkit applet shall be triggered by the EVENT\_MENU\_SELECTION\_HELP\_REQUEST event only if the Menu Id corresponding to the Envelope Menu Selection Help Request received by the SIM Toolkit framework was registered with the helpSupported value set to true.
- CCRN3: If at least one menuId of a Toolkit Applet registers to EVENT\_MENU\_SELECTION\_HELP\_REQUEST, the SET UP MENU proactive command sent by the SIM Toolkit Framework shall indicate to the ME that help information is available unless all the menus entries that support help are disabled.

6.3.3.3.1.2 Parameters error

No requirements.

6.3.3.3.1.3 Context Errors

No requirements.

6.3.3.3.2 Test Suite Files

Test Script: FWK\_APT\_EMSH\_1.scr

Test Applet: FWK\_APT\_EMSH\_1.java

FWK\_APT\_EMSH\_2.java

FWK\_APT\_EMSH\_3.java

Load Script: FWK\_APT\_EMSH\_1.ldr

Cleanup Script: FWK\_APT\_EMSH\_1.clr

Parameter File: FWK\_APT\_EMSH\_1.par

# 6.3.3.3.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_MENU_SELECTION_HELP_REQUEST and triggering	Al Witamework Expectation	Al Do Expectation
	Applet1 and Applet2 are installed		
	ToolkitRegistry.InitMenuEntry() method is called in the constructor of Applet1 and Applet2.		
	For Applet1 (item id 1): MenuEntry="Applet1A" Offset=0 Length=menuEntry.length HelpSupported=true IconQualifier=0 IconIdentifier=0		
	For Applet1 (item id 2): MenuEntry="Applet1B" Offset=0 Length=menuEntry.length HelpSupported=false IconQualifier=0 IconIdentifier=0		
	<pre>event= EVENT_MENU_SELECTION_HELP_REQUEST 1- ToolkitRegistry.isEventSet() is called in constructor.</pre>		
		1- The command shall return true.	
	For Applet2 (item id 3): MenuEntry="Applet2A" Offset=0 Length=menuEntry.length HelpSupported=true IconQualifier=0 IconIdentifier=0		
	For Applet2 (item id 4): MenuEntry="Applet2B" Offset=0 Length=menuEntry.length HelpSupported=false IconQualifier=0 IconIdentifier=0		
	<pre>event= EVENT_MENU_SELECTION_HELP_REQUEST 2- ToolkitRegistry.isEventSet() is called in constructor.</pre>	2- The command shall return true.	
	Perform SIM initialization with the facility SET UP MENU and without the facilities SET EVENT LIST and POLL INTERVAL		
	3-Item identifier = 1 Menu Selection Help Request envelope is sent to the SIM with item identifier 1 belonging to applet1	3- Applet1 is triggered and Applet2 is not triggered	
	4-Item identifier = 2 Menu Selection Help Request envelope is sent to the SIM with item identifier 2 belonging to applet1	4 Applet1 and Applet2 are not triggered	
		•	

ld	Description	API/Framework Expectation	APDU Expectation
	5-Item identifier = 3 Menu Selection Help Request envelope is sent to the SIM with item identifier 3 belonging to applet2	5- Applet2 is triggered and Applet1 is not triggered	
	6-Item identifier = 4 Menu Selection Help Request envelope is sent to the SIM with item identifier 4 belonging to applet2	6- Applet2 and Applet1 are not triggered	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration to	P	
	EVENT_MENU_SELECTION_HELP_REQUEST		
	Applet1 and Applet2 are deleted		
	Applet3 is installed		
	ToolkitRegistry.InitMenuEntry() method is called in the constructor of Applet3.		
	For Applet3 (item id 5): MenuEntry="Applet3A" Offset=0		
	Length=menuEntry.length HelpSupported=true IconQualifier=0		
	IconIdentifier=0		
	For Applet3 (item id 6): MenuEntry="Applet3B" Offset=0 Length=menuEntry.length HelpSupported=true IconQualifier=0 IconIdentifier=0		
	For Applet3 (item id 7): MenuEntry="Applet3C"		
	Offset=0 Length=menuEntry.length		
	HelpSupported=false IconOualifier=0		
	IconIdentifier=0		
	1. Perform SIM initialization with the facility SET UP MENU and without the facilities SET EVENT LIST and POLL INTERVAL		The SIM shall issue a SET UP MENU proactive command with Menu Entry
	2. Menu Selection Help Request envelope is sent to the SIM with item identifier 5 belonging to applet3		ID entry '05', '06' and "07", and Help supported set to true.
	3. ToolkitRegistry.disableMenuEntry() method for item id 5 is called by the Menu Selection Help Request Envelope.		
	bereetion help kequest invelope.	2. Applet3 is triggered by EVENT_MENU_SELECTION_HELP_REQUEST	3. The SIM shall issue a SET UP MENU proactive command with Menu Entry
	4. Menu Selection Help Request envelope is sent to the SIM with item identifier 6 belonging to applet3		ID entry "06" and "07", and Help supported set to true.
	5. ToolkitRegistry.disableMenuEntry() method for item id 6 is called by the Menu Selection Help Request Envelope.	4. Applet3 is triggered by EVENT_MENU_SELECTION_HEL P_REQUEST	
			5. The SIM shall issue a SET UP MENU proactive command with Menu Entry ID entry "07", and Help supported set to false.

# 6.3.3.3.4 Test Coverage

CRR Number	Test Case Number
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CRR Number	CRR Number Test Case Number	
CRRN1	1	
CRRN2	1	
CRRN3	2	

# 6.3.3.4 EVENT\_FORMATTED\_SMS\_PP\_ENV

Test Area Reference: FWK\_APT\_EFSE

6.3.3.4.1 Conformance Requirement

#### 6.3.3.4.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_FORMATTED\_SMS\_PP\_ENV once:
  - it has been registered to this event;
  - a Short Message Point to Point (Single or Concatenated) is received by Envelope APDU(s) and is formatted according to 3GPP TS 23.048 [8];
  - the toolkit applet to be triggered is registered with the corresponding TAR in the SMS TPDU;
  - the security is verified.
- CRRN2: The applet is not triggered by the EVENT\_FORMATTED\_SMS\_PP\_ENV once it has deregistered from this event.

#### 6.3.3.4.1.2 Parameters error

No requirements.

6.3.3.4.1.3 Context Errors

No requirements.

6.3.3.4.2 Test Suite Files

Test Script: FWK\_APT\_EFSE\_1.scr

Test Applet: FWK\_APT\_EFSE\_1.java

Load Script: FWK\_APT\_EFSE\_1.ldr

Cleanup Script: FWK\_APT\_EFSE\_1.clr

Parameter File: FWK\_APT\_EFSE\_1.par

#### 6.3.3.4.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT FORMATTED_SMS_PP_ENV and triggering		
	Applet is registered to EVENT_FORMATTED_SMS_PP_ENV and EVENT_UNRECOGNIZED_ENVELOPE		
	1- A Single Short Message SMS-PP Formatted Data Download is sent to the SIM. 2- A Concatenated Short Message SMS-PP		

ld	Description	API/Framework Expectation	APDU Expectation
		1- Applet is triggered	
	(composed of 2 Short Messages. The UDL for		
	the first Short Message is 70 and for the second 70)		
	becola 707	2- Applet is triggered	
2	Applet deregistration		
	ToolkitRegistry.clearEvent() method is called for EVENT_FORMATTED_SMS_PP_ENV  1- A Single Short Message SMS-PP Data Download is sent to the SIM  2- A Concatenated Short Messages SMS-PP Data Download is sent to the SIM (composed of 2 Short Messages. The UDL for the first Short Message is 70 and for the second 70).		
	An unrecognized envelope is sent to the sim		
	ToolkitRegistry.setEvent() method is called for EVENT_FORMATTED_SMS_PP_ENV		
	3- A Single Short Messages SMS-PP Data Download is sent to the SIM.		
	4- A Concatenated Short Messages SMS-PP Data Download is sent to the SIM (composed of 2 Short Messages. The UDL for the first Short Message is 70 and for the second		
	70).	4- Applet is triggered	

## 6.3.3.4.4 Test Coverage

CRR Number	Test Case Number	
CRRN1 (See note)	1, 2	
CRRN2	2	

NOTE: The security checks are not relevant to the test designed in this test area; they will be checked in the "Framework Security Management" section.

# 6.3.3.5 EVENT\_UNFORMATTED\_SMS\_PP\_ENV

Test Area Reference: FWK\_APT\_EUSE

### 6.3.3.5.1 Conformance Requirement

### 6.3.3.5.1.1 Normal Execution

- CRRN1: The applets registers are triggered by the EVENT\_UNFORMATTED\_SMS\_PP\_ENV once a Short Message Point to Point (Single or Concatenated) is received by Envelope APDU(s) and is unformatted.
- CRRN2: The applet is not triggered by the EVENT\_UNFORMATTED\_SMS\_PP\_ENV once it has deregistered from this event.

### 6.3.3.5.1.2 Parameters error

No requirements.

6.3.3.5.1.3 Context Errors

No requirements.

6.3.3.5.2 Test Suite Files

Test Script: FWK\_APT\_EUSE\_1.scr

Test Applet: FWK\_APT\_EUSE\_1.java

Load Script: FWK\_APT\_EUSE\_1.ldr

Cleanup Script: FWK\_APT\_EUSE\_1.clr

Parameter File: FWK\_APT\_EUSE\_1.par

## 6.3.3.5.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_UNFORMATTED_SMS_PP_ENV and triggering		-
	Applet is registered to the EVENT_UNFORMATTED_SMS_PP_ENV and EVENT_FORMATTED_SMS_PP_ENV.		
	1-Toolkit Registry.isEventSet() method is called for EVENT_UNFORMATTED_SMS_PP_ENV	1- The method returns true	
	2- A Single and Unformatted SMS-PP Data Download Envelope is sent to the SIM.	2- Applet is triggered	
	3- A Concatenated and Unformatted SMS-PP Data Download Envelope is sent to the SIM (composed of 2 Short Messages. The UDL for the first Short Message is 70 and for the second 70)	3- Applet is triggered	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration		
	Toolkit Registry.clearEvent()method is called for EVENT_UNFORMATTED_SMS_PP_ENV		
	1- A Single and Unformatted SMS-PP Data Download Envelope is sent to the SIM.	1- Applet isn't triggered	
	2- A Concatenated and Unformatted SMS-PP Data Download Envelope is sent to the SIM (composed of 2 Short Messages. The UDL for the first Short Message is 70 and for the second 70)	2- Applet isn't triggered	
	Applet is triggered by a EVENT_FORMATTED_SMS_PP_ENV		
	Toolkit Registry.setEvent() method is called for EVENT_UNFORMATTED_SMS_PP_ENV  3- A Single and Unformatted SMS-PP Data	3- Applet is triggered	
	Download Envelope is sent to the SIM.  4- A Concatenated and Unformatted SMS-PP	4- Applet is triggered	
	Data Download Envelope is sent to the SIM (composed of 2 Short Messages. The UDL for the first Short Message is 70 and for the second 70)		

### 6.3.3.5.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.6 EVENT\_CALL\_CONTROL\_BY\_SIM

Test Area Reference: FWK\_APT\_ECCN

6.3.3.6.1 Conformance Requirement

## 6.3.3.6.1.1 Normal Execution

• CRRN1: The applet is triggered by the EVENT\_CALL\_CONTROL\_BY\_SIM once it has registered to this event and an Envelope Call Control is received.

• CRRN2: The applet is not triggered by the EVENT\_CALL\_CONTROL\_BY\_SIM once it has deregistered from this event.

6.3.3.6.1.2 Parameters error

No requirements.

6.3.3.6.1.3 Context Errors

No requirements.

6.3.3.6.2 Test Suite Files

Test Script: FWK\_APT\_ECCN\_1.scr

Test Applet: FWK\_APT\_ECCN\_1.java

Load Script: FWK\_APT\_ECCN\_1.ldr

Cleanup Script: FWK\_APT\_ECCN\_1.clr

Parameter File: FWK\_APT\_ECCN\_1.par

6.3.3.6.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applets registration to EVENT_CALL_CONTROL_BY_SIM and triggering		
	Applet1 is registered to EVENT_CALL_CONTROL_BY_SIM.		
	Applet2 is registered to EVENT_FORMATTED_SMS_PP_ENV		
	1-An Envelope Call control by SIM is sent to SIM	1- Applet1 is triggered	
2	Applet deregistration and registration of the third applet to EVENT_CALL-CONTROL_BY_SIM.		
	1-An Envelope Formatted SMS PP envelope is sent to SIM	1-Applet2 is triggered by EVENT_FORMATTED_SMS_PP_ENV.	
	Applet2 contructs a DISPLAY TEXT proactive command.		
	2-ProactiveHandler.send() method is called		2- A proactive command DISPLAY TEXT is sent and applet is suspended until the terminal response
	3-An Envelope Call control by SIM envelope is sent to SIM	3- Applet1 is triggered	
	ToolkitRegistry.clearEvent() is called for EVENT_CALL_CONTROL_BY_SIM.		
		Applet1 finalizes.	TERMINAL RESPONSE of DISPLAY TEXT is sent to the SIM
	ToolkitRegistry.setEvent() method is called for EVENT_CALL_CONTROL_BY_SIM.		
		Applet2 finalizes	
3	Applet triggering		
	An Envelope Call control by SIM envelope is sent to SIM	Applet2 is triggered. (Applet1 is not triggered)	

### 6.3.3.6.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2, 3	
CRRN2	3	

# 6.3.3.7 EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM

Test Area Reference: FWK\_APT\_EMCN

6.3.3.7.1 Conformance Requirement

### 6.3.3.7.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM once it has registered to this event and an Envelope MO Short Message Control.
- CRRN2: The applet is not triggered by the EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM once it has deregistered from this event.

6.3.3.7.1.2 Parameters error

No requirements.

6.3.3.7.1.3 Context Errors

No requirements.

6.3.3.7.2 Test Suite Files

Test Script: FWK\_APT\_EMCN\_1.scr

Test Applet: FWK\_APT\_EMCN\_1.java

FWK\_APT\_EMCN\_2.java

Load Script: FWK\_APT\_EMCN\_1.ldr

Cleanup Script: FWK\_APT\_EMCN\_1.clr

Parameter File: FWK\_APT\_EMCN\_1.par

# 6.3.3.7.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_MO_SHORT_MESSAGE_CONTROL_B Y_SIM and triggering		
	Applet1 is reggistered to EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM.		
	Applet2 is registered to EVENT_FORMATTED_SMS_PP_ENV.		
	1-An Envelope MO short message envelope is sent to SIM	1- Applet1 is triggered.	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration and registration of the third applet to EVENT_MO_SHORT_MESSAGE_CONTROL_B Y_SIM.  The STF shall not reply busy to a call control envelope		
	1-An Envelope formatted SMS PP envelope is sent to SIM.	1- Applet2 is triggered.	
	Applet2 builds a DISPLAY TEXT proactive command.  2-ProactiveHandler.send() method is called.		2- A Proactive command DISPLAY TEXT is sent and applet is suspended until the terminal response
	3-An Envelope MO Short message envelope is sent to SIM  ToolkitRegistry.clearEvent() for EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM.	3- Applet1 is triggered.	
	ToolkitRegistry.setEvent() method is called for EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM.		TERMINAL RESPONSE of DISPLAY TEXT is sent to the SIM
		Applet2 finalizes.	
3	Applet3 triggering		
	An Envelope MO SMS control by SIM envelope is sent to SIM	Applet2 is triggered. (Applet1 is not triggered)	

### 6.3.3.7.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2, 3	
CRRN2	3	

# 6.3.3.8 EVENT\_TIMER\_EXPIRATION

Test Area Reference: FWK\_APT\_ETEX

### 6.3.3.8.1 Conformance Requirement

### 6.3.3.8.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_TIMER\_EXPIRATION once it has been registered to this event and an Envelope Timer Expiration with a Timer Identifier of the applet is received if no proactive session is ongoing.
- CRRN2: The applet is not triggered by the EVENT\_TIMER\_EXPIRATION once it has been deregistered from this event.

6.3.3.8.1.2 Parameters error

No requirements.

6.3.3.8.1.3 Context Errors

No requirements.

6.3.3.8.2 Test Suite Files

Test Script: FWK\_APT\_ETEX\_1.scr

Test Applet: FWK\_APT\_ETEX\_1.java

Load Script: FWK\_APT\_ETEX\_1.ldr

Cleanup Script: FWK\_APT\_ETEX\_1.clr

Parameter File: FWK\_APT\_ETEX\_1.par

### 6.3.3.8.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_TIMER_EXPIRATION and triggering  Applet is registered to the EVENT_TIMER_EXPIRATION using the allocateTimer() method and to EVENT_FORMATTED_SMS_PP_ENV.		
	<pre>event= EVENT_TIMER_EXPIRATION 1-Toolkit Registry.isEventSet() method is called.</pre>	1- The method returns true	
	2-An Envelope TIMER_EXPIRATION is sent to the SIM.	2- Applet is triggered.	
2	Applet deregistration		
	Timer id=1 Toolkit Registry.ReleaseTimer() method is called  1-An Envelope timer expiration is sent to the SIM.	1- Applet isn't triggered	
	An Envelope formated sms pp envelope is sent to the sim		
	<pre>Toolkit Registry.AllocateTimer() method is called</pre>		
	2-An Envelope TIMER_EXPIRATION is sent to the SIM.	2- Applet is triggered	

# 6.3.3.8.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.9 EVENT\_UNFORMATTED\_SMS\_CB

Test Area Reference: FWK\_APT\_EUCB

6.3.3.9.1 Conformance Requirement

### 6.3.3.9.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_UNFORMATTED\_SMS\_CB once it has registered to this event and an Envelope Cell Broadcast DownLoad is received.
- CRRN2: The applet is not triggered by the EVENT\_UNFORMATTED\_SMS\_CB once it has deregistered from this event.

6.3.3.9.1.2 Parameters error

No requirements.

6.3.3.9.1.3 Context Errors

No requirements.

6.3.3.9.2 Test Suite Files

Test Script: FWK\_APT\_EUCB\_1.scr

Test Applet: FWK\_APT\_EUCB\_1.java

Load Script: FWK\_APT\_EUCB\_1.ldr

Cleanup Script: FWK\_APT\_EUCB\_1.clr

Parameter File: FWK\_APT\_EUCB\_1.par

6.3.3.9.3 Test Procedure

ld	Description	API Expectation	APDU Expectation
1	Applet registration to EVENT_UNFORMATTED_SMS_CB and triggering		-
	Applet is registered to the EVENT_UNFORMATTED_SMS_CB and EVENT_FORMATTED_SMS_PP_ENV.		
	<pre>event= EVENT_UNFORMATTED_SMS_CB 1-Toolkit Registry.isEventSet() method is called.</pre>	1- Method returns true.	
	2-An Envelope UNFORMATTED_SMS_CB is sent to the SIM.	2- Applet is triggered	

ld	Description	API Expectation	APDU Expectation
2	Applet deregistration		
	Toolkit Registry.ClearEvent()method is called for EVENT_UNFORMATTED_SMS_CB		
	1-An Envelope UNFORMATTED_SMS_CB is sent to the SIM.	1- Applet isn't triggered	
	An Envelope formatted sms pp envelope is sent to the sim		
	event= EVENT_UNFORMATTED_SMS_CB		
	Toolkit Registry.setEvent() method is called for EVENT_UNFORMATTED_SMS_CB		
	2-An Envelope UNFORMATTED_SMS_CB is sent to the SIM.	2- Applet is triggered	

### 6.3.3.9.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.10 EVENT\_EVENT\_DOWNLOAD\_MT\_CALL

Test Area Reference: FWK\_APT\_EDMC

6.3.3.10.1 Conformance Requirement

6.3.3.10.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_MT\_CALL once it has registered to this event and an Envelope Event DownLoad MT Call is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_MT\_CALL once it has deregistered from this event.

6.3.3.10.1.2 Parameters error

No requirements.

6.3.3.10.1.3 Context Errors

No requirements.

6.3.3.10.2 Test Suite Files

Test Script: FWK\_APT\_EMSE\_1.scr

Test Applet: FWK\_APT\_EMSE\_1.java

Load Script: FWK\_APT\_EMSE\_1.ldr

Cleanup Script: FWK\_APT\_EMSE\_1.clr

Parameter File: FWK\_APT\_EMSE\_1.par

### 6.3.3.10.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_MT_CALL and triggering  Applet is registered to the EVENT_EVENT_DOWNLOAD_MT_CALL and to EVENT_FORMATTED_SMS_PP_ENV.  event= EVENT_EVENT_DOWNLOAD_MT_CALL 1-Toolkit Registry.isEventSet() method is called.  2-An Envelope EVENT_DOWNLOAD_MT_CALL is sent to the SIM.	1- The method returns true 2- Applet is triggered	·
2	Applet deregistration  event= EVENT_EVENT_DOWNLOAD_MT_CALL Toolkit Registry.clearEvent()method is called  Perform SIM initialization with all the facilities supported  1-An Envelope EVENT_DOWNLOAD_MT_CALL is sent to the SIM.  An Envelope formatted sms pp envelope is sent to the sim  event= EVENT_EVENT_DOWNLOAD_MT_CALL Toolkit Registry.setEvent() method is called	1- Applet isn't triggered	
	Perform SIM initialization with all the facilities supported		
	2-An Envelope EVENT_DOWNLOAD_MT_CALL is sent to the SIM.	2- Applet is triggered	

### 6.3.3.10.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.11 EVENT\_EVENT\_DOWNLOAD\_CALL\_CONNECTED

Test Area Reference: FWK\_APT\_EDCC

6.3.3.11.1 Conformance Requirement

### 6.3.3.11.1.1 Normal Execution

• CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_CALL\_CONNECTED once it has registered to this event and an Envelope Event DownLoad Call Connected is received.

• CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_CALL\_CONNECTED once it has deregistered from this event.

6.3.3.11.1.2 Parameters error

No requirements.

6.3.3.11.1.3 Context Errors

No requirements.

6.3.3.11.2 Test Suite Files

Test Script: FWK\_APT\_EDCC\_1.scr

Test Applet: FWK\_APT\_EDCC\_1.java

Load Script: FWK\_APT\_EDCC\_1.ldr

Clean-up Script: FWK\_APT\_EDCC\_1.clr

Parameter File: FWK\_APT\_EDCC \_1.par

# 6.3.3.11.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_CALL_CONNECT ED and triggering		
	Applet is registered to the EVENT_EVENT_DOWNLOAD_CALL_CONNECTED and to EVENT_FORMATTED_SMS_PP_ENV.		
	<pre>event= EVENT_EVENT_DOWNLOAD_CALL_CONNECTED 1-Toolkit Registry.isEventSet() method is called.</pre>	1- Method returns true	
	2-An Envelope EVENT_DOWNLOAD_CALL_CONNECTED is sent to the SIM.	2- Applet is triggered.	
2	Applet deregistration		
	event=EVENT_EVENT_DOWNLOAD_CALL_CONNECTED Toolkit Registry.clearEvent()method is called  Perform SIM initialization with all the facilities supported  1-A call connected event dowload is sent to the SIM.	1- Applet isn't triggered	
	An Envelope formatted sms pp envelope is sent to the sim		
	<pre>Event= EVENT_EVENT_DOWNLOAD_CALL_CONNECTED Toolkit Registry.setEvent() method is called</pre>		
	Perform SIM initialization with all the facilities supported		
	2-An Envelope EVENT_DOWNLOAD_CALL_CONNECTED is sent to the SIM.	2- Applet is triggered	

### 6.3.3.11.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.12 EVENT\_EVENT\_DOWNLOAD\_CALL\_DISCONNECTED

Test Area Reference: FWK\_APT\_EDCD

6.3.3.12.1 Conformance Requirement

### 6.3.3.12.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_CALL\_DISCONNECTED once it has registered to this event and an Envelope Event DownLoad Call Disconnected is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_CALL\_DISCONNECTED once it has deregistered from this event.

6.3.3.12.1.2 Parameters error

No requirements.

6.3.3.12.1.3 Context Errors

No requirements.

6.3.3.12.2 Test Suite Files

Test Script: FWK\_APT\_EDCD\_1.scr

Test Applet: FWK\_APT\_EDCD\_1.java

Load Script: FWK\_APT\_EDCD\_1.ldr

Cleanup Script: FWK\_APT\_EDCD\_1.clr

Parameter File: FWK\_APT\_EDCD\_1.par

#### 6.3.3.12.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_CALL_DISCONN ECTED and triggering		
	Applet is registered to the EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED and to EVENT_FORMATTED_SMS_PP_ENV.		
	Event=EVENT_EVENT_DOWNLOAD_CALL_DISCONNECT ED 1-Toolkit Registry.isEventSet() method is called.	1- Method returns true	
	2-An Envelope EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED is sent to the SIM.	2- Applet is triggered.	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration		
	Event= EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED Toolkit Registry.clearEvent()method is called  Perform SIM initialization with all the facilities supported  1-An Envelope EVENT_DOWNLOAD_CALL_DISCONNECTED is sent to the SIM.  a formatted sms pp envelope is sent to the sim.	1- Applet isn't triggered	
	Event= EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED Toolkit Registry.setEvent() method is called Perform SIM initialization with all the facilities supported  2-An Envelope EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED is sent to the SIM.	2- Applet is triggered	

## 6.3.3.12.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.13 EVENT\_EVENT\_DOWNLOAD\_LOCATION\_STATUS

Test Area Reference: FWK\_APT\_EDLS

6.3.3.13.1 Conformance Requirement

6.3.3.13.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_LOCATION\_STATUS once it has registered to this event and an Envelope Event DownLoad Location Status is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_LOCATION\_STATUS once it has deregistered from this event.

6.3.3.13.1.2 Parameters error

No requirements.

6.3.3.13.1.3 Context Errors

No requirements.

6.3.3.13.2 Test Suite Files

Test Script: FWK\_APT\_EDLS\_1.scr

Test Applet: FWK\_APT\_EDLS\_1.java

Load Script: FWK\_APT\_EDLS\_1.ldr

Cleanup Script: FWK\_APT\_EDLS\_1.clr

Parameter File: FWK\_APT\_EDLS\_1.par

### 6.3.3.13.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_LOACTION_STA TUS and triggering		
	Applet is registered to the EVENT_EVENT_DOWNLOAD_LOCATION_STATUS and to EVENT_FORMATTED_SMS_PP_ENV.		
	Event=EVENT_EVENT_DOWNLOAD_LOCATION_STATUS 1-Toolkit Registry.isEventSet() method is called.	1- Method returns true	
	2-An Envelope EVENT_EVENT_DOWNLOAD_LOCATION_STATUS is sent to the SIM.	2- Applet is triggered.	
2	Applet deregistration		
	Event=EVENT_EVENT_DOWNLOAD_LOCATION_STATUS Toolkit Registry.clearEvent()method is called Perform SIM initialization with all the facilities supported		
	1-An Envelope EVENT_DOWNLOAD_LOCATION_STATUS is sent to the SIM.	1- Applet isn't triggered	
	a formatted sms pp envelope is sent to the sim		
	Event= EVENT_EVENT_DOWNLOAD_LOCATION_STATUS Toolkit Registry.setEvent() method is called Perform SIM initialization with all the facilities supported		
	2-An Envelope EVENT_DOWNLOAD_LOCATION_STATUS is sent to the SIM.	2- Applet is triggered	

# 6.3.3.13.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.14 EVENT\_EVENT\_DOWNLOAD\_USER\_ACTIVITY

Test Area Reference: FWK\_APT\_EDUA

# 6.3.3.14.1 Conformance Requirement

# 6.3.3.14.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_USER\_ACTIVITY once it has registered to this event and an Envelope Event DownLoad User Activity is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_USER\_ACTIVITY once it has deregistered from this event.

