**3GPP TSG-CT WG6 Meeting #110e *C6-220149***

**E-meeting; 22th – 25th Feb. 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **31.122** | **CR** | **0072** | **rev** | **-** | **Current version:** | **16.3.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps | **X** | ME |  | Radio Access Network |  | Core Network |  |

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| --- |
|  |
| ***Title:***  | Update TC of Contents of the Elementary Files (EF) |
|  |  |
| ***Source to WG:*** | China Mobile |
| ***Source to TSG:*** | CT6 |
|  |  |
| ***Work item code:*** | TEI16 |  | ***Date:*** | 2022-02-17 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-16 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | For EFIMSI, it requires that “If service n°130 is "available", this file shall not be available” in 31.102, and this special requirement needs to be tested. |
|  |  |
| ***Summary of change:*** | Add EFIMSI related test procedure for the TC of Contents of the Elementary Files (EF). |
|  |  |
| ***Consequences if not approved:*** | The special requirement for EFIMSI is not tested. |
|  |  |
| ***Clauses affected:*** | 7.1 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **x** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **x** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **x** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |

|  |  |
| --- | --- |
| ***This CR's revision history:*** |  |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Start of change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

3.6 Table of optional features

Support of several features is optional, release dependent or configuration dependent for the UICC. However, if a UICC states conformance with a specific 3GPP release, it is mandatory for the UICC to support all mandatory functions of that release, as stated in table A.1.

The "Option defined in Releases" column indicates the releases of the relevant core specification(s) in which the option is defined.

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

A supplier may choose to use a single UICC and reconfigure it as required for each test; or may choose to use a number of UICCs which are based on the same platform but are configured differently. The supplier shall state the chosen solution and in the latter case shall confirm usage of identical platforms.

**Table A.1: Options**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Option** | **Status** | **Option defined in Releases** | **Support** | **Mnemonic** |
| ID-1 UICC | O.1 | R99 |  | O\_ID1\_UICC |
| Plug-in UICC | O.1 | R99 |  | O\_PLUG\_IN\_UICC |
| Type 1 (i.e. UICC which always enters the negotiable mode after a warm reset) | O.2 | R99 |  | O\_TYPE\_1 |
| Type 2 (UICC which always enters the specific mode after a warm reset) | O.2 | R99 |  | O\_TYPE\_2 |
| T=0 | O.3 | R99 |  | O\_T0 |
| T=1 | O.3 | R99 |  | O\_T1 |
| Mono application UICC | O.4 | R99 |  | O\_MONO\_APP |
| Multi-application UICC | O.4 | R99 |  | O\_MULTI\_APP |
| Single verification capable UICC | O.5 | R99 |  | O\_SINGLE\_VER |
| Multi-verification capable UICC | O.5 | R99 |  | O\_MULTI\_VER |
| More than one logical channel supported | O | Rel-4 |  | O\_LOG\_CHANS |
| More than two logical channels supported | O | Rel-4 |  | O\_LOG\_CHANS\_34 |
| Shareable files | O | Rel-4 |  | O\_SHAREABLE |
| Non-shareable files | O | Rel-4 |  | O\_NON\_SHAREABLE |
| GET CHALLENGE | O | Rel-4 |  | O\_GET\_CHALLENGE |
| Mini-UICC | O.1 | Rel-6 |  | O\_MINI\_UICC |
| (F, D) = (512, 64) | O | Rel-6 |  | O\_F\_D\_512\_64 |
| Low impedance drivers | O | Rel-6 |  | O\_LOW\_IMPEDANCE |
| BER-TLV structure EFs | O | Rel-6 |  | O\_BER\_TLV\_FILES |
| GET IDENTITY when SUCI calculation performed by the USIM | O | Rel-15 |  | O\_GET IDENTITY\_SUCI |
| SUPI as Network Access Identifier used by the USIM | O | Rel-16 |  | O\_SUPI\_NSI |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* Next of change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

