**3GPP TSG-T (Terminals) Meeting #17**
**Biarritz, France 4 – 6 September 2002**

***Tdoc TP-020210***

**Source:** T3

**Title:** Change Requests to TS 31.102

**Document for:** Approval

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This document contains several change requests as follows:

| T3 Doc | Spec | CR | Rv | Rel | Cat | Subject |
|---|---|---|---|---|---|---|
| T3-020645 | 31.102 | 115 | - | Rel-4 | F | Clarification of UICC presence detection |
| T3-020646 | 31.102 | 116 | - | Rel-5 | A | Clarification of UICC presence detection |
| T3-020702 | 31.102 | 117 | - | Rel-4 | F | Correction and clarification of MMS features |
| T3-020703 | 31.102 | 118 | - | Rel-5 | A | Correction and clarification of MMS features |
| T3-020655 | 31.102 | 119 | - | R99 | F | Use of USIM by 3G/GSM ME |
| T3-020656 | 31.102 | 120 | - | Rel-4 | A | Use of USIM by 3G/GSM ME |
| T3-020657 | 31.102 | 121 | - | Rel-5 | F | Use of USIM by 3G/GSM ME |
| T3-020704 | 31.102 | 122 | - | Rel-4 | F | Collection of essential corrections |
| T3-020705 | 31.102 | 123 | - | Rel-5 | A | Collection of essential corrections |
| T3-020647 | 31.102 | 124 | - | R99 | F | Collection of essential corrections |

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020645***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **115** ⌘ **rev** **-** ⌘ Current version: **4.5.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Clarification of UICC presence detection |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 22/08/02 |
| ***Category:*** | ⌘ | **F** |
| ***Release:*** | ⌘ | REL-4 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | The UICC presence detection section only deals with the card detection during a call. It is not clear what a call means. |
| ***Summary of change:*** | ⌘ | Indicate that “call” covers a circuit switched call or an active PDP context |
| ***Consequences if not approved:*** | ⌘ | The ME only performs UICC detection during circuit switched calls. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 5.1.9 |

| ***Other specs affected:*** ⌘ | Y | N | | ⌘ |
|---|---|---|---|---|
| | | X | Other core specifications | |
| | | X | Test specifications | |
| | | X | O&M Specifications | |

***Other comments:*** ⌘

**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:

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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.

### 5.1.9 UICC presence detection

The ME checks for the presence of the UICC according to TS 31.101 [11] within all 30 s periods of inactivity on the UICC-ME interface during a call. If the presence detection according to TS 31.101 [11] fails the call shall be terminated as soon as possible but at least within 5s after the presence detection has failed. Here a call covers a circuit switched call, and/or an active PDP context.

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020646***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **116** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Clarification of UICC presence detection |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 22/08/02 |
| ***Category:*** | ⌘ | **A** |
| ***Release:*** | ⌘ | REL-5 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | The UICC presence detection section only deals with the card detection during a call. It is not clear what a call means. |
| ***Summary of change:*** | ⌘ | Indicate that “call” covers a circuit switched call or an active PDP context |
| ***Consequences if not approved:*** | ⌘ | The ME only performs UICC detection during circuit switched calls. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 5.1.9 |

| | | Y | N | | | |
|---|---|---|---|---|---|---|
| ***Other specs affected:*** | ⌘ | | X | Other core specifications | ⌘ | |
| | | | X | Test specifications | | |
| | | | X | O&M Specifications | | |

| | | |
|---|---|---|
| ***Other comments:*** | ⌘ | |

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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.

### 5.1.9 UICC presence detection

The ME checks for the presence of the UICC according to TS 31.101 [11] within all 30 s periods of inactivity on the UICC-ME interface during a call. If the presence detection according to TS 31.101 [11] fails the call shall be terminated as soon as possible but at least within 5s after the presence detection has failed. Here a call covers a circuit switched call, and/or an active PDP context.