6.3.3.14.1.2 Parameters error

No requirements.

6.3.3.14.1.3 Context Errors

No requirements.

6.3.3.14.2 Test Suite Files

Test Script: FWK\_APT\_EDUA\_1.scr

Test Applet: FWK\_APT\_EDUA\_1.java

Load Script: FWK\_APT\_EDUA\_1.ldr

Cleanup Script: FWK\_APT\_EDUA\_1.clr

Parameter File: FWK\_APT\_EDUA\_1.par

### 6.3.3.14.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_USER_ACTIVITY and triggering		
	Applet is registered to the EVENT_EVENT_DOWNLOAD_USER_ACTIVITY and to EVENT_FORMATTED_SMS_PP_ENV.		
	Event= EVENT_EVENT_DOWNLOAD_USER_ACTIVITY		
	1-Toolkit Registry.isEventSet() method is called.	1- Method returns true	
	2-An Envelope EVENT_DOWNLOAD_USER_ACTIVITY is sent to the SIM.	2- Applet is triggered	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration		
	Event= EVENT_EVENT_DOWNLOAD_USER_ACTIVITY Toolkit Registry.clearEvent()method is called		
	Perform SIM initialization with all the facilities supported		
	1-An Envelope EVENT_DOWNLOAD_USER_ACTIVITY is sent to the SIM.	1- Applet isn't triggered	
	a formatted sms pp envelope is sent to the sim		
	Event= EVENT_EVENT_DOWNLOAD_USER_ACTIVITY Toolkit Registry.setEvent() method is called Perform SIM initialization with all the facilities supported		
	2-An Envelope EVENT_DOWNLOAD_USER_ACTIVITY is sent to the SIM.	2- Applet is triggered	

### 6.3.3.14.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2
CRRN2	2

## 6.3.3.15 EVENT\_EVENT\_DOWNLOAD\_IDLE\_SCREEN\_AVAILABLE

Test Area Reference: FWK\_APT\_EDIS

6.3.3.15.1 Conformance Requirement

6.3.3.15.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_IDLE\_SCREEN\_AVAILABLE once it has registered to this event and an Envelope Event DownLoad Idle Screen Available is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_IDLE\_SCREEN\_AVAILABLE once it has deregistered from this event.

6.3.3.15.1.2 Parameters error

No requirements.

6.3.3.15.1.3 Context Errors

No requirements.

6.3.3.15.2 Test Suite Files

Test Script: FWK\_APT\_EDIS\_1.scr

Test Applet: FWK\_APT\_EDIS\_1.java

Load Script: FWK\_APT\_EDIS\_1.ldr

Cleanup Script: FWK\_APT\_EDIS\_1.clr
Parameter File: FWK\_APT\_EDIS\_1.par

6.3.3.15.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_ AVAILABLE and triggering		
	Applet is registered to the  EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE and to EVENT_FORMATTED_SMS_PP_ENV  EVENT=  EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE  AND ADDRESS OF THE PROPERTY OF	1- Method returns true	
	1-Toolkit Registry.isEventSet() method is called.	1- Method returns true	
	2-An Envelope EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE is sent to the SIM.	2- Applet is triggered	
2	Applet deregistration		
	Event=EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_AVA ILABLE		
	Toolkit Registry.clearEvent()method is called Perform SIM initialization with all the facilities supported		
	1-An Envelope EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE is sent to the SIM.	1- Applet isn't triggered	
	a formatted sms pp envelope is sent to the sim		
	<pre>Event= EVENT_EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE</pre>		
	Toolkit Registry.setEvent() method is called Perform SIM initialization with all the facilities supported		
	2-An Envelope EVENT_DOWNLOAD_IDLE_SCREEN_AVAILABLE is sent to the SIM.	2- Applet is triggered	

# 6.3.3.15.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2
CRRN2	2

# 6.3.3.16 EVENT\_EVENT\_DOWNLOAD\_CARD\_READER\_STATUS

Test Area Reference: FWK\_APT\_EDCR

### 6.3.3.16.1 Conformance Requirement

# 6.3.3.16.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_CARD\_READER\_STATUS once it has registered to this event and Envelope Event DownLoad Card Reader Status is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_CARD\_READER\_STATUS once it has deregistered from this event.

6.3.3.16.1.2 Parameters error

No requirements.

6.3.3.16.1.3 Context Errors

No requirements.

6.3.3.16.2 Test Suite Files

Test Script: FWK\_APT\_EDCR\_1.scr

Test Applet: FWK\_APT\_EDCR\_1.java

Load Script: FWK\_APT\_EDCR\_1.ldr

Cleanup Script: FWK\_APT\_EDCR\_1.clr

Parameter File: FWK\_APT\_EDCR\_1.par

#### 6.3.3.16.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_CARD_READER _STATUS and triggering		
	Applet is registered to the EVENT_EVENT_DOWNLOAD_CARD_READER_STATUS and to EVENT_FORMATTED_SMS_PP_ENV		
	Event=EVENT_EVENT_DOWNLOAD_CARD_READER_STATUS 1-Toolkit Registry.isEventSet() method is called.		
	2-An Envelope EVENT_DOWNLOAD_CARD_READER_STATUS is sent to the SIM.	2- Applet is triggered	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration		
	Event= EVENT_EVENT_DOWNLOAD_CARD_READER_STATUS		
	Toolkit Registry.clearEvent()method is called		
	Perform SIM initialization with all the facilities supported		
	1-An Envelope EVENT_DOWNLOAD_CARD_READER_STATUS is sent to the SIM.	1- Applet isn't triggered	
	An Envelope formatted sms pp envelope is sent to the sim		
	Event= EVENT_EVENT_DOWNLOAD_CARD_READER_STATUS		
	Toolkit Registry.setEvent() method is called Perform SIM initialization with all the facilities supported		
	2-An Envelope EVENT_DOWNLOAD_CARD_READER_STATUS is sent to the SIM.	2- Applet is triggered	

# 6.3.3.16.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.17 EVENT\_UNRECOGNIZED\_ENVELOPE

Test Area Reference: FWK\_APT\_EUEV

6.3.3.17.1 Conformance Requirement

### 6.3.3.17.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_UNRECOGNIZED\_ENVELOPE once it has registered to this event and an Unrecognized Envelope is received.
- CRRN2: The applet is not triggered by the EVENT\_UNRECOGNIZED\_ENVELOPE once it has deregistered from this event.

6.3.3.17.1.2 Parameters error

No requirements.

6.3.3.17.1.3 Context Errors

No requirements.

6.3.3.17.2 Test Suite Files

Test Script: FWK\_APT\_EUEN\_1.scr

Test Applet: FWK\_APT\_EUEN\_1.java

Load Script: FWK\_APT\_EUEN\_1.ldr

Cleanup Script: FWK\_APT\_EUEN\_1.clr

Parameter File: FWK\_APT\_EUEN\_1.par

#### 6.3.3.17.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_UNRECOGNIZED_ENVELOPE and triggering		
	Applet is registered to the EVENT_UNRECOGNIZED_ENVELOPE and to EVENT_FORMMATTED_SMS_PP_ENV		
	Event= EVENT_UNRECOGNIZED_ENVELOPE 1-Toolkit Registry.isEventSet() method is called.	1- Method returns true	
	2-An Envelope UNRECOGNIZED_ENVELOPE is sent to the SIM.	2- Applet is triggered	
2	Applet deregistration		
	Event= EVENT_UNRECOGNIZED_ENVELOPE Toolkit Registry.clearEvent()method is called		
	1-An Envelope UNRECOGNIZED_ENVELOPE is sent to the SIM.	1- Applet isn't triggered	
	a formatted sms pp envelope is sent to the $\operatorname{sim}$		
	Event= EVENT_UNRECOGNIZED_ENVELOPE Toolkit Registry.setEvent() method is called		
	2-An Envelope UNRECOGNIZED_ENVELOPE is sent to the SIM.	2- Applet is triggered	

# 6.3.3.17.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.18 EVENT\_STATUS\_COMMAND

Test Area Reference: FWK\_APT\_ESTC

# 6.3.3.18.1 Conformance Requirement

# 6.3.3.18.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_STATUS\_COMMAND once it has registered to this event and a Status Command is received.
- CRRN2: The applet is not triggered by the EVENT\_STATUS\_COMMAND once it has deregistered from this
  event.

6.3.3.18.1.2 Parameters error

No requirements.

6.3.3.18.1.3 Context Errors

No requirements.

6.3.3.18.2 Test Suite Files

Test Script: FWK\_APT\_ESTC\_1.scr

Test Applet: FWK\_APT\_ESTC\_1.java

FWK\_APT\_ESTC\_2.java

FWK\_APT\_ESTC\_3.java

Load Script: FWK\_APT\_ESTC\_1.ldr

Cleanup Script: FWK\_APT\_ESTC\_1.clr

Parameter File: FWK\_APT\_ESTC\_1.par

# 6.3.3.18.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applets registration to		
	EVENT_STATUS_COMMAND and triggering		
	Applet1 is registered to		
	EVENT_STATUS_COMMAND using the		
	requestPollInterval() command.		
	Applet2 is registered to		
	EVENT_STATUS_COMMAND using the		
	RequestPollInterval() command.		
	Applet3 is registered to		
	EVENT_FORMATTED_SMS_PP_ENV.		
	1-A status command is sent to SIM		
		1- Applet1 is triggered.	
		Applet1 finalizes	
		2- Applet2 is triggered.	
		Applet2 finalizes	
		3- Applet3 is not triggered	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration and registration of the third applet to EVENT_STATUS_COMMAND. The STF shall not reply busy to a call control envelope  1-A formatted sms pp envelope is sent to SIM  Applet3 builds a DISPLAY TEXT.	1- Applet3 is triggered.	
	2- ProactiveHandler.send() is called		2- A proactive command DISPLAY TEXT is sent and applet is suspended until the terminal response
	3-A status command is sent to SIM.	3- Applet1 is triggered.	
	requestPollInteval with POLL_NO_DURATION is called		
	requestPollInteval with POLL_NO_DURATION is called	Applet1 finalizes 4- Applet2 is triggered.	
	requestPollInterval() method is called.	Applet2 finalizes	
		Applet3 finalizes	5- TERMINAL RESPONSE of DISPLAY TEXT is sent to the SIM
3	Applet3 triggering		
	Perform SIM initialization with all the facilities supported		
	Status command is sent to SIM.	Applet3 is triggered. (Applet1 and Applet2 are not triggered)	

# 6.3.3.18.4 Test Coverage

CR Number	Test Case Number
CRRN1	1, 2, 3
CRRN2	3

# 6.3.3.19 EVENT\_FORMATTED\_SMS\_CB

Test Area Reference: FWK\_APT\_EFCB

# 6.3.3.19.1 Conformance Requirement

### 6.3.3.19.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_FORMATTED\_SMS\_CB once:
  - it has been registered to this event;
  - an envelope APDU carrying a Cell Broadcast Page, formatted according to 3GPP TS 23.048 [8], is received;

- the toolkit applet to be triggered is registered with the corresponding TAR in the CB page;
- the security is verified.
- CRRN2: The applet is not triggered by the EVENT\_FORMATTED\_SMS\_CB once it has deregistered from this event.

6.3.3.19.1.2 Parameters error

No requirements.

6.3.3.19.1.3 Context Errors

No requirements.

6.3.3.19.2 Test Suite Files

Test Script: FWK\_APT\_EFCB\_1.scr

Test Applet: FWK\_APT\_EFCB\_1.java

Load Script: FWK\_APT\_EFCB\_1.ldr

Cleanup Script: FWK\_APT\_EFCB\_1.clr

Parameter File: FWK\_APT\_EFCB\_1.par

### 6.3.3.19.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_FORMATTED_SMS_CB and triggering  Applet is registered to EVENT_FORMATTED_SMS_CB and EVENT_FORMATTED_SMS_PP_ENV		
	1-An Envelope EVENT_FORMATTED_SMS_CB is sent to the SIM.	1-Applet is triggered	
2	Applet deregistration  ToolkitRegistry.clearEvent() method is called for EVENT_FORMATTED_SMS_CB  1-A formatted SMS CB envelope is sent to the SIM.  2-An envelope SMS-PP formatted is sent to the SIM  ToolkitRegistry.setEvent() method is called for EVENT_FORMATTED_SMS_CB  3-An Envelope FORMATTED_SMS_CB is sent to the SIM	<ul><li>1- Applet is not triggered</li><li>2- Applet is triggered</li></ul>	
		3- Applet is triggered	

### 6.3.3.19.4 Test Coverage

CR Number		Test Case Number	
CRRN1 (See note)		1, 2	
CRRN2		2	
NOTE:	NOTE: The security checks are not relevant to the test designed in this test area; they will be checked i subclause 6.3.6.		

# 6.3.3.20 EVENT\_EVENT\_DOWNLOAD\_LANGUAGE\_SELECTION

Test Area Reference: FWK\_APT\_EDLG

6.3.3.20.1 Conformance Requirement

#### 6.3.3.20.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_LANGUAGE\_SELECTION once it has registered to this event and an Envelope Event DownLoad Language Selection is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_LANGUAGE\_SELECTION once it has deregistered from this event.

6.3.3.20.1.2 Parameters error

No requirements.

6.3.3.20.1.3 Context Errors

No requirements.

6.3.3.20.2 Test Suite Files

Test Script: FWK\_APT\_EDLG\_1.scr

Test Applet: FWK\_APT\_EDLG\_1.java

Load Script: FWK\_APT\_EDLG\_1.ldr

Cleanup Script: FWK\_APT\_EDLG\_1.clr

Parameter File: FWK\_APT\_EDLG\_1.par

### 6.3.3.20.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_LANGUAGE_SE LECTION and triggering		
	Applet is registered to the EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION and to EVENT_FORMATTED_SMS_PP_ENV.		
	Event= EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION		
	1-Toolkit Registry.isEventSet() method is called.	1-Method returns true	
	2-An Envelope EVENT_DOWNLOAD_LANGUAGE_SELECTION is sent to the SIM.	2- Applet is triggered	

ld	Description	API/Framework Expectation	APDU Expectation
2	Applet deregistration		
	Event= EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION Toolkit Registry.clearEvent()method is called		
	Perform SIM initialization with Profile Download, SMS PP Data Download, Command Result and Language Selection facilities.		
	1-An Envelope EVENT_DOWNLOAD_LANGUAGE_SELECTION is sent to the SIM.	1- Applet isn't triggered	
	a formatted sms pp envelope is sent to the sim		
	Event= EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION Toolkit Registry.setEvent() method is called		
	Perform SIM initialization with Profile Download, SMS PP Data Download, Command Result and Language Selection facilities.		
	2-An Envelope EVENT_DOWNLOAD_LANGUAGE_SELECTION is sent to the SIM.	2- Applet is triggered	

### 6.3.3.20.4 Test Coverage

CR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

# 6.3.3.21 EVENT\_EVENT\_DOWNLOAD\_BROWSER\_TERMINATION

Test Area Reference: FWK\_APT\_EDBT

6.3.3.21.1 Conformance Requirement

### 6.3.3.21.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_EVENT\_DOWNLOAD\_BROWSER\_TERMINATION once it has registered to this event and an Envelope Event DownLoad Browser Termination is received.
- CRRN2: The applet is not triggered by the EVENT\_EVENT\_DOWNLOAD\_BROWSER\_TERMINATION once it has deregistered from this event.

6.3.3.21.1.2 Parameters error

No requirements.

6.3.3.21.1.3 Context Errors

No requirements.

6.3.3.21.2 Test Suite Files

Test Script: FWK\_APT\_EDBT\_1.scr

Test Applet: FWK\_APT\_EDBT\_1.java

Load Script: FWK\_APT\_EDBT\_1.ldr

Cleanup Script: FWK\_APT\_EDBT\_1.clr

Parameter File: FWK\_APT\_EDBT\_1.par

### 6.3.3.21.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT_EVENT_DOWNLOAD_ BROWSER_TERMINATION and triggering		
	Applet is registered to the EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION and to EVENT_FORMATTED_SMS_PP_ENV  Event=		
	EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION  1-Toolkit Registry.isEventSet() method is	1-Method returns true	
	called.  2-An Envelope  EVENT_DOWNLOAD_BROWSER_TERMINATION is sent to the SIM.	2- Applet is triggered	
2	Applet deregistration		
	Event= EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION Toolkit Registry.clearEvent()method is called  Perform SIM initialization with Profile Download, SMS PP Data Download, Command Result and Browser Termination facilities.  1-An Envelope EVENT_DOWNLOAD_BROWSER_TERMINATION is sent to the SIM.	1- Applet isn't triggered	
	a formatted sms pp envelope is sent to the sim  Event= EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION Toolkit Registry.setEvent() method is called		
	Perform SIM initialization with Profile Download, SMS PP Data Download, Command Result and Browser Termination facilities.  2-An Envelope EVENT_DOWNLOAD_BROWSER_TERMINATION is sent to the SIM.	2- Applet is triggered	

### 6.3.3.21.4 Test Coverage

CR Number	Test Case Number	
CRRN1	1, 2	
CRRN2	2	

### 6.3.3.22 EVENT\_FIRST\_COMMAND\_AFTER\_SELECT

Test Area Reference: FWK\_APT\_EFCA

6.3.3.22.1 Conformance Requirement

#### 6.3.3.22.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_FIRST\_COMMAND\_AFTER\_SELECT once it has registered to this event; Upon reception of the first command received by the GSM application after it has been selected, or after the ATR if it is the default application, and before the Status Word of the processed command has been sent back by the GSM application, the toolkit framework shall trigger all the toolkit applets registered to this event.
- CRRN2: The applet is not triggered by the EVENT\_FIRST\_COMMAND\_AFTER\_SELECT once it has deregistered from this event.
- CRRN3: If the first command received by the GSM application is a toolkit applet triggering command (e.g.
  TERMINAL PROFILE), the toolkit applets registered on the EVENT\_FIRST\_COMMAND\_AFTER\_SELECT
  event shall be triggered first.

### 6.3.3.22.2 Test Suite Files

Test Script: FWK\_APT\_EFCA\_1.scr

Test Applet: FWK\_APT\_EFCA\_1.java

FWK\_APT\_EFCA\_2.java

FWK\_APT\_EFCA\_3.java

FWK\_APT\_EFCA\_4.java

FWK\_APT\_EFCA\_5.java

Load Script: FWK\_APT\_EFCA\_1.ldr

Cleanup Script: FWK\_APT\_EFCA\_1.clr

Parameter File: FWK\_APT\_EFCA\_1.par

# 6.3.3.22.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applets registration to EVENT_FIRST_COMMAND_AFTER_SELECT and triggering		
	Applet1 is registered to the EVENT_FIRST_COMMAND_AFTER_SELECT		
	Applet2 is registered to the EVENT_PROFILE_DOWNLOAD.		
	Applet3 is registered to EVENT_FORMATTED_SMS_PP_ENV.		
	1-Terminal Profile command is sent to the SIM. Applet1 deregisters from EVENT_FIRST_COMMAND_AFTER_SELECT.	1- Applet1 is triggered by EVENT_FIRST_COMMAND_AFTE R_SELECT	
	2- Applet2 deregisters from EVENT_PROFILE_DOWNLOAD.	Applet1 finalizes Applet2 is triggered by EVENT_PROFILE_DOWNLOAD	
	3-Envelope(SMS-PP-DOWNLOAD) formatted is	Applet2 finalizes Applet3 is not triggered	
	sent to the SIM	3-Applet3 is triggered.	
	4-Applet3 calls setEvent() on event EVENT_FIRST_COMMAND_AFTER_SELECT.		
2	Deregistered applets are not triggered	1-Applet3 is triggered. Applet1 and Applet2 are not triggered.	
	1-Reset then Terminal Profile command is sent to the SIM		
	2-Applet3 calls setEvent() on EVENT_PROFILE_DOWNLOAD.	2-Applet3 finalizes.	
3	Install a 4 <sup>th</sup> applet registered to EVENT_FIRST_COMMAND_AFTER_SELECT and EVENT_PROFILE_DOWNLOAD  Applet4 is installed, with the same	1- Applet4 is triggered by EVENT_FIRST_COMMAND_AFTE R_SELECT.	
	priority level as Applet3.  1-Reset then Terminal Profile command is sent to the SIM	Applet3 is triggered by EVENT_FIRST_COMMAND_AFTE R_SELECT.	
		Applet4 is triggered by EVENT_PROFILE DOWNLOAD.	
	Delete all applets.	Applet3 is triggered by EVENT_PROFILE_DOWNLOAD.	
4	Check that the applet is triggered before the first SW is sent.  1-Install Applet 5. Applet 5 is registered with two entries in the menu entries list. Applet5 is also registered to EVENT_FIRST_COMMAND_AFTER_SELECT.		3-The SETUP MENU proactive command is fetched. There is only one item for Applet5.
	2-Reset and TERMINAL PROFILE.	2- Applet 5 is triggered	
	3-Applet disables a menu entry.		

NOTE: Testing the triggering of an applet upon the first command after select is not possible.

#### 6.3.3.22.4 Test Coverage

CR Number	Test Case Number	
CRRN1	1,2,3, 4	
CRRN2	3	
CRRN3	1, 4	

### 6.3.3.23 EVENT\_EVENT\_DOWNLOAD\_DATA\_AVAILABLE

Test Area Reference: FWK\_APT\_EDDA

6.3.3.23.1 Conformance Requirement

### 6.3.3.23.1.1 Normal Execution

- CRRN1: For EVENT\_EVENT\_DOWNLOAD\_DATA\_AVAILABLE, the framework shall only trigger the applet registered to this event with the appropriate channel identifier.
- CRRN2: The registration to the EVENT\_EVENT\_DOWNLOAD\_DATA\_AVAILABLE is effective once the
  toolkit applet has issued a successful OPEN CHANNEL proactive command, and valid till the first successful
  CLOSE CHANNEL or the end of card session.
- CRRN3: When a Toolkit Applet has sent an OPEN CHANNEL proactive command and received a successful TERMINAL RESPONSE, the framework shall register the received channel identifier for the calling Toolkit Applet.
- CRRN4: When a Toolkit Applet has sent a CLOSE CHANNEL proactive command and received a successful TERMINAL RESPONSE, the framework shall release the channel identifier contained in the command. A successful TERMINAL RESPONSE means that the result of the proactive command execution belongs to command performed category (i.e. General Result ='0x').

6.3.3.23.2 Test Suite Files

Test Script: FWK\_APT\_EDDA\_1.scr

Test Applet: FWK\_APT\_EDDA\_1.java

Load Script: FWK\_APT\_EDDA\_1.ldr

Cleanup Script: FWK\_APT\_EDDA\_1.clr

Parameter File: FWK\_APT\_EDDA\_1.par

# 6.3.3.23.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to		
	EVENT_EVENT_DOWNLOAD_DATA_AVAILAB	1- Applet1 is triggered by	
		Unformatted SMS PP envelope.	
	Applet1 is registered to Unformatted SMS PP Envelope.		
	1- Unformatted SMS PP envelope is sent to the SIM.		
	2- Applet calls setEvent() with the event		
	EVENT_EVENT_DOWNLOAD_DATA_AVAILABLE.	2- Applet1 finalizes.	
	3- An envelope Event Download Data	2. Applet4 is not triggered	
	Available is sent to the SIM Channel Status = 81 00	3- Applet1 is not triggered.	
	4- Unformatted SMS PP envelope is sent to		
	the SIM.	4- Applet1 is triggered by Unformatted SMS PP envelope.	
	5- Applet1 builds a proactive command OPEN CHANNEL calling ProactiveHandler.init() method.	omenia omeni omene.	
			6- OPEN CHANNEL
	6- send() method is called to register to this event.		proactive command is fetched.
		7- Applet1 finalizes.	Unsuccessful TERMINAL RESPONSE of OPEN
	8- An envelope Event Download Data Available is sent to the SIM with Channel Status = 01 00.	8- Applet1 is not triggered.	CHANNEL is sent to the SIM.
		9- Applet1 is triggered by	
	9- Unformatted SMS PP envelope is sent to the SIM.	EVENT_UNFORMATTED_SMS_P P_ENV.	
	10- Applet1 builds a proactive command OPEN CHANNEL calling ProactiveHandler.init() method.		
	11- send() method is called to register to this event.		
	this event.	12- Applet1 finalizes.	11- OPEN CHANNEL
			proactive command is
			fetched.
			Successful TERMINAL RESPONSE of OPEN
			CHANNEL is sent to the
2	Applet triggering to		SIM with Channel Id = 01.
2	EVENT_EVENT_DOWNLOAD_DATA_AVAILAB  LE		
	1- An envelope Event Download Data		
	Available is sent to the SIM Channel Status = 81 00.		
		1- Applet1 is triggered.	
3	Applet deregistration to EVENT_EVENT_		
	DOWNLOAD_DATA_ AVAILABLE		1- OPEN CHANNEL
	0- Unformatted SMS PP envelope is sent to the SIM.	0- Applet1 is triggered.	proactive command is fetched.
	1- Applet1 initialises and sends an OPEN CHANNEL proactive command.		Successful terminal response is sent, with channelld=02.
	2- Applet1 builds a CLOSE CHANNEL		

ld	Description	API/Framework Expectation	APDU Expectation
	Proactive Command calling ProactiveHandler.initCloseChannel() and ProactiveHandler.send() methods.  3- An envelope Event Download Data Available is sent to the SIM. Channel Status = 82 00	3- Applet1 is triggered.	2- CLOSE CHANNEL proactive command is fetched. Unsuccessful TERMINAL RESPONSE of CLOSE CHANNEL is sent to the SIM.
	4- Applet1 builds a CLOSE CHANNEL Proactive Command calling ProactiveHandler.initCloseChannel() and ProactiveHandler.send() methods.	5- Applet1 finalizes.	4- CLOSE CHANNEL proactive command is fetched. Successful TERMINAL RESPONSE of CLOSE CHANNEL is sent to the SIM with Channel Id = 02.
4	Applet triggering to EVENT_EVENT_DOWNLOAD_DATA_AVAILAB  LE  1- An envelope Event Download Data Available is sent to the SIM Channel Status = 82 00.	1- Applet1 is not triggered.	
5	Applet1 not triggered after a reset  0- Applet1 is triggered by an unformatted SMS PP Envelope  1- Applet1 builds a proactive command OPEN CHANNEL calling ProactiveHandler.init() method.  2- send() method is called to register to this event.  3- isEventSet() method is called.  4- Reset the card.  5- An envelope Event Download Data Available is sent to the SIM Channel Status = 82 00.	3- returns true. 5- Applet1 is not triggered.	1- OPEN CHANNEL proactive command is fetched.  2- Successful TERMINAL RESPONSE of OPEN CHANNEL is sent to the SIM with Channel Id = 02.