3.7 Applicability table

**Table B.1: Applicability of tests**

| **Clause** | **Description** | **Test procedure** | **Tested features defined in Release** | **R99 UICC** | **Rel-4 UICC** | **Rel-5 UICC** | **Rel-6 UICC** | **Rel-7 UICC** | **Rel-8 UICC** | **Rel-9 UICC** | **Rel-10 UICC** | **Rel-11 UICC** | **Rel-12 UICC** | **Rel-13 UICC** | **Rel-14 UICC** | **Rel-15 UICC** | **Rel-16 UICC** | **Support** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6.1.1 | ID-1 UICC | 1 | R99 | C001 | C001 | C001 | C001 | C001 | C001 | C001 | C001 | C001 | C001 | C001 | C001 | C001 |  |  |
| … | … | … | … | … | … | … | … | … | … | … | … | … | … | … | … | … |  | … |
| 7.1 | Contents of the Elementary Files (EF) | 1 | R99 |  |  |  | M | M | M | M | M | M | M | M | M | M |  |  |
| 2 | R99 | M | M | M |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Rel-16 |  |  |  |  |  |  |  |  |  |  |  |  |  | C0xx |  |
| 7.2 | Security features | 1 | R99 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 |  |  |
| 7.3.1 | AUTHENTICATE | 1 | R99 | M | M | M | M | M | M | M | M | M | M | M | M | M |  |  |
| 7.3.2.1 | Security management | 1 | R99 | M | M | M | M | M | M | M | M | M | M | M | M | M |  |  |
| 7.3.2.2 | Status Words of the Commands | N/A |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.3.3 | GET IDENTITY | 1 | Rel-15 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | C024 |  |  |
| 8.1.1 | GSM/USIM application interaction and restrictions | 1 | Rel-6 |  |  |  | M | M | M | M | M | M | M | M | M | M |  |  |
| 8.2.1 | Transmission speed | 1 | Rel-6 |  |  |  | C006 | C006 | C006 | C006 | C006 | C006 | C006 | C006 | C006 | C006 |  |  |
|  |  | 1 | Rel-6 |  |  |  | C007 | C007 | C007 | C007 | C007 | C007 | C007 | C007 | C007 | C007 |  |  |
| 8.2.2 | Voltage classes | 1 | Rel-6 |  |  |  | M | M | M | M | M | M | M | M | M | M |  |  |
| 8.2.3 | File Control Parameters (FCP) | 1 | Rel-6 |  |  |  | M | M | M | M | M | M | M | M | M | M |  |  |
| 8.3 | User verification and file access conditions | 1 | Rel-6 |  |  |  | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 | C016 |  |  |
|  |  | 2 | Rel-6 |  |  |  | C017 | C017 | C017 | C017 | C017 | C017 | C017 | C017 | C017 | C017 |  |  |
| 8.4.1 | Contents of the EFs at the MF level | 1 | Rel-6 |  |  |  | M | M | M | M | M | M | M | M | M | M |  |  |

| **Clause** | **Description** | **Test procedure** | **Tested features defined in Release** | **R99 UICC** | **Rel-4 UICC** | **Rel-5 UICC** | **Rel-6 UICC** | **Rel-7 UICC** | **Rel-8 UICC** | **Rel-9 UICC** | **Rel-10 UICC** | **Rel-11 UICC** | **Rel-12 UICC** | **Rel-13 UICC** | **Rel-14 UICC** | **Rel-15 UICC** | **Support** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| C001 IF O\_ID1\_UICC THEN M ELSE N/AC002 IF O\_PLUG\_IN\_UICC THEN M ELSE N/AC003 IF O\_MINI\_UICC THEN M ELSE N/AC004 IF O\_TYPE\_1 THEN M ELSE N/AC005 IF O\_TYPE\_2 THEN M ELSE N/AC006 IF O\_T0 THEN M ELSE N/AC007 IF O\_T1 THEN M ELSE N/AC008 IF O\_MULTI\_APP THEN M ELSE N/AC009 IF O\_MONO\_APP THEN M ELSE N/AC010 IF O\_LOG\_CHANS THEN M ELSE N/AC011 IF (NOT O\_LOG\_CHANS) THEN M ELSE N/AC012 IF O\_LOG\_CHANS\_34 THEN M ELSE N/AC013 IF (O\_LOG\_CHANS\_34 AND O\_SHAREABLE) THEN M ELSE N/AC014 IF (O\_LOG\_CHANS AND O\_NON\_SHAREABLE) THEN M ELSE N/AC015 IF (O\_LOG\_CHANS AND O\_SHAREABLE) THEN M ELSE N/AC016 IF O\_MULTI\_VER THEN M ELSE N/AC017 IF O\_SINGLE\_VER THEN M ELSE N/AC018 IF (NOT O\_F\_D\_512\_64) THEN M ELSE N/AC019 IF O\_F\_D\_512\_64 THEN M ELSE N/AC020 IF O\_LOW\_IMPEDANCE THEN M ELSE N/AC021 IF O\_GET\_CHALLENGE THEN M ELSE N/AC022 IF O\_BER\_TLV\_FILES THEN M ELSE N/AC023 IF (O\_BER\_TLV\_FILES AND O\_LOG\_CHANS AND O\_SHAREABLE) THEN M ELSE N/AC024 IF O\_GET IDENTITY\_SUCI THEN M ELSE N/AC0xx IF O\_SUPI NAI THEN M ELSE N/A |

## 7.1 Contents of the Elementary Files (EF)

The clause provides tests to ensure that the IUT contains all of the EFs need for a Telecom session.