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***T3-020702***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **117** ⌘ **rev** **-** ⌘ Current version: **4.5.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction and clarification of MMS features |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 21-08-2002 |
| ***Category:*** | ⌘ | **F** |
| ***Release:*** | ⌘ | REL-4 |

*Use one of the following categories:*
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***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | No default set of connectivity parameters defined.<br>It is not clear whether the TLV object in the MMS Connectivity Parameters may occur one or several times.<br>Annex J is never referred to. |
| ***Summary of change:*** | ⌘ | Definition of a default set of MMS Connectivity parameters<br>It is clarified whether the TLV objects of an MMS Connectivity Parameter may occur only one time or several times.<br>Addition of a reference to Annex J in section 4.2.70 |
| ***Consequences if not approved:*** | ⌘ | The current version may imply different interpretations and thus different implementations |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.2.69, 4.2.70, 4.2.71, Annex J |

| ***Other specs affected:*** | Y | N | | | |
|---|---|---|---|---|---|
| ⌘ | X | | Other core specifications | ⌘ | TS 23.140 possibly |
| | | X | Test specifications | | |
| | | X | O&M Specifications | | |

| | | |
|---|---|---|
| ***Other comments:*** | ⌘ | |

**How to create CRs using this form:**
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## 4.2.69 $EF_{MMSICP}$ (MMS Issuer Connectivity Parameters)

If service n°52 is "available", this file shall be present.
This EF contains values for Multimedia Messaging Connectivity Parameters as determined by the issuer, which can be used by the ME for MMS network connection. This file may contain one or more sets of Multimedia Messaging Issuer Connectivity Parameters. The first set of Multimedia Messaging Issuer Connectivity Parameters is used as the default set. Each set of Multimedia Messaging Issuer Connectivity Parameters may consist of one or more Interface to Core Network and Bearer information TLV objects, but shall contain only one MMS implementation TLV object, one MMS Relay/Server TLV object and one Gateway TLV object. The order of the Interface to Core Network and Bearer ~~bearer~~ information TLV objects in the MMS Connectivity TLV object defines the priority of the Interface to Core Network and Bearer information~~bearers~~, with the first TLV object having the highest priority.

| Identifier: '6FD0' | Structure: Transparent | Optional |
|---|---|---|
| File Size: $X_1$+…+ $X_n$ ~~X~~ bytes | Update activity: low | |

Access Conditions:

| | |
|---|---|
| READ | PIN |
| UPDATE | ADM |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to $X_1$~~X~~ | MMS Connectivity Parameters TLV object~~s~~ | M | $X_1$ bytes |
| $X_1$+1 to $X_1$ + $X_2$ | MMS Connectivity Parameters TLV object | O | $X_2$ bytes |
| … | … | | |
| $X_1$+…+ $X_{n-1}$+1 to $X_1$+…+ $X_n$ | MMS Connectivity Parameters TLV object | O | $X_n$ bytes |

- MMS Connectivity Parameters tags

| **Description** | **Tag Value** |
|---|---|
| MMS Connectivity Parameters Tag | 'AB' |
| MMS Implementation Tag | ‘80’ |
| MMS Relay/Server Tag | ‘81’ |
| Interface to Core Network and Bearer Information Tag | '82' |
| GatewayTag | '83' |

- MMS Connectivity Parameters contents

| **Description** | **Value** | **M/O** | **Length (bytes)** |
|---|---|---|---|

| | | | |
|---|---|---|---|
| MMS Connectivity Parameters Tag | 'AB' | M | 1 |
| Length | Note 1 | M | Note 2 |
| MMS Implementation Tag | '80' | M | 1 |
| Length | 1 | M | 1 |
| MMS Implementation Information | -- | M | 1 |
| MMS Relay/Server Tag | '81' | M | 1 |
| Length | X | M | Note 2 |
| MMS Relay/Server Address | -- | M | X |
| 1st Interface to Core Network and Bearer Information Tag (highest priority) | '82' | M | 1 |
| Length | Y1 | M | Note 2 |
| 1st Interface to Core Network and Bearer information | -- | M | Y1 |
| 2nd Interface to Core Network and Bearer Information Tag | '82' | O | 1 |
| Length | Y2 | O | Note 2 |
| 2nd Interface to Core Network and Bearer information | -- | O | Y2 |
| … | | | |
| nth Interface to Core Network and Bearer Information Tag | '82' | O | 1 |
| Length | Y3 | O | Note 2 |
| nth Interface to Core Network and Bearer information | -- | O | Y3 |
| GatewayTag | '83' | O | 1 |
| Length | Z | O | Note 2 |
| Gateway Information | -- | O | Z |
| Note 1 : This is the total size of the constructed TLV object<br>Note 2 : The length is coded according to ISO/IEC 8825 [35] | | | |

- MMS Implementation Tag '80'

  See section 4.2.67 for contents and coding.