### 6.3.3.23.4 Test Coverage

CR Number	Test Case Number	
CRRN1	2	
CRRN2	1, 4, 5	
CRRN3	1	
CRRN4	3	

## 6.3.3.24 EVENT\_EVENT\_DOWNLOAD\_CHANNEL\_STATUS

Test Area Reference: FWK\_APT\_EDCS

6.3.3.24.1 Conformance Requirement

### 6.3.3.24.1.1 Normal Execution

• CRRN1: For EVENT\_EVENT\_DOWNLOAD\_CHANNEL\_STATUS, the framework shall only trigger the applet registered to this event with the appropriate channel identifier.

- CRRN2: The registration to the EVENT\_EVENT\_DOWNLOAD\_CHANNEL\_STATUS is effective once the toolkit applet has issued a successful OPEN CHANNEL proactive command, and valid till the first successful CLOSE CHANNEL or the end of the card session.
- CRRN3: When a Toolkit Applet has sent an OPEN CHANNEL proactive command and received a successful TERMINAL RESPONSE, the framework shall register the received channel identifier for the calling Toolkit Applet.
- CRRN4: When a Toolkit Applet has sent a CLOSE CHANNEL proactive command and received a successful TERMINAL RESPONSE, the framework shall release the channel identifier contained in the command. A successful TERMINAL RESPONSE means that the result of the proactive command execution belongs to command performed category (i.e. General Result ='0x').

6.3.3.24.2 Test Suite Files

Test Script: FWK\_APT\_EDCS\_1.scr

Test Applet: FWK\_APT\_EDCS\_1.java

Load Script: FWK\_APT\_EDCS\_1.ldr

Cleanup Script: FWK\_APT\_EDCS\_1.clr

Parameter File: FWK\_APT\_EDCS\_1.par

## 6.3.3.24.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to		
	EVENT_EVENT_DOWNLOAD_CHANNEL_STAT		
1	US	Unformatted SMS PP envelope	
	Applet1 is registered to Unformatted SMS PP Envelope.		6- OPEN CHANNEL proactive command is
	1-Unformatted SMS PP envelope is sent to the SIM.	2- Applet1 finalizes.	fetched. Unsuccessful TERMINAL RESPONSE of OPEN
	2-The applet calls setEvent() with EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS.		CHANNEL is sent to the SIM.
	3- An envelope Event Download Channel Status is sent to the SIM. Channel Status = 81 00	3- Applet1 is not triggered.	11- OPEN CHANNEL proactive command is fetched. Successful TERMINAL
	4-Unformatted SMS PP envelope is sent to the SIM.	4- Applet1 is triggered by Unformatted SMS PP envelope.	RESPONSE of OPEN CHANNEL is sent to the SIM with Channel Id = 01.
	5- Applet1 builds a proactive command OPEN CHANNEL calling ProactiveHandler.init() method.		
	6- send() method is called to register to this event.	7- Applet finalizes.	
	8- An envelope Event Download Data Available is sent to the SIM with Channel Status = 01 00.	8- Applet1 is not triggered.	
	9- Unformatted SMS PP envelope is sent to the SIM.		
	10- Applet1 builds a proactive command OPEN CHANNEL calling ProactiveHandler.init() method.	9- Applet1 is triggered by EVENT_UNFORMATTED_SMS_P P_ENV.	
	11- send() method is called to register to this event a second time.		
		12- Applet1 finalizes.	
2	Applet triggering to	12 Applett illializes.	
	EVENT_EVENT_DOWNLOAD_CHANNEL STATUS		
	1- An envelope Event Download Channel Status is sent to the SIM.		
	Channel Status = 81 00	1- Applet1 is triggered.	
3	Applet deregistration to EVENT_EVENT_ DOWNLOAD_CHANNEL STATUS		
	0- Unformatted SMS PP envelope is sent to the SIM.	0- Applet1 is triggered.	OPEN CHANNEL proactive command is fetched. Successful terminal
	1-Applet1 initialises and sends an OPEN CHANNEL proactive command.		response is sent, with channelld=02.
	2- Applet1 builds a CLOSE CHANNEL Proactive Command calling ProactiveHandler.initCloseChannel() and ProactiveHandler.send() methods.	3- The applet is triggered.	2-CLOSE CHANNEL proactive command is fetched. Unsuccessful TERMINAL
	Floattivenantier.sena() methods.		Unsuccessful TERMINAL

ld	Description	API/Framework Expectation	APDU Expectation
	3-An envelope Event Download Channel Status is sent to the SIM. Channel Status = 82 00 4- Applet1 builds a Close Channel	5- Applet1 finalizes.	RESPONSE of CLOSE CHANNEL is sent to the SIM.  4- CLOSE CHANNEL proactive command is fetched. Successful TERMINAL
	Proactive Command calling ProactiveHandler.initCloseChannel() and ProactiveHandler.send() methods.		RESPONSE of CLOSE CHANNEL is sent to the SIM with Channel Id = 02.
4	Applet triggering to EVENT_EVENT_DOWNLOAD_CHANNEL STATUS		
	1- An envelope Event Download Channel Status is sent to the SIM. Channel Status = 82 00	Applet1 is not triggered.	
5	Applet1 not triggered after a reset		
	0- Applet1 is triggered by an unformatted SMS PP Envelope.		
	1- Applet1 builds a proactive command OPEN CHANNEL calling ProactiveHandler.init() method.	3- returns true.	1- OPEN CHANNEL proactive command is fetched.
	2- send() method is called to register to this event.		2- Successful TERMINAL
	3- isEventSet() method is called.		RESPONSE of OPEN CHANNEL is sent to the
	4- Reset the card.	5- Applet1 is not triggered.	SIM with Channel Id = 02.
	5- An envelope Event Download Data Available is sent to the SIM Channel Status = 82 00.	55	

### 6.3.3.24.4 Test Coverage

CR Number	Test Case Number
CRRN1	2
CRRN2	1, 4, 5
CRRN3	1
CRRN4	3

## 6.3.3.25 EVENT\_FORMATTED\_SMS\_PP\_UPD

Test Area Reference: FWK\_APT\_EFSU

### 6.3.3.25.1 Conformance Requirement

### 6.3.3.25.1.1 Normal Execution

- CRRN1: The applet is triggered by the EVENT\_FORMATTED\_SMS\_PP\_UPD once:
  - it has been registered to this event,
  - a Short Message Point to Point (Single or Concatenated) is received by Update Record EFsms APDU(s) and is formatted according to TS 23.048 [8],
  - the toolkit applet to be triggered is registered with the corresponding TAR in the SMS TPDU,

• CRRN2: The applets are not triggered by the EVENT\_FORMATTED\_SMS\_PP\_UPD once it has deregistered from this event.

6.3.3.25.2 Test Suite Files

Test Script: FWK\_APT\_EFSU\_1.scr

Test Applet: FWK\_APT\_EFSU\_1.java

Load Script: FWK\_APT\_EFSU\_1.ldr

Cleanup Script: FWK\_APT\_EFSU\_1.clr

Parameter File: FWK\_APT\_EFSU\_1.par

6.3.3.25.3 Test Procedure

6.3.3.25.4 Test Coverage

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet registration to EVENT FORMATTED_SMS_PP_UPD and triggering		
	Applet is registered to EVENT_FORMATTED_SMS_PP_UPD and EVENT_UNRECOGNIZED_ENVELOPE		
	1. Toolkit Registry.isEventSet() method is called for EVENT_FORMATTED_SMS_PP_UPD	1- The method returns true.	
	2. Short Message Point to Point Single and Formatted is received by Update Record EFsms APDU.		
		2- Applet is triggered.	
	3. Short Message Point to Point Concatenated Formatted is received by Update Record EFsms APDU(s) (The Concatenated Message is composed of 2 Short Messages. The UDL for the first Short Message is 70 and for the second 70).	3- Applet is triggered on reception of the last concatenated SMS	
2	Applet deregistration		
	ToolkitRegistry.clearEvent() method is called for EVENT_FORMATTED_SMS_PP_UPD		
	1. Short Message Point to Point Single and Formatted is received by Update Record EFsms APDU.		
		1- Applet is not triggered	
	2. Short Message Point to Point Concatenated and Formatted is received by Update Record EFsms APDU(s). (The Concatenated Message is composed of 2		
	Short Messages. The UDL for the first Short Message is 70 and for the second 70).	2- Applet is not triggered	
	An unrecognized envelope is sent to the sim		
	ToolkitRegistry.setEvent() method is called for EVENT_FORMATTED_SMS_PP_UPD	3- Applet is triggered	
	3. Short Message Point to Point Single and Formatted is received by Update Record EFsms APDU.		
	4. Short Message Point to Point Concatenated Formatted is received by Update Record EFsms APDU(s). (The Concatenated Message is composed of 2 Short Messages. The UDL for the first Short Message is 70 and for the second 70).	4- Applet is triggered on reception of the last concatenated SMS.	
	CPP Number	Toot Case Number	

NOTE: The security checks are not relevant to the test designed in this test area; they will be checked in the "Framework Security Management" section.

## 6.3.3.26 EVENT UNFORMATTED SMS PP UPD

Test Area Reference: FWK\_APT\_EUSU

6.3.3.26.1 Conformance Requirement

### 6.3.3.26.1.1 Normal Execution

- CRRN1: The applets registers are triggered by the EVENT\_UNFORMATTED\_SMS\_PP\_UPD once a Short Message Point to Point (Single or Concatenated) is received by Update Record EFsms APDU(s) and is unformatted.
- CRRN2: The applets are not triggered by the EVENT\_UNFORMATTED\_SMS\_PP\_UPD once it has deregistered from this event.

6.3.3.26.2 Test Suite Files

Test Script: FWK\_APT\_EUSU\_1.scr

Test Applet: FWK\_APT\_EUSU\_1.java

Load Script: FWK\_APT\_EUSU\_1.ldr

Cleanup Script: FWK\_APT\_EUSU\_1.clr

Parameter File: FWK\_APT\_EUSU\_1.par

## 6.3.3.26.3 Test Procedure

1	Applet registration to EVENT	-	
	Applet registration to LVLIVI		
1 1'	UNFORMATTED_SMS_PP_UPD and triggering		
Δ	Applet is registered to		
	EVENT_UNFORMATTED_SMS_PP_UPD and		
E	EVENT_UNRECOGNIZED_ENVELOPE		
1	1. Toolkit Registry.isEventSet() method is		
	called for EVENT_UNFORMATTED_SMS_PP_UPD	1- Applet is not triggered	
		, Applet is not aliggered	
	2. Short Message Point to Point Single and		
	Informatted is received by Update Record EFsms APDU	2- Applet is triggered.	
	Obout Marray Daint to Daint		
	B. Short Message Point to Point Concatenated and Unformatted is received		
	by Update Record EFsms APDU (The	3- Applet is triggered on reception	
	Concatenated Message is composed of 2	of the last concatenated SMS.	
	Short Messages. The UDL for the first		
	Short Message is 70 and for the second 70).		
2	Applet deregistration		
-	, ipplot dological allon		
	ToolkitRegistry.clearEvent() method is		
C	called for EVENT_UNFORMATTED_SMS_PP_UPD		
1	. Short Message Point to Point Single and		
	Informatted is received by Update Record		
E	EFsms APDU	4. Amplet is met tripped	
		1- Applet is not triggered	
2	2. Short Message Point to Point		
	Concatenated and Unformatted is received		
	by Update Record EFsms APDU(s) (The		
	Concatenated Message is composed of 2 Short Messages. The UDL for the first	2- Applet is not triggered.	
	Short Message is 70 and for the second		
7	70).		
А	An unrecognized envelope is sent to the		
s	sim		
	CoolkitRegistry.setEvent() method is		
		3- Applet is triggered	
	3. Short Message Point to Point Single and		
	Informatted is received by Update Record Ersms APDU		
		4- Applet is triggered on reception	
		of the last concatenated SMS	
	by Update Record EFsms APDU(s) (The Concatenated Message is composed of 2		
	Short Messages. The UDL for the first		
S	Short Message is 70 and for the second		
7	70).		

6.3.3.26.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1,2
CRRN2	2

## 6.3.4 Proactive Command Sending by the STF

## 6.3.4.1 System Proactive Commands

Test Area Reference: FWK\_PCS\_SPCO

### 6.3.4.1.1 Conformance Requirements

### 6.3.4.1.1.1 Normal Execution

- CRRN1: When a toolkit applet changes a menu entry of its registry object, the SIM Toolkit Framework shall dynamically\* update the menu stored in the ME during the current card session
- CRRN2: The STF shall use the data of the EFsume file when issuing the SET UP MENU proactive command.
- CRRN3: For all EVENT\_EVENT\_DOWNLOAD\_\*: When a toolkit applet changes one or more of these requested events of its registry object, the STF shall dynamically\* update the event list stored in the ME during the current card session by SET UP EVENT LIST proactive command.

NOTE: \*The STF shall send its system proactive command as soon as no proactive session is pending and all the applets registered to the current events have been triggered and have returned from the processToolkit method invocation.

6.3.4.1.1.2 Parameters error

No requirements.

6.3.4.1.1.3 Context Errors

No requirements.

6.3.4.1.2 Test Suite Files

Test Script: FWK\_PCS\_SPCO\_1.scr

Test Applet: FWK\_PCS\_SPCO\_1.java

Load Script: FWK\_PCS\_SPCO\_1.ldr

Cleanup Script: FWK\_PCS\_SPCO\_1.clr

Parameter File: FWK\_PCS\_SPCO\_1.par

### 6.3.4.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Install Applet 1, Registered to the EVENT_EVENT_DOWNLOAD_MT_CALL and EVENT_EVENT_DOWNLOAD_ LOCATION_STATUS		setEventList proactive command [Event list]= '19020003' or '99020003'
	Perform SIM initialization with EVENT DOWNLOAD facilities supported		

ld	Description	API/Framework Expectation	APDU Expectation
2	Trigger the applet by ENVELOPE		1. DISPLAY TEXT
	(SMS_FORMATTED_PP) command Clear the events and build a display text		Proactive command
	command		2. SET UP EVENT LIST Proactive command
			[CommandQualifier]= 00h

### 6.3.4.1.4 Test Coverage

CRR number	Test case number
N1	see:
	subclause6.2.9.2, CRRN1,
	subclause 6.2.9.4, CRRN3,
	subclause 6.2.9.5 CRRN4,
	subclause 6.2.9.8 CRRN1
N2	see:
	subclause 6.2.9.2 CRRN1,
	subclause 6.2.9.8 CRRN1
N3	1,2

## 6.3.4.2 Interaction with GSM commands

Test Area Reference: FWK\_PCS\_IGCO

6.3.4.2.1 Conformance Requirements

### 6.3.4.2.1.1 Normal Execution

• CRRN1: The STF shall process a GSM command even when a proactive command is pending (before and after the FETCH command until the terminal response). The STF shall answer with the SW1 and SW2 described in 3GPP TS 51.011 [3] and 3GPP TS 51.014 [4].

6.3.4.2.1.2 Parameters error

No requirements.

6.3.4.2.1.3 Context Errors

No requirements.

6.3.4.2.2 Test Suite Files

Test Script: FWK\_PCS\_IGCO\_1.scr

Test Applet: FWK\_PCS\_IGCO\_1.java

Load Script: FWK\_PCS\_IGCO\_1.ldr

Cleanup Script: FWK\_PCS\_IGCO\_1.clr

Parameter File: FWK\_PCS\_IGCO\_1.par

## 6.3.4.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Interaction with GSM Commands after TERMINAL PROFILE in connection with FETCH and TERMINAL RESPONSE	·	
	Applet is registered to Menu Selection		
	RST TERMINAL PROFILE (Profile: supports all facilities except: SET UP EVENT LIST, POLL INTERVAL and POLLING OFF) 1- System issues a proactive command SETUP_MENU		1- 91xx
	2- SELECT MF 3- GET RESPONSE (6 Bytes) 4- Failed SELECT File 5- FETCH		2- 9Fxx 3- 91xx 4- 9404 5- Proactive Command:
	6- SELECT MF 7- GET RESPONSE (6 Bytes) 8- TERMINAL RESPONSE		SETUP MENU 6- 9Fxx 7- 9000 8- 9000
2	Interaction with GSM Commands after ENVELOPE (MENU SELECTION) in connection with FETCH and TERMINAL RESPONSE		0 3000
	Menu Entry ID = 0x01		1- 9FXX
	1- SELECT MF 2- GET RESPONSE (6 Bytes) 3- Failed SELECT File 4- FETCH		2- 91XX 2- 91XX 3- 9404 4- Proactive Command: DISPLAY TEXT
	5- SELECT MF 6- GET RESPONSE (6 Bytes) 7- TERMINAL RESPONSE		5- 9FXX 6- 9000 7- 9000
3	Interaction with GSM Commands after TERMINAL RESPONSE in proactive command session in connection with FETCH and TERMINAL RESPONSE		
	Menu Entry ID = 0x02		
	1- SELECT MF 2- GET RESPONSE (6 Bytes) 3- FETCH		1- 9FXX 2- 91XX 3- Proactive Command: DISPLAY TEXT
	4- SELECT MF 5- GET RESPONSE (6 Bytes) 6- Failed SELECT File 7- TERMINAL RESPONSE		4- 9FXX 5- 9000 6- 9404 7- 9000
	8- SELECT MF 9- GET RESPONSE (6 Bytes) 10-Failed SELECT File 11-FETCH 12-SELECT MF		8- 9FXX 9- 91XX 10-9404 11-Proactive Command: DISPLAY TEXT
	13-GET RESPONSE (6 Bytes) 14-TERMINAL RESPONSE		12-9FXX 13-9000 14-9000

### 6.3.4.2.4 Test Coverage

CRR number	Test case number	
N1	1, 2, 3	

### 6.3.4.3 Proactive Command Control

Test Area Reference: FWK\_PCS\_PCCO

### 6.3.4.1.1 Conformance Requirements

### 6.3.4.1.1.1 Normal Execution

- CRRN1: The SIM Toolkit Framework shall prevent the toolkit applet to issue the following proactive commands: SET UP MENU, SET UP EVENT LIST, POLL INTERVAL, POLLING OFF. If an applet attempts to issue such a command, the SIM Toolkit Framework shall throw an exception.
- CRRN2: The SIM Toolkit Framework shall prevent a toolkit applet to issue a TIMER MANAGEMENT proactive command using a timer identifier, which is not allocated to it. If an applet attempts to issue such a command, the SIM Toolkit Framework shall throw an exception.
- CRRN3: The SIM Toolkit Framework shall prevent a toolkit applet to issue a SEND DATA, RECEIVE DATA and CLOSE CHANNEL proactive commands using a channel identifier, which is not allocated to it. If an applet attempts to issue such a command the SIM Toolkit Framework shall throw an exception.
- CRRN4: The SIM Toolkit Framework shall prevent a toolkit applet to issue an OPEN CHANNEL proactive command if it exceeds the maximum number of channel allocated to this applet. If an applet attempts to issue such a command the SIM Toolkit Framework shall throw an exception.
- CRRN5: The proactive command is sent to the ME as defined and constructed by the toolkit applet without any
  check of the SIM Toolkit Framework.
- CRRN6: The SIM Toolkit Framework cannot guarantee that if the SET UP IDLE MODE TEXT proactive command is used by a toolkit applet, another toolkit applet will not overwrite this text at a later stage.

#### 6.3.4.1.2 Test Suite Files

Test Script: FWK\_PCS\_PCCO\_1.scr

Test Applet: FWK\_PCS\_PCCO\_1.java

FWK\_PCS\_PCCO\_2.java

FWK\_PCS\_PCCO\_3.java

Load Script: FWK\_PCS\_PCCO\_1.ldr

Cleanup Script: FWK\_PCS\_PCCO\_1.clr

Parameter File: FWK\_PCS\_PCCO\_1.par

### 6.3.4.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
0	Applets installation		
	Applet1 is installed with 4 timers maximum, 0		
	channel maximum and 1 menu.		
	Applet2 is installed with 8 timers maximum, 3		
	channels maximum.		

ld	Description	API/Framework Expectation	APDU Expectation
	Applet3 is installed with 1 channel maximum.		
1	STK Proactive Commands		
	1- Send a formatted envelope with the TAR of Applet1	1- Applet1 is triggered	1- 90 00 (no proactive command is sent)
	2- Applet1 builds and sends a SET UP MENU proactive command	2- COMMAND_NOT_ALLOWED toolkit exception is thrown	
	3- Applet1 builds and sends a SET UP EVENT	3- COMMAND_NOT_ALLOWED	
	LIST proactive command 4- Applet1 builds and sends a POLL INTERVAL	toolkit exception is thrown 4- COMMAND_NOT_ALLOWED	
	proactive command	toolkit exception is thrown	
	5- Applet1 builds and sends a POLLING OFF	5- COMMAND_NOT_ALLOWED	
2	proactive command TIMER MANAGEMENT Proactive command	toolkit exception is thrown	
	TIMEN MANAGEMENT FTOACTIVE COMMAND		
	1- Send a formatted envelope with the TAR of Applet2	1- Applet2 is triggered	
	2- Applet2 allocates 8 timers by calling allocateTimer() method and release the 3 timers from id 1 to 3.	2- No exception is thrown	
	3- Send a formatted envelope with the TAR of Applet1	3- Applet1 is triggered	
	4- Applet1 allocates 3 timers (ld 1 to 3) by calling allocateTimer() method 3 times	4- No exception is thrown	
	5- Send a formatted envelope with the TAR of Applet2	5- Applet2 is triggered	
	6- Applet2 releases timers of Id 4 to 7 7- Send a formatted envelope with the TAR of	6- No exception is thrown 7- Applet1 is triggered	
	Applet1 8- For each of the 3 timers allocated by Applet1 (Id 1to 3) a TIMER MANAGEMENT proactive session	8- No exception is thrown	
	is performed 9- For other timers (Id 4 to 8), Applet1 builds and sends a TIMER MANAGEMENT proactive command	9- COMMAND_NOT_ALLOWED toolkit exception is thrown	
			8- 3 TIMER MANAGEMENT proactive commands are fetched 9- The Status word of the last previous Terminal Response is 90 00 (no more proactive command is sent)
3	No Channel allowed		productive command to contry
	1- Send a formatted envelope with the TAR of Applet1	1- Applet1 is triggered	1- 90 00 (no proactive command is sent)
	2- Applet1 builds and sends a CSD OPEN	2- COMMAND_NOT_ALLOWED	oominana is sony
	CHANNEL proactive command	toolkit exception is thrown	
	3- Applet1 builds and sends a GPRS OPEN	3- COMMAND_NOT_ALLOWED	
	CHANNEL proactive command 4Applet1 builds and sends a SEND DATA	toolkit exception is thrown 4- COMMAND_NOT_ALLOWED	
	proactive command	toolkit exception is thrown	
	5- Applet1 builds and sends a RECEIVE DATA	5- COMMAND_NOT_ALLOWED	
	proactive command	toolkit exception is thrown	
	6- Applet1 builds and sends a CLOSE CHANNEL proactive command	6- COMMAND_NOT_ALLOWED toolkit exception is thrown	
4	4 Channels allowed	toomit exception is tillown	
	1- Send a formatted envelope with the TAR of Applet3	1- Applet3 is triggered	
	2- Applet3 builds and sends a CSD OPEN CHANNEL proactive command	2- No exception is thrown	2- 91 1C
	3- Send a Fetch and Terminal Response OK on channel 7		3- OPEN CHANNEL proactive

ld	Description	API/Framework Expectation	APDU Expectation
	4- Send a formatted envelope with the TAR of Applet2	4- Applet2 is triggered	
	5- Applet2 builds and sends a CSD OPEN CHANNEL proactive command	5- No exception is thrown	5- 91 1C
	6- Send a Fetch and Terminal Response OK on channel 1		6- OPEN CHANNEL proactive command is fetched
	7- Applet2 builds and sends a GPRS OPEN CHANNEL proactive command	7- No exception is thrown	7- 91 17
	8- Send Fetch and Terminal Response OK on channel 2		8- OPEN CHANNEL proactive command is fetched, SW = 91 1C on the Terminal Response
	9- For each channel id from 3 to 7, Applet2 builds and sends a SEND DATA proactive command 10- For each channel id from 3 to 7, Applet2 builds	9- COMMAND_NOT_ALLOWED toolkit exception is thrown 10- COMMAND_NOT_ALLOWED	·
	and sends a RECEIVE DATA proactive command 11- For each channel id from 3 to 7, Applet2 builds and sends a CLOSE CHANNEL proactive	toolkit exception is thrown 11- COMMAND_NOT_ALLOWED toolkit exception is thrown	
	command 12- Applet2 builds and sends a CSD OPEN CHANNEL proactive command	12- No exception is thrown	
	13- Fetch and Terminal Response OK on channel		13- OPEN CHANNEL proactive command is fetched
	14- Applet2 builds and sends an OPEN CHANNEL proactive command	14- COMMAND_NOT_ALLOWED toolkit exception is thrown	14- 90 00 expected to the previous Terminal Response (no proactive command is sent)
5	Unknown proactive command		
	1- Send an envelope menu selection with the item id of Applet1 2- Applet1 build an unknown proactive command	1- Applet1 is triggered	2- 91 15
	of 8 null bytes and send it 3- Fetch and terminal response OK		3- Command details TLV, Device Identities TLV and unknown TLV including 8 null bytes are fetched.

## 6.3.4.1.4 Test Coverage

CRR number	Test case number	
N1	1	
N2	2	
N3	3,4	
N4	3,4	
N5	5	
N6	Not testable	

# 6.3.5 Exception Handling

# 6.3.5.1 Hide Exceptions from the ME

Test Area Reference: FWK\_EXH\_HEME

6.3.5.1.1 Conformance Requirements

## 6.3.5.1.1.1 Normal Execution

• CRRN1: A toolkit applet may throw an exception, but this error will not be sent to the ME.

NOTE: Because the behaviour of the SIM is not exactly defined for the above CRRN, there are no tests defined here yet.

6.3.5.1.1.2 Parameters error

No requirements.

6.3.5.1.1.3 Context Errors

No requirements.

## 6.3.5.2 Interaction with Multiple Triggering

Test Area Reference: FWK\_EXH\_IMTG

6.3.5.2.1 Conformance Requirements

6.3.5.2.1.1 Normal Execution:

• CRRN1: An exception thrown by a toolkit applet, will not influence toolkit applets registered to the same event.

6.3.5.2.1.2 Parameters error

No requirements.

6.3.5.2.1.3 Context Errors

No requirements.

6.3.5.2.2 Test Suite Files

Test Script: FWK\_EXH\_IMTG\_1.scr

Test Applet: FWK\_EXH\_IMTG\_1.java

Load Script: FWK\_EXH\_IMTG\_1.ldr

Cleanup Script: FWK\_EXH\_IMTG\_1.clr

Parameter File: FWK\_EXH\_IMTG\_1.par

6.3.5.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
0	Load/install 2 toolkit applets registered to		
	EVENT_STATUS_COMMAND,		
	EVENT_PROFILE_DOWNLOAD,		
	EVENT_UNRECOGNIZED_ENVELOPE,		
	EVENT_EVENT_DOWNLOAD_MT_CALL,		
	EVENT_UNFORMATTED_SMS_PP_ENV,		
	EVENT_UNFORMATTED_SMS_PP_UPD,		
	EVENT_UNFORMATTED_SMS_CB		
	applet1: Priority= 0x01,		
	applet2: Priority= 0x01,		
	(i.e. applet1 is triggered before applet2)		
1	Status_Command is sent		
		1- Applet1 is triggered	
		:	
		2- NullPointerException is thrown	
		3- Applet2 is triggered	
2	Profile_Download is sent		

ld	Description	API/Framework Expectation	APDU Expectation
		1- Applet1 is triggered	
		: 2- NullPointerException is thrown	
		-	
3	UNRECOGNIZED_Envelope is sent	3- Applet2 is triggered	
3	ONNECOGNIZED_Envelope is sent		
		1- Applet1 is triggered	
		2- NullPointerException is thrown	
		3- Applet2 is triggered	
4	Event_Download_MT_Call is sent		
		1- Applet1 is triggered	
		: 2- NullPointerException is thrown	
		3- Applet2 is triggered	
5	Unformatted_SMS_PP_Env is sent		
		1- Applet1 is triggered	
		2- NullPointerException is thrown	
		3- Applet2 is triggered	
6	Unformatted_SMS_PP_Upd is sent		
		1- Applet1 is triggered	
		2- NullPointerException is thrown	
		3- Applet2 is triggered	
7	Unformatted_SMS_CB is sent		
		1- Applet1 is triggered	
		2- NullPointerException is thrown	
		3- Applet2 is triggered	

## 6.3.5.2.4 Test Coverage

CRR Number	Test Case Number	
CRRN1	1, 2, 3, 4, 5, 6, 7	

# 6.3.6 Framework Security Management

## **Security Parameters**

The table that follows contains the security parameters that shall be used when the 3GPP TS 23.048 [8] security is required in the test cases developed in the current subclause.

Parameter	Value in hexadecimal	
KIC	Value as described in the TS 23.048[8] (recommended value: 15)	
KID	Value as described in the TS 23.048[8] (recommended value: 15)	
CNTR	00 00 00 00 01	
Key for ciphering	Corresponding to KIC (recommended value: 01 41 42 7F DA E8 91 A7 02 41 42 7F DA	
	E8 91 A7)	
Key for RC/CC/DS	Corresponding to KID (recommended value: 01 23 45 67 89 AB CD EF EF CD AB 89 67	
	45 23 01)	

If a parameter is not listed explicitly in the above table, the default values of subclause 4.7.3.1 apply.

## 6.3.6.1 Input Data

Test Area Reference: FWK\_FWS\_INDA

### 6.3.6.1.1 Conformance Requirements

#### 6.3.6.1.1.1 Normal Execution

- CRRN1: If the SIM receives an envelope APDU containing an SMS\_PP\_DATADOWNLOAD BER TLV
  formatted according to 3GPP TS 23.048 [8], the SIM Toolkit Framework shall verify the security of the SMS
  TPDU.
- CRRN2: The toolkit applet will only be triggered if the TAR is known and the security verified.
- CRRN3: If the SIM receives an envelope APDU containing an SMS\_CB\_DATADOWNLOAD formatted
  according to 3GPP TS 23.048 [8], the SIM Toolkit Framework shall verify the security of the cell broadcast
  page.
- CRRN4: If the SIM receives an Update Record EFsms instruction formatted according to TS 23.048[8], the SIM Toolkit Framework shall verify the security of the SMS.
- CRRN5: The STF shall provide the input data deciphered.

### 6.3.6.1.1.2 Parameters error

No requirements.

6.3.6.1.1.3 Context Errors

No requirements.

6.3.6.1.2 Test Area Files

Test Script: FWK\_FWS\_INDA\_1.scr

Test Applet: FWK\_FWS\_INDA\_1.java

FWK\_FWS\_INDA\_2.java

FWK\_FWS\_INDA\_3.java

FWK\_FWS\_INDA\_4.java

FWK\_FWS\_INDA\_5.java

FWK\_FWS\_INDA\_6.java

Load Script: FWK\_FWS\_INDA\_1.ldr

Cleanup Script: FWK\_FWS\_INDA\_1.clr

Parameter File: FWK\_FWS\_INDA\_1.par

6.3.6.1.3 Test Procedure

Id Description	API/Framework Expectation	APDU Expectation
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ld	Description	API/Framework Expectation	APDU Expectation
1	Framework checks the Cryptographic checksum and deciphers the data  Applet1 is loaded and installed  1-Envelope(SMS-PP) single and formatted is sent to the SIM with this features: Ciphering; Cryptographic checksum; No proof of receipt; TAR of Applet1; Data = 01  2- Short Message concatenated and formatted is sent to the SIM by an Envelope (SMS PP)with these features: Ciphering; Cryptographic checksum; No proof of receipt; TAR of Applet1; Data length is 150.	1- Applet1 is triggered and the value integrity is checked.  2- Applet1 is triggered and the value integrity is checked	1- The SIM answers to the Envelope with status words 9000
			2- The SIM answers to the Envelope with status words 9000

ld	Description	API/Framework Expectation	APDU Expectation
2	Triggering two different applets with		
	<pre>different security  Applet2 is installed  1-Envelope(SMS-PP) single and formatted is sent to the SIM with this features: Ciphering; Cryptographic checksum; No proof of receipt; TAR of Applet1 Data = 03</pre>	1- Applet1 is triggered and the value integrity is checked	1- The SIM answers to the Envelope with status words 9000
	2- Short Message concatenated and formatted is sent to the SIM by an Envelope (SMS PP)with these features: Ciphering; Cryptographic checksum; No proof of receipt; TAR of Applet1 Data length = 150	2- Applet1 is triggered and the value integrity is checked	2- The SIM answers to the Envelope with status words 9000
	3-Envelope(SMS-PP) single and formatted is sent to the SIM with this features: No ciphering; No cryptographic checksum; No proof of receipt; TAR of Applet2 Data = 05  4- Short Message concatenated and formatted is sent to the SIM by an Envelope (SMS PP) with these features: No ciphering; No cryptographic checksum; No proof of receipt; TAR of Applet2	3- Applet2 is triggered and the value integrity is checked	3- The SIM answers to the Envelope with status words 9000  4- The SIM answers to the Envelope with status words 9000
	Data length = 150.	4- Applet2 is triggered and the value integrity is checked	
3	Envelope(SMS-PP) formatted with wrong cryptographic checksum		1- The SIM answers to the Envelope with status words
	1-Envelope 03.48 single and formatted is sent to the SIM with this features: No ciphering; Wrong cryptographic checksum; No proof of receipt; TAR of Applet1 Data = 07  2- Short Message concatenated and formatted is sent to the SIM by an Envelope (SMS PP)with these features: No ciphering; Wrong cryptographic checksum; No proof of receipt; TAR of Applet1 Data length = 150	<ul><li>1- No applet is triggered.</li><li>2- No applet is triggered.</li></ul>	9000
	paca Tengen - 130		
			<u> </u>

ld	Description	API/Framework Expectation	APDU Expectation
	2000p		7.1. 2 C = Aproximen
4	Framework checks the Cryptographic		
	checksum and deciphers the data		
	Applet3 is loaded and installed		
	1-Envelope(SMS-CB) formatted is sent to		
	the SIM with this features: Ciphering;		
	Cryptographic checksum;	1- Applet3 is triggered and the	
	No proof of receipt; Data = 01	value integrity is checked	
			1- The SIM answers to the
			Envelope with status words
			9000
5	Triggering two different applets with different		
	security on Envelope(SMS-CB) formatted		
	Applet4 is installed		
	1-Envelope(SMS-CB) formatted is sent to	1 Applet2 is triggered and the	1- The SIM answers to the
	the SIM with this features:	1- Applet3 is triggered and the value integrity is checked	Envelope with status words
	Ciphering; Cryptographic checksum;	Talle integrity is enterior	9000
	No proof of receipt;		
	TAR of Applet3 Data = 02		
	2-Envelope(SMS-CB) formatted is sent to the SIM with this features:		
	No ciphering;		2- The SIM answers to the
	No cryptographic checksum;	2- Applet4 is triggered and the value integrity is checked	Envelope with status words 9000
	No proof of receipt; TAR of Applet4	value integrity is effected	3000
	Data = 03		
6	Envelope(SMS-CB) formatted with wrong	No applet is triggered	1- The SIM answers to the
U	cryptographic checksum	no applet is triggered	Envelope with status words
	,		9000
	No ciphering; Wrong Cryptographic checksum;		
	No proof of receipt;		
	TAR of Applet3		
	Data = 04		

ld	Description	API/Framework Expectation	APDU Expectation
7	Framework checks the Cryptographic	·	·
	checksum and deciphers the data		
	Applet5 is installed		
	1- Short Message single and formatted is sent to the SIM by Update Record EFsms instruction with these features: Ciphering; Cryptographic checksum; No proof of receipt; TAR of Applet5; Data = 01	1- Applet5 is triggered and the value integrity is checked.	1- The SIM answers to the Update Record EFsms instruction with status words 9000
	Data - 01		
	2- Short Message concatenated and formatted is sent to the SIM by Update Record EFsms instruction with these features: Ciphering; Cryptographic checksum; No proof of receipt; TAR of Applet5; Data length = 150.	2- Applet5 is triggered and the value integrity is checked	2- The SIM answers to the Update Record EFsms instruction with status words 9000
8	Triggering two different applets with different		
	security		
	Applet6 is installed  1- Short Message single and formatted is sent to the SIM by Update Record EFsms instruction with these features: Ciphering; Cryptographic checksum;	1- Applet5 is triggered and the value integrity is checked.	1- The SIM answers to the Update Record EFsms instruction with status words 9000
	No proof of receipt; TAR of Applet5 Data = 03 2- Short Message concatenated and	2- Applet5 is triggered and the	2- The SIM answers to the Update Record EFsms
	formatted is sent to the SIM by Update Record EFsms instruction with these features: Ciphering; Cryptographic checksum; No proof of receipt; TAR of Applet5	value integrity is checked.	instruction with status words 9000
	Data length = 150.		3- The SIM answers to the
	3- Short Message single and formatted is sent to the SIM by Update Record EFsms instruction with these features: No ciphering; No cryptographic checksum; No proof of receipt; TAR of Applet6;	3- Applet6 is triggered and the value integrity is checked.	Update Record EFsms instruction with status words 9000
	Data = 05		
	4- Short Message concatenated and formatted is sent to the SIM by Update Record EFsms instruction with these features: No ciphering; No cryptographic checksum; No proof of receipt; TAR of Applet6;	4- Applet6 is triggered and the value integrity is checked.	4- The SIM answers to the Update Record EFsms instruction with status words 9000
	Data length = 150.		
9	Update Record EFsms instruction formatted with wrong cryptographic checksum 1- Short Message single and formatted is sent to the SIM by Update Record EFsms		
	bene to the pre by obdate record Freig	1	İ

ld	Description	API/Framework Expectation	APDU Expectation
	<pre>instruction with these features:No ciphering; Wrong Cryptographic checksum; No proof of receipt; TAR of Applet5 Data = 07</pre>	1- No applet is triggered.	1- The SIM answers to the Update Record EFsms instruction with status words 9000
	2- Short Message concatenated and formatted is sent to the SIM by Update Record EFsms instruction with these features: No ciphering; Wrong Cryptographic checksum; No proof of receipt; TAR of Applet5 Data length = 150	2- No applet is triggered.	2- The SIM answers to the Update Record EFsms instruction with status words 9000

## 6.3.6.1.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2, 3
CRRN2	3,6,9
CRRN3	4, 5, 6
CRRN4	7,8,9
CRRN5	1,2,4,5,7,8

# 6.3.6.2 Output Data

Test Area Reference: FWK\_FWS\_OUDA

6.3.6.2.1 Conformance Requirements

6.3.6.2.1.1 Normal Execution

• CRRN1: The SIM Toolkit Framework shall secure and send the response packet.

6.3.6.2.1.2 Parameters error

No requirements.

6.3.6.2.1.3 Context Errors

No requirements.

6.3.6.2.2 Test Area Files

Test Script: FWK\_FWS\_OUDA\_1.scr

Test Applet: FWK\_FWS\_OUDA\_1.java

Load Script: FWK\_FWS\_OUDA\_1.ldr

Cleanup Script: FWK\_FWS\_OUDA\_1.clr

Parameter File: FWK\_FWS\_OUDA\_1.par

6.3.6.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation

ld	Description	API/Framework Expectation	APDU Expectation
1	Envelope(SMS-PP) formatted Ciphering; Cryptographic checksum; proof of receipt response shall be sent using SMS-Deliver-Report; no security applied to proof of receipt Data in plain text = "APPLET1"	The applet is triggered and sends a "Display Text" proactive command with the data received in the Envelope.	The SIM answers to the Envelope with status words 9Fxx and a PoR is retrieved with a GetResponse command. The PoR has no application data. The SIM answers to the Get Response command with status words 91xx to issue a Display Text "APPLET1".
2	Envelope(SMS-PP) formatted Ciphering; Cryptographic checksum; proof of receipt response shall be sent using SMS-Deliver-Report; no security applied to proof of receipt Data in plain text = "APPLET1"	The applet posts application data. It does not call the ProactiveHandler.send() method	The SIM answers to the Envelope with status words 9Fxx and a PoR is retrieved with a GetResponse command. The PoR has the application data posted by the application. The SIM answers to the Get Response command with status words 9000.
3	Envelope(SMS-PP) formatted Ciphering; Cryptographic checksum; proof of receipt response shall be sent using SMS-Deliver-Report; no security applied to proof of receipt Data in plain text = "TEST"	The applet posts application data and calls the ProactiveHandler.send() method to send a "Display Text" proactive command with the data received in the Envelope.	The SIM answers to the Envelope with status words 9Fxx and a PoR is retrieved with a GetResponse command. The PoR has the application data posted by the application. The SIM answers to the Get Response command with status words 91xx to issue the Display Text "TEST".
4	Envelope(SMS-PP) formatted Ciphering; Cryptographic checksum; proof of receipt response shall be sent using SMS-Deliver-Report; proof of receipt shall be ciphered Data in plain text = "TEST"	send a "Display Text" proactive command with the data received in the Envelope.	The SIM answers to the Envelope with status words 9Fxx and a PoR is retrieved with a GetResponse command. The PoR has the application data posted by the application. The SIM answers to the Get Response command with status words 91xx to issue the Display Text "TEST".
5	Envelope(SMS-PP) formatted The Terminal Profile command shall be issued with the facility "'9EXX' response code for SIM data download error" enabled The Envelope(SMS-PP) formatted has to be issued with the following features: No ciphering; Wrong Cryptographic checksum; proof of receipt response shall be sent using SMS-Deliver-Report; no security applied to proof of receiptData in plain text = "TEST"	No applet is triggered	The SIM answers to the Envelope with status words 9Exx and a PoR is retrieved with a GetResponse command. The Response Status Code Octet shall be '01'.

# 6.3.6.2.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2, 3, 4, 5

# 6.3.7 Envelope Response Posting

# 6.3.7.1 EVENT\_CALL\_CONTROL\_BY\_SIM

Test Area Reference: FWK\_ERP\_ECCN

6.3.7.1.1 Conformance Requirements

6.3.7.1.1.1 Normal Execution

• CRRN1: The SIM Toolkit Framework can't reply busy when an Envelope(Call Control) is sent to the SIM.

6.3.7.1.1.2 Parameters error

No requirements.

6.3.7.1.1.3 Context Errors

No requirements.

6.3.7.1.2 Test Area Files

Test Script: FWK\_ERP\_ECCN\_1.scr

Test Applet: FWK\_ERP\_ECCN\_1.java

FWK\_ERP\_ECCN\_2.java

FWK\_ERP\_ECCN\_3.java

Load Script: FWK\_ERP\_ECCN\_1.ldr

Cleanup Script: FWK\_ERP\_ECCN\_1.clr

Parameter File: FWK\_ERP\_ECCN\_1.par

## 6.3.7.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet1 is registered on the EVENT_CALL_CONTROL_BY_SIM, Applet2 is registered and triggered on the EVENT_MENU_SELECTION.		•
	1-Applet2 invokes the method send()and no fetch is performed 2-Envelope(Call Control) is sent to the SIM	Applet2 is suspended	
	3-Applet1 calls the method EnvelopeResponseHandler.postASBERTLV() to change any incoming dialling number into +11 22 33 44.	Applet1 is triggered.	The SIM answer 9Fxx to the Envelope(Call Control)
			The dialling number is retrieved with a GetResponse command. The SIM answers to the Get Response command with status words 91xx.
	4-A Fetch command is sent to the SIM		
	5-A Terminal Response command is sent to the SIM	Applet2's execution shall continue.	
	6-Delete Applet1 & Applet2		
	7-Install Applet3		
2	Applet3 is registered on both the events EVENT_CALL_CONTROL_BY_SIM and EVENT_MENU_SELECTION.  1-Envelope Menu Selection is sent to the SIM.	Applet3 is triggered on the EVENT_MENU_SELECTION	
	2-Applet3 invokes the method send()and no fetch is performed)	Applet3 is suspended on the send() method	
	3-Envelope(Call Control) is sent to the SIM 4-Applet3 calls the method	Applet3 is triggered on the EVENT_CALL_CONTROL_BY_SI	The CIM account of the
	EnvelopeResponseHandler.postASBERTLV() to change any incoming dialling number into +11 22 33 44.	M.	The SIM answer 9Fxx to the Envelope(Call Control)  The dialling number is retrieved with a GetResponse command.
			The SIM answers to the Get Response command with status words 91xx.
	5-A Fetch command is sent to the SIM		
	6-A Terminal Response command is sent to the SIM		
		The Applet3's execution shall continue.	

## 6.3.7.1.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2

## 6.3.7.2 EVENT\_MO\_SHORT\_MESSAGE\_CONTROL\_BY\_SIM

Test Area Reference: FWK\_ERP\_EMCN

6.3.7.2.1 Conformance Requirements

6.3.7.2.1.1 Normal Execution

• CRRN1: The SIM Toolkit Framework can't reply busy when an Envelope(MO-Short Message Control) is sent to the SIM.

6.3.6.2.1.2 Parameters error

No requirements.

6.3.6.2.1.3 Context Errors

No requirements.

6.3.7.2.2 Test Area Files

Test Script: FWK\_ERP\_EMCN\_1.scr

Test Applet: FWK\_ERP\_EMCN\_1.java

FWK\_ERP\_EMCN\_2.java

FWK\_ERP\_EMCN\_3.java

Load Script: FWK\_ERP\_EMCN\_1.ldr

Cleanup Script: FWK\_ERP\_EMCN\_1.clr

Parameter File: FWK\_ERP\_EMCN\_1.par

## 6.3.7.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Applet1 is registered on the EVENT_MO_SHORT_MESSAGE_CONTROL_B Y_SIM; Applet2 is registered and triggered on the EVENT_MENU_SELECTION.		7.1. 2 C 2.1.pc c c c c c c c c c c c c c c c c c c
	1-Applet2 invokes the method send()and no fetch is performed) 2-Envelope(MO-SM control) is sent to the SIM 3-Applet1 calls the method	Applet2 is suspended  Applet1 is triggered.	
	EnvelopeResponseHandler.postASBERTLV() to change any incoming TP_Destination_Address and any RP_Destination_Address of the Service Center into +11 22 33 44		The SIM answers 9Fxx to the Envelope(MO-Short Message Control)
			The TP_Destination_Address is retrieved with a GetResponse command. The SIM answers to the Get
	4-A Fetch command is sent to the SIM		Response command with status words 91xx.
	5-A Terminal Response command is sent to the SIM		
	6-Delete Applet1 & Applet2	The Applet's execution shall continue.	
	7-Install Applet3		
2	Applet3 is registered on both the events EVENT_MO_SHORT_MESSAGE_CONTROL_B Y_SIM and EVENT_MENU_SELECTION.		
	1-Applet3 invokes the method send()and no fetch is performed)	Applet3 is suspended on the send() method	
	2-Envelope(MO-SM control) is sent to the SIM  3-Applet3 calls the method EnvelopeResponseHandler.postASBERTLV() to	Applet3 is triggered on the EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM.	
	change any incoming TP_Destination_Address and any RP_Destination_Address of the Service Center into +11 22 33 44.		The SIM answers 9Fxx to the Envelope(MO-Short Message Control)
			The TP_Destination_Address is retrieved with a GetResponse command.
			The SIM answers to the Get Response command with status words 91xx.
	4-A Fetch command is sent to the SIM		
	5-A Terminal Response command is sent to the SIM		
		The Applet3's execution shall continue.	

### 6.3.7.2.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2

## 6.3.7.3 EVENT\_UNRECOGNIZED\_ENVELOPE

Test Area Reference: FWK\_ERP\_EUEN

6.3.7.3.1 Conformance Requirements

6.3.7.3.1.1 Normal Execution

• CRRN1: The EnvelopeResponseHandler is available for the EVENT\_UNRECOGNIZED\_ENVELOPE.

6.3.7.3.1.2 Parameters error

No requirements.

6.3.7.3.1.3 Context Errors

No requirements.

6.3.7.3.2 Test Area Files

Test Script: FWK\_ERP\_EUEN\_1.scr

Test Applet: FWK\_ERP\_EUEN\_1.java

Load Script: FWK\_ERP\_EUEN\_1.ldr

Cleanup Script: FWK\_ERP\_EUEN\_1.clr

Parameter File: FWK\_ERP\_EUEN\_1.par

6.3.7.3.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	An applet triggered on the	The post() method returns no	The SIM answers to the
	EVENT_UNRECOGNIZED_ENVELOPE calls the	exception	Envelope with status words
	EnvelopeResponseHandler.post() method		9Fxx. The data retrieved
			with the GetResponse
			command are the ones
			posted by the applet.

### 6.3.7.3.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1

## 6.3.7.4 EVENT\_FORMATTED\_SMS\_PP\_ENV

Test Area Reference: FWK\_ERP\_EFSE

### 6.3.7.4.1 Conformance Requirement

### 6.3.7.4.1.1 Normal Execution

- CRRN1: If PoR is required a SMS-DELIVER REPORT is sent by the SIM, when the post() or the postAsBERTLV() method is invoked and if bit 6 of the second octet of SPI is set to 0.
- CRRN2: If PoR is required a SMS-SUBMIT is sent by the SIM, when the post() or the postAsBERTLV() method is invoked and if bit 6 of the second octet of SPI is set to 1. In this case the statusType method parameter is meaningless. The SIM Toolkit Framework shall build and issue a Send Short Message proactive command as defined in TS 11.14 [4].

6.3.7.4.2 Test Suite Files

Test Script: FWK\_ERP\_EFSE\_1.scr

Test Applet: FWK\_ERP\_EFSE\_1.java

FWK\_ERP\_EFSE \_2.java

Load Script: FWK\_ERP\_EFSE \_1.ldr

Cleanup Script: FWK\_ERP\_EFSE \_1.clr

Parameter File: FWK\_ERP\_EFSE \_1.par

## 6.3.7.4.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	SMS DELIVER REPORT	,	
	1- A formatted sms pp envelope with SMS Deliver Report required is sent to the SIM with bit 6 of SPI2 set to 0.	1- Applet1 is triggered	
	2- EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3- Applet1 builds the answer and calls the post() method with StatusType=SW1_RP_ACK	Applet1 finalizes	3- ME receives 9FXX and checks the response
	4- A formatted sms pp envelope with SMS Deliver Report required is sent to the SIM with bit 6 of SPI2 set to 0.		
	5- EnvelopeResponseHandler.getTheHandler() method is called by Applet1	4- Applet1 is triggered	5- ME receives 9FXX and
	6- Applet1 builds the answer and calls the postAsBERTLV() method with StatusType=SW1_RP_ACK	4- Applett is triggered	checks the response
		5- No exception is thrown.	
		Applet1 finalizes	
2	SMS-SUBMIT		
	1- A formatted sms pp envelope with SMS Submit required is sent to the SIM with bit 6 of SPI2 set to 1.	1- Applet1 is triggered	
	2- EnvelopeResponseHandler.getTheHandler() method is called by Applet1	2- No exception is thrown.	
	3-Applet1 builds the answer and calls the post() method with StatusType=SW1_RP_ACK	Applet1 finalizes	3- ME receives a Send Short Message proactive command.
	4- A formatted sms pp envelope with SMS Submit required is sent to the SIM with bit 6 of SPI2 set to 1.	4- Applet1 is triggered	
	5- EnvelopeResponseHandler.getTheHandler() method is called by Applet1	5- No exception is thrown	

ld	Description	API/Framework Expectation	APDU Expectation
	6-Applet1 builds the answer and calls the post() method with StatusType=SW1_RP_ERROR	Applet1 finalizes	6- ME receives a Send Short Message proactive command.
	7- A formatted sms pp envelope with SMS Submit required is sent to the SIM with bit 6 of SPI2 set to 1. 8- EnvelopeResponseHandler.getTheHandler() method is called by Applet1	7- Applet1 is triggered	
	9Applet1 builds the answer and calls the postAsBERTLV() method with StatusType=SW1_RP_ACK	8- No exception is thrown.	9- ME receives a Send Short Message proactive command.
		Applet1 finalizes	
	10- A formatted sms pp envelope with SMS Submit required is sent to the SIM with bit 6 of SPI2 set to 1.		
	11- EnvelopeResponseHandler.getTheHandler() method is called by Applet1	10- Applet1 is triggered	
	12-Applet1 builds the answer and calls the postAsBERTLV () method with StatusType=SW1_RP_ERROR	11- No exception is thrown.	12- ME receives a Send Short Message proactive command.

## 6.3.7.4.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1
CRRN2	2

# 6.3.8 Toolkit Installation

## 6.3.8.1 Timers Allocation

Test Area Reference: FWK\_TIN\_TMAL

## 6.3.8.1.1 Conformance Requirements

### 6.3.8.1.1.1 Normal execution

• CRRN1: One toolkit applet can register to several timers, but a timer can only be allocated to one toolkit applet.

## 6.3.8.1.1.2 Parameters error

No requirements.

### 6.3.8.1.1.3 Context errors

• CRRC1: Allocated timers shall not exceed the maximum number of timers allowed for this applet instance defined during installation.

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• CRRC2: The total number of timers allocated for all the applets shall not exceed 8. If the maximum number of timers required is greater than '08' (maximum numbers of timers specified in TS 11.14 [4], the card shall return the Status Word '6A80', incorrect parameters in data field, to the Install(Install) command.

### 6.3.8.1.2 Test suite files

Test Script: FWK\_TIN\_TMAL\_1.scr

Test Applet: FWK\_TIN\_TMAL\_1.java

FWK\_TIN\_TMAL\_2.java

FWK\_TIN\_TMAL\_3.java

Load Script: FWK\_TIN\_TMAL\_1.ldr

Cleanup Script: FWK\_TIN\_TMAL\_1.clr

Parameter File: FWK\_TIN\_TMAL\_1.par

### 6.3.8.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	More than 8 timers at the instantiation of applet1: check that applet1 is not installed.  Install for install of applet1 with maximum 9 timers allocated, requesting a POR to be sent via SMS-DELIVER-REPORT.		The SIM answers to the Envelope with status words 9Fxx  A GET RESPONSE is sent and the additional data in the PoR is checked. It must be 01 6A 80.
	Reset the card		
2	Good installation of applet2  Install for install of applet2 (maximum 4 timers allocated).		The SIM answers to the Envelope with status words 90 00
3	Allocate 4 timers Applet2	No exception shall be thrown.	
4	Allocate one more timer Applet2	Shall throw a ToolkitException with reason NO_TIMER_AVAILABLE	
5	Good installation of applet3		

ld	Description	API/Framework Expectation	APDU Expectation
	Install for install of applet3 (maximum 8 timers allocated).		The SIM answers to the Envelope with status words 90 00
6	Allocate 4 timers Applet3	No exception shall be thrown.	
7	Allocate one more timer Applet3	Shall throw a ToolkitException with reason NO_TIMER_AVAILABLE	
8	Check that each timerId (allocated by applet2 and applet3) is between 1 and 8 and is different from each other		

### 6.3.8.1.4 Test Coverage

CRR number	Test case number
N1	2, 3, 8
C1	1, 7
C2	4, 5, 6

## 6.3.8.2 Item Identifier

Test Area Reference: FWK\_TIN\_ITID

6.3.8.2.1 Conformance Requirements

### 6.3.8.2.1.1 Normal execution

- CRRN1: If the requested item identifier in the range [1-127] is not already allocated, then this item identifier shall be allocated to the current applet.
- CRRN2: If the requested item identifier is '00', the card shall take the first free value in the range [128,255].

### 6.3.8.2.1.2 Parameters error

• CRRP1: If the requested item identifier is in the range [128,255], then the card shall reject the install command.

### 6.3.8.2.1.3 Context errors

• CRRC1: If the requested item identifier in the range [1-127] is already allocated, then the card shall reject the install command.

### 6.3.8.2.2 Test suite files

Test Script: FWK\_TIN\_ITID\_1.scr

Test Applet: FWK\_TIN\_ITID\_1.java

FWK\_TIN\_ITID\_2.java

FWK\_TIN\_ITID\_3.java

Load Script: FWK\_TIN\_ITID\_1.ldr

Cleanup Script: FWK\_TIN\_ITID\_1.clr

Parameter File: FWK\_TIN\_ITID\_1.par

## 6.3.8.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Bad installation of applet1  Install for install of applet1.The following parameters item Id equal to 128		applet1 is not found, status word 6X XX
	applet1 is selected		
2	Good installation of applet1		
	<pre>Install for install of applet1. item Id = 1 for the first menu and 127 for the second one</pre>		The SIM answers to the Envelope with status words 91xx to send back to the ME the 2 new menus.
	A Terminal Profile is sent to the card with only PROFILE_DOWNLOAD, SMS_PP_DOWNLOAD, MENU_SELECTION, SET_UP_MENU and COMMAND_RESULT facilities.		The menus are (position/itemId/text) 01/01/menu11 02/127/menu12
3	Bad installation of applet2		
	Item identifier already allocated		
	Install for install of applet2. item Id = 127		applet2 is not found, status
4	applet2 is selected  Good installation of applet2		word ox xx
	Install for install of applet2. item Id = 0		The SIM answers to the Envelope with status words 91xx to send back to the ME the 3 menus.
			The menus are 01/01/menu11 02/127/menu12 03/128/menu21
5	Good installation of applet3		
	<pre>Install for install of applet3. item Id = 0</pre>		The SIM answers to the Envelope with status words 91xx to send back to the ME the 4 menus.
			The menus are 01/01/menu11 02/127/menu12 03/128/menu21 04/129/menu31

ld	Description	API/Framework Expectation	APDU Expectation
6	Good delete and installation of applet2	-	
	Delete instance of applet2  Perform a RESET and a Terminal Profile		The SIM answers to the Terminal Profile with status words 91xx to send back to the ME the 3 menus.
	with the facilities of PROFILE_DOWNLOAD, SMS-PP_DATA_DOWNLOAD, MENU_SELECTION, COMMAND_RESULT and SET_UP_MENU		The menus are 01/01/menu11 02/127/menu12 03/129/menu31
	<pre>Install for install of applet2. item Id = 0</pre>		The SIM answers to the
			Envelope with status words 91xx to send back to the ME
			the 4 menus.
			The menus are 01/01/menu11
			02/127/menu12
			03/128/menu21
			04/129/menu31

### 6.3.8.2.4 Test Coverage

CRR number	Test case number
N1	2
N2	4, 5, 6
P1	1
C1	3

### 6.3.8.3 Item Position

Test Area Reference: FWK\_TIN\_ITPO

6.3.8.3.1 Conformance Requirements

6.3.8.3.1.1 Normal execution

- CRRN1: The position of the new menu entries is an absolute position among the existing ones.
- CRRN2: If the position identifier is 00h, the menu shall have the last position.

6.3.8.3.1.2 Parameters error

No requirements.

6.3.8.3.1.3 Context errors

No requirements.

6.3.8.3.2 Test suite files

Test Script: FWK\_TIN\_ITPO\_1.scr

Test Applet: FWK\_TIN\_ITPO\_1.java

FWK\_TIN\_ITPO\_2.java

FWK\_TIN\_ITPO\_3.java

Load Script: FWK\_TIN\_ITPO\_1.ldr

Cleanup Script: FWK\_TIN\_ITPO\_1.clr

Parameter File: FWK\_TIN\_ITPO\_1.par

6.3.8.3.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Installation of applet1	•	•
	Perform Install for install of applet1.Position/ItemId 01/01 02/02		
	A Terminal Profile is sent to the card		The menus are (position/itemId/text) 01/01/menu11 02/02/menu12
2	Installation of applet2  Perform Install for install of applet2. Position/ItemId 03/03		The SIM answers to the Envelope with status words 91xx to send back to the ME the 4 menus.
	04/04		The menus are (position/itemId/text) 01/01/menu11 02/02/menu12 03/03/menu21 04/04/menu22
3	Installation of applet3  Perform Install for install of applet3. Position/ItemId 00/05		The SIM answers to the Envelope with status words 91xx to send back to the ME the 5 menus.  The menus are (position/itemId/text) 01/01/menu11 02/02/menu12 03/03/menu21 04/04/menu22 05/05/menu31

## 6.3.8.3.4 Test Coverage

NOTE: As Item Position management is not fully specified in the 3GPP TS 43.019 [7] or 3GPP TS 23.048 [8] all possible tests cannot be performed.

CRR number	Test case number
N1	1, 2
N2	3

## 6.3.8.4 Maximum Text Length for a menu entry

Test Area Reference: FWK\_TIN\_MLME

6.3.8.4.1 Conformance Requirements

6.3.8.4.1.1 Normal execution

• CRRN1: The maximum length of item text string is defined at the installation of the toolkit applet.

### 6.3.8.4.1.2 Parameters errors

- CRRP1: If initMenuEntry length parameter is greater than the allocated space (Maximum Text Length for a menu entry), then a ToolkitException ALLOWED\_LENGTH\_EXCEEDED is thrown.
- CRRP2: If changeMenuEntry length parameter is greater than the allocated space (Maximum Text Length for a menu entry), then a ToolkitException ALLOWED\_LENGTH\_EXCEEDED is thrown.

### 6.3.8.4.1.3 Context errors

No requirements.

6.3.8.4.2 Test suite files

Test Script: FWK\_TIN\_MLME\_1.scr

Test Applet: FWK\_TIN\_MLME\_1.java

Load Script: FWK\_TIN\_MLME\_1.ldr

Cleanup Script: FWK\_TIN\_MLME\_1.clr

Parameter File: FWK\_TIN\_MLME\_1.par

### 6.3.8.4.3 Test Procedure

ld	Description	API / Framework Expectation	APDU Expectation
1	Installation of applet with 2 menus not exceeding the maximum text length  Install one applet with 2 menu entries allowed and max. text length equal to 10. initMenuEntry defined at the install (install) command  MenuEntry = "MenuEntry1", "MenuEntry2"  Offset = 0  Length = 10  NextAction = '00'  HelpSupported = false IconQualifier = '00'	API/ Framework Expectation	APDO Expectation
2	IconIdentifier = 0 initMenuEntry with a too large length	ToolkitException	
	<pre>initMenuEntry with length equal to 11 MenuEntry = " MenuEntry03" Offset = 0 Length = 11 NextAction = '00' HelpSupported = false IconQualifier = '00' IconIdentifier = 0</pre>	ALLOWED_LENGTH_EXCEEDED is thrown	
3	<pre>initMenuEntry with a right length initMenuEntry with length parameter equal to 10 MenuEntry = " MenuEntry3" Offset = 0 Length = 10 NextAction = '00' HelpSupported = false IconQualifier = '00' IconIdentifier = 0</pre>		a SET UP MENU (2 items) is issued with TLV item length equal to 11 (Identifier + Text string of item)

ld	Description	API / Framework Expectation	APDU Expectation
4	changeMenuEntry with a right length  Applet1 is triggered by a  EVENT_MENU_SELECTION.  changeMenuEntry of menu 1, with length parameter equal to 10  Id = '01'  MenuEntry = "MenuEntry4"  Offset = 0  Length = menuEntry.length NextAction = 0  HelpSupported = false IconQualifier = 0  IconIdentifier = 0	•	a SET UP MENU (2 items) is issued with TLV item length equal to 11 (Identifier + Text string of item)
	Return from processToolkit		
5	changeMenuEntry with a too large length  Applet1 is triggered by a EVENT_MENU_SELECTION.  ChangeMenuEntry of menu 1, with length parameter equal to 11  Id = '02' MenuEntry = "MenuEntry05"  Offset = 0 Length = menuEntry.length NextAction = 0 HelpSupported = false IconQualifier = 0 IconIdentifier = 0  Return from processToolkit	ToolkitException ALLOWED_LENGTH_EXCEEDED is thrown	Shall not receive a SET UP MENU different from the previous one

### 6.3.8.4.4 Test Coverage

CRR number	Test case number	
CRRN1	1, 3, 4	
CRRP1	2	
CRRP2	5	

## 6.3.8.5 Maximum number of menu entries

Test Area Reference: FWK\_TIN\_NBME

6.3.8.5.1 Conformance Requirements

6.3.8.5.1.1 Normal execution

• CRRN1: The maximum number of menu entries is defined at the installation of the toolkit applet and can be the maximum number of successful invocations of the method initMenuEntry.

## 6.3.8.5.1.2 Parameters errors

• CRRP1: If the menu entry cannot be initialised (e.g. no more item data in applet loading parameter), a ToolkitException with the REGISTRY\_ERROR reason code is thrown.

6.3.8.5.1.3 Context errors

No requirements.

6.3.8.5.2 Test suite files

Test Script: FWK\_TIN\_NBME\_1.scr

Test Applet: FWK\_TIN\_NBME\_1.java

FWK\_TIN\_NBME\_2.java

Load Script: FWK\_TIN\_NBME\_1.ldr

Cleanup Script: FWK\_TIN\_NBME\_1.clr

Parameter File: FWK\_TIN\_NBME\_1.par

### 6.3.8.5.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	<pre>Installation of applet with 3 menus  Install (install) applet with max. number of menu entry is '3', defined at the install (install) command. initMenuEntry for each menu entry allowed (3 times)  MenuEntry = "menu1", "menu2", "menu3"  Offset = 0 Length = 5 NextAction = '00' HelpSupported = false IconQualifier = '00' IconIdentifier = 0</pre>	No Exception is thrown	
2	<pre>init of a 4<sup>th</sup> menu initMenuEntry one more time MenuEntry = "menu4" Offset = 0 Length = 5 NextAction = '00' HelpSupported = false IconQualifier = '00' IconIdentifier = 0</pre>	ToolkitException REGISTRY_ERROR is thrown	SET UP MENU (3 items) is issued with TLV item length equal to 6 (Identifier + Text string of item)
3	Installation of 2 <sup>nd</sup> applet with 0 menu  Install (install) another applet, with max. number of menu entry is '0', defined at the install (install) command.  initMenuEntry once MenuEntry = "menul" Offset = 0 Length = 5 NextAction = '00' HelpSupported = false IconQualifier = '00' IconIdentifier = 0	ToolkitException REGISTRY_ERROR is thrown	Shall not receive a SET UP MENU different from the previous one

### 6.3.8.5.4 Test Coverage

CRR number	Test case number
CRRN1	1
CRRP1	2, 3

## 6.3.8.6 Access Domain

Test Area Reference: FWK\_TIN\_ACDO

### 6.3.8.6.1 Conformance Requirements

#### 6.3.8.6.1.1 Normal execution

• CRRN1: The Access Domain parameter indicates the mechanism used to control the applet instance access to the GSM file System ('00' means full access to the GSM File System, 'FF' means no access to the GSM File System).

#### 6.3.8.6.1.2 Parameters errors

- CRRP1: If the Access Domain Parameter requested is not supported, the card shall return the Status Word '6A80', incorrect parameters in data field, to the Install(Install) command.
- CRRP2: If an applet with Access Domain Parameter 'FF' (i.e. No Access to the GSM File System) tries to access a GSM file (e.g. invoke the updateBinary(..) method) the framework shall throw a SIMViewException with a AC\_NOT\_FULFILLED reason.

#### 6.3.8.6.1.3 Context errors

No requirements.

6.3.8.6.2 Test suite files

Test Script: FWK\_TIN\_ACDO\_1.scr

Test Applet: FWK\_TIN\_ACDO\_1.java

FWK\_TIN\_ACDO\_2.java

FWK\_TIN\_ACDO\_3.java

Load Script: FWK\_TIN\_ACDO\_1.ldr

Cleanup Script: FWK\_TIN\_ACDO\_1.clr

Parameter File: FWK\_TIN\_ACDO\_1.par

#### 6.3.8.6.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
0	Install (install) applet1 with:		
	- Length of Access Domain field value is		
	- Access Domain Parameter value is '00'		
	(full access to the GSM File System)		
	Install (install) applet2 with:		
	- Length of Access Domain field value is		
	- Access Domain Parameter value is 'FF'		
	(No access to the GSM File System)		
	Install (install) applet3 with:		
	- Length of Access Domain field value is		
	'1'		
	- Access Domain Parameter value is '00'		
	(full access to the GSM File System)		

i	Description	API/Framework Expectation	APDU Expectation
	readBinary/readRecord method with full	1 to 4- no exception is thrown	
	Access Domain Parameter	·	
		5- SIMViewException	
	1- Select EF-TARU file whose Read access condition is ALWAYS	AC_NOT_FULFILLED is thrown	
	Perform the readBinary method:		
	fileOffset = 0		
	resp = abRead[]		
	respOffset = 0		
	respLength = 3		
	2- Select EF-SMS file whose Read access		
	condition is CHV1		
	Perform the readRecord method:		
	recNumber = 1		
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	recOffset = 0		
	resp = abRead[]		
	respOffset = 0		
	respLength = 3		
	3- Select EF-TRAC file whose Read access		
	condition is CHV2		
	Perform the readBinary method:		
	<pre>fileOffset = 0 resp = abRead[]</pre>		
	respOffset = 0		
	respLength = 3		
	4- Select EF-SUME file Read access		
	condition is ADM0		
	Perform the readBinary method:		
	fileOffset = 0		
	resp = abRead[]		
	respOffset = 0		
	respLength = 3		
	5- Select EF-TNR file whose Read access		
	condition is NEVER		
	Perform the readBinary method: fileOffset = 0		
	resp = abRead[]		
	respOffset = 0		
	respLength = 3		
	<u>-</u>		

ld	Description	API/Framework Expectation	APDU Expectation
2	updateBinary/updateRecord method with full	1 to 4- no exception is thrown	
	Access Domain Parameter		
	For each case, send an Envelope that	5- SIMViewException	
	triggers the applet with the	AC_NOT_FULFILLED is thrown	
	EVENT_UNFORMATTED_SMS_PP_ENV event.		
	1- Select EF-TNR file whose Update access		
	condition is ALWAYS		
	Perform the updateBinary method: fileOffset = 0		
	resp = abUpdate[FFFFFF]		
	respOffset = 0		
	respLength = 3		
	2- Select EF-SMS file whose Update access		
	condition is CHV1 Perform the updateRecord method:		
	recNumber = 1		
	mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	recOffset = 0resp = abUpdate[] respOffset = 0		
	respLength = 3		
	2 Cologt EE EDN file whose Undete agges		
	3- Select EF-FDN file whose Update access condition is CHV2		
	Perform the updateBinary method:		
	recNumber = 1 mode = REC_ACC_MODE_ABSOLUTE_CURRENT		
	recOffset = 0		
	resp = abUpdate[]		
	respOffset = 0 respLength = 3		
	resplicing in a simple		
	4- Select EF-SUME file Update access		
	condition is ADM0 Perform the updateBinary method:		
	fileOffset = 0		
	resp = abUpdate[] respOffset = 0		
	respLength = 3		
	5- Select EF-TNU file whose Update access condition is NEVER		
	Perform the updateBinary method:		
	fileOffset = 0		
	resp = abUpdate[] respOffset = 0		
	respLength = 3		
3	invalidate method with full Access Domain Parameter	1 to 4- no exception is thrown	
	Farameter		
		5- SIMViewException	
	1- Select EF-TNR file whose Invalidate access condition is ALWAYS	AC_NOT_FULFILLED is thrown	
	Perform the invalidate method		
	2- Select EF-TIAC file whose Invalidate access condition is CHV1		
	Perform the invalidate method		
	2 Colort DD ADV 641 andres Tourskildete		
	3- Select EF-ADN file whose Invalidate access condition is CHV2		
	Perform the invalidate method		
	4- Select EF-SUME file Invalidate access		
	condition is ADM0		
	Perform the invalidate method		
	5- Select EF-CNIV file whose Invalidate		
	access condition is NEVER		
	Perform the invalidate method		

ld	Description	API/Framework Expectation	APDU Expectation
4	rehabilitate method with full Access Domain	1 to 4- no exception is thrown	
	Parameter		
		5- SIMViewException	
	1- Select EF-TNR file whose Rehabilitate access condition is ALWAYS	AC_NOT_FULFILLED is thrown	
	Perform the rehabilitate method		
	refrorm the renabilitate method		
	2- Select EF-IMSI file whose Rehabilitate		
	access condition is CHV1		
	Perform the rehabilitate method		
	3- Select EF-ADN file whose Rehabilitate		
	access condition is CHV2		
	Perform the rehabilitate method		
	4- Select EF-SUME file Rehabilitate access		
	condition is ADMO Perform the rehabilitate method		
	Perform the renabilitate method		
	5- Select EF-CNRI file whose Rehabilitate		
	access condition is NEVER		
	Perform the rehabilitate method		
	in an analysis of the first of		
5	increase method with full Access Domain	1 to 4- no exception is thrown	
	Parameter		
		5 SIMViowEvention	
	1- Select EF-CNR file whose Increase	5- SIMViewException AC_NOT_FULFILLED is thrown	
	access condition is ALWAYS	AO_NOT_FOR TELED IS UNOWN	
	Perform the increase method:		
	incr = abIncreaseValue[]		
	incrOffset = 0		
	resp = abRead[] respOffset = 0		
	Tespolisee - v		
	2- Select EF-ACM file whose Increase		
	access condition is CHV1		
	Perform the increase method:		
	<pre>incr = abIncreaseValue[] incrOffset = 0</pre>		
	resp = abRead[]		
	respOffset = 0		
	-		
	3- Select EF-CIAC file whose Increase		
	access condition is CHV2		
	Perform the increase method:		
	<pre>incr = abIncreaseValue[] incrOffset = 0</pre>		
	resp = abRead[]		
	respOffset = 0		
	4- Select EF-CIAA file Increase access condition is ADM0		
	Perform the increase method:		
	incr = abIncreaseValue[]		
	incrOffset = 0		
	resp = abRead[]		
	respOffset = 0		
	5- Select EF-CNU file whose Increase		
	access condition is NEVER		
	Perform the increase method		

ld	Description	API/Framework Expectation	APDU Expectation
6	readBinary method with no Access Domain	SIMViewException	
	Parameter	AC_NOT_FULFILLED is thrown	
	Cond on Broad on that but not one the soulet		
	Send an Envelope that triggers the applet with the EVENT_UNFORMATTED_SMS_PP_ENV		
	event.		
	Select EF-TARU file whose Read access		
	condition is ALWAYS		
	Perform the readBinary method: fileOffset = 0		
	resp = abRead[]		
	respOffset = 0		
	respLength = 3		
7	t	CIM//iowEveentien	
'	updateRecord method with no Access Domain Parameter	AC_NOT_FULFILLED is thrown	
	Farameter	AC_NOT_FOLFILLED IS UITOWIT	
	Send an Envelope that triggers the applet		
	with the EVENT_UNFORMATTED_SMS_PP_ENV		
	event.		
	Select EF-SMS file whose Update access		
	condition is CHV1		
	Perform the updateRecord method:		
	fileOffset = 0		
	resp = abUpdate[] respOffset = 0		
	respLength = 3		
8	invalidate method with no Access Domain	SIMViewException	
	Parameter	AC_NOT_FULFILLED is thrown	
	Cond on Bourland that the many the smallet		
	Send an Envelope that triggers the applet with the EVENT_UNFORMATTED_SMS_PP_ENV		
	event.		
	Select EF-ADN file whose Invalidate access condition is CHV2		
	Perform the invalidate method		
9	rehabilitate method with no Access Domain	SIMViewException	
	Parameter	AC_NOT_FULFILLED is thrown	
	Send an Envelope that triggers the applet		
	with the EVENT_UNFORMATTED_SMS_PP_ENV		
	event.		
	Gallant DD GIMED 513 D 3 11311		
	Select EF-SUME file Rehabilitate access condition is ADM0		
	Perform the rehabilitate method		
10	increase method with no Access Domain	SIMViewException	
	Parameter	AC_NOT_FULFILLED is thrown	
	Send an Envelope that triggory the application		
	Send an Envelope that triggers the applet with the EVENT_UNFORMATTED_SMS_PP_ENV		
	event.		
	G 1		
	Select EF-CNR file whose Increase access condition is NEVER		
	Perform the increase method		
		Applet2 finalizes	
		Applet3 restore EF-SUME	

## 6.3.8.6.4 Test Coverage

NOTE: As Item Position management is not fully specified in the 3GPP TS 43.019 [7] or 3GPP TS 23.048 [8] all possible tests cannot be performed.

CRR number	Test case number
CRRN1	1, 2, 3, 4, 5
CRRP1	Not tested
CRRP2	6, 7, 8, 9, 10

### 6.3.8.7 Priority Level

Test Area Reference: FWK\_TIN\_PRLV

### 6.3.8.7.1 Conformance Requirements

#### 6.3.8.7.1.1 Normal execution

- CRRN1: The priority specifies the order of activation of an applet compared to the other applet registered to the same event ('01': Highest priority level, 'FF': Lowest priority level).
- CRRN2: If two or more applets are registered to the same event and have the same priority level, the applets are activated according to their installation date (i.e. the most recent applet is activated first).

#### 6.3.8.7.1.2 Parameters errors

No requirements.

6.3.8.7.1.3 Context errors

No requirements.

6.3.8.7.2 Test suite files

Test Script: FWK\_TIN\_PRLV\_x.scr, x from 1 to 12

Test Applet: FWK\_TIN\_PRLV\_x.java, x from 1 to 12, 8A, 8B, 9A, 9B, 10A, 10B

Load Script: FWK\_TIN\_PRLV\_x.ldr, x from 1 to 12

Cleanup Script: FWK\_TIN\_PRLV\_x.clr, x from 1 to 12

Parameter File: FWK\_TIN\_PRLV\_x.par, x from 1 to 12, 8A, 8B, 9A, 9B, 10A, 10B

## 6.3.8.7.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
0	All applets are registered on an		
	EVENT_UNFORMATTED_SMS_PP_ENV event		
1	Trigger 2 applets with 2 different maximum		
	Priority Levels		
	Install (install) applet1 with priority level '2' and applet2 with priority level '1', from package fwk_tin_prlv_1.		
	Send an Envelope that triggers the 2 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.	A static variable is used to validate triggering order: applet2 is triggered before applet1	
	Delete applets instances and packages	anggerea acress approximation	

ld	Description	API/Framework Expectation	APDU Expectation
2	Trigger 2 applets with 2 different maximum	·	•
	Priority Levels		
	Install (install) applet1 with priority		
	level '1' and applet2 with priority level '2', from package fwk_tin_prlv_2.		
	2 , IIOM package Iwk_CIM_PIIV_2.		
	Send an Envelope that triggers the 2 applets with the		
	EVENT_UNFORMATTED_SMS_PP_ENV event.		
		A static variable is used to validate	
	Delete applets instances and packages	triggering order: applet1 is triggered before applet2.	
3	Trigger 2 applets with 2 different Priority	inggered before appletz.	
	Levels		
	Install (install) applet1 with priority level '80' and applet2 with priority level '7F', from package fwk_tin_prlv_3.		
	Send an Envelope that triggers the 2		
	applets with the		
	EVENT_UNFORMATTED_SMS_PP_ENV event.		
	Delete applets instances and packages	A static variable is used to validate triggering order: applet2 is triggered before applet1	
4	Trigger 2 applets with 2 different Priority	linggered before applet i	
'	Levels		
	Install (install) applet1 with priority		
	level '7F' and applet2 with priority level '80', from package fwk_tin_prlv_4.		
	Send an Envelope that triggers the 2		
	applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.		
		A static variable is used to validate	
		triggering order: applet2 is	
	Delete applets instances and packages	triggered before applet1	
5	Trigger 3 applets with the same Priority Level		
	Install (install) applet 1, 2, 3 in this order with same priority level from package fwk_tin_prlv_5.		
	Send an Envelope that triggers the 3		
	applets with the		
	EVENT_UNFORMATTED_SMS_PP_ENV event.		
	Delete applets instances and packages.	A static variable is used to validate	
		triggering order: applet3 is	
		triggered before applet2, and	
6	Trigger 2 applets from 2 classes, with 2	applet2 is triggered before applet1.	
	different Priority Level		
	Install (install) applet1 from class A		
	with priority level '2'		
	Install (install) applet2 from class B with priority level '1'		
	Send an Envelope that triggers the 2		
	applets with the		
	EVENT_UNFORMATTED_SMS_PP_ENV event.		
	Delete applets instances and packages	A static variable is used to validate	
		triggering order: applet2 is triggered before applet1	
		mggered before applett	

ld	Description	API/Framework Expectation	APDU Expectation
7	Trigger 2 applets from 2 classes, with the same Priority Level		
	Install (install) applet1 from class A with priority level '1' Install (install) applet2 from class B with priority level '1'		
	Send an Envelope that triggers the 2 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event. Delete applets instances and packages		
		A static variable is used to validate triggering order: applet2 is triggered before applet1	
8	Trigger 2 applets from 2 packages, with 2 different Priority Level		
	Install package fwk_tin_prlv_8. Install (install) applet1 from package fwk_tin_prlv_8A with priority level '2' Install (install) applet2 from package fwk_tin_prlv_8B with priority level '1'		
	Send an Envelope that triggers the 2 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.		
	Delete applets instances ad packages	A static variable is used to validate triggering order: applet2 is triggered before applet1	
9	Trigger 2 applets from 2 packages, with the same Priority Level		
	Install package fwk_tin_prlv_9. Install (install) applets 1 from package fwk_tin_prlv_9A and applet2 from package fwk_tin_prlv_9B in this order, with same priority level		
	Send an Envelope that triggers the 2 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.	A static variable is used to validate	
	Delete applets instances and packages	A static variable is used to validate triggering order: applet2 is triggered before applet1	

ld	Description	API/Framework Expectation	APDU Expectation
10	Trigger 4 applets from 2 packages		h
	1-Install packages fwk_tin_prlv_10, fwk_tin_prlv_10A and fwk_tin_prlv_10B. Install (install) 2 applets 1 then 2 from package fwk_tin_prlv_10A, with respectively priority levels 1 and 2.  Send an Envelope that triggers the 2 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.		
	2- Install (install) 2 applets 3 then 4 from package fwk_tin_prlv_10B, with respectively priority levels 1 and 2.  Send an Envelope that triggers the 4	1- A static variable is used to	
	applets.  Delete applets instances and packages	validate triggering order: applet1 is triggered before applet2	
11	Trigger 4 applets with the same Priority Level	2- Applet3 is triggered before applets 1, 4, then 2.	
'	then delete them one after another and trigger them each time		
	1- Install (install) applet1, 2, 3, 4 in this order with same priority level from package fwk_tin_prlv_11.		
	Send an Enveloppe that triggers the 4 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.		
	Delete applet instance 4  2- Send an Enveloppe that triggers the 3 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.	1- A static variable is used to validate triggering order: applets are triggered in order 4, 3, 2, 1.	
	Delete applet instance 3		
	3- Send an Enveloppe that triggers the 2 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.	2- Applets are triggered in order 3, 2, 1.	
	Delete remaining applet instances and packages		
		3- Applets are triggered in order 2, 1.	

ld	Description	API/Framework Expectation	APDU Expectation
12	Trigger 5 applets with different Priority Levels, alternating install and delete  1- Install (install) applets 1, 2, 3, 4 in this order with respective priority levels 1, 2, 1, 2		·
	Send an Enveloppe that triggers the 4 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.		
	2- Delete applet instance 1 and install (install) applet5 with priority level 2  Send an Enveloppe that triggers the 4 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.	1- A static variable is used to validate triggering order: applets are triggered in order 3, 1, 4, 2	
	3- Re-install (install) applet1 with priority level 1  Send an Enveloppe that triggers the 5 applets with the EVENT_UNFORMATTED_SMS_PP_ENV event.	2- Applets are triggered in order 3, 5, 4, 2	
		3- Applets are triggered in order 1, 3, 5, 4, 2	

### 6.3.8.7.4 Test Coverage

CRR number	Test case number
CRRN1	1, 2, 3, 4, 6, 8, 10, 12
CRRN2	5, 7, 9, 11

### 6.3.8.8 Channel Allocation

Test Area Reference: FWK\_TIN\_CHAL

### 6.3.8.8.1 Conformance Requirements

### 6.3.8.8.1.1 Normal execution

• CRRN1: One toolkit applet can register to several channels, but a channel can only be allocated to one toolkit applet.

### 6.3.8.8.1.2 Context errors

- CRRC1: Allocated channels shall not exceed the maximum number of channels allowed for this applet instance.
- CRRC2: The total number of channels allocated for all the applets shall not exceed 7. If the maximum number of channels required is greater than '07' (maximum numbers of channels specified in TS 11.14 [4]), the card shall return the Status Word '6A80', incorrect parameters in data field, to the Install(Install) command.

### 6.3.8.8.2 Test suite files

Test Script: FWK\_TIN\_CHAL\_1.scr

Test Applet: FWK\_TIN\_CHAL\_1.java

FWK\_TIN\_CHAL\_2.java

FWK\_TIN\_CHAL\_3.java

Load Script: FWK\_TIN\_CHAL\_1.ldr

Cleanup Script: FWK\_TIN\_CHAL\_1.clr

Parameter File: FWK\_TIN\_CHAL\_1.par

### 6.3.8.8.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	More than 7 channels at the instantiation of applet1: check that applet1 is not installed		
	1-Install for install of applet1 with maximum 8 channels allocated. A POR is asked to be sent via SMS-DELIVER-REPORT.		1- The SIM answers to the Envelope with status words 9Fxx. A GET RESPONSE is sent and the additional data in the PoR is checked. It must be 01 6A 80.
	Reset the card		
2	Good installation of applet2		
	Install for install of applet2 (maximum 4 channels allocated).		The SIM answers to the Envelope with status words 90 00
3	Open 4 channels Applet2	No exception shall be thrown.	OPEN CHANNEL proactive command are fetched.
	Applet2 builds a proactive command OPEN CHANNEL 4 times, calling init() and send() methods.		Successful TERMINAL RESPONSE of OPEN CHANNEL are sent to the SIM with Channel Id = 01 to 04
4	Open one more channel	Shall throw a ToolkitException with	
	Applet2	reason	
	Applet2 builds a proactive command OPEN CHANNEL once again, calling init() and send() methods.	COMMAND_NOT_ALLOWED	
5	Good installation of applet3		
	Install for install of applet3 (maximum 7 channels allocated).		The SIM answers to the Envelope with status words 90 00
6	Open 3 channels Applet3	No exception shall be thrown.	OPEN CHANNEL proactive command is fetched.
	Applet3 builds a proactive command OPEN CHANNEL 3 times, calling init() and send() methods.		Successful TERMINAL RESPONSE of OPEN CHANNEL are sent to the SIM with Channel Id from 05 to 07
7	Open one more channel Applet3	No exception shall be thrown.	OPEN CHANNEL proactive command is fetched. Unsuccessful Terminal
	Applet3 builds a proactive command OPEN CHANNEL once again, calling init() and send() methods.		Response is sent to the SIM with "No Channel Available" as Additional Information on Result.

### 6.3.8.8.4 Test Coverage

CRR number	Test case number
N1	2,3
C1	1, 7
C2	4,5,6

### 6.3.8.9 Minimum Security Level

Test Area Reference: FWK\_TIN\_MSL

6.3.8.9.1 Conformance Requirements

### 6.3.8.9.1.1 Normal execution

- CRRN1: The Receiving Entity shall check the Minimum Security Level during processing the security of the Command Packet.
- CRRN2: The Receiving Entity shall reject the message if the MSL check fails.
- CRRN3: If the MSL check fails, a Response Packet with the 'Insufficient Security Level' Response Status Code shall be sent if required.
- CRRN4: If the length of the Minimum Security Level field is greater than zero, the Minimum Security Level is used to specify the minimum level of security to be applied to Secured Packets. The first byte shall be the MSL Parameter, other bytes shall be the MSL Data.
- CRRN5: If the length of the Minimum Security Level field is zero, no minimum security level check shall be performed by the receiving entity.
- CRRN6: If no Minimum Security Level field is present (no MSL length, no MSL parameter and no MSL data), no minimum security level check shall be performed by the receiving entity.
- CRRN7: If the Maximum number of channels field is included in the command data then the Length of Minimum Security Level field shall also be included.
- CRRN8: If an optional parameter is included, then all the previous parameters shall be included also

#### 6.3.8.9.2 Test suite files

Test Script: FWK\_TIN\_MSL\_1.scr

Test Applet: FWK\_TIN\_MSL\_1.java

Load Script: FWK\_TIN\_MSL\_1.ldr

Cleanup Script: FWK\_TIN\_MSL\_1.clr

Parameter File: FWK\_TIN\_MSL\_1.par

### 6.3.8.9.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Installation with MSL length of 0		
	1- Install (install) applet with a MSL length = 0 2- Send formatted SMS PP env with no RC/CC/DS, no Ciphering and counter mode 0	2- Applet is triggered	1- 9000
	<pre>(not checked) 3- Send a formatted SMS PP env with CC, ciphering and counter mode 1 (counter available and no checking) 4- Delete the applet instance</pre>	3- Applet is triggered	
2	Installation without MSL field		
	1- Install (install) applet without MSL field (no MSL length, no MSL parameter and		1- 9000
	no data) 2- Send formatted SMS PP env with no RC/CC/DS, no Ciphering and counter mode 0 (not checked)	2- Applet is triggered	
	3- Send a formatted SMS PP env with CC, ciphering and counter mode 1 counter	3- Applet is triggered	
	available and no checking)		
	4- Delete the applet instance		

### 6.3.8.9.4 Test Coverage

CRR number	Test case number	
CRRN1	Not applicable	
CRRN2	Not applicable	
CRRN3	Not applicable	
CRRN4	Not applicable	
CRRN5	1	
CRRN6	2	
CRRN7	Not testable	
CRRN8	Not testable	

# 6.3.9 File System Context

### 6.3.9.1 Initial Context

Test Area Reference: FWK\_FSC\_INIT

6.3.9.1.1 Conformance Requirements

6.3.9.1.1.1 Normal Execution

• CRRN1: At the invocation of the processToolkit method of a toolkit applet, the current file is the MF.

6.3.9.1.1.2 Parameters errors

No requirements.

6.3.9.1.1.3 Context errors

No requirements.

6.3.9.1.2 Test Suite Files

Test Script: FWK\_FSC\_INIT\_1.scr

Test Applet: FWK\_FSC\_INIT\_1.java

FWK\_FSC\_INIT\_2.java

Load Script: FWK\_FSC\_INIT\_1.ldr

Cleanup Script: FWK\_FSC\_INIT\_1.clr

FWK\_FSC\_INIT\_2.clr

Parameter File: FWK\_FSC\_INIT\_1.par

#### 6.3.9.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	<pre>MF is the selected DF in processToolkit() An ENVELOPE APDU containing a formatted SMS PP for Applet 1 is issued to the SIM byte[] fci = new byte[10] fciOffset = 0 fciLength = 7 status()</pre>	No exception shall be thrown. Shall return 7. fci shall contain the following part of the FCI structure: < XX XX XX XX 3F 00 01 >	
2	No EF is selected	SIMView exception shall be thrown	
	rehabilitate ()	with reason NO_EF_SELECTED	
3	MF is selected even when an applet triggered before selected any other file  Applets 1 and 2 register to EVENT_DOWNLOAD_USER_ACTIVITY. Applet 1 has higher priority than Applet 2.  An ENVELOPE "EVENT - USER ACTIVITY" is sent to the SIM  1 - Applet 1: - is triggered by event_event_download_user_activity - selects DF_GSM and EF_IMSI	1 - No exception shall be thrown. 2 - No exception shall be thrown. Shall return 7. fci shall contain the following part of the FCI structure: < XX XX XX XX 3F 00 01 > 3 - SIMView exception shall be thrown with reason NO_EF_SELECTED	
	<pre>2 - Applet 2: - is triggered by event_event_download_user_activity fciOffset = 0 fciLength = 7 status() 3 - rehabilitate ()</pre>		

### 6.3.9.1.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1, 2, 3

## 6.3.9.2 Context Preservation (current file)

Test Area Reference: FWK\_FSC\_CUFI

## 6.3.9.2.1 Conformance Requirements

### 6.3.9.2.1.1 Normal execution

- CRRN1: When calling the method select (), the current files (file context) of any other applets shall not be changed (see 3GPP TS 43.019 [7] subclause 5.2).
- CRRN2: The select() methods select a file without changing the current file of any other applet or of the subscriber session.

• CRRN3: After invocation of ProactiveHandler.send() method: the current file context of the toolkit applet is unchanged (see 3GPP TS 43.019 [7] - subclause 5.2.).

6.3.9.2.1.2 Parameters errors

No requirements.

6.3.9.2.1.3 Context errors

No requirements.

6.3.9.2.2 Test Suite Files

Test Script: FWK\_FSC\_CUFI\_1.scr

Test Applet: FWK\_FSC\_CUFI\_1.java

FWK\_FSC\_CUFI\_2.java

Load Script: FWK\_FSC\_CUFI\_1.ldr

Cleanup Script: FWK\_FSC\_CUFI\_1.clr

 $FWK\_FSC\_CUFI\_2.clr$ 

Parameter File: FWK\_FSC\_CUFI\_1.par

### 6.3.9.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	No change to file context by another applet Applet1 registers to EVENT_FORMATTED_SMS_PP_ENV. Applet2 registers to EVENT_CALL_CONTROL_BY_SIM	1 - No exception shall be thrown. 2 - No exception shall be thrown. 3 - No exception shall be thrown. The value of buffer2 is { 0xCA, 0xFE }	A GET INKEY proactive command is fetched from the SIM
	<pre>1 - Applet 1: - is triggered by a formatted SMS - selects DF_SIMTEST and EF_TARU - fileOffset = 0; dataLength = 2; dataOffset = 0; - buffer = {0xCA, 0xFE } - updateBinary (): first 2 bytes of EF_TARU are written as 'CA FE' issues a proactive command "Get Inkey".</pre>		
	2 - An ENVELOPE APDU containing a CALL CONTROL BY SIM is issued to the SIM  Applet 2: - is triggered by a CALL CONTROL BY SIM		
	- selects DF_TELECOM and EF_ADN.  3 - The terminal response for Get Inkey reactivates Applet 1: - fileOffset = 0; respLength = 2; respOffset = 0; - readBinary () info buffer2		

ld	Description	API/Framework Expectation	APDU Expectation
2	No change to file context by subscriber session  1 - Applet 1 - issues a proactive command "Get Inkey".  2 - Subscriber session selects DF_TELECOM and EF_ADN.  3 - The terminal response for Get Inkey reactivates Applet 1: - fileOffset = 0; respLength = 2; respOffset = 0; - readBinary () info buffer2	1 - No exception shall be thrown. 3 - No exception shall be thrown. The value of buffer2 is { 0xCA, 0xFE }	1 - A GET INKEY proactive command is fetched from the SIM
3	No change by applet of subscriber session context  1 - Applet 1: - selects DF_SIMTEST and EF_TNU - issues a proactive command "Get Inkey".  2 - subscriber session reads record 1 of current file (shall be EF_ADN)  3 - The terminal response for Get Inkey reactivates Applet 1, which terminates execution	No exception shall be thrown.     No exception shall be thrown.	1 - A GET INKEY proactive command is fetched from the SIM 2 - READ RECORD absolute number 1 shall read "FF FF FF FF FF FF FF FF FF FF FF FF FF

### 6.3.9.2.4 Test Coverage

CRR Number	Test Case Number
CRRN1	1
CRRN2	1, 2, 3
CRRN3	1,2

## 6.3.9.3 Context Preservation (current record pointer)

Test Area Reference: FWK\_FSC\_CURE

### 6.3.9.3.1 Conformance Requirements

### 6.3.9.3.1.1 Normal execution

- CRRN1: When the seek method is called by one applet, the record pointer of any other applet is not changed.
- CRRN2: *updateRecord*: the current record pointer of other applets / subscriber shall not be changed in case of linear fixed EF
- CRRN3: *updateRecord*: the record pointer of a cyclic EF shall be changed for all other applets / subscriber to the record number 1.
- CRRN4: *readRecord*: read data bytes of the linear fixed or cyclic EF currently selected by the applet without changing the current record pointer of any other applet / subscriber.
- CRRN5: *increase*: the last updated record of the cyclic EF currently selected becomes record number 1 for every other applet and subscriber session.

#### 6.3.9.3.1.2 Parameters errors

No requirements.

6.3.9.3.1.3 Context errors

No requirements.

6.3.9.3.2 Test Suite Files

Test Script: FWK\_FSC\_CURE\_1.scr

Test Applet: FWK\_FSC\_CURE\_1.java

FWK\_FSC\_CURE\_2.java

Load Script: FWK\_FSC\_CURE\_1.ldr

Cleanup Script: FWK\_FSC\_CURE\_1.clr

 $FWK\_FSC\_CURE\_2.clr$ 

Parameter File: FWK\_FSC\_CURE\_1.par

### 6.3.9.3.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
0	SIM Initialization	Responses ignored.	
1	Seek without affecting another record pointer Applet1 registers to EVENT_FORMATTED_SMS_PP_ENV Applet 2 registers to EVENT_CALL_CONTROL_BY_SIM	<ul><li>1 - No exception shall be thrown.</li><li>2 - No exception shall be thrown.</li><li>3 - No exception shall be thrown.</li></ul>	1 - A GET INKEY proactive command is fetched from the SIM
	1 - Applet 1: - is triggered by a formatted SMS event - selects DF_SIMTEST and EF_LARU - reads record 2 using NEXT so that the current record pointer is set to record 2 - issues a proactive command, e.g. Get Inkey.		
	2 - An ENVELOPE APDU containing a CALL CONTROL BY SIM is issued to the SIM		
	Applet 2: - is triggered by a CALL CONTROL event - selects DF_SIMTEST and EF_LARU - performs a seek of pattern {0x55} from beginning forward, which finds record 1 returns from processToolkit		
	3 - The terminal response for Get Inkey reactivates Applet 1: - call readRecord() using CURRENT - the record read should still be record 2 of EF_LARU, containing {0xAA, 0xAA, 0xAA, 0xAA}		

ld	Description	API/Framework Expectation	APDU Expectation
2	updateRecord in linear fixed EF without affecting current pointer of others  1 - Applet 1: - is triggered by a formatted SMS event - selects DF_SIMTEST and EF_LARU - reads record 2 using NEXT so that the current record pointer is set to record 2 - issues a proactive command, e.g. Get Inkey.	<ul><li>1 - No exception shall be thrown.</li><li>2 - No exception shall be thrown.</li><li>3 - No exception shall be thrown.</li></ul>	1 - A GET INKEY proactive command is fetched from the SIM
	2 - An ENVELOPE APDU containing a CALL CONTROL BY SIM is issued to the SIM  Applet 2: - is triggered by a CALL CONTROL BY SIM event - selects DF_SIMTEST and EF_LARU - updates record 1, by using mode "NEXT" returns from processToolkit		
	3 - The terminal response for Get Inkey reactivates Applet 1: - call readRecord() using CURRENT - the record read should still be record 2 of EF_LARU, containing {0xAA, 0xAA, 0xAA, 0xAA}		
3	readRecord in linear fixed EF without affecting current pointer of others  1 - Applet 1: - is triggered by a formatted SMS event - selects DF_SIMTEST and EF_LARU - reads record 2 using NEXT so that the current record pointer is set to record 2 - issues a proactive command, e.g. Get Inkey.	<ul><li>1 - No exception shall be thrown.</li><li>2 - No exception shall be thrown.</li><li>3 - No exception shall be thrown.</li></ul>	1 - A GET INKEY proactive command is fetched from the SIM
	2 - An ENVELOPE APDU containing a CALL CONTROL BY SIM is issued to the SIM  Applet 2: - is triggered by a CALL CONTROL BY SIM event - selects DF_SIMTEST and EF_LARU - reads record 1, by using mode "NEXT" returns from processToolkit  3 - The terminal response for Get Inkey reactivates Applet 1:		
	<pre>- call readRecord() using CURRENT - the record read should still be record 2 of EF_LARU, containing {0xAA, 0xAA, 0xAA, 0xAA}</pre>		

# 6.3.9.3.4 Test Coverage

С	RR Number	Test Case Number
CRRN1		1
CRRN2		2
CRRN3		not tested (see note)
CRRN4		3
CRRN5		not tested (see note)
NOTE: These requirements have not been tested		nts have not been tested
because of an inconsistent behaviour in		
3GPP TS 43.019 [7], which is foreseen to be		[7], which is foreseen to be
corrected in future releases.		

# 6.3.10 Other parts transferred to framework from API

### 6.3.10.1 A handler is a temporary JCRE Entry Point object

Test Area Reference: FWK\_API\_HEPO

6.3.10.1.1 Conformance Requirement:

#### 6.3.10.1.1.1 Normal execution

- CRRN1: The EnvelopeHandler is a Temporary JCRE Entry Point Object (see Javacard 2.1 Runtime Environment (JCRE) Specification [12]).
- CRRN2: The EnvelopeResponseHandler is a Temporary JCRE Entry Point Object (see Javacard 2.1 Runtime Environment (JCRE) Specification [12]).
- CRRN3: The ProactiveHandler is a Temporary JCRE Entry Point Object (see Javacard 2.1 Runtime Environment (JCRE) Specification [12]).
- CRRN4: The ProactiveResponseHandler is a Temporary JCRE Entry Point Object (see Javacard 2.1 Runtime Environment (JCRE) Specification [12]).

#### 6.3.10.1.1.2 Parameters errors

No requirements.

6.3.10.1.1.3 Context errors

No requirements.

6.3.10.1.2 Test suite files

Test Script: FWK\_API\_HEPO\_1.scr

Test Applet: FWK\_API\_HEPO\_1.java

Load Script: FWK\_API\_HEPO\_1.ldr

Cleanup Script: FWK\_API\_HEPO\_1.clr

Parameter File: FWK\_API\_HEPO\_1.par

## 6.3.10.1.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	EnvelopeHandler.getTheHandler and store it in	SecurityException is thrown	
	a static field of the toolkit applet		
2	EnvelopeHandler.getTheHandler and store it in	SecurityException is thrown	
	a field of the toolkit applet		
3	EnvelopeResponseHandler.getTheHandler and	SecurityException is thrown	
	store it in a static field of the toolkit applet		
4	EnvelopeResponseHandler.getTheHandler and	SecurityException is thrown	
	store it in a field of the toolkit applet		
5	ProactiveHandler.getTheHandler and store it in	SecurityException is thrown	
	a static field of the toolkit applet		
6	ProactiveHandler.getTheHandler and store it in	SecurityException is thrown	
	a field of the toolkit applet		
7	Build and send a DISPLAY TEXT command to		
	be able to get the reference of the		Proactive command fetched
	ProactiveReponseHandler		and terminal response is
			issued
	ProactiveResponseHandler.getTheHandler and	SecurityException is thrown	
	store it in a static field of the toolkit applet		

ld	Description	API/Framework Expectation	APDU Expectation
8	ProactiveResponseHandler.getTheHandler and	SecurityException is thrown	
	store it in a field of the toolkit applet		

### 6.3.10.1.4 Test Coverage

CRR number	Test case number
N1	1, 2
N2	3, 4
N3	5, 6
N4	7, 8

### 6.3.10.2 Transaction

Test Area Reference: FWK\_API\_TRAN

6.3.10.2.1 Conformance Requirement:

6.3.10.2.1.1 Normal execution

• CRRN1: A pending toolkit applet transaction at the ProactiveHandler.send() method invocation is aborted.

6.3.10.2.1.2 Parameters errors

No requirements.

6.3.10.2.1.3 Context errors

No requirements.

6.3.10.2.2 Test suite files

Test Script: FWK\_API\_TRAN\_1.scr

Test Applet: FWK\_API\_TRAN\_1.java

Load Script: FWK\_API\_TRAN\_1.ldr

Cleanup Script: FWK\_API\_TRAN\_1.clr

Parameter File: FWK\_API\_TRAN\_1.par

### 6.3.10.2.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	Verify that transaction is aborted when a		
	proactive command is sent		
	Initialise a byte field with 0x05		
	Build a display text proactive command.		
	beginTransaction()		
	Update the byte with 0x02		
	send the proactive command		
			Proactive command fetched
			and terminal response is
			issued
	Verify that the byte value is 0x05		
	JCSystem.getTransactionDepth()	Shall return 0	

### 6.3.10.2.4 Test Coverage

CRR number	Test case number
N1	1

## 6.3.10.3 Timer Id between Applets

Test Area Reference: FWK\_API\_TMID

6.3.10.3.1 Conformance Requirement:

6.3.10.3.1.1 Normal execution

No requirements.

6.3.10.3.1.2 Parameters errors

No requirements.

6.3.10.3.1.3 Context errors

• CRRC1: The method ToolkitRegistry.releaseTimer() shall throw a ToolkitException with INVALID\_TIMER\_ID reason if the timer is valid but isn't allocated to this applet.

6.3.10.3.2 Test suite files

Test Script: FWK\_API\_TMID\_1.scr

Test Applet: FWK\_API\_TMID\_1.java

Load Script: FWK\_API\_TMID\_1.ldr

Cleanup Script: FWK\_API\_TMID\_1.clr

Parameter File: FWK\_API\_TMID\_1.par

6.3.10.3.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
1	During installation :		
	First instance allocate a timer and store the		
	returned value in a static field.		
	Second instance allocate a timer.		
	Trig second instance and try to releaseTimer()	releaseTimer() shall throw a	
	with the static field value.	ToolkitException with	
		INVALID TIMER ID reason	

### 6.3.10.3.4 Test Coverage

CRR number	Test case number
N1	1

### 6.3.11 Concatenated SMS

### 6.3.11.1 Concatenation processing

### 6.3.11.1.1 Conformance Requirements

#### 6.3.11.1.1 Normal execution

- CRRN1: The SIM Toolkit Framework shall link single Short Messages together to re-assemble the original message before any further processing.
- CRRN2: The concatenation control headers used to re-assemble the short messages in the correct order shall not be present in the SMS TPDU.
- CRRN3: The TP-elements of the SMS TPDU and the Address (TS-Service-Centre-Address) shall correspond to the ones in the last received Short Message (independently of the Sequence number of Information-Element-Data).
- CRRN4: The original Short Message shall be placed in one SMS TPDU TLV (with TP-UDL field coded on one octet) included in the EnvelopeHandler.
- CRRN5: The SIM Toolkit Framework shall be able to process messages with the following properties:
  - The Information Element Identifier is equal to the 8-bit reference number
  - It contains uncompressed 8 bit data or uncompressed UCS2 data.

### 6.3.11.2 Test Suite Files

Test Script: FWK\_CSM\_PROC\_1.scr

Test Applet: FWK\_CSM\_PROC\_1.java

Load Script: FWK\_CSM\_PROC\_1.ldr

Cleanup Script: FWK\_CSM\_PROC\_1.clr

Parameter File: FWK\_CSM\_PROC\_1.par

### 6.3.11.3 Test Procedure

ld	Description	API/Framework Expectation	APDU Expectation
	Applet registration to EVENT_FORMATTED_SMS_PP_ENV and triggering		
	Applet is registered to EVENT_FORMATTED_SMS_PP_ENV and EVENT_UNFORMATTED_SMS_PP_ENV		
	A concatenated formatted SMS_PP short message is sent to the SIM (composed of two segments).		
1	The second segment of a concatenated short message is sent to the SIM.	Applet is not triggered.	
2	The first segment of the concatenated short message is sent to the SIM	Applet is triggered.	
3	Call the EnvelopeHanlder.getTheHandler()	No exception is thrown.	
4	Call the EnvelopeHandler.findTLV()to select the Dev Id, the adress and the TPDU TLV and the EnvelopeHandler.compareValue() to check each content.	Check that the message has been re-assembled in the correct order. Check that TP-UDL field is coded one octet. Check that the concatenation control header is not present in	

		the message. Check the	
		integrity of the message.	
5	A new concatenated formatted short message is sent to the SIM composed of two segments. The Address field of the first segment is different from the address field in the second segment.	Applet is triggered.	
6	Call the EnvelopeHandler.getTheHandler()	No exception is thrown.	
7	Call the EnvelopeHandler.findTLV()to select the the address TLV and the EnvelopeHandler.compareValue() to check its content.	Check that the address field of the message is equal to the address field of the second segment.	
8	A new concatenated formatted short message is sent to the SIM composed of two segments. Some TP_elements of the TP_DU of the first segment are different from the TP elements in the second segment.	Applet is triggered.	
9	Call the EnvelopeHandler.getTheHandler()	No exception is thrown.	
10	Call the EnvelopeHandler.findTLV()to select the the TP DU TLV and the EnvelopeHandler.compareValue() to check its TP elements.	Check that the TP elements of the message are equal to the ones of the second segment.	
11	Send a concatenated formatted short message (composed of 2 segment) with uncompressed 8 bits data.	Applet is triggered.	
	Applet registration to EVENT_UNFORMATTED_SMS_PP_ENV and triggering		
	Same test as 1 but with an unformatted SMS_PP envelope.		
	A concatenated unformatted SMS_PP short message is sent to the SIM (composed of two segments).		
12	The second segment of a concatenated short message is sent to the SIM.	Applet is not triggered.	
13	The first segment of the concatenated short message is sent to the SIM	Applet is triggered.	
14	Call the EnvelopeHanlder.getTheHandler()	No exception is thrown.	
15	Call the EnvelopeHandler.findTLV()to select the Dev Id, the adress and the TPDU TLV and the EnvelopeHandler.compareValue() to check each content.	Check that the message has been re-assembled in the correct order. Check that TP-UDL field is coded one octet. Check that the concatenation control header is not present in the message. Check the integrity of the message.	
16	A new concatenated formatted short message is sent to the SIM composed of two segments. The Address field of the first segment is different from the address field in the second segment.	Applet is triggered.	
17	Call the EnvelopeHandler.getTheHandler()	No exception is thrown.	
18	Call the EnvelopeHandler.findTLV()to select the the address TLV and the EnvelopeHandler.compareValue() to check its content.	Check that the address field of the message is equal to the address field of the second segment.	
19	A new concatenated unformatted short message is sent to the SIM composed of two segments. Some TP_elements of the TP_DU of the first segment are different from the TP_elements in the second segment.	Applet is triggered.	
20	Call the EnvelopeHandler.getTheHandler()	No exception is thrown.	
21	Call the EnvelopeHandler.findTLV()to select the the TP DU TLV and the EnvelopeHandler.compareValue() to check its TP elements.	Check that the TP elements of the message are equal to the ones of the second segment.	
22	Send a concatenated unformatted short message (composed of 2 segments) with uncompressed UCS2	Applet is triggered.	

data.	

## 6.3.11.4 Test Coverage

CRR number	Test case number
N1	1,2, 3, 5, 6, 8, 9, 12, 13,
	14, 16, 17, 19, 20
N2	4,15
N3	7,10, 18, 21
N4	4,15
N5	11,22

# Annex A (normative): Class and Methods AID numbering and acronyms

# A.1 Sim.access

Class Name	Acronyms	Numbering on 5 bits
SIMView	SVW	00001
SIMSystem	SSY	00010
SIMViewException	SVE	00011

# A.1.1 SIMView methods

Method Name	Acronyms	Numbering on 6 bits
static final Constants		000001
short increase(byte[] incr, short incrOffset, byte[]	INCR_BS_BS	000010
resp, short respOffset)		
void invalidate()	INVL	000011
<pre>void readBinary(short fileOffset, byte[] resp, short</pre>	REDBS_BSS	000100
respOffset, short respLength)		
short readRecord(short recNumber, byte mode, short	REDRSBS_BSS	000101
recOffset, byte[] resp, short respOffset, short		
respLength)		
<pre>void rehabilitate()</pre>	REHA	000110
<pre>short seek(byte mode, byte[] patt, short pattOffset,</pre>	SEEKB BSS	000111
short pattLength)		
void select(short fid)	SLCTS	001000
<pre>short select(short fid, byte[] fci, short fciOffset,</pre>	SLCTS BSS	001001
short fciLength)	<del>-</del>	
short status(byte[] fci, short fciOffset, short	STAT_BSS	001010
fciLength)	_	
short updateBinary(short fileOffset, byte[] data,	UPDBS_BSS	001011
short dataOffset, short dataLength)		
void updateRecord(short recNumber, byte mode, short	UPDRSBS_BSS	001100
recOffset, byte[] data, short dataOffset, short		
dataLength)		

# A.1.2 SIMSystem methods

Method Name	Acronyms	Numbering on 6 bits
<pre>static SIMView getTheSIMView()</pre>	GETS	000001

# A.1.3 SIMViewException methods

Method Name	Acronyms	Numbering on 6 bits
static void throwIt(short reason)	THITS	000001
SIMViewException(short reason)	COORS	000010
Constants	CONS	000011

# A.2 Sim.toolkit

Class Name	Acronyms	Numbering on 5 bits
ToolkitConstants	TKC	00001
ToolkitInterface	TKI	00010

Class Name	Acronyms	Numbering on 5 bits
EditHandler	EDH	00011
EnvelopeHandler	ENH	00100
EnvelopeResponseHandler	ERH	00101
MEProfile	MEP	00110
ProactiveHandler	PAH	00111
ProactiveResponseHandler	PRH	01000
ToolkitRegistry	TKR	01001
ViewHandler	VWH	01010
ToolkitException	TKE	01011

# A.2.1 ToolkitConstants

	Method Name	Acronyms	Numbering on 6 bits
Constants		CONS	000001

# A.2.2 ToolkitInterface methods

Method Name	Acronyms	Numbering on 6 bits
<pre>void processToolkit (byte event)</pre>	PRTKB	000001

# A.2.3 EditHandler methods

The numbering of the EditHandler methods it will be done in the classes inherit it: EnvelopeResponseHandler, ProactiveHandler, because the methods provided by this class as it is declared 'abstract'.

# A.2.4 EnvelopeHandler methods

Method Name	Acronyms	Numbering on 6 bits
Byte <u>getEnvelopeTag</u> ()	GENT	000001
Byte getItemIdentifier()	GIID	000010
Short getSecuredDataLength()	GSDL	000011
Short getSecuredDataOffset()	GSDO	000100
EnvelopeHandler getTheHandler()	GTHD	000101
Short getTPUDLOffset()	GTPO	000110
Short getCapacity()	GCAP	010010
Short getUserDataLength()	GUDL	010011
Byte getChannelIdentifier()	GCID	010100
Inherited Method Name: ViewHandler		
Byte	CPRVS_BSS	000111
<pre>compareValue(short valueOffset,byte[] compareBuffer,s hort compareOffset, short compareLength)</pre>	01 NV0_B00	000111
Short copy(byte[] dstBuffer,short dstOffset,short dstLength )	COPY_BSS	001000
Short copyValue(short valueOffset, byte[] dstBuffer,short dstOffset,short dstLength)	CPYVS_BSS	001001
Byte findAndCompareValue(byte tag,byte[] compareBuffer,sho rt compareOffset)	FACRB_BS	001010
Byte findAndCompareValue(byte tag,byte occurrence, short valueOffset,byte[] compareBuffer,short compareOffset,short compareLength)	FACRBBS_BSS	001011
Short FindAndCopyValue(byte tag,byte occurrence,short value Offset, byte[] dstBuffer, short dstOffset,	FACYBBS_BSS	001100

Method Name	Acronyms	Numbering on 6 bits
short dstLength)		
Short	FACYB_BS	001101
<pre>findAndCopyValue(byte tag,byte[] dstBuffer,short dst0</pre>	_	
ffset)		
Byte	FINDBB	001110
FindTLV(byte tag,byte occurrence)		
Short	GLEN	001111
GetLength()		
Byte	GVBYS	010000
GetValueByte(short valueOffset)		
Short	GVLE	010001
GetValueLength()		

# A.2.5 EnvelopeResponseHandler methods

Method Name	Acronym	Numbering on 6 bits
EnvelopeResponseHandler getTheHandler()	GTHD	000001
Void post(byte statusType)	POSTB	000010
Void postAsBERTLV(byte statusType, byte tag)	POSTBB	000011
Short getCapacity()	GCAP	010101
	00/11	010101
Inherited Method Name: EditHandler		
Void appendArray(byte[] buffer, short offset, short length, short dstLength)	APDA_BSS	000100
Void appendTLV(byte tag, byte value)	APTLBB	000101
Void appendTLV(byte tag, byte[] value, short	APTLB_BSS	000110
valueOffset, short valueLength)	711 125_556	000110
Void appendTLV(byte tag, byte value1, byte value2)	APTLBBB	000111
Void appendTLV(byte tag, byte value1, byte[] value2,	APTLBB_BSS	001000
short value2Offset, short value2Length)		
Void clear()	CLER	001001
Inherited Method Name: ViewHandler		
Byte	CPRVS_BSS	001010
compareValue(short valueOffset,byte[] compareBuffer,s	51 111 <u>5_</u> =55	
hort compareOffset, short compareLength)		
Short	COPY_BSS	001011
Copy(byte[] dstBuffer,short dstOffset,short dstLength		
Short	000/4/0 000	201100
CopyValue(short valueOffset,	CPYVS_BSS	001100
byte[] dstBuffer,short dstOffset,short dstLength)		
bycc[] abcharler/bhore abcorrace/bhore abchengen/		
Byte	FACRB_BS	001101
findAndCompareValue(byte tag,byte[] compareBuffer,sho	17.61.5_56	001101
rt compareOffset)		
Byte findAndCompareValue(byte tag,byte occurence,	FACRBBS_BSS	001110
short valueOffset,byte[] compareBuffer,short compareO		
ffset,short compareLength) Short	FACYDDO DOC	004444
findAndCopyValue(byte tag,byte occurence,short value)	FACYBBS_BSS	001111
Ittset, bytell dstButter, short dstOffset.		
<pre>ffset, byte[] dstBuffer, short dstOffset, short dstLength)</pre>		
<pre>ffset, byte[] dstBuffer, short dstOffset, short dstLength) Short</pre>	FACYB BS	010000
short dstLength)	FACYB_BS	010000
short dstLength) Short	FACYB_BS	010000
<pre>short dstLength) Short findAndCopyValue(byte tag,byte[] dstBuffer,short dstO ffset) Byte</pre>	FACYB_BS FINDBB	010000
short dstLength) Short findAndCopyValue(byte tag,byte[] dstBuffer,short dstO ffset) Byte findTLV(byte tag,byte occurrence)	FINDBB	010001
short dstLength) Short findAndCopyValue(byte tag,byte[] dstBuffer,short dstO ffset) Byte findTLV(byte tag,byte occurrence) Short	_	
short dstLength)  Short findAndCopyValue(byte tag,byte[] dstBuffer,short dstO ffset)  Byte findTLV(byte tag,byte occurrence) Short GetLength()	FINDBB GLEN	010001 010010
short dstLength)  Short findAndCopyValue(byte tag,byte[] dstBuffer,short dstO ffset)  Byte findTLV(byte tag,byte occurrence) Short GetLength() Byte	FINDBB	010001
short dstLength)  Short findAndCopyValue(byte tag,byte[] dstBuffer,short dstO ffset)  Byte findTLV(byte tag,byte occurrence) Short GetLength()	FINDBB GLEN	010001 010010

# A.2.6 MEProfile methods

Method Name	Acronym	Numbering on 6 bits
static boolean check(byte index)	CHECB	000001
static boolean check(byte[] mask, short offset, short	CHECBSS	000010
length)		
static boolean check(short index)	CHECS	000011
static short copy(short startOffset,	COPYS BSS	000100
<pre>byte[] dstBuffer, short dstOffset, short dstLength)</pre>	_	
static short getValue(short indexMSB, short indexLSB)	GVALSS	000101

# A.2.7 ProactiveHandler methods

Method Name	Acronyms	Numbering on 6 bits
ProactiveHandler getTheHandler()	GTHD	000001
Void <u>init</u> (byte type, byte qualifier, byte dstDevice)	INITBBB	000010
Void <pre>initDisplayText(byte qualifier, byte dcs, byte[] buffer, short offset, short length)</pre>	INDTBB_BSS	000011
<pre>Void initGetInkey(byte qualifier, byte dcs, byte[] buffer, short offset, short length)</pre>	INGKBB_BSS	000100
Void <a href="mailto:initGetInput">initGetInput</a> (byte qualifier, byte dcs, byte[] buffer, short offset, short length, short minRespLength, short maxRespLength)	INGPBB_BSSSS	000101
Byte send()	SEND	000110
Short getCapacity()	GCAP	011000
Void initCloseChannel(byte bChannelIdentifier)	ICCHB	011001
Inherited Method Name: EditHandler		
Void appendArray(byte[] buffer, short offset, short length, short dstLength)	APDA_BSS	000111
Void appendTLV(byte tag, byte value)	APTLBB	001000
Void appendTLV(byte tag, byte[] value, short valueOffset, short valueLength)	APTLB_BSS	001001
Void appendTLV(byte tag, byte value1, byte value2)	APTLBBB	001010
<pre>Void appendTLV(byte tag, byte value1, byte[] value2, short value2Offset, short value2Length)</pre>	APTLBB_BSS	001011
Void clear()	CLER	001100
Inherited Method Name: ViewHandler		
Byte compareValue(short valueOffset,byte[] compareBuffer,sh ort compareOffset, short compareLength)	CPRVS_BSS	001101
Short copy(byte[] dstBuffer,short dstOffset,short dstLength)	COPY_BSS	001110
Short copyValue(short valueOffset, byte[] dstBuffer,short dstOffset,short dstLength)	CPYVS_BSS	001111
Byte findAndCompareValue(byte tag,byte[] compareBuffer,shor t compareOffset)	FACRB_BS	010000
Byte findAndCompareValue(byte tag,byte occurence, short valueOffset,byte[] compareBuffer,short compareOf fset,short compareLength)	FACRBBS_BSS	010001
Short findAndCopyValue(byte tag,byte occurence,short valueOf fset, byte[] dstBuffer, short dstOffset, short dstLength)	FACYBBS_BSS	010010
Short findAndCopyValue(byte tag,byte[] dstBuffer,short dstOf fset)	FACYB_BS	010011
Byte findTLV(byte tag,byte occurrence)	FINDBB	010100
Short getLength()	GLEN	010101
Byte getValueByte(short valueOffset)	GVBYS	010110
Short getValueLength()	GVLE	010111

# A.2.8 ProactiveResponseHandler methods

Method Name	Acronyms	Numbering on 6 bits
Short <pre>copyAdditionalInformation</pre> (byte[] dstBuffer,	CPAI_BSS	000001
short dstOffset, short dstLength)		
Short <pre>copyTextString(byte[] dstBuffer, short dstOffset)</pre>	CPTS_BS	000010
Short getAdditionalInformationLength()	GTIL	000011
Byte getGeneralResult()	GTGR	000100
Byte getItemIdentifier()	GTII	000101
Byte getTextStringCodingScheme()	GTCS	000110
Short getTextStringLength()	GTTL	000111
ProactiveResponseHandler getTheHandler()	GTHD	001000
Short getCapacity()	GCAP	010100
Byte getChannelIdentifier()	GCID	010101
Short copyChannelData(byte[] dstBuffer,	CCHD BSS	010110
short dstOffset, short dstLength)		010110
Inherited Method Name: ViewHandler		
Byte	CPRVS_BSS	001001
CompareValue(short valueOffset,byte[] compareBuffer,s	55 <u>_</u> 566	33.33.
hort compareOffset, short compareLength)		
Short	COPY_BSS	001010
<pre>Copy(byte[] dstBuffer,short dstOffset,short dstLength</pre>		
Short	CPYVS_BSS	001011
CopyValue(short valueOffset,	5 <u>-</u>	
<pre>byte[] dstBuffer,short dstOffset,short dstLength)</pre>		
Byte	FACRB_BS	001100
FindAndCompareValue(byte tag,byte[] compareBuffer,sho rt compareOffset)		
Te compareorisee/		
Byte findAndCompareValue(byte tag,byte occurence,	FACRBBS BSS	001101
short valueOffset,byte[] compareBuffer,short compareO	. /\d.\\BB6_B66	331131
ffset,short compareLength)		
Short	FACYBBS_BSS	001110
FindAndCopyValue(byte tag,byte occurence,short value0		
ffset, byte[] dstBuffer, short dstOffset,		
short dstLength) Short	EACVD DC	004444
findAndCopyValue(byte tag,byte[] dstBuffer,short dst0	FACYB_BS	001111
ffset)		
Byte	FINDBB	010000
FindTLV(byte tag,byte occurrence)		0.3000
Short	GLEN	010001
GetLength()		
Byte	GVBYS	010010
GetValueByte(short valueOffset)	0) // 5	040044
Short CotValval angth()	GVLE	010011
GetValueLength()		

# A.2.9 ToolkitRegistry methods

Method Name	Acronyms	Numbering on 6 bits
AllocateTimer()	ATIM	000001
<pre>changeMenuEntry(byte id, byte[] menuEntry, short offset, short length, byte nextAction, boolean helpSupported, byte iconQualifier, short iconIdentifier)</pre>	CMETB_BSSBZBS	000010
<u>clearEvent</u> (byte event)	CEVTB	000011
disableMenuEntry(byte id)	DMETB	000100
enableMenuEntry(byte id)	EMETB	000101
<pre>getEntry()</pre>	GETY	000110
<pre>getPollInterval()</pre>	GPOL	000111
<pre>initMenuEntry(byte[] menuEntry, short offset, short</pre>	IMET_BSSBZBS	001000

Method Name	Acronyms	Numbering on 6 bits
length, byte nextAction, boolean helpSupported, byte		
<pre>iconQualifier, short iconIdentifier)</pre>		
<u>isEventSet</u> (byte event)	IEVSB	001001
<pre>releaseTimer(byte timerIdentifier)</pre>	RTIM	001010
<u>requestPollInterval</u> (short duration)	RPOL	001011
<pre>setEvent(byte event)</pre>	SEVTB	001100
<pre>setEventList(byte[] eventList, short offset, short</pre>	SEVL_BSS	001101
length)		

# A.2.10 ViewHandler methods

The numbering of the ViewHandler methods it will be done in the classes inherit it: EditHandler, EnvelopeHandler, ProactiveResponseHandler, ProactiveHandler, because the methods provided by this class as it is declared 'abstract'.

# A.2.11 ToolkitException methods

Method Name	Acronyms	Numbering on 6 bits
Static void throwIt(short reason)	THITS	000001
ToolkitException(short reason)	COORS	000010
Constants	CONS	000011

# Annex B (normative): Script file syntax and format description

# B.1 Syntax description

Following is a syntax description in BNF.

```
<statement list> ::=
                     [ < statement > \n] +
<statement> ::=
                      <simple> | <switch> | <blank line>
<simple> ::=
                      <reset> | <init> | <command> | <remark>
<reset> ::=
                      RST
<init> ::=
                      INI < hexdata>
<command> ::=
                      CMD < hexdata > [ < response > ] ( < status > )
                      [ < hexdata > ]
<response> ::=
<status> ::=
                      ( < hexdata > )
<remark> ::=
                      REM < text line>
<switch> ::=
                      SWI { [<|abelled list>] + }
<labelled list> ::=
                      <label>: \n <statement list>
```

Description of syntax metalanguage:

\n represents a linebreak

[x] means x can appear optionally

[x] + means 1 or more appearances of x

x | y means x or y

[]{}: (bold) these are characters that appear literally in the script files

<text line> any character until the end of the line <blank line> a line containing no text is acceptable

<hexdata> data written in hexadecimal, each byte separated from the following by a whitespace

Each simple statement beginning with 3 characters different than the ones defined indicates another tool command, and shall be ignored by the parser if not recognized.

```
' ', '\t' : Can be used as separator
```

A long statement can be broken into several lines by using the character '\' at the end of each line which is not the last one in the statement.

For more details refer to the examples in B.3.

# B.2 Semantics

Following is the meaning of each of the statements:

CMD: Sends an APDU Command to the card, including (optionally) the expected response data and also (optionally) the expected status words SW1, SW2.

RST: Resets and powers on the card

INI: Performs the terminal profile with the following data. Afterwards, it shall perform all the fetch and terminal response commands until there is no proactive session in progress.

REM: Used for comments

swi : Activates a switch condition. Every labelled list represents a list of statements to be executed, if the label matches the SW resulting from the previously executed command.

Evaluation of expected response and status in the case of a CMD:

<response> data within [...] has to be checked, it needs to be present for an outgoing command. Bytes written as XX
shall not be checked by the APDU tool.

status> status contained within (...) has to be checked; when several status are valid they shall be separated by commas. Nibble written as X shall not be checked by the APDU tool.

# B.3 Example

```
REM this is an example
RST
REM Case 1 example
CMD A0 C2 00 00 00 (91 33 , 69 XX)
REM Case 2 example
CMD A0 B6 00 00 07
   [XX XX XX 55 55 XX 55] \
    (91 33 , 67 XX)
CMD A0 B6 00 00 07 \
   (91 33 , 67 XX)
CMD A0 C0 00 00 1F \
   [10 A0 00 00 00 09 00 02 FF FF FF FF 89 28 A4 05 \
   02 0D CC CC CC CC CC CC CC CC CC CC CC | \
    (90 00)
REM Case 3 example
CMD A0 C2 00 00 33 \
   D1 31 82 02 83 81 06 05 80 11 22 33 44 8B 24 40 \
   08 00 24 23 85 18 41 04 51 10 10 00 00 00 00 13 \
   02 70 00 00 0E 0D 00 00 00 00 28 A4 05 00 00 00 \
   00 00 00 \
   (90 00)
REM Case 4 example with switch statement
CMD 00 A4 04 00 10 \
   A0 00 00 00 09 00 02 FF FF FF FF 89 41 04 44 02 \
   (61 XX, 6A 82)
SWI {
61 XX:
CMD 00 C0 00 00 14 \
   [10 A0 00 00 00 09 00 02 FF FF FF FF 89 41 04 44 \
   02 02 CC CC] \
   (90 00)
CMD A0 A4 00 00 02 \
   3F 00
6A 82:
RST
```

```
REM Case 5 example
CMD A0 C2 00 00 33 \
    D1 31 82 02 83 81 06 05 80 11 22 33 44 8B 24 40 \
    08 00 24 23 85 18 41 04 51 10 10 00 00 00 00 13 \
    02 70 00 00 0E 0D 00 00 00 28 A4 05 00 00 00 \
    (6X 00)
```

# B.4 Style and formatting

In order to show a common appearance all the scripts shall follow those format rules:

- start always with a 'RST'.
- The command, data to be checked and status to be checked shall be presented in the following order:
  - CMD COMMAND [EXPECTED DATA] (EXPECTED STATUS)
- APDU shall be presented with command (CLA INS P1 P2 P3) in one line and data (if present) in next line grouped 16 bytes per line (see example above).
- The expected data (if present) shall be presented in 16 bytes groups per line (see example above).

# Annex C (normative): Default Prepersonalization

# C.1 General Default Prepersonalization

This table shows the default prepersonalization, the file system and the files' content, that the test SIM cards shall contain unless otherwise stated.

Name	Identifier	Default Value	Special Features
EFICCID	2FE2	OF FF FF FF FF FF FF FF	This value is not compliant with 3GPP TS 51.011 [3]
EF <sub>IMSI</sub>	6F07	FF FF FF FF FF FF FF	This value is not compliant with 3GPP TS 51.011 [3]
EF <sub>LP</sub>	6F05	01 FF FF FF	
EF <sub>Kc</sub>	6F20	FF FF FF FF FF FF FF 07	
EF <sub>PLMNsel</sub>	6F30	FF FF FF FF FF FF FF FF FF FF	
1 211111001		FF FF FF FF FF FF FF FF FF FF	
EF <sub>HPLMN</sub>	6F31	05	
EF <sub>ACMmax</sub>	6F37	00 00 00	Access condition UPDATE: CHV1
EF <sub>SST</sub>	6F38	FF 3F C3 0F 0C 00 FF 0F 00 33	
EF <sub>ACM</sub>	6F39	00 00 00	Access condition UPDATE: CHV1
EF <sub>PUCT</sub>	6F41	FF FF FF 00 00	Access condition UPDATE: CHV1
EF <sub>BCCH</sub>	6F74	FF FF FF FF FF FF FF FF FF FF	
		FF FF FF FF	
EFACC	6F78	00 00	
EF <sub>FPLMN</sub>	6F7B	FF FF FF FF FF FF FF FF FF FF	
EFLOCI	6F7E	FF FF FF FF 00 F0 00 00 00 FF 01	
EF <sub>AD</sub>	6FAD	00 FF FF	
EF <sub>Phase</sub>	6FAE	03	
EF <sub>FDN</sub>	6F3B	Default value in all the records:	Records: 5
		FF FF FF FF FF FF FF FF FF FF	
		FF FF FF FF FF FF FF FF FF FF FF	
	0540	FF FF FF FF	December 4
EF <sub>SMSP</sub>	6F42	FF FF FF FF FF FF FF FF FF FF FF FF FF	Records: 1
		FF FF FF FF FF FF FF FF FF FF FF	
		FF FF FF FF FF	
EF <sub>LND</sub>	6F44	FF FF FF FF FF FF FF FF FF FF	Records: 1
		FF FF FF FF FF FF FF FF FF FF	
		FF FF FF FF	
EF <sub>SMSS</sub>	6F43	FF FF	
EF <sub>SMS</sub>	6F3C	1st record: 00 FF FF(length 176)	Records: 3
		2 <sup>nd</sup> record:00 FF FF(length 176) 3 <sup>rd</sup> record: 00 FF FF(length 176)	
EF <sub>ADN</sub>	6F3A	FF FF FF FF FF FF FF FF FF FF FF	Records: 1
LIADN	0.37	FF FF FF FF FF FF FF FF FF FF FF	Trootius. I
		FF FF FF FF	
EF <sub>CCP</sub>	6F3D	FF FF FF FF FF FF FF FF FF FF	
	<u> </u>	FF FF	
EF <sub>MSISDN</sub>	6F40	FF FF FF FF FF FF FF FF FF FF FF FF FF	Records: 1
		FF FF FF FF	
EF <sub>SDN</sub>	6F49	FF FF FF FF FF FF FF FF FF FF FF	Records: 1
LI SUN	0149	FF FF FF FF FF FF FF FF FF FF FF	Trootius. I
		FF FF FF FF	
EF <sub>SUME</sub>	6F54	85 OC 54 4F 4F 4C 4B 49 54 20 54 45	
		53 54 FF FF FF FF	
EF <sub>CBMI</sub>	6F45	FF FF	
EF <sub>CBMID</sub>	6F48	10 80	
EF <sub>CBMIR</sub>	6F50	10 80 10 9F	
EF <sub>IMG</sub>	4F20	FF FF FF FF FF FF FF FF FF	

The default value for the CHV1 shall be " $0x31\ 0x31\ 0x31\ 0x31\ 0xFF\ 0xFF\ 0xFF\ 0xFF$ " and its state shall be 'disabled' during test applets execution.

# C.2 Sim.Access.SimView test default prepersonalization

#### C.2.1 DF<sub>SIMTEST</sub> (SIM Test)

Identifier: '0319'

#### C.2.2 EF<sub>TNR</sub> (Transparent Never Read)

Identifier: '6F01'		Str	ructure: transparent		ndatory
File size: 3 bytes		Update activity	: low		
Access Conditions:					
	READ		NEVER		
	UPDATE		ALWAYS		
	INVALIE	DATE	ALWAYS		
	REHAB	ILITATE	ALWAYS		
Bytes	Description		Default Value	M/O	Length
1 - 3	Test Data		AA AA AA	М	3 bytes

# C.2.3 EF<sub>TNU</sub> (Transparent Never Update)

	Identifier: '6F02'		Structure: transparent		ndatory
	File size: 3 bytes		Update activity: low		
		Access Condition	ons:		
	READ		ALWAYS		
	UPDA1		NEVER		
	INVALI	DATE	ALWAYS		
	REHAE	BILITATE	ALWAYS		
Bytes	Description		Default Value	M/O	Length
1 - 3	Test Data	•	55 55 55	М	3 bytes

# C.2.4 EF<sub>TARU</sub> (Transparent Always Read and Update)

Identifier: '6F03'		Stru	ucture: transparent	Ma	andatory	
File size: 260 bytes			Update activity: low			
	Access Conditions:					
	READ		ALWAYS			
	UPDATE		ALWAYS			
	INVALI	DATE	ALWAYS			
	REHAB	ILITATE	ALWAYS			
Bytes	Description		Default Value	M/O	Length	
1 - 260	Test Data	·	FF FF	М	260 bytes	

# C.2.5 EF<sub>CNR</sub> (Cyclic Never Read)

Iden	Identifier: '6F04'		Structure: cyclic		Mandatory
R	Record length: 3 bytes		Update activity: high		
	READ UPDA' INCRE INVAL REHAI	TE ASE	ditions: NEVE ALWA ALWA ALWA ALWA	YS YS YS	
Logical Record Number	Description		Default Value	M/O	Length
1	Test Data		00 00 00	М	3 bytes
2	Test Data		00 00 00	М	3 bytes

# C.2.6 EF<sub>CNU</sub> (Cyclic Never Update)

Identifier: '6F05'		;	Structure: cyclic Mandato					
R	Record length: 3 bytes			Update activity: high				
	Access Conditions:							
	READ UPDA	TE	ALWAYS NEVER					
	INCRI INVALI		NEVER ALWAYS					
	REHA	BILITATE	ALWA	<b>YS</b>				
Logical Record Number	Description		Default Value	M/O	Length			
1	Test Data		00 00 00	М	3 bytes			
2	Test Data		00 00 00	M	3 bytes			

# C.2.7 EF<sub>CNIC</sub> (Cyclic Never Increase)

Identifier: '6F06			Structure: cyclic		Mandatory		
R	ecord length: 3 bytes		Update	e activity	: high		
	Access Conditions:  READ ALWAYS  UPDATE ALWAYS						
	INCREASE NEVER INVALIDATE ALWAYS REHABILITATE ALWAYS						
Logical Record Number	Description		Default Value	M/O	Length		
1	Test Data		00 00 00	М	3 bytes		
2	Test Data		00 00 00	М	3 bytes		

### C.2.8 EF<sub>CNIV</sub> (Cyclic Never Invalidate)

Identifier: '6F07		Structu	Structure: cyclic Man		
R	Record length: 3 bytes		Update activity: high		
	A	Access Conditions	:		
READ ALWAYS UPDATE ALWAYS INCREASE ALWAYS INVALIDATE NEVER REHABILITATE ALWAYS					
Logical Record Number	Description	Defau	ılt Value	M/O	Length
1	Test Data	00	00 00	M	3 bytes
2	Test Data	00	00 00	М	3 bytes

# C.2.9 EF<sub>CNRH</sub> (Cyclic Never Rehabilitate)

Identifier: '6F08'			Structure: cyclic		Mandatory		
R	ecord length: 3 bytes		Updat	e activity:	high		
	Access Conditions:						
	READ		ALWA				
	UPDAT	E	ALWA	YS			
	INCRE	ASE	ALWA	YS			
	INVALI	DATE	ALWAYS				
	REHA	BILITATE	NEVE	R			
Logical	Description		Default Value	M/O	Length		
Record							
Number							
1	Test Data		00 00 00	М	3 bytes		
2	Test Data		00 00 00	М	3 bytes		

### C.2.10 EF<sub>CARU</sub> (Cyclic Always Read and Update)

Identifier: '6F09'		;	Structure: cyclic Mandato				
R	ecord length: 3 bytes		Update activity: high				
	Access Conditions:						
READ ALWAYS UPDATE ALWAYS INCREASE ALWAYS INVALIDATE ALWAYS							
	REHAE	BILITATE	ALWAY	S			
Logical Record Number	Description		Default Value	M/O	Length		
1	Test Data		55 55 55	М	3 bytes		
2	Test Data		AA AA AA	М	3 bytes		

### C.2.11 EF<sub>LNR</sub> (Linear Fixed Never Read)

	Identifier: '6F0A'	Str	ucture: linear fixed	Mar	ndatory	
Record length: 4 bytes			Update activity: low			
	Access Conditions:					
	READ	cccss cond	NEVER			
	UPDATE	<u> </u>	ALWAYS			
	INVALID	ATE	ALWAYS			
	REHABI	LITATE	ALWAYS			
Logical	Description		Default Value	M/O	Length	
Record						
Number						
1	Test Data - Record 1		FF FF FF FF	М	4 bytes	
2	Test Data - Record 2		FF FF FF FF	М	4 bytes	

# C.2.12 EF<sub>LNU</sub> (Linear Fixed Never Update)

Identifier: '6F0B'		Str	ucture: linear fixed	Mar	ndatory	
Record length: 4 bytes			Update activity: low			
	Access Conditions:					
	READ		ALWAYS			
	UPDATE	Ξ	NEVER			
	INVALID	ATE	ALWAYS			
	REHABIL	LITATE	ALWAYS			
Logical	Description		Default Value	M/O	Length	
Record	·					
Number						
1	Test Data - Record 1		FF FF FF FF	М	4 bytes	
2	Test Data - Record 2		FF FF FF FF	М	4 bytes	

# C.2.13 EF<sub>LARU</sub> (Linear Fixed Always Read and Update)

	Identifier: '6F0C'		ucture: linear fixed	Mar	ndatory
	Record length: 4 bytes		Update acti	vity: low	
	Д	ccess Cond	itions:		
	READ		ALWAYS		
	UPDATE		ALWAYS		
	INVALID	ATE	ALWAYS		
	REHABI	LITATE	ALWAYS		
Logical	Description		Default Value	M/O	Length
Record					
Number					
1	Test Data - Record 1		55 55 55 55	М	4 bytes
2	Test Data - Record 2		AA AA AA AA	М	4 bytes

#### C.2.14 EF<sub>CINA</sub> (Cyclic Increase Not Allowed)

Identifier: '6F0D'		Structure: cyclic	Man	datory	
Reco	rd length: 3 bytes	Update activi	ty: high		
	Access Conditions:				
	READ	ALWAYS			
	UPDATE	ALWAYS			
	INCREASE	ALWAYS (see note)			
	INVALIDA				
REHABILI		ITATE ALWAYS			
Logical Record Number	Description	Default Value	M/O	Length	
1	Test Data	00 00 00	М	3 bytes	
2 Test Data		00 00 00	М	3 bytes	
NOTE: This file will be personalized in a way such that increase is not allowed, as indicated by the FCI byte 8, bit 7 (3GPP TS 51.011 [3]: FCI structure of an EF returned by the SELECT command)					

# C.2.15 EF<sub>TRAC</sub> (Transparent Read Access Condition CHV2)

Identifie	r: '6F0E'	Str	ucture: transparent	Man	datory
Reco	ord length: 3 bytes		Update activi	ty: low	
	Ad	cess Condit	ions:		
	READ		CHV2		
	UPDATE		ALWAYS		
	INCREASE		ALWAYS		
	INVALIDATE		ALWAYS		
	REHABIL	ITATE	ALWAYS		
Logical Record Number	Description		Default Value	M/O	Length
1	Test Data		00 00 00	М	3 bytes

# C.2.16 EF<sub>TIAC</sub> (Transparent Invalidate Access Condition CHV1)

Identifier: '6F0F'		Stru	ucture: transparent	Man	datory
Reco	Record length: 3 bytes		Update activ	ty: low	
	Ad	cess Condit	ions:		
	READ		ALWAYS		
	UPDATE		ALWAYS		
	INCREASE		ALWAYS		
	INVALI	DATE	CHV1		
	REHABIL	ITATE	ALWAYS		
Logical Record Number	Description		Default Value	M/O	Length
1	Test Data		00 00 00	М	3 bytes

### C.2.17 EF<sub>CIAC</sub> (Cyclic Increase Access Condition CHV2)

Identifie	er: '6F10'	Structure: cyclic	Man	datory	
Reco	ord length: 3 bytes	Update activity	Update activity: low		
	Acce	ss Conditions:			
	READ	ALWAYS			
	UPDATE	ALWAYS			
	INCREASE	CHV2			
	INVALIDATE	E ALWAYS			
	REHABILIT <i>A</i>	ATE ALWAYS			
Logical Record	Description	Default Value	M/O	Length	
Number					
1	Test Data	00 00 00	М	3 bytes	
2	Test Data	00 00 00	М	3 bytes	

# C.2.18 EF<sub>CIAA</sub> (Cyclic Increase Access Condition ADM)

Identifie	er: '6F11'	Structure: cyclic	Man	datory	
Reco	ord length: 3 bytes	Update activit	Update activity: low		
Access Co		ess Conditions:			
	READ	ALWAYS			
	UPDATE	ALWAYS			
	INCREASE	ADM			
	INVALIDAT	E ALWAYS			
REHABILITATE		ATE ALWAYS			
				T .	
Logical Record	Description	Default Value	M/O	Length	
Number					
1	Test Data	00 00 00	М	3 bytes	
2	Test Data	00 00 00	М	3 bytes	

# C.2.19 EF<sub>CNRI</sub> (Cyclic Never Rehabilitate Invalidated)

Identifier: '6F12'			Structure: cyclic		Man	datory
Reco	ord length: 3 bytes		Update act	tivity: Ic	OW	
	Access Conditions:					
	READ	20033 00110	ALWAYS			
	UPDATE		ALWAYS			
	INCREAS	SE	ALWAYS			
	INVALIDA	ATE	ALWAYS			
REHABILIT.		LITATE	NEVER			
	<b>.</b>	1				1
Logical Record	Description		Default Value		M/O	Length
Number						
1	Test Data		00 00 00		М	3 bytes
2	Test Data		00 00 00		M	3 bytes

The file status shall be invalidated as defined in 3GPP TS 51.011 [3].

# Annex D (normative): sim.test.util package and loading, testing and cleaning script examples

See attached files:

- Annex\_D\_SimTestUtil.zip
- Annex\_D\_Examples.zip

# Annex E (normative): Test Area files

See attached file:

- Annex\_E\_SourceCode.zip

# Annex F (normative): AID numbering and acronyms for Framework tests

# F.1 Toolkit Installation Parameters (TIN)

Test Area within the chapter	Acronyms	Numbering on 6 bits
Timer allocation	TMAL	000001
Item identifier	ITID	000010
Item position	ITPO	000011
Access conditions	ACCO	000100
Priority level	PRLV	000101
Maximum length for each menu entry	MLME	000110
Number of menu entries	NBME	000111
Memory space	MESP	001000
Channel Allocation	CHAL	001001
Minimum Security Level	MSL	001010

# F.2 Minimum Handler Availability (MHA)

Test Area within the chapter	Acronyms	Numbering on 6 bits
ProactiveHandler	PAHD	000001
ProactiveResponseHandler	PRHD	000010
EnvelopeHandler	ENHD	000011
EnvelopeResponseHandler	ERHD	000100

# F.3 Handler Integrity (HIN)

Test Area within the chapter	Acronyms	Numbering on 6 bits
ProactiveHandler	PAHD	000001
ProactiveResponseHandler	PRHD	000010
EnvelopeHandler	ENHD	000011
EnvelopeResponseHandler	ERHD	000100

# F.4 Applet Triggering (APT)

Test Area within the chapter	Acronyms	Numbering on 6 bits
EVENT_PROFILE_DOWNLOAD	EPDW	000001
EVENT_MENU_SELECTION	EMSE	000010
EVENT_MENU_SELECTION_HELP_REQUEST	EMSH	000011
EVENT_FORMATTED_SMS_PP_ENV	EFSE	000100
EVENT_UNFORMATTED_SMS_PP_ENV	EUSE	000101
EVENT_CALL_CONTROL_BY_SIM	ECCN	000110
EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM	EMCN	000111
EVENT_TIMER_EXPIRATION	ETEX	001000
EVENT_UNFORMATTED_SMS_CB	EUCB	001001
EVENT_EVENT_DOWNLOAD_MT_CALL	EDMC	001010
EVENT_EVENT_DOWNLOAD_CALL_CONNECTED	EDCC	001011
EVENT_EVENT_DOWNLOAD_CALL_DISCONNECTED	EDCD	001100
EVENT_EVENT_DOWNLOAD_LOCATION_STATUS	EDLS	001101
EVENT_EVENT_DOWNLOAD_USER_ACTIVITY	EDUA	001110
EVENT EVENT DOWNLOAD IDLE SCREEN AVAILABLE	EDIS	001111

Test Area within the chapter	Acronyms	Numbering on 6 bits
EVENT_EVENT_DOWNLOAD_CARD_READER_STATUS	EDCR	010000
EVENT_UNRECOGNIZED_ENVELOPE	EUEV	010001
EVENT_STATUS_COMMAND	ESTC	010010
EVENT_EVENT_DOWNLOAD_LANGUAGE_SELECTION	EDLG	010011
EVENT_EVENT_DOWNLOAD_BROWSER_TERMINATION	EDBT	010100
EVENT_FORMATTED_SMS_CB	EFCB	010101
EVENT_FIRST_COMMAND_AFTER_SELECT	EFCA	010110
EVENT_EVENT_DOWNLOAD_DATA_AVAILABLE	EDDA	010111
EVENT_EVENT_DOWNLOAD_CHANNEL_STATUS	EDCS	011000
EVENT_FORMATTED_SMS_PP_UPD	EFSU	011001
EVENT_UNFORMATTED_SMS_PP_UPD	EUSU	011010

# F.5 Proactive Command Sending (PCS)

Test Area within the chapter	Acronyms	Numbering on 6 bits
System Proactive commands	SPCO	000001
Interaction with GSM commands	IGCO	000010
Errors during proactive command sending	EPCS	000011
Proactive Command Control	PCCO	000100

# F.6 Envelope Response Posting (ERP)

Test Area within the chapter	Acronyms	Numbering on 6 bits
EVENT_CALL_CONTROL_BY_SIM	ECCN	000001
EVENT_MO_SHORT_MESSAGE_CONTROL_BY_SIM	EMCN	000010
EVENT_UNRECOGNIZED_ENVELOPE	EUEN	000011
EVENT_FORMATTED_SMS_PP_ENV	EFSE	000010

# F.7 Framework Security (FWS)

Test Area within the chapter	Acronyms	Numbering on 6 bits
Input data	INDA	000001
Output data	OUDA	000010

# F.8 File System Context (FSC)

Test Area within the chapter	Acronyms	Numbering on 6 bits
Initial Context	INIT	000001
Context Preservation for Current File	CUFI	000010
Context Preservation for Current Record	CURE	000011

# F.9 Exception Handling (EXH)

Test Area within the chapter	Acronyms	Numbering on 6 bits
Hide exception to the mobile	HEME	000001
Interaction with multi-triggering	IMTG	000010

# F.10 Other parts transferred to framework from API (API)

Test Area within the chapter	Acronyms	Numbering on 6 bits
A handler is a temporary JCRE Entry Point object	HEPO	000001
Transaction	TRAN	000010
Timer Id between Applets	TMID	000011

# F.11 Concatenation processing (PROC)

Test Area within the chapter	Acronyms	Numbering on 6 bits
Concatenation processing	PROC	000001

# Annex G (normative): Configuration Parameters File

This file describes all the mandatory and optional parameters that are used in order to create the loading script(s) for one test area. The configuration parameters file contains the values for the parameters needed in order to generate the loading and cleanup scripts.

The name of the parameters file will be *<test area reference>\_<n>.par*.

The number <n> is associated with the loading/cleanup script number, i.e. API\_2\_TKR\_ SEVL\_BSS\_1.par is used to generate API\_2\_TKR\_ SEVL\_BSS\_1.ldr etc.

# G.1 Syntax

The general syntax for this file will be:

```
<file> ::= <section>+
<section> ::= <section heading> <line break> <section body>
<section heading> ::= '[' <name> ']'
<section body> ::= <parameter assignment>+
<parameter assignment> ::= <name> '=' <value> <line break></parameter
```

Where '+' indicates one or more repetitions of the previous syntax element.

Any text included between the symbol ';' and the end of line is considered a comment and ignored by parsing tools.

Empty values are considered valid. They are used to indicate that an optional value is not present.

Names of sections, names of parameters and values are case-sensitive.

Blank spaces and Tabs between tokens are allowed and will be ignored by the parser.

When values represent a sequence of bytes, they are expressed in hexadecimal format, where every 2 digits represent one byte. Blank space between bytes is optional.

#### Example:

```
; comment

[Section1]

Parameter11 = 00 11 22 33

Parameter12 = 0101  ; another comment

[Section2]

Parameter21 = vvwwxxyyzz
```

# G.2 File Contents and Organization

Parameters in this file are organized in the following sections:

[CONVERT]	Conversion parameters used during conversion (i.e. CAP file generation)
[INSTALL(load)]	Parameters used by the Install for Load command
[LOAD]	Parameters used by the Load command
[INSTALL(install)]	Parameters used by the Install for Install command

All sections may appear only once in the file, except for the "INSTALL(install)" section. If that section appears more than once, it will apply to different applet instances, in sequence.

#### G.2.1 Default values, order and processing

The ordering of the parameters and the sections is relevant, since parameter names may be repeated and apply to different applets.

When one single parameter is repeated within one section, it refers to different applets. The value of the  $n^{th}$  appearance of the parameter applies to applet n.

When one section is repeated (INSTALL(install)), then the  $n^{th}$  appearance of the section applies to applet n. Parameter/value pairs which are found in one appearance of the section are valid for the subsequent applets as long as they are not overridden. For example, first INSTALL(install) may contain all values for parameters, whereas the subsequent INSTALL(install) sections may only contain parameters whose values change.

If one required parameter is missing from one section, the last defined value of this parameter in a previous section of the same file will be used.

#### G.2.2 CONVERT Section

These parameters allow configuration of the conversion process of the Java class file(s) into one CAP file.

Parameter	Description
PackageAID	AID of the package
PackageName	Fully qualified name of the package
PackageVersion	Version of the package
AppletClassAID	AID of the applet
AppletClassName	Name of the applet

#### G.2.3 INSTALL(load) Section

Here are the parameters to be included in the Install(Load) command (as specified in TS 23.048 [8]).

Parameter	Description
PackageAID	AID of the package
PackageNonVolatileMemSize	Non Volatile memory space (in bytes) required for package loading
InstallationNonVolatileMemSize	Non volatile memory required for installation, in bytes
InstallationVolatileMemSize	Volatile memory required for installation, in bytes

#### G.2.4 LOAD Section

Here are the parameters to be included in the Load command (as specified in TS 23.048 [8]).

Parameter	Description
MaxLoadCommandDataLength	Maximum length of the data provided in the load command (P3
	parameter of the LOAD APDU embedded in the command packet)

#### G.2.5 INSTALL(install) Section

Here are the parameters to be included in the Install(Install) command (as specified in 3GPP TS 23.048 [8]).

Parameter	Description
PackageAID	AID of the package
AppletClassAID	AID of the applet
InstanceAID	AID of the instance of the applet
InstallationNonVolatileMemSize	Non volatile memory required for installation, in bytes
InstallationVolatileMemSize	Volatile memory required for installation, in bytes
AccessDomain	Specify the SIM files that may be accessed by the applet and the operations allowed on these files. This parameter includes the Access Domain Parameter (ADP) and Access Domain Data (ADD)
PriorityLevel	Priority level of the Toolkit applet instance
MaxNumberOfTimers	Maximum number of timers allowed for this applet instance
MaxMenuEntryTextLength	Maximum text length for a menu entry
MaxNumberOfMenuEntries	Maximum number of menu entries allowed for this applet instance
MenuEntriesPositionIdentifier	For each menu entry: Position and identifier of that menu entry
MaxNumberOfChannels	Maximum Number of channels for this applet instance
MSLFieldLength	Length of Minimum Security Level field
MSLParameter	MSL Parameter
MSLData	MSL Data
AppletSpecificParameters	Parameters specific to the applet

The applet shall be installed with install(install and make selectable) command.

# G.3 Full example

```
[CONVERT]
PackageAID = A0 00 00 00 30 00 02 FF FF FF FF 89 00 00 01 00
PackageName = sim.test.access.api_1_svw_updrbs
PackageVersion = 1.0
AppletClassAID = A0 00 00 00 30 00 02 FF FF FF FF 89 00 00 01 01
AppletClassName = API_1_SVW_UPDRBS_1
AppletClassAID = A0 00 00 00 30 00 02 FF FF FF FF 89 00 00 01 02
AppletClassName = API_1_SVW_UPDRBS_2
[INSTALL(load)]
PackageNonVolatileMemSize = 0D27
;InstallationNonVolatileMemSize = 0400
;InstallationVolatileMemSize = 0000
[LOAD]
MaxLoadCommandDataLength = 6C ; max value
[INSTALL(install)]
AppletClassAID = A0 00 00 00 30 00 02 FF FF FF FF 89 00 00 01 01
```

```
InstanceAID = A0 00 00 00 30 00 02 FF FF FF FF 89 00 00 01 01
InstallationNonVolatileMemSize = 0400
InstallationVolatileMemSize = 0000
AccessDomain = 00
PriorityLevel = FF
MaxNumberOfTimers = 00
MaxMenuEntryTextLength = 10
MaxNumberOfMenuEntries = 01
MenuEntriesPositionIdentifier = 0001
AppletSpecificParameters =
[INSTALL(install)]
AppletClassAID = A0 00 00 00 30 00 02 FF FF FF FF 89 00 00 01 02
InstanceAID = A0 00 00 00 30 00 02 FF FF FF FF 89 00 00 01 02
InstallationNonVolatileMemSize = 0200
InstallationVolatileMemSize = 0000
MenuEntriesPositionIdentifier = 0002
MaxNumberOfChannels = 05
MSLFieldLength = 00
MSLParameter =
MSLData =
```

<sup>;</sup> rest of INSTALL(install) parameters are taken from previous INSTALL(install)...

# Annex H (informative): Change History

The table below indicates all changes that have been made to the present document since drafting work began.

TSG / Date	TSG Doc	WG doc	CR	Rev	Subject/Comment	New
TP-20	TP-030125		001	-	Update of 51.013 Specification for Release 5 based on version 4.0.1	5.0.0
					editorial: replacment of annex E due to problems in the folder-structure.	5.0.1
TP-22	TP-030258		003	-	Essential corrections	5.1.0
TP-26	TP-040269		005	-	Correction of release references.	5.2.0
			006	-	ProactiveHandler appendTLV(byte tag, byte value1, byte value2) method conformance requirement.	
			007	-	Correction to ProactiveHandler appendTLV(byte tag, byte[] value, short valueOffset, short valueLength) method test.	
			800	-	Correction to dstBuffer length and dstLength in ProactiveResponseHandler copyChannelData() method tests.	
			009	-	Correction to updateRecord() method test in access package.	
			010	-	Addition of tests on HANDLER_NOT_AVAILABLE toolkitException in EnvelopeResponseHandler class for alignment with TS 43.019.	
			011	-	MEProfile getValue(short indexMSB, short indexLSB) method	
			0.4.0		conformance requirement.	
			012	-	Addition of tests on Proactive Command Control for alignment with TS 43.019.	
			013	-	Correct in some script files wrong command qualifiers value for COMMAND DETAILS TLV and wrong source value and destination value for Device Identities TLV.	
			014	-	Correction to EnvelopeHandler getTheHandler() method test procedure description.	
			015	-	PRH getGeneralResult() method test: Unexpected API expectations.	
			016	-	Cross references insertion.	
TP-27	TP-050026	T3-050179	017		Correction of TP-DCS used for uncompressed 8 bits data SMS envelope.	5.3.0
CP-28	CP-050143	C6-050437	017	1	Correction of TP-DCS used for uncompressed 8 bits data SMS envelope	5.4.0
CP-28	CP-050143	C6-050438	018	1	Correction of FWK_ERP_EFSE script file syntax	5.4.0
CP-28	CP-050143		019	1	Correction of security level in API_2_ENH_GSDL test	5.4.0
CP-28	CP-050143		020		Restore files content in API_1_SVW_UPDRSBS_BSS_1.clr file	5.4.0
CP-29	CP-050334	C6-050722	021		Modification of the triggering event to test the post() and postAsBERTLV() methods	5.5.0
CP-30	CP-050670	C6-050902	022		Modification of the triggering event to test the post() and postAsBERTLV() methods	5.6.0
					replacement of incorrect Annex E	5.6.1
CP-61	CP-130529	C6-130396	0024	2	Modification of the statements on security parameters	5.7.0
CP-64		C6-140290			Creation of Release 11	11.0.0

# History

Document history						
V11.0.0	July 2014	Publication				