### 7.1.1 Definition and applicability

See clause 3.5.3.

### 7.1.2 Conformance requirement

The following conformance requirements refer to the tables for each EF in TS 31.102 [3], clause 4.

|  |  |  |
| --- | --- | --- |
| CR1 | Each existing EF shall be selectable under the respective DF using the identifier given in the table for that EF. | M |
| CR2 | All mandatory EFs shall exist on the UICC. | M |
| CR3 | The identifier of the EF shall be that given in the table for that EF. | M |
| CR4 | The type and structure of the EF shall be that given in the table for that EF. | M |
| CR5 | The file size shall be at least that given in the table for that EF. | M |
| CR6 | The short file identifier shall be those given in the table for that EF. | M |
| CR7 | The short file identifier shall exist if it is mandatory in the table for that EF. This includes EFs with SFI indicated by 'YY'. | (R99) Rel-6 - … |
| CR8 | The access conditions shall be those given in the table for that EF. | M |
| CR9 | If no SFI is indicated in the table for the EF, the EF shall not have an SFI. | (R99) Rel-6 - … |
| CR10 | The short file identifier shall exist if it is mandatory in the table for that EF. | M |
| CR11 | If service n°130 is "available", EFSUPI\_NAI shall be present,EFIMSI shall not be available and the length of the MNC in the IMSI coded in EFAD shall be set to 0. | Rel-16-… |
| CR12 | If service n°130 is "not available", EFSUPI\_NAI shall not be present, EFIMSI shall be available and the length of the MNC in the IMSI shall be identical to the value coded in EFAD.  | Rel-16-… |

Reference: TS 31.102 [3], clause 4.

### 7.1.3 Test purpose

To verify that the UICC conforms to the above requirements.

NOTE: The contents and coding of the data within the files are not tested, but shall conform to the respective contents and coding of the data given for each file in TS 31.102 [3], clause 4.

### 7.1.4 Method of test

**Initial conditions 1**

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

2) Service n°130 shall be "not available" in the USIM.

**Test procedure 1**

a) The ME simulator shall reset the UICC.

b) The ME simulator shall send a SELECT command to the UICC to select the respective DF for the first EF in clause 4 of TS 31.102 [3].

 *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 SELECT command to the UICC to select the first EF in clause 4 of TS 31.102 [3].

 *The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1, CR2].*

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

*- TLV DO with tag '83' shall indicate the identifier of the file selected [CR3];*

*- TLV DO with tag '82' shall not be '38' and '78' indicating EF [CR4];*

*- TLV DO with tag '82' shall indicate the structure given in the table for the file in clause 4 of TS 31.102 [3] [CR4];*

*- TLV DO with tag '80' shall be at least the minimum file size given in the table for the file in clause 4 of TS 31.102 [3]. if the EF is transparent [CR5];*

*- Byte 5 and 6 of TLV DO with tag '82' shall be in accordance with the record length given in the table for the file in clause 4 of TS 31.102 [3]. if the EF is linear fixed or cyclic [CR5];*

*- TLV DO with tag '80' shall be an integer multiple of the record length if the EF is linear fixed or cyclic [CR5];*

*- If a value for the SFI is specified in the table for the file in clause 4 of TS 31.102 [3] and the value of the specified SFI is equal to the 5 least significant bits (bits b5 to b1) of the file identifier for the file, then the TLV DO with tag '88'shall either be absent, or shall be present with the specified SFI value [CR6, CR7];*

*- If a value for the SFI is specified in the table for the file in clause 4 of TS 31.102 [3] and the value of the specified SFI is not equal to the 5 least significant bits (bits b5 to b1) of the file identifier for the file, then the TLV DO with tag '88'shall be present with the specified SFI value [CR6, CR7];*

*- If an SFI is specified in the table for the file in clause 4 of TS 31.102 [3] but no actual value is specified (i.e. 'YY' is used), then the TLV DO with tag '88'shall either be absent, or shall be present with a value of length 1 [CR6, CR7];*

*- If no SFI is specified in the table for the file in clause 4 of TS 31.102 [3], then the TLV DO with tag '88'shall be present with an empty value [CR9]*

*- TLV DO with tag '86' or '8B' or '8C' or 'AB' shall indicate the access conditions given in the table for the file in clause 4 of TS 31.102 [3] [CR8].*Note: if the access conditions indicate referenced security, the referenced record in the EFARR may be read at this point if necessary.

d) Steps a) to c) shall be repeated for the remaining mandatory EFs clause 4 of TS 31.102 [3].

e) Steps a) to c) shall be repeated for the existing optional EFs clause 4 of TS 31.102 [3].