- MMS Relay/server Tag '81'

  Contents:

  The MMS relay/server contains the address of the associated MMS relay/server.

  Coding:

  The MMS relay/server address is coded according to the guideline provided in 3GPP TS 23.140 [38].

- Interface to Core Network and Bearer Information Tag '82'

  Contents:

  The Interface to Core Network and Bearer Information may contain the following information to set up the bearer: Bearer, Address, Type of address, Speed, Call type, Authentication type, Authentication id, Authentication password.

  Coding:

  The coding is according to the guideline provided in 3GPP TS 23.140 [38].

- Gateway Tag '83'

  Contents:

  The Gateway may contain the following information; Address , Type of address, Port, Service, Authentication type , Authentication id and Authentication password.

  Coding:

  The coding is according to the guideline provided in 3GPP TS 23.140 [38].

Unused bytes shall be set to 'FF'.

## 4.2.70 $EF_{MMSUP}$ (MMS User Preferences)

If service n°52 is "available", this file shall be present.

This EF contains values for Multimedia Messaging Service User Preferences, which can be used by the ME for user assistance in preparation of mobile multimedia messages (e.g. default values for parameters that are often used).

| Identifier: '6FD1' | Structure: Linear Fixed | Optional |
|---|---|---|
| Record Length: X bytes | Update activity: low | |

Access Conditions:

| | |
|---|---|
| READ | PIN |
| UPDATE | PIN |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to X | MMS User Preference TLV Objects | M | X bytes |

- MMS User Preference tags

| Description | Tag Value |
|---|---|
| MMS Implementation Tag | '80' |
| MMS User preference profile name Tag | '81' |
| MMS User Preference information Tag | '82' |

MMS User Preference information

| Description | Value | M/O | Length (bytes) |
|---|---|---|---|
| MMS Implementation Tag | '80' | M | 1 |
| Length | 1 | M | Note |
| MMS Implementation information | -- | M | 1 |
| MMS User preference profile name Tag | '81' | M | 1 |
| Length | X | M | Note |
| MMS User profile name | -- | M | X |
| MMS User Preference information Tag | '82' | M | 1 |
| Length | Y | M | Note |
| MMS User Preference information | -- | M | Y |
| Note : The length is coded according to ISO/IEC 8825 [35] | | | |

- MMS Implementation Tag '80'

  For contents and coding see 4.2.67

- MMS User preference profile name Tag '81'

  Contents:

  Alpha tagging of the MMS user preference profile.

  Coding:

  this alpha-tagging shall use either:

  - the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified.

  or:

  - one of the UCS2 coded options as defined in the annex of TS 31.101 [11].

- MMS User Preference information Tag '82'

  Contents:

  The following information elements may be coded; Sender Visibility, Delivery Report, Read-Reply, Priority, Time of Expiry and Earliest Delivery Time.

Coding:
Depending upon the MMS implementation as indicated in Tag '80'.

An Example for the coding of these parameters can be found in Annex J.

## 4.2.71 $EF_{MMSUCP}$ (MMS User Connectivity Parameters)

If service n°52 and n°55 are "available", this file shall be present.
This EF contains values for Multimedia Messaging Connectivity Parameters as determined by the user, which can be used by the ME for MMS network connection. This file may contain one or more sets of Multimedia Messaging User Connectivity Parameters. Each set of Multimedia Messaging User Connectivity Parameters may consist of one or more Interface to Core Network and Bearer information TLV objects, but shall contain only one MMS implementation TLV object, one MMS Relay/Server TLV object and one Gateway TLV object.The order of the Interface to Core Network and Bearer ~~bearer~~ information TLV objects in the MMS Connectivity TLV object defines the priority of the Interface to Core Network and Bearer information~~bearers~~, with the first TLV object having the highest priority.

| Identifier: '6FD2' | Structure: Transparent | Optional |
|---|---|---|
| File Size: $X_1$+…+ $X_n$ ~~X~~ bytes | Update activity: low | |

Access Conditions:

| | |
|---|---|
| READ | PIN |
| UPDATE | PIN/PIN2<br>(fixed during administrative management) |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to $X_1$~~X~~ | MMS Connectivity Parameters TLV objects | O | $X_1$~~X~~ bytes |
| $X_1$+1 to $X_1$ + $X_2$ | MMS Connectivity Parameters TLV object | O | $X_2$ bytes |
| … | … | | |
| $X_1$+…+ $X_{n-1}$+1 to $X_1$+…+ $X_n$ | MMS Connectivity Parameters TLV object | O | $X_n$ bytes |

For the contents and coding see 4.2.69

# Annex J (informative): Example of MMS coding

This annex gives an example for the coding of MMS User Preferences, while the MMS User Information Preference parameters are coded according to the WAP implementation of MMS.

0x80 MMS Implementation Tag

0x01 Length

0x01 MMS Implementation information (WAP)

0x81 MMS User preference profile name Tag

0x1C Length

“Christmas Card”

0x82 MMS User Information Preference tag

0x19 Length

0x14 0x80 (visibility: hide)

0x06 0x80 (delivery report: yes)

0x10 0x80 (Read-reply: yes)

0x0F 0x81 (Priority: Normal)

0x07 0x07 0x80 0x05 0x11 0x22 0x33 0x44 0x55 (Delivery time tag: Value-Length: Absolute-token tag; Date Value-Length Date -Value)

0x08 0x06 0x81 0x04 0x55 0x22 0x33 0x44 (Expiry: Tag:: Value-Length : Relative-token Tag ; Delta -Second Value-Length, Delta -Second-Value )

**…**

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***T3-020703***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **118** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Correction and clarification of MMS features |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 22-08-2002 |
| ***Category:*** | ⌘ | **A** |
| ***Release:*** | ⌘ | REL-5 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
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*Use one of the following releases:*

| | |
|---|---|
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| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | Few unclear statements |
| ***Summary of change:*** | ⌘ | clarifications |
| ***Consequences if not approved:*** | ⌘ | Wrong implementations |

| | | | | | |
|---|---|---|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.2.69, 4.2.70, 4.2.71, Annex J | | | |
| ***Other specs affected:*** | ⌘ | **Y** / **N** | Other core specifications | ⌘ | TS 23.140 possibly |
| | | **X** / | Other core specifications | | |
| | | / **X** | Test specifications | | |
| | | / **X** | O&M Specifications | | |
| ***Other comments:*** | ⌘ | | | | |

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## 4.2.69 $EF_{MMSICP}$ (MMS Issuer Connectivity Parameters)

If service n°52 is "available", this file shall be present.
This EF contains values for Multimedia Messaging Connectivity Parameters as determined by the issuer, which can be used by the ME for MMS network connection. This file may contain one or more sets of Multimedia Messaging Issuer Connectivity Parameters. The first set of Multimedia Messaging Issuer Connectivity Parameters is used as the default set. Each set of Multimedia Messaging Issuer Connectivity Parameters may consist of one or more Interface to Core Network and Bearer information TLV objects, but shall contain only one MMS implementation TLV object, one MMS Relay/Server TLV object and one Gateway TLV object. The order of the Interface to Core Network and Bearer ~~bearer~~ information TLV objects in the MMS Connectivity TLV object defines the priority of the Interface to Core Network and Bearer information~~bearers~~, with the first TLV object having the highest priority.

| Identifier: '6FD0' | Structure: Transparent | Optional |
|---|---|---|
| File Size: $X_1$+…+ $X_n$ ~~X~~ bytes | Update activity: low | |

Access Conditions:

| | |
|---|---|
| READ | PIN |
| UPDATE | ADM |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to $X_1$~~X~~ | MMS Connectivity Parameters TLV object~~s~~ | M | $X_1$~~X~~ bytes |
| $X_1$+1 to $X_1$ + $X_2$ | MMS Connectivity Parameters TLV object | O | $X_2$ bytes |
| … | … | | |
| $X_1$+…+ $X_{n-1}$+1 to $X_1$+…+ $X_n$ | MMS Connectivity Parameters TLV object | O | $X_n$ bytes |

- MMS Connectivity Parameters tags

| Description | Tag Value |
|---|---|
| MMS Connectivity Parameters Tag | 'AB' |
| MMS Implementation Tag | '80' |
| MMS Relay/Server Tag | '81' |
| Interface to Core Network and Bearer Information Tag | '82' |
| GatewayTag | '83' |

- MMS Connectivity Parameters contents

| Description | Value | M/O | Length (bytes) |
|---|---|---|---|

| | | | |
|---|---|---|---|
| MMS Connectivity Parameters Tag | 'AB' | M | 1 |
| Length | Note 1 | M | Note 2 |
| MMS Implementation Tag | '80' | M | