

**Source:** T3  
**Title:** Change Requests to TS 31.122  
**Document for:** Approval

---

This document contains several change requests as follows:

<b>T3 Doc</b>	<b>Spec</b>	<b>CR</b>	<b>Rv</b>	<b>Rel</b>	<b>Cat</b>	<b>Subject</b>
T3-020681	31.122	009	-	R99	F	Expected remainder of returned data string
T3-020682	31.122	010	-	R99	F	Corrections and Clarifications
T3-020698	31.122	011	-	R99	F	Correction of error in read binary test case for T=0
T3-020699	31.122	012	-	R99	F	Alignment of conformance requirement due to CR 088 on TS 102 221
T3-020700	31.122	013	-	R99	F	Correction of case 3/case 4 command tests in case of wrong P1-P2.

CR-Form-v7

## CHANGE REQUEST

⌘ **31.122 CR 009** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ CR 31.122 R99 - Expected remainder of returned data string		
<b>Source:</b>	⌘ T3		
<b>Work item code:</b>	⌘ TEI	<b>Date:</b>	⌘ 21/08/2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)	2	(GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)	R96	(Release 1996)
	<b>B</b> (addition of feature),	R97	(Release 1997)
	<b>C</b> (functional modification of feature)	R98	(Release 1998)
	<b>D</b> (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ Expected remainder of returned data string is missing.
<b>Summary of change:</b>	⌘ Expected remainder of returned data string is added.
<b>Consequences if not approved:</b>	⌘ USIM will fail the test because of returned data string.

<b>Clauses affected:</b>	⌘ 6.6.5.4						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<b>Other comments:</b>	⌘						

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### 6.6.5.4 Method of test

NOTE: When EF<sub>F<sub>DN</sub></sub> is not supported by the UICC, any supported linear EF in ADF<sub>USIM</sub> may be chosen.

##### Initial conditions

- 1) The UICC shall be connected to a ME simulator.
- 2) The records in EF<sub>F<sub>DN</sub></sub> shall contain the following data for the first 10 bytes:

```

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

```

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

##### For a multi-verification capable UICC

- 4) SE01 shall be active.

##### Test procedure

##### For a multi-verification capable UICC

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.

*The response data shall indicate the PS Template DO with tag 'C6' [CR5].*

*The PS Template DO with tag 'C6' shall contain for the Universal PIN the TLV DO with tag '95' indicating the usage qualifier [CR6].*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1].*

- c) The ME simulator shall send a STATUS command to the UICC.

*The response data shall indicate the PS Template DO with tag 'C6' [CR5].*

*The PS Template DO with tag 'C6' shall contain for the Universal PIN the TLV DO with tag '95' indicating the usage qualifier [CR6].*

- d) The ME simulator shall send a SELECT command to the UICC to select EF<sub>F<sub>DN</sub></sub>.

*The response data shall not contain the PS Template DO with tag 'C6' [CR5].*

- e) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' – security status not satisfied [CR2].*

- f) The ME simulator shall gain PIN Application 1 security access.

- g) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The data string returned shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'. The data for the remainder of the returned data string shall be 'FF'.*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- h) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'B0' for all bytes to the UICC to update the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied [CR3].*

- i) The ME simulator shall send a READ RECORD command using NEXT mode to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The data string returned shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'. The data for the remainder of the returned data string shall be 'FF'.*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- j) The ME simulator shall gain the second PIN Application 2 security access.
- k) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'B1' for all bytes to the UICC to update the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR3].*

- l) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The data string returned shall be 'B1' for all bytes.*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- m) The ME simulator shall send a SELECT command to the UICC to select MF.

- n) The ME simulator shall send a SELECT command to the UICC to select EF<sub>I<sub>CCID</sub></sub>.

- o) The ME simulator shall send a READ BINARY command to the UICC to read the byte in the EF<sub>I<sub>CCID</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1].*

- p) The ME simulator shall send an UPDATE BINARY command to the UICC to update the byte in EF<sub>I<sub>CCID</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied [CR4].*

- q) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.

- r) The ME simulator shall send a DISABLE PIN command to disable and indicate the Universal PIN as a replacement of the PIN Application 1 to the UICC.

- s) The ME simulator shall send a SELECT command to the UICC to select EF<sub>F<sub>DN</sub></sub>.

- t) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied [CR2].*

- u) The ME simulator shall gain Universal PIN security access.

- v) The ME simulator shall send a READ RECORD command using NEXT mode to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The data string returned shall be 'B1' for all bytes.*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- w) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'B2' for all bytes to the UICC to update the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied [CR3].*

- x) The ME simulator shall gain the second PIN Application 2 security access.

- y) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'B3' for all bytes to the UICC to update the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR3].*

- z) The ME simulator shall send an ENABLE PIN command to enable PIN Application 1 to the UICC.
- aa) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.
- bb) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' – security status not satisfied [CR2].*

- cc) The ME simulator shall gain PIN Application 1 security access.
- dd) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The data string returned shall be 'B3' for all bytes.*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- ee) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'B4' for all bytes to the UICC to update the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied [CR3].*

- ff) The ME simulator shall gain the second PIN Application 2 security access.
- gg) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0' to the UICC to update record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR3].*

#### **For a single verification capable UICC**

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.

*The response data shall indicate the PS Template DO with tag 'C6' [CR5].*

*The PS Template DO with tag 'C6' shall not contain the Universal PIN key reference '11' [CR6].*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1].*

- c) The ME simulator shall send a STATUS command to the UICC.

*The response data shall indicate the PS Template DO with tag 'C6' [CR5].*

*The PS Template DO with tag 'C6' shall not contain the Universal PIN key reference '11' [CR6].*

- d) The ME simulator shall send a SELECT command to the UICC to select EF<sub>F<sub>DN</sub></sub>.

*The response data shall not contain the PS Template DO with tag 'C6' [CR5].*

- e) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' – security status not satisfied [CR2].*

- f) The ME simulator shall gain PIN security access.

- g) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The data string returned shall be 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0'. The data for the remainder of the returned data string shall be 'FF'.*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- h) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'C0' for all bytes to the UICC to update the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied [CR3].*

- i) The ME simulator shall gain the PIN2 security access.
- j) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'C1' for all bytes to the UICC to update the first record in EF<sub>F<sub>DN</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR3].*

- k) The ME simulator shall send a READ RECORD command to the UICC to read the first record in EF<sub>F<sub>DN</sub></sub>.

*The data string returned shall be 'C1' for all bytes.*

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- l) The ME simulator shall send an UPDATE RECORD command using CURRENT mode with data string 'A0 A1 A2 B0 B1 B2 A0 A1 A2 A0' to the UICC to update record in EF<sub>F<sub>DN</sub></sub>.

- m) The ME simulator shall send a SELECT command to the UICC to select MF.

- n) The ME simulator shall send a SELECT command to the UICC to select EF<sub>I<sub>CCID</sub></sub>.

- o) The ME simulator shall send a READ BINARY command to the UICC to read the byte in the EF<sub>I<sub>CCID</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1].*

- p) The ME simulator shall send an UPDATE BINARY command to the UICC to update the byte in EF<sub>I<sub>CCID</sub></sub>.

*The status condition returned by the UICC shall be SW1 = '69', SW2 = '82' - security status not satisfied [CR4].*

CR-Form-v7

## CHANGE REQUEST

⌘ **31.122** **CR** **010** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ CR 31.122 – Corrections and Clarifications		
<b>Source:</b>	⌘ T3		
<b>Work item code:</b>	⌘ TEI	<b>Date:</b>	⌘ 21/08/2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)	2	(GSM Phase 2)
	<b>A</b> (corresponds to a correction in an earlier release)	R96	(Release 1996)
	<b>B</b> (addition of feature),	R97	(Release 1997)
	<b>C</b> (functional modification of feature)	R98	(Release 1998)
	<b>D</b> (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ See table on page 2
<b>Summary of change:</b>	⌘ See table on page 2
<b>Consequences if not approved:</b>	⌘ Incorrect test specification

<b>Clauses affected:</b>	⌘ See table on page 2										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="text-align: center; padding: 2px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center; padding: 2px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center; padding: 2px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
	Y	N									
	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
	<input type="checkbox"/>	Test specifications									
	<input type="checkbox"/>	O&M Specifications									
<b>Other comments:</b>	⌘										

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

Clauses Affected	Reason for Change	Summary of Change
4.5	<p>The initial data given for some of the EFs is incorrect or inappropriate:</p> <p><b>EF<sub>FPLMN</sub></b></p> <p>31.102 states that EF<sub>FPLMN</sub> must contain at least 4 PLMN values of 3 bytes each. The Initial Conditions in clause 4.5 show EF<sub>FPLMN</sub> with only 2 PLMN values.</p> <p><b>EF<sub>CCP2</sub></b></p> <p>31.102 states that the record length in EF<sub>CCP2</sub> must be greater than or equal to 15 bytes. The Initial Conditions in clause 4.5 show EF<sub>CCP2</sub> records of length 14.</p> <p><b>EF<sub>ACM</sub></b></p> <p>The use of the last nibble of the record data to create different records implies that there can only be a maximum of 15 records in the file. This is incorrect.</p> <p><b>EF<sub>ICI</sub></b></p> <p>The use of the last nibble of the record data to create different records implies that there can only be a maximum of 15 records in the file. This is incorrect.</p>	<p><b>EF<sub>FPLMN</sub></b></p> <p>The default data for EF<sub>FPLMN</sub> now contains 4 PLMN values of 3 bytes each.</p> <p><b>EF<sub>CCP2</sub></b></p> <p>The records in EF<sub>CCP2</sub> are now 15 bytes in length.</p> <p><b>EF<sub>ACM</sub></b></p> <p>The last byte of the record data is now used to create different records.</p> <p><b>EF<sub>ICI</sub></b></p> <p>The last byte of the record data is now used to create different records.</p>
6.3.2.2.4, b), e) and j)	<p>The statement that ‘The UICC shall send a valid PPS-Response’ is not clear. The statement needs to be expanded to indicate what sort of ‘valid’ response is required.</p>	<p>The statement has been expanded to indicate that ‘The UICC shall send a valid PPS-Response indicating support for the requested parameters’.</p>
6.4.2.1.4 g), h), o) and v)	<p>In the proposed change to clause 4.5, Initial Conditions, the contents of EF<sub>FPLMN</sub> were updated. Test procedure steps g), h), o) and v) should be updated to reflect these changes.</p>	<p>Test procedure steps g), h), o) and v) have been updated to reflect the change to the contents of EF<sub>FPLMN</sub>.</p>
6.4.2.2.4, Initial Conditions, c), g), j), k) and q).	<p>The initial conditions for the EF<sub>FPLMN</sub> file have been changed and so this test procedure needs to be updated.</p> <p>In step c) the statement that ‘The UICC shall send a valid PPS-Response’ is not clear. The statement needs to be expanded to indicate what sort of ‘valid’ response is required.</p> <p>Steps j) and k) appear to be the wrong way round. i.e. Character repetition</p>	<p>The test has been updated to reflect the changes to the Initial Conditions.</p> <p>The statement in step c) has been expanded to indicate that ‘The UICC shall send a valid PPS-Response indicating support for the T=0 protocol and the selected communication speed.’</p> <p>Steps j) and k) have been swapped around.</p>



	on the ATR is requested after a PPS Request.	
6.4.2.3.2.1.1.4 d), e) and f)	Conformance Requirement 1, which states that 'Only the default value SAD = DAD =0 shall be supported', does not imply that the card should not respond if an error is encountered. An error handling R-block could also be valid.	Steps d), e) and f) have been updated to allow for the possibility that the UICC may return an error handling R-block.
6.4.2.3.2.1.4.4 n), o), p) and q)	Test procedure step p) assumes that the card will chain the response. This may not happen if the record length is smaller than IFSD.	The test procedure has been modified so that prior to the Read Record command in step o), the ME simulator sends an S(IFS request) to the UICC with a value less than the selected file record length. This will force the card to chain the response to the Read Record command. Before the Select command in step q) the Me simulator sends an S(IFS request) with a value of 32, to restore the default value.
6.4.2.3.2.3.4 c)	Test procedure step c) states that the UICC should reject a Select command by sending an R-block with a sequence number of 0. This 'hard-coding' of block sequence numbers is inappropriate as it is not possible to predict this with any confidence.	The test procedure has been modified so that the 'hard-coding' of the sequence number has been removed.
6.4.2.3.3.4 c), d) and e)	Test procedure steps c), d) and k) contain 'hard-coded' R-block and I-block sequence numbers. This 'hard-coding' of block sequence numbers is inappropriate as it is not possible to predict this with any confidence.	Test procedure steps c), d) and k) have been rewritten to remove the sequence number 'hard-coding'
6.4.2.3.4.2.1.4 c) and d)	Test procedure steps c) and d) contain 'hard-coded' R-block sequence numbers. This 'hard-coding' of block sequence numbers is inappropriate as it is not possible to predict this with any confidence.	Test procedure steps c) and d) have been rewritten to remove the sequence number 'hard-coding'.
6.4.2.3.5.4 c) and k)	<p>Test procedure steps c) and k) contain 'hard-coded' R-block and I-block sequence numbers. This 'hard-coding' of block sequence numbers is inappropriate as it is not possible to predict this with any confidence.</p> <p>There is an IFSC setting error in step c). The ME simulator is to send a chain of length 254, which assumed to be a valid chain to send. However, this is only valid if the card has set its IFS to 254 which it will not have done by default. In this case the card</p>	Test procedure steps c) and k) have been rewritten to remove the sequence number 'hard-coding' and remove the 'IFSC length' problem.

	will (correctly) reject the block.	
6.5.2.2.3.4 Initial Conditions	In the proposed change to clause 4.5 , Initial Conditions, the contents of EF <sub>ICI</sub> were updated. The Initial Conditions of this test should be updated to reflect these changes.	The Initial Conditions have been updated to reflect the changes to the default contents of EF <sub>ICI</sub> .
6.8.1.5.4 Initial Conditions	In the proposed change to clause 4.5 , Initial Conditions, the contents of EF <sub>ccp2</sub> and EF <sub>ACM</sub> were updated. The Initial Conditions of this test should be updated to reflect these changes.	The Initial Conditions have been updated to reflect the changes to the default contents of EF <sub>CCP2</sub> and EF <sub>ACM</sub> .
7.2.4 multi – b), c), d) and e) single – b), c) and d)	<p>Conformance Requirement 5 states that ‘Every file under DF<sub>TELECOM</sub> shall have a reference to an access rule stored in EF<sub>ARR</sub> under DF<sub>TELECOM</sub>.’ This does not mean however that DF<sub>TELECOM</sub> itself must have Referenced Security Attributes so step b) in both the ‘multi’ and ‘single’ test procedures is incorrect.</p> <p>The FCP Response Data for an EF does not contain the PIN Status Template DO and therefore step e) in the ‘multi’ test procedure is incorrect.</p>	<p>Restructured the ‘multi-verification’ test procedure so that DF<sub>TELECOM</sub> is not tested for Referenced Security Attributes and that the FCP ResponseData for an EF is not expected to contain a PIN Status Template DO.</p> <p>Restructured the ‘single-verification’ test procedure so that DF<sub>TELECOM</sub> is not tested for Referenced Security Attributes.</p>

## 4.5 Initial conditions

Unless otherwise stated, all the PINs used in the test procedures shall be initially enabled.

Figure 1 shows the files in the UICC which shall be used for the test procedures, in the case where the EFs are not mandatory, they may be replaced with other EFs of the same file structure.

Unless otherwise stated, all the EFs used in the test procedure shall be activated.

...

**Figure 1: File identifiers and directory structures of UICC**

The initial conditions for some of the EFs are given in the followings:

- PIN shall be set to '00000000'.
- PIN2 shall be set to '11111111'.
- Universal PIN shall be set to '22222222', if supported.
- EF<sub>FPLMN</sub> shall contain the data string: '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'.
- EF<sub>LOCI</sub> shall contain the data string: 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00'.
- The records in EF<sub>SMS</sub> shall contain the following data for the first 20 bytes:

```

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

```

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

- The records in EF<sub>FDN</sub> shall contain the following data for the first 10 bytes:

```

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

```

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

- The records in EF<sub>CCP2</sub> shall contain the following data:

```

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

```

- The records in EF<sub>ACM</sub> shall contain the following data, if it is supported:

```

1st record   '00 00 01' (last updated record)
2nd record   '00 00 02'
3rd record   '00 00 03'
xth record   '00 00' -> 0x followed by byte value X (first updated record)

```

- The records in EF<sub>ICI</sub> shall contain the following data:

```

1st record   '01' for all bytes
2nd record   '02' for all bytes
3rd record   '03' for all bytes
xth record   -> 0x byte value X for all bytes

```

## 6.3.2.2 Speed enhancement

### 6.3.2.2.1 Definition and applicability

The UICC shall at least operate with all mandatory values of the transmission factors F and D described in TS 102.221 [1] to ensure proper operation in the 3G environment.

### 6.3.2.2.2 Conformance requirement

CR1 The UICC shall at least support (F, D) = (512, 8) and (512, 16) in addition to (372, 1).

CR2 (F, D) = (372, 1) shall be the default value.

Reference: TS 102.221 [1], subclause 6.3.2.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_COM\_ATRC\_SE

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_COM\_ATRC\_SE

### 6.3.2.2.3 Test purpose

To verify that the UICC conforms to the above requirements.

### 6.3.2.2.4 Method of test

#### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

#### Test Procedure

- a) The ME simulator shall cold reset the UICC.
- b) The ME simulator shall send a PPS-Request to the UICC, selecting T = 0 protocol and (F, D) = (512, 8).  
*The UICC shall send a valid PPS-Response indicating support for the requested parameters.*
- c) The ME simulator shall send a STATUS command with P2 = '00' at (F, D) = (512, 8).  
*The UICC shall send a valid FCP [CR1].*
- d) The ME simulator shall cold reset the UICC.
- e) The ME simulator shall send a PPS-Request to the UICC, selecting T = 0 protocol and (F, D) = (512, 16).  
*The UICC shall send a valid PPS-Response indicating support for the requested parameters.*
- f) The ME simulator shall send a STATUS command with P2 = '00' at (F, D) = (512, 16).  
*The UICC shall send a valid FCP [CR1].*
- g) The ME simulator shall cold reset the UICC.
- h) The ME simulator shall send a STATUS command with P2 = '00' at (F, D) = (372, 1).  
*The UICC shall send a valid FCP [CR2].*
- i) The ME simulator shall cold reset the UICC.
- j) The ME simulator shall send a PPS-Request to the UICC, selecting T = 0 protocol and (F, D) = (372, 1).  
*The UICC shall send a valid PPS-Response indicating support for the requested parameters.*

k) The ME simulator shall send a STATUS command with P2 = '00' at (F, D) = (372, 1).

*The UICC shall send a valid FCP [CR1].*

## 6.4.2.1 Character Frame

### 6.4.2.1.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

### 6.4.2.1.2 Conformance requirement

- CR1 Before the transmission of a character, the I/O line shall be in state H.
- CR2 A character shall consist of 10 consecutive bits:
- 1 start bit in state L;
  - 8 bits, which comprise the data byte;
  - 1 even parity checking bit.
- CR3 The parity bit shall be set, in a way, that there is an even number of bits set to '1' including the parity bit in the character frame.
- CR4 The receiver shall confirm the existence of a start bit before 0.7 etu (receiver time).
- CR5 Then the subsequent bits shall be received at intervals of  $(n + 0.5 \pm 0.2)$  etu (n being the rank of the bit).
- CR6 Within a character, the time from the leading edge of the start bit to the trailing edge of the nth bit shall be  $(n \pm 0.2)$  etu.
- CR7 The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration  $(10 \pm 0.2)$  etu, plus a guardtime.
- CR8 Under error free transmission, during the guardtime both the UICC and the ME shall be in reception mode (I/O line in state H).
- CR9 The data shall always be passed over the I/O line with the most significant byte first.
- CR10 The order of bits within a byte (that is, whether the least significant or most significant bit is transferred first) shall be specified in character TS returned in the answer to reset.

Reference: TS 102.221 [1], subclause 7.2.1.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_CF

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_CF

### 6.4.2.1.3 Test purpose

To verify that the Physical Layer function conforms to the above requirements.

### 6.4.2.1.4 Method of test

#### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

#### Test procedure

a) The following steps b) to h) shall be repeated for the all communication speeds and protocols supported by the UICC.

b) The ME simulator shall cold reset the UICC.

*The UICC shall send a valid ATR [CR5].*

c) The ME simulator shall send a PPS-Request to select a valid protocol and communication speed to the UICC.

*The UICC shall send a valid PPS-Response [CR5].*

d) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' – normal ending of the command [CR5].*

e) The ME simulator shall send a VERIFY PIN command with PIN to the UICC.

f) The ME simulator shall send a SELECT command to the UICC to select EF<sub>FPLMN</sub>.

g) The ME simulator shall send an UPDATE BINARY to update EF<sub>FPLMN</sub> with data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'

*The following conditions shall be true for all character frames:*

- *Before the transmission of a character, the I/O line shall be in state H [CR1];*
- *It consists of 10 consecutive bits [CR2];*
- *There is an even number of bits set to '1' including the parity bit [CR3];*
- *The existence of the start bit shall be confirmed to be at least 0.7 etu [CR4];*
- *The subsequent bits shall be received at intervals of  $(n + 0.5 \pm 0.2)$  etu ( $n$  being the rank of the bit) [CR5];*
- *The time from the leading edge of the start bit to the trailing edge of the Nth bit shall be  $(N \pm 0.2)$  etu [CR6];*
- *The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration  $(10 \pm 0.2)$  etu, plus a guardtime [CR7];*
- *The data shall always be passed over the I/O line with the most significant byte first [CR8];*
- *The order of bits within a byte shall be specified in character TS returned in the ATR [CR10].*

h) The ME simulator shall send a READ BINARY to the UICC.

*The data string returned by the UICC shall be '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'.*

*The following conditions shall be true for all character frames:*

- *Before the transmission of a character, the I/O line shall be in state H [CR1];*
- *It consists of 10 consecutive bits [CR2];*
- *There is an even number of bits set to '1' including the parity bit [CR3];*
- *The existence of the start bit shall be confirmed to be at least 0.7 etu [CR4];*
- *The subsequent bits shall be received at intervals of  $(n + 0.5 \pm 0.2)$  etu ( $n$  being the rank of the bit) [CR5];*
- *The time from the leading edge of the start bit to the trailing edge of the Nth bit shall be  $(N \pm 0.2)$  etu [CR6];*
- *The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration  $(10 \pm 0.2)$  etu, plus a guardtime [CR7];*
- *The data shall always be passed over the I/O line with the most significant byte first [CR8];*

- *The response data sent from the UICC shall be passed over the I/O line with the most significant byte first [CR9];*
  - *The order of bits within a byte shall be specified in character TS returned in the ATR [CR10].*
- i) The time from the leading edge of the start bit to the trailing edge of the nth bit shall be set to be  $(n + 0.2)$  etu.
- j) The ME simulator shall cold reset the UICC.  
*The UICC shall send a valid ATR [CR5].*
- k) The ME simulator shall send a PPS-Request to select a valid protocol and communication speed to the UICC.  
*The UICC shall send a valid PPS-Response [CR5].*
- l) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.  
*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' – normal ending of the command [CR5].*
- m) The ME simulator shall send a VERIFY PIN command with PIN to the UICC.
- n) The ME simulator shall send a SELECT command to the UICC to select EF<sub>FPLMN</sub>.
- o) The ME simulator shall send a READ BINARY to the UICC.  
*The data string returned by the UICC shall be '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF';*  
*The following conditions shall be true for all character frames:*
- *Before the transmission of a character, the I/O line shall be in state H [CR1];*
  - *It consists of 10 consecutive bits [CR2];*
  - *There is an even number of bits set to '1' including the parity bit [CR3];*
  - *The existence of the start bit shall be confirmed to be at least 0.7 etu [CR4];*
  - *The subsequent bits shall be received at intervals of  $(n + 0.5 \pm 0.2)$  etu ( $n$  being the rank of the bit) [CR5];*
  - *The time from the leading edge of the start bit to the trailing edge of the Nth bit shall be  $(N \pm 0.2)$  etu [CR6];*
  - *The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration  $(10 \pm 0.2)$  etu, plus a guardtime [CR7];*
  - *The data shall always be passed over the I/O line with the most significant byte first [CR8];*
  - *The response data sent from the UICC shall be passed over the I/O line with the most significant byte first [CR9];*
  - *The order of bits within a byte shall be specified in character TS returned in the ATR [CR10].*
- p) The time from the leading edge of the start bit to the trailing edge of the nth bit shall be set to be  $(n - 0.2)$  etu.
- q) The ME simulator shall cold reset the UICC.  
*The UICC shall send a valid ATR [CR2, CR5].*
- r) The ME simulator shall send a PPS-Request to select a valid protocol and communication speed to the UICC.  
*The UICC shall send a valid PPS-Response [CR4, CR5].*
- s) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.  
*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' –normal ending of the command [CR4, CR5].*
- t) The ME simulator shall send a VERIFY PIN command with PIN to the UICC.

- u) The ME simulator shall send a SELECT command to the UICC to select EF<sub>FPLMN</sub>.
- v) The ME simulator shall send a READ BINARY to the UICC.

*The data string returned by the UICC shall be '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'.*

*The following conditions shall be true for all character frames:*

- *Before the transmission of a character, the I/O line shall be in state H [CR1];*
- *It consists of 10 consecutive bits [CR2];*
- *There is an even number of bits set to '1' including the parity bit [CR3];*
- *The existence of the start bit shall be confirmed to be at least 0.7 etu [CR4];*
- *The subsequent bits shall be received at intervals of  $(n + 0.5 \pm 0.2)$  etu ( $n$  being the rank of the bit) [CR5];*
- *The time from the leading edge of the start bit to the trailing edge of the Nth bit shall be  $(N \pm 0.2)$  etu [CR6];*
- *The interval between the leading edges of the start bits of two consecutive characters shall comprise the character duration  $(10 \pm 0.2)$  etu, plus a guardtime [CR7];*
- *The data shall always be passed over the I/O line with the most significant byte first [CR8];*
- *The response data sent from the UICC shall be passed over the I/O line with the most significant byte first [CR];*
- *The order of bits within a byte shall be specified in character TS returned in the ATR [CR10].*

## 6.4.2.2 Transmission Protocol T = 0

### 6.4.2.2.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

### 6.4.2.2.2 Conformance requirement

- CR1 The T = 0 protocol is mandatory for the UICC.
- CR2 The protocol shall start after either the ATR or a successful PPS exchange.
- CR3 The minimum interval between the leading edge of the start bits of two consecutive characters shall be at least 12 etus.
- CR4 The value of the WWT shall not exceed  $960 \times WI \times Fi/f$ .
- CR5 The minimum interval between the leading edges of the start bits of two consecutive characters sent in opposite direction shall be 16 etus.
- CR6 When the UICC has received the command header, a response containing a procedure byte shall be sent to the ME.
- CR7 Both the ME and the UICC shall be able to keep track of the direction of the data flow and who has the access to the I/O-line.
- CR8 Procedure bytes shall be used to keep up the communication between the ME and the UICC.
- CR9 The status bytes SW1 SW2 form an end sequence indicating the status of the UICC at the end of a command.
- CR10 A normal ending of a command shall be indicated by SW1 SW2 = '90 00'.



- CR11 The error detection and correction procedure shall be mandatory.
- CR12 The error is indicated on the I/O-line, which is set to state L after  $(10.5 \pm 0.2)$  etus after the leading edge of the start bit for the character, and the I/O line shall be in state L for a maximum of 2 etus and a minimum of 1 etu.
- CR13 If the UICC or ME as receiver detects a parity error within  $11 \pm 0.2$  etus starting from the leading edge of the start bit, in a character just received, it shall set I/O to state L to indicate the error to the sender.
- CR14 When the transmitter detects an error, the character shall be sent again after a minimum delay of 2 etus.

Reference: TS 102.221 [1], subclause clause 7, subclause 7.2.2.1, 7.2.2.3 and 7.2.2.4.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_TP0

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_TP0

#### 6.4.2.2.3 Test purpose

To verify that the Physical Layer function conforms to the above requirements.

NOTE : CR6 to CR10 are tested in the subclause 6.8.

#### 6.4.2.2.4 Method of test

##### Initial conditions

- 1) The UICC shall be connected to a ME simulator.
- 2) EF<sub>FPLMN</sub> shall contain the data string: '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF'.

##### Test procedure

- a) Steps b) to h) shall be repeated for the all communication speeds supported by the UICC.
- b) The ME simulator shall cold reset the UICC.
- c) The ME simulator shall send a PPS-Request to the UICC to select the T = 0 protocol and the selected communication speed.

*The UICC shall send a valid PPS-Response indicating support for the T=0 protocol and the selected communication speed. [CR1].*

- d) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.
- e) The ME simulator shall send a VERIFY PIN with PIN to the UICC.
- f) The ME simulator shall send a SELECT command to the UICC to select EF<sub>FPLMN</sub>.
- g) The ME simulator shall send a READ BINARY command to the UICC.

*The UICC shall send the data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF' followed by SW1 = '90' and SW2 = '00' – normal ending of the command [CR2].*

*The following shall be true of the response data:*

- *The interval between the leading edge of the start bits of two consecutive characters shall be at least 12 etus [CR3];*
  - *The value of the WWT shall not exceed  $960 \times WI \times Fi/f$  [CR4];*
  - *The minimum interval between the leading edges of the start bits of two consecutive characters sent in opposite directions shall be at least 16 etus [CR5].*
- h) The ME simulator shall send a SELECT command to the UICC to select EF<sub>IMSI</sub> at 16 etu after the UICC send the last character in g).

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR5].*

i) The ME simulator shall cold reset the UICC.

j) The ME simulator shall request character repetition (i.e. transmits an error signal during the guard time) to the UICC for all character frames during the ATR.

*The UICC shall send the valid ATR with character repetition [CR11].*

k) The ME simulator shall send a PPS-Request to the UICC to select the T = 0 protocol and the selected communication speed.

~~k) The ME simulator shall request character repetition (i.e. transmits an error signal during the guard time) to the UICC for all character frames during the ATR.~~

~~The UICC shall send the valid ATR with character repetition [CR11].~~

l) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.

m) The ME simulator shall send a VERIFY PIN with PIN to the UICC.

n) The ME simulator shall send a SELECT command to the UICC to select EF<sub>FPLMN</sub>.

o) The ME simulator shall send a READ BINARY command to the UICC with incorrect character parity for all character frames.

*The UICC shall request character repetition (i.e. transmits an error signal during the guard time) for all character frames [CR11].*

p) The ME simulator shall re-send a READ BINARY command to the UICC.

q) The ME simulator shall request character repetition for all character frames to the UICC.

*The UICC shall send the data string '55 AA 0F 00 F0 FF 00 F0 FF 00 F0 FF' followed by SW1 = '90' and SW2 = '00' – normal ending of the command [CR11].*

*The following shall be true of the response data:*

- *The error is indicated on the I/O-line, which is set to state L after  $(10,5 \pm 0,2)$  etus after the leading edge of the start bit for the character, and the I/O line shall be in state L for a maximum of 2 etus and a minimum of 1 etu [CR12];*
- *The UICC as receiver detects a parity error within  $11 \pm 0,2$  etus starting from the leading edge of the start bit. In a character just received, it shall set I/O to state L to indicate the error to the sender [CR13];*
- *When the UICC as transmitter detects an error, the character shall be sent again after a minimum delay of 2 etus [CR14].*

#### **6.4.2.3.2.1.1 Node address byte**

##### **6.4.2.3.2.1.1.1 Definition and applicability**

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

##### **6.4.2.3.2.1.1.2 Conformance requirement**

CR1 Only the default value SAD = DAD = 0 shall be supported.

Reference: TS 102.221 [1], subclause 7.2.3.2.1.1.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_TP1

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_TP1\_BFS\_NDB

#### 6.4.2.3.2.1.1.3 Test purpose

To verify that only SAD = DAD = 0 is used.

#### 6.4.2.3.2.1.1.4 Method of test

##### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

##### Test procedure

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- c) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ECC</sub>, where the SAD and DAD are set, as default, to 0.

*The UICC shall respond with an I-block where the SAD and the DAD are both set to 0 [CR1].*

- d) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ECC</sub>, where the SAD = 1 and DAD = 0.

*The UICC shall either return an R-block with N(R) equal to the next expected sequence number (ignoring the erroneous I-block), or not return any response [CR1].*

- e) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ECC</sub>, where the SAD = 0 and DAD = 1.

*The UICC shall either return an R-block with N(R) equal to the next expected sequence number (ignoring the erroneous I-block), or not return any response [CR1].*

- f) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ECC</sub>, where the SAD = 1 and DAD = 1.

*The UICC shall either return an R-block with N(R) equal to the next expected sequence number (ignoring the erroneous I-block), or not return any response [CR1].*

#### 6.4.2.3.2.1.4 Information field

##### 6.4.2.3.2.1.4.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

##### 6.4.2.3.2.1.4.2 Conformance requirement

- CR1 The information field, INF, shall be optional and it depends on the type of the block and what the field will be used for. As for I-block, INF shall be present to transfer command and response APDUs.
- CR2 The information field, INF, shall not be used for an R-block.
- CR3 The information field, INF, shall be optional and it depends on the type of the block and what the field will be used for. As for S-block, INF shall be present (single byte) to adjust IFS with WTX.

- CR4 The information field, INF, shall be optional and it depends on the type of the block and what the field will be used for. As for S-block, INF shall be absent to signal error on VPP, or managing chain abortion or resynchronisation.

Reference: TS 102.221 [1], subclause 7.2.3.2.1.4.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_TP1

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_TP1\_BFS\_IF

#### 6.4.2.3.2.1.4.3 Test purpose

To verify that the UICC conforms to the above requirements.

NOTE 1: CR3 shall not be tested as it is not possible to force the UICC to issue a WTX.

NOTE 2: CR4 shall not be tested as the Error on Vpp state S-block is not supported.

#### 6.4.2.3.2.1.4.4 Method of test

##### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

##### Test procedure

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- c) The ME simulator shall send a SELECT command to the UICC to select the EF<sub>ECC</sub>, where the I-block has an invalid EDC.
 

*The UICC shall reject the command by sending an R-block response with bits b1-b4 in the PCB-byte having a value of 'I' – EDC and/or parity error. The INF field shall be absent [CR1, CR2].*
- d) The ME simulator shall send a SELECT command to the UICC to select the EF<sub>ECC</sub>.
- e) The ME simulator shall reset the UICC.
- f) The ME simulator shall send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.

*The UICC shall respond with an IFS RESPONSE S-block, whose INF field is present and has the value 254 [CR3].*

- g) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- h) The ME simulator shall reset the UICC.
- i) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- j) The ME simulator shall send a RESYNCH request S-block to the UICC.

*The UICC shall respond with a RESYNCH response S-block, which shall not contain an INF field [CR4].*

- k) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ECC</sub>.
- l) The ME simulator shall reset the UICC.
- m) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- n) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ECC</sub>.

- o) The ME simulator shall send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to the record length of EF<sub>ECC</sub> – 1 byte.

p) The ME simulator shall send a READ RECORD command to read record 1 from EF<sub>ECC</sub>.

q) The ME simulator shall send an ABORT request S-block to the UICC after the 1<sup>st</sup> chained I-block response is received from the UICC.

*The UICC shall respond with an ABORT response S-block, which shall not contain an INF field [CR4].*

r) The ME simulator shall send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 32 bytes.

s) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.

### 6.4.2.3.2.3 Epilogue field

#### 6.4.2.3.2.3.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

#### 6.4.2.3.2.3.2 Conformance requirement

CR1 The LRC as defined in ISO/IEC 7816-3 [6] shall be used.

Reference: TS 102.221 [1], subclause 7.2.3.2.2.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_TP1

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_TP1\_BSF\_EF

#### 6.4.2.3.2.3.3 Test purpose

To verify that the LRC is calculated correctly.

#### 6.4.2.3.2.3.4 Method of test

##### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

##### Test procedure

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.

*The UICC shall respond with an I-block containing the response to the SELECT command. The epilogue field shall contain a 1 byte EDC – of type LRC – which shall be set to the correct value for the block [CR1].*

- c) The ME simulator shall send a SELECT command to the UICC to select and terminate the USIM application with invalid EDC.

The UICC shall reject the command by sending an R-block response of the format R(Nθ), where N is the sequence number of the next expected I-block (ignoring the erroneous I-block) and with bits b1-b4 in the PCB-byte having a value of '1' – EDC and/or parity error [CR1].

### 6.4.2.3.3 Error free operation

#### 6.4.2.3.3.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

#### 6.4.2.3.3.2 Conformance requirement

- CR1 To change the value of IFSD, the terminal sends an S(IFSD request). The request shall be acknowledged by the UICC with an S(IFSD response) with the same INF. The new IFSD is assumed to be valid as long as no new S(IFSD request) has been received by the UICC.
- CR2 If a sender S sends  $I(N_s(S), 0)$ , the block is acknowledged by the receiver R with an  $I(N_r(S), M)$ .
- CR3 If a sender S sends an  $I(N_s(S), 1)$ , it should be acknowledged by the receiver R with  $R(N_r(R))$ , where  $N_s(S) \neq N_r(R)$ , to indicate that the received block was correct and that the receiver is ready to receive the next block.

Reference: TS 102.221 [1], subclause 7.2.3.3.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_TP1

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_TP1\_EFO

#### 6.4.2.3.3.3 Test purpose

To verify that the UICC conforms to the above requirements.

#### 6.4.2.3.3.4 Method of test

##### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

##### Test procedure

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.

*The UICC shall respond with an IFS RESPONSE S-block, whose INF field is present and has the value 254 [CR1].*

- c) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application, ~~where the I block is of the format  $I(N_s(S), 0)$  where  $N_s(S) = 0$ .~~

*The UICC shall respond to the last I-block of the command ( $I(N_s(S), 0)$ ) with ~~an I block containing~~ the response to the SELECT command, where the first I-block of the response is of the format  $I(N_r(S), M)$  where  $N_r(S) = 0$  [CR2].*

- d) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ECC2</sub>, ~~where the I block is of the format  $I(N_s(S), 0)$  where  $N_s(S) = 1$ .~~

*The UICC shall respond to the last I-block of the command ( $I(N_s(S), 0)$ ) with ~~an I block containing~~ the response to the SELECT command, where the first I-block of the response is of the format  $I(N_r(S), M)$  where  $N_r(S) \neq N_r(S)$  of the previous I-block sent by the UICC  $I(N_r(S), M)$  where  $N_r(S) = 1$  [CR2].*

- e) The ME simulator shall send a SELECT command to the UICC, with an invalid file ID whose length shall be 255 bytes long, where each byte shall be set to 'FF', split over at least 2 chained I-blocks, ~~where the INF field in the first I block shall be 254 bytes in length and the INF field in the second I block shall be 7 bytes in length. The first I block shall have the format  $I(N_s(S), 1)$  where  $N_s(S) = 0$  and the second I block shall have the format  $I(N_s(S), 0)$  where  $N_s(S) = 1$ .~~

*The UICC shall respond to the first I-block from the ME simulator with a receive ready R-block of the format  $R(N_r(R))$  where  $N_s(S) \neq N_r(R)$ , i.e. where  $N_r(R) = 1$  [CR3].*

**6.4.2.3.4.2 Block dependant errors**

## 6.4.2.3.4.2.1 Sending invalid blocks to the UICC

## 6.4.2.3.4.2.1.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

## 6.4.2.3.4.2.1.2 Conformance requirement

- CR1 When an I-block has been sent and a BWT time-out occurs or an invalid block has been received (with the terminal), an R-block is sent, which request with its N(R) for the expected I-block with N(S) = N(R).
- CR2 When an R-block was sent and an invalid block is received or BWT time-out, the R-block shall be resent.
- CR3 When an S(...request) has been sent and either a BWT time-out occurs or the received response is not a S(...response), the S(...request) shall be resent.
- CR4 But if an S(...response) has been sent and either an invalid block is received or a BWT time-out, an R-block shall be sent.
- CR5 When the UICC sends an S(IFS request) and receives an invalid block, the S(IFS request) shall be resent maximum one extra time to receive an S(IFS response). After the second failure to receive an S(IFS response), the UICC shall stay in reception mode.

Reference: TS 102.221 [1], subclause 7.2.3.4.2.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_TP1

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_TP1\_EH1\_BDE\_SIB

## 6.4.2.3.4.2.1.3 Test purpose

To verify that the UICC conforms to the above requirements.

NOTE: CR3 and CR5 shall not be tested as it is not possible to meet the test criteria.

## 6.4.2.3.4.2.1.4 Method of test

**Initial conditions**

- 1) The UICC shall be connected to a ME simulator.

**Test procedure**

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- c) The ME simulator shall send an R-block to the UICC, of the format R(N(R)) where N(R) = N(S) of the last I-block sent by the UICC~~(0)~~, to request the UICC to re-send the last block.  
*The UICC shall re-send the last I-block of the response to the first SELECT command [CR1].*
- d) The ME simulator shall send another R-block to the UICC, of the format R(N(R)) where N(R) = N(S) of the last I-block sent by the UICC~~(0)~~, to request the UICC to re-send the last block.  
*The UICC shall re-send the last I-block of the response to the first SELECT command [CR2].*
- e) The ME simulator shall reset the UICC.

- f) The ME simulator shall send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.
- g) The ME simulator shall re-send an IFS REQUEST S-block to the UICC, requesting an adjustment of the IFSD to 254 bytes.

*The UICC shall re-send the IFS RESPONSE S-block, whose INF field shall have the value 254 [CR4].*

- h) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.

### 6.4.2.3.5 Chaining

#### 6.4.2.3.5.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

#### 6.4.2.3.5.2 Conformance requirement

- CR1 When the UICC is the receiver, the UICC shall accept a sequence of chained I-blocks sent from the terminal. The length of each block shall be equal to the value of IFSC except for the last block whose length may be any value in the range 0 to IFSC.
- CR2 When the UICC is the sender, all I-blocks of a chain shall have  $LEN \leq IFSD$  bytes per block.
- CR3 When the UICC is the receiver and receives a block with  $LEN > IFSC$ , the block shall be rejected and acknowledged with an R-block with bits b1-b4 in the PCB-byte having a value of 2.

Reference: TS 102.221 [1], subclause 7.2.3.5.1.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_DLL\_TP1

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_DLL\_TP1\_CHN

#### 6.4.2.3.5.3 Test purpose

To verify that the UICC conforms to the above requirements.

#### 6.4.2.3.5.4 Method of test

- NOTE: When  $EF_{SMS}$  is not supported by the UICC, any supported linear EF with record length more than or equal to 31 bytes may be chosen.

#### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

#### Test procedure

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- c) ~~The ME simulator shall send a SELECT command to the UICC, with an invalid file ID whose length shall be 255 bytes long, where each byte shall be set to 'FF', split over 2 chained I blocks, where the INF field in the first I block shall be 254 bytes in length and the INF field in the second I block shall be 7 bytes in length. The first I block shall have the format  $I(N_s(S), 1)$  where  $N_s(S) = 0$  and the second I block shall have the format  $I(N_s(S), 0)$  where  $N_s(S) = 1$ .~~

*The UICC shall respond to the first I block from the ME simulator with a receive ready R block of the format  $R(N_s(R))$  where  $N_s(S) \neq N_s(R)$ , i.e. where  $N_s(R) = 1$ , and the UICC shall respond to the second I block with an R-APDU containing a status word indicating an application level error regarding the SELECT command [CR1].*



c) The ME simulator shall send a SELECT command to the UICC, with an invalid file ID whose length shall be 255 bytes, where each byte shall be set to 'FF'. The SELECT command shall be spilt over at least 2 chained blocks.

For each I-block of format  $I(N_s(S), 1)$  from the ME simulator (i.e all I-blocks apart from the last I-block), the UICC shall respond with a receive ready R-block of the format  $R(N_r(R))$  where  $N_r(R) \neq N_s(S)$ .

For the last I-block from the ME simulator (i.e of format  $I(N_s(S), 0)$ ), the UICC shall respond with an R-APDU containing a status word indicating an application level error regarding the SELECT command [CR1].

d) The ME simulator shall reset the UICC.

e) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.

f) The ME simulator shall send a VERIFY PIN command with PIN to the UICC.

g) The ME simulator shall send a SELECT command to the UICC to select EF<sub>SMS</sub>.

h) The ME simulator shall send a READ RECORD command to read record 1 from EF<sub>SMS</sub>.

*The UICC shall return the contents of record 1 in a series of chained I-blocks, whose INF fields are  $\leq$  IFSD, i.e. less than or equal to 32 bytes in length [CR2].*

i) The ME simulator shall reset the UICC.

j) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.

k) The ME simulator shall send a SELECT command to the UICC, with an invalid file ID whose length shall be 255 bytes long, where each byte shall be set to 'FF', where the INF field in the I-block shall be set to 255 bytes in length. ~~The I-block shall have the format  $I(N_s(S), 0)$  where  $N_s(S) = 0$ .~~

*The UICC shall reject the command by sending an R-block response of the format  $R(N)$ , where  $N$  is the sequence number of the next expected I-block (ignoring the erroneous I-block) and with bits b1-b4 in the PCB-byte having a value of '2' – other errors [CR3].*

### 6.5.2.2.3 Cyclic EF

#### 6.5.2.2.3.1 Definition and applicability

Cyclic Elementary Files structure the way in which information is held in a record format with chronological order on the UICC and provide means on how this information is accessed.

#### 6.5.2.2.3.2 Conformance requirement

CR1 An EF with a cyclic structure consists of a fixed number of records with the same (fixed) length.

CR2 In this file structure there shall be a link between the last record (n) and the first record.

CR3 When the record pointer is set to the last record n, then the next record shall be record number 1.

CR4 When the record pointer is set to record 1, then the previous record shall be record number n.

CR5 The last updated record containing the newest data shall be record number 1, and the oldest data shall be held in record number n.

CR6 For update operations only PREVIOUS record shall be used.

CR7 For reading operations, the methods of addressing shall be Next, Previous, Current and Record Number.

CR8 If an action following selection of a record is aborted (e.g. due to an unsuccessful execution of a command), then the record pointer shall remain set at the record at which it was set prior to the action.

Reference: TS 102.221 [1], subclause 8.2.2.3.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_AFS\_FT\_EF\_CF

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_AFS\_FT\_EF\_CF

#### 6.5.2.2.3.3 Test purpose

To verify that the EFs within the UICC file structure conform to the above requirements.

NOTE: CR8 are tested in subclause 6.8.1.

#### 6.5.2.2.3.4 Method of test

NOTE: When EF<sub>ICI</sub> is not supported by the UICC, any supported cyclic EF in ADF<sub>USIM</sub> may be chosen.

#### Initial conditions

- 1) The UICC shall be connected to a ME simulator.
- 2) EF<sub>ICI</sub> shall have at least 4 records.
- 3) The records in EF<sub>ICI</sub> shall contain the following data:

1 <sup>st</sup> record	'01' for all bytes
2 <sup>nd</sup> record	'02' for all bytes
3 <sup>rd</sup> record	'03' for all bytes
x <sup>th</sup> record	<del>0x</del> byte value X for all bytes

#### Test procedure

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.
- c) The ME simulator shall send a VERIFY PIN command with PIN to the UICC.
- d) The ME simulator shall send a SELECT command to the UICC to select EF<sub>ICI</sub>.

### 6.8.1.5 READ RECORD

#### 6.8.1.5.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

#### 6.8.1.5.2 Conformance requirement

- CR1 The READ RECORD function shall read one complete record in the current linear fixed or cyclic EF.
- CR2 The function shall accept as an input, the mode, record number if absolute mode, and the length of the record.
- CR3 The function shall output the record specified by the mode.
- CR4 The function shall only be performed if the READ access condition for the current EF is satisfied.
- CR5 If the mode is CURRENT, the current record shall be read.
- CR6 If the mode is CURRENT, the record pointer shall not be affected.

- CR7 If the mode is ABSOLUTE, the record given by the record number shall be read.
- CR8 If the mode is ABSOLUTE, the record pointer shall not be affected.
- CR9 If the mode is NEXT, the record pointer shall be incremented before the function is performed and the pointed record shall be read.
- CR10 If the mode is NEXT, and the record pointer has not been previously been set within the selected EF, the first record shall be read and the record pointer shall be set to this record.
- CR11 If the mode is NEXT, and the record pointer addresses the last record in a linear fixed EF, the record pointer shall not change and no data shall be read.
- CR12 If the mode is NEXT, and the record pointer addresses the last record in a cyclic EF, the first record shall be read and the record pointer shall be set to this record.
- CR13 If the mode is PREVIOUS, the record pointer shall be decremented before the function is performed and the pointed record shall be read.
- CR14 If the mode is PREVIOUS, and the record pointer has not been previously been set within the selected EF, the last record shall be read and the record pointer shall be set to this record.
- CR15 If the mode is PREVIOUS, and the record pointer addresses the first record in a linear fixed EF, the record pointer shall not change and no data shall be read.
- CR16 If the mode is PREVIOUS, and the record pointer addresses the first record in a cyclic EF, the last record shall be read and the record pointer shall be set to this record.
- CR17 The record pointer shall not be changed if the function is unsuccessful.
- CR18 The function shall accept the SFI as an input.
- CR19 When the command contains a valid SFI, it shall set the file as the current EF, reset the current record pointer and subsequent records are read with the READ RECORD command without SFI.

Reference: TS 102.221 [1], subclause 8.4.3 and 11.1.5.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_CMD\_GC

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_CMD\_GC\_RDREC

#### 6.8.1.5.3 Test purpose

To verify that the READ RECORD function conforms to the above requirements using three test procedures.

NOTE: CR12 and CR16 can only be tested if any cyclic EFs are present.

#### 6.8.1.5.4 Method of test

NOTE 1: Test procedures have been separated into 3 parts. The first part is for testing CURRENT and ABSOLUTE mode, the second part is for testing NEXT and PREVIOUS mode and the third part is for testing the SFI referencing.

NOTE 2: When EF<sub>CCP2</sub> is not supported by the UICC, any supported linear EF in ADF<sub>USIM</sub> supporting SFI may be chosen.

NOTE 3: When EF<sub>ACM</sub> is not supported by the UICC, any supported cyclic EF in ADF<sub>USIM</sub> may be chosen.

#### Initial conditions

- 1) The UICC shall be connected to a ME simulator.
- 2) The records in EF<sub>CCP2</sub> shall contain the following data:

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

3) The records in EF<sub>ACM</sub> shall contain the following data, if it is supported:

1 <sup>st</sup> record	'00 00 01' (last updated record)
2 <sup>nd</sup> record	'00 00 02'
3 <sup>rd</sup> record	'00 00 03'
x <sup>th</sup> record	'00 00' followed by byte value X -0x+(first updated record)

#### Test procedure 1 (CURRENT and ABSOLUTE mode)

- The ME simulator shall reset the UICC.
- The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.
- The ME simulator shall send a SELECT command to the UICC to select EF<sub>CCP2</sub>.
- The ME simulator shall send a READ RECORD command using ABSOLUTE mode with record 1 to the UICC.

## 7.2 Security features

### 7.2.1 Definition and applicability

Every file has its own specific access condition for each command which shall be fulfilled before the command can take place.

### 7.2.2 Conformance requirement

- CR1 The USIM application shall use key reference '01' as PIN and key reference '81' as PIN2.
- CR2 Access with PIN2 shall be limited to the USIM application (i.e. PIN2 is used only in the ADF).
- CR3 For a USIM application on a multi-verification capable UICC, the only valid usage qualifiers shall be '00' and '08' which mean verification requirements is not used and user authentication knowledge based (PIN) as defined in ISO/IEC 7816-9 [11].
- CR4 Every file in the USIM application shall have a reference to an access rule stored in EF<sub>ARR</sub>.
- CR5 Every file under DF<sub>TELECOM</sub> shall have a reference to an access rule stored in EF<sub>ARR</sub> under DF<sub>TELECOM</sub>.
- CR6 A multi-verification capable UICC (from the security context point of view) shall support the referenced format using SE ID as defined in TS 102.221 [1].
- CR7 A multi-verification capable UICC (from the security context point of view) shall support the replacement of a UICC application PIN with the Universal PIN, key reference '11', as defined in TS 102.221 [1]. Only the Universal PIN is allowed as a replacement.

Reference: 3G TS 31.102 [3], subclause 6.4.

Test Group Reference (TGR): TGR\_USIM\_TP31.102\_SEC2

Test Procedure Reference (TPR): TPR\_USIM\_TP31.102\_SEC2

### 7.2.3 Test purpose

To verify that the UICC conforms to the above requirements.

NOTE 1: CR1, CR2 are tested in the subclause 6.6.4.

NOTE 2: CR6 is tested in the subclause 6.6.3.

## 7.2.4 Method of test

### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

### Test procedure

#### For a multi-verification capable UICC

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select DF<sub>TELECOM</sub>.

~~The response data shall contain the TLV DO with tag '8B' [CR5].~~

- c) The ME simulator shall send a SELECT command to the UICC to select the first EF under DF<sub>TELECOM</sub>.

The response data shall contain the TLV DO with tag '8B' indicating Referenced Security Attributes [CR5].

- e)d) The step c)b) shall be repeated for all the EFs under DF<sub>TELECOM</sub> in the UICC [CR5].

- d)e) The ME simulator shall send a SELECT command to the UICC to select and activate USIM application.

*The following shall be true of the response data:*

- *TLV DO with tag 'C6' (PS Template DO) shall contain for the Universal PIN the TLV DO with tag '95' (Usage Qualifier) and the value of this TLV shall be '00' or '08' [CR3];*

~~TLV DO with tag '8B' shall contain the SE number(s) and EF<sub>ARR</sub> record number(s) [CR5, CR6].~~

- f) The ME simulator shall send a SELECT command to the UICC to select the first EF in the USIM application.

The response data shall contain the TLV DO with with tag '8B' indicating Referenced Security Attributes and shall contain the SE ID number(s) and EF<sub>ARR</sub> record number(s) [CR5, CR6].

- e)g) Step f)d) shall be repeated for all the EFs under the selected ADF in the UICC [CR4].

#### For a single verification capable UICC

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select DF<sub>TELECOM</sub>.

~~The response data shall contain the TLV DO with tag '8B' and the value of this tag shall be the record number of EF<sub>ARR</sub> [CR5].~~

- c) The ME simulator shall send a SELECT command to the UICC to select the first EF under DF<sub>TELECOM</sub>.

The response data shall contain the TLV DO with tag '8B' indicating Referenced Security Attributes and shall contain a reference to an access rule stored in EF<sub>ARR</sub>.

- e)d) The step c)b) shall be repeated for all the EFs under DF<sub>TELECOM</sub> in the UICC [CR5].

- d)e) The step c)b) shall be repeated for all the ADF<sub>USIMS</sub> and the EFs under the selected ADF in the UICC [CR4].

CR-Form-v7

## CHANGE REQUEST

⌘ **31.122 CR 011** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Correction of error in read binary test case for T=0		
<b>Source:</b>	⌘ T3		
<b>Work item code:</b>	⌘ TEI	<b>Date:</b>	⌘ 21/08/2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ The expected behaviour of the card for a read binary error test case is not compatible with T=0
<b>Summary of change:</b>	⌘ Correction of the test case and addition of another test case
<b>Consequences if not approved:</b>	⌘ Incorrect specification

<b>Clauses affected:</b>	⌘ 6.5.2.2.1.4						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<b>Other comments:</b>	⌘						

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

## 6.5.2.2.1 Transparent EF

### 6.5.2.2.1.1 Definition and applicability

Transparent Elementary Files structure the way in which information is held in a sequence of bytes format on the UICC and provide means on how this information is accessed.

### 6.5.2.2.1.2 Conformance requirement

- CR1 The first byte of a transparent EF has the relative address '00 00'.
- CR2 The total data length of the body of an EF with transparent structure shall be indicated in the SELECT response of the EF.

Reference: TS 102.221 [1], subclause 8.2.2.1.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_AFS\_FT\_EF\_TF

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_AFS\_FT\_EF\_TF

### 6.5.2.2.1.3 Test purpose

To verify that the EFs within the UICC file structure conform to the above requirements.

### 6.5.2.2.1.4 Method of test

#### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

#### Test procedure

[...]

- f) The ME simulator shall send a READ BINARY command with offset '00 01' to the UICC. The length used shall be the TLV DO with tag '80' of the response data in step c) minus 1.

*When T = 0 protocol is used:*

*The length of data returned shall be ~~Le minus 1~~ and the status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1, ~~CR2~~].*

*When T = 1 protocol is used:*

*The length of data returned shall be ~~Le minus 1~~ and the status condition returned by the UICC shall be SW1 = '62', SW2 = '82' - end of file/record reached before reading Le bytes [CR1, CR2].*

- g) The ME simulator shall send a READ BINARY command with offset '00 01' to the UICC. The length used shall be the TLV DO with tag '80' of the response data in step c).

*When T = 0 protocol is used:*

*The UICC shall return procedure bytes '6C Le-1'; or status indicating a warning or error condition (but not SW1 SW2 = '90 00').*

*When T = 1 protocol is used:*

*The length of data returned shall be Le minus 1 and the status condition returned by the UICC shall be SW1 = '62', SW2 = '82' - end of file/record reached before reading Le bytes [CR1, CR2].*



CR-Form-v7

## CHANGE REQUEST

⌘ **31.122 CR 012** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Alignment of conformance requirement due to CR 088 on 102 221		
<b>Source:</b>	⌘ T3		
<b>Work item code:</b>	⌘ TEI	<b>Date:</b>	⌘ 21/08/2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96	(Release 1996)
	B (addition of feature),	R97	(Release 1997)
	C (functional modification of feature)	R98	(Release 1998)
	D (editorial modification)	R99	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

<b>Reason for change:</b>	⌘ The Procedure Byte '6Cxx' for case 2 commands with Le = '00' has been updated in 102.221 thus the conformance requirement shall be aligned.
<b>Summary of change:</b>	⌘ Update the conformance requirements
<b>Consequences if not approved:</b>	⌘ Test specification not in line with the tested specification

<b>Clauses affected:</b>	⌘ 6.4.3.1.5.1.2						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<b>Other comments:</b>	⌘						

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

#### 6.4.3.1.5 Use of Procedure Bytes '61xx' and '6Cxx'

##### 6.4.3.1.5.1 Case 2 Commands

###### 6.4.3.1.5.1.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

###### 6.4.3.1.5.1.2 Conformance requirement

- | CR1 If the UICC receives a case 2 command header and  $Le = '00'$  (with  $Luicc < 256$  bytes) or  $Le > Luicc$ , under normal processing it shall return procedure bytes '6C Luicc' instructing the Transport Layer of the Terminal to immediately re-send the command header with  $P3 = Luicc$ .
- | CR2 If the UICC receives a case 2 command header and  $Le = '00'$  (with  $Luicc < 256$  bytes) or  $Le > Luicc$ , under abnormal processing it shall return status indicating a warning or error condition (but not  $SW1 SW2 = '90 00'$ ).
- | CR3 If the UICC receives a case 2 command header and  $Le = '00'$  (with  $Luicc = 256$  bytes) or  $Le = Luicc$ , under normal processing it shall return data of length  $Le (= Luicc)$  under the control of the  $INS$ ,  $\overline{INS}$ , or '60' procedure bytes followed by the associated status or procedure bytes '61xx'.
- | CR4 If the UICC receives a case 2 command header and  $Le = '00'$  (with  $Luicc = 256$  bytes) or  $Le = Luicc$ , under abnormal processing it shall return status indicating a warning or error condition (but not  $SW1 SW2 = '90 00'$ ).
- CR5 If the UICC receives a case 2 command header and  $Le < Luicc$ , under normal processing it shall return data of length  $Le$  under the control of the  $INS$ ,  $\overline{INS}$ , or '60' procedure bytes followed by procedure bytes '61xx'.
- CR6 If the UICC receives a case 2 command header and  $Le < Luicc$ , under abnormal processing it shall return status indicating a warning or error condition (but not  $SW1 SW2 = '90 00'$ ).

CR-Form-v7

## CHANGE REQUEST

⌘ **31.122 CR 013** ⌘ rev **-** ⌘ Current version: **3.3.0** ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

**Proposed change affects:** UICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Correction of case 3/case 4 command tests in case of wrong P1-P2.		
<b>Source:</b>	⌘ T3		
<b>Work item code:</b>	⌘ TEI	<b>Date:</b>	⌘ 21/08/2002
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ <b>R99</b>
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	<b>F</b> (correction)	<b>2</b> (GSM Phase 2)	
	<b>A</b> (corresponds to a correction in an earlier release)	<b>R96</b> (Release 1996)	
	<b>B</b> (addition of feature),	<b>R97</b> (Release 1997)	
	<b>C</b> (functional modification of feature)	<b>R98</b> (Release 1998)	
	<b>D</b> (editorial modification)	<b>R99</b> (Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		<b>Rel-4</b> (Release 4)
			<b>Rel-5</b> (Release 5)
			<b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘ One test case on case 3 and case 4 command does not cover all possibility as defined in the corresponding conformance requirement i.e. error status word can be sent before acknowledgement or after data reception..
<b>Summary of change:</b>	⌘ Add the possibility to send error status word after data reception.
<b>Consequences if not approved:</b>	⌘ Test specification does not cover all the possibilities offered by the specification.

<b>Clauses affected:</b>	⌘ 6.4.3.1.3.4, 6.4.3.1.4.4						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Test specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	O&M Specifications			
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<b>Other comments:</b>	⌘						

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

### 6.4.3.1.3 Case 3

#### 6.4.3.1.3.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

#### 6.4.3.1.3.2 Conformance requirement

CR1 On receipt of the command header, if the UICC

- returns a procedure byte, the Transport Layer of the Terminal shall send the data portion of the conditional body of the C-APDU to the UICC under the control of procedure bytes returned by the UICC;
- returns status, the Transport Layer of the Terminal shall discontinue processing the command.

CR2 If the processing was not discontinued, the UICC shall return status following receipt of the conditional body of the C-APDU and completion of processing the command.

CR3 On receipt of status from the UICC, the Transport Layer of the Terminal shall discontinue processing the command.

Reference: TS 102.221 [1], subclause 7.3.1.1.3.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_TL\_TAPDU0

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_TL\_TAPDU0\_C3

#### 6.4.3.1.3.3 Test purpose

To verify that, under normal processing of a case 3 command, the UICC reads the command header, reads the command data under control of procedure bytes and returns status.

#### 6.4.3.1.3.4 Method of test

##### Initial conditions

- 1) The UICC shall be connected to a ME simulator.

##### Test procedure

- a) The ME simulator shall reset the UICC.
- b) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- c) The ME simulator shall send a SELECT command to the UICC to select EF<sub>LOCAL</sub>.
- d) The ME simulator shall send a VERIFY PIN command with PIN to the UICC.
- e) The ME simulator shall send an UPDATE BINARY command header using a length of 11 bytes to the UICC.

*The UICC shall return the procedure byte 'D6' to the ME simulator [CR1].*

- f) The ME simulator shall send the data string '11 22 33 44 55 66 77 88 99 00 11' to the UICC.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR2].*

- g) The ME simulator shall send an UPDATE BINARY command header with an incorrect P2 parameter, ~~and~~ a length of 11 bytes and, if needed, data string '11 22 33 44 55 66 77 88 99 00 11' to the UICC.

*The status condition returned by the UICC shall be SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2 [CR3].*

- h) The ME simulator shall send an UPDATE BINARY command with the data 'A1 A2 A3 A4 A5 A6 A7 A8 A9 00 00' to the UICC.

#### 6.4.3.1.4 Case 4

##### 6.4.3.1.4.1 Definition and applicability

It shall be mandatory for all cards complying with TS 102.221 [1] to support all functions described therein.

##### 6.4.3.1.4.2 Conformance requirement

- CR1 On receipt of the command header, if the UICC:
- a) returns a procedure byte, the Transport Layer of the Terminal shall send the data portion of the conditional body of the C-APDU to the UICC under the control of procedure bytes returned by the UICC;
  - b) returns status, the Transport Layer of the Terminal shall discontinue processing of the command.
- CR2 If processing was not discontinued in CR1(b), following receipt of the conditional body of the C-APDU, the UICC:
- a) under normal processing, shall return procedure bytes '61xx' to the Transport Layer of the Terminal requesting the Transport Layer of the Terminal to issue a GET RESPONSE command to retrieve the data from the UICC;
  - b) under abnormal processing, shall return status only to the Transport Layer of the Terminal.
- CR3 On receipt of the procedure bytes or status returned in CR2, if the UICC:
- a) returned '61xx' procedure bytes as in CR2(a), the Transport Layer of the Terminal shall send a GET RESPONSE command header to the UICC with P3 set to a value less than or equal to the value contained in the 'xx' byte of '61xx' procedure bytes;
  - b) returned status as in CR2(b) that indicates a warning ('62xx' or '63xx'), or which is application related ('9xxx' but not '9000'), the Transport Layer of the Terminal shall send a GET RESPONSE command with Le = '00';
  - c) returned status as in CR2(b) other than that described in CR3(b), the Transport Layer of the Terminal shall discontinue processing of the command.
- CR4 If processing was not discontinued in CR3(c), the GET RESPONSE command shall be processed according to the rules for case 2 commands.

Reference: TS 102.221 [1], subclause 7.3.1.1.4.

Test Group Reference (TGR): TGR\_USIM\_TP102.221\_TP\_TL\_TAPDU0

Test Procedure Reference (TPR): TPR\_USIM\_TP102.221\_TP\_TL\_TAPDU0\_C4

##### 6.4.3.1.4.3 Test purpose

To verify that the UICC conforms to the above requirements.

##### 6.4.3.1.4.4 Method of test

###### **Initial conditions**

- 1) The UICC shall be connected to a ME simulator.

###### **Test procedure**

- a) The ME simulator shall reset the UICC.

- b) The ME simulator shall send a SELECT command to the UICC to select and activate the USIM application.
- c) The ME simulator shall send a SELECT command header to the UICC with P2 = '04' and a length of 2 bytes to the UICC to select EF<sub>IMSI</sub>.
- The UICC shall return the procedure byte 'A4' to the ME simulator [CR1].*
- d) The ME simulator shall send the file ID of the EF<sub>IMSI</sub> to the UICC.
- The UICC shall return procedure bytes '61xx' to the ME simulator – where xx is the length of the FCP of the EF<sub>IMSI</sub> [CR2].*
- e) The ME simulator shall send a GET RESPONSE command header to the UICC with P3 set to length 'xx'.
- The UICC shall return the procedure byte 'C0' followed by the FCP of the EF<sub>IMSI</sub>, ending with the status condition SW1 = '90', SW2 = '00' - normal ending of the command [CR4].*
- f) The ME simulator shall send a SELECT command header to the UICC with an incorrect P1 parameter, P2 = '04' and a length of 2 bytes ~~and, if needed, the file ID of EF<sub>LOCL</sub> to the UICC to select EF<sub>LOCL</sub>.~~
- The status condition returned by the UICC shall be SW1 = '6B', SW2 = '00' - wrong parameter(s) P1-P2, or SW1 = '6A', SW2 = '86' - incorrect parameters P1-P2 [CR1].*
- g) The ME simulator shall send a SELECT command to the UICC to select EF<sub>IMSI</sub>.
- The UICC shall return procedure bytes '61xx' to the ME simulator – where 'xx' is the length of the FCP of the EF<sub>IMSI</sub> [CR2].*
- h) The ME simulator shall send a GET RESPONSE command to the UICC with P3 set to 'yy' where 'yy' is less than 'xx'.
- The UICC shall return the first 'yy' bytes of the FCP of the EF<sub>IMSI</sub>.*
- The status returned by the UICC shall be SW1 = '61', SW2 = 'zz' – where 'zz' is the remaining length of the FCP of the EF<sub>IMSI</sub> [CR3].*
- i) The ME simulator shall send a GET RESPONSE command to the UICC with P3 set to 'zz'.
- The UICC shall return the next 'zz' bytes of the FCP of the EF<sub>IMSI</sub>.*
- The status returned by the UICC shall be SW1 = '90', SW2 = '00' – normal ending of the command [CR3].*