 Note: EFIMSI shall be existing and the length of the MNC in the IMSI shall be identical to the value coded in EFAD *[CR12]*.

f) The ME simulator shall send a SELECT command to the UICC to select the respective DF for EFSUPI\_NAI in clause 4 of TS 31.102 [3].

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

g) The ME simulator shall send a SELECT command to the UICC to select EFSUPI\_NAI.

 *The status condition returned by the UICC shall be SW1 = '6A', SW2 = '82' - File not found [CR11].*

**Test procedure 2**

a) The ME simulator shall reset the UICC.

b) The ME simulator shall send a SELECT command to the UICC to select the respective DF for the first EF in clause 4 of TS 31.102 [3].

 *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 SELECT command to the UICC to select the first EF in clause 4 of TS 31.102 [3].

 *The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1, CR2].*

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

*- TLV DO with tag '83' shall indicate the identifier of the file selected [CR3];*

*- TLV DO with tag '82' shall not be '38' and '78' indicating EF [CR4];*

*- TLV DO with tag '82' shall indicate the structure given in the table for the file in clause 4 of TS 31.102 [3] [CR4];*

*- TLV DO with tag '80' shall be at least the minimum file size given in the table for the file in clause 4 of TS 31.102 [3]. if the EF is transparent [CR5];*

*- Byte 5 and 6 of TLV DO with tag '82' shall be in accordance with the record length given in the table for the file in clause 4 of TS 31.102 [3]. if the EF is linear fixed or cyclic [CR5];*

*- TLV DO with tag '80' shall be an integer multiple of the record length if the EF is linear fixed or cyclic [CR5];*

*- TLV DO with tag '88' shall indicate the short file identifier given in the table for the file in clause 4 of TS 31.102 [3] [CR6, CR10];*

*- TLV DO with tag '86' or '8B' or '8C' or 'AB' shall indicate the access conditions given in the table for the file in clause 4 of TS 31.102 [3] [CR8].*Note: if the access conditions indicate referenced security, the referenced record in the EFARR may be read at this point if necessary.

d) Steps a) to c) shall be repeated for the remaining mandatory EFs clause 4 of TS 31.102 [3].

e) Steps a) to c) shall be repeated for the existing optional EFs clause 4 of TS 31.102 [3].

**Initial conditions 2**

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

2) Service n°130 shall be "available" in the USIM.

**Test procedure 3**

a) The ME simulator shall reset the UICC.

b) The ME simulator shall send a SELECT command to the UICC to select the respective DF for EFIMSI in clause 4 of TS 31.102 [3].

 *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 SELECT command to the UICC to select EFIMSI.

 *The status condition returned by the UICC shall be SW1 = '6A', SW2 = '82' - File not found and* and the length of the MNC in the IMSI coded in EFAD shall be set to 0 *[CR11].*

d) The ME simulator shall send a SELECT command to the UICC to select the respective DF for EFSUPI\_NAI in clause 4 of TS 31.102 [3].

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

e) The ME simulator shall send a SELECT command to the UICC to select EFSUPI\_NAI.

*The status condition returned by the UICC shall be SW1 = '90', SW2 = '00' - normal ending of the command [CR1, CR11].The following shall be true of the response data:*

*- TLV DO with tag '83' shall indicate the identifier of the file selected [CR3];*

*- TLV DO with tag '82' shall not be '38' and '78' indicating EF [CR4];*

*- TLV DO with tag '82' shall indicate the structure given in the table for the file in clause 4 of TS 31.102 [3] [CR4];*

*- TLV DO with tag '80' shall be at least the minimum file size given in the table for the file in clause 4 of TS 31.102 [3] [CR5];*

*- TLV DO with tag '88'shall either be absent, or shall be present with the specified SFI value [CR6, CR7];*

*- TLV DO with tag '86' or '8B' or '8C' or 'AB' shall indicate the access conditions given in the table for the file in clause 4 of TS 31.102 [3] [CR8].*Note: if the access conditions indicate referenced security, the referenced record in the EFARR may be read at this point if necessary.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* End of change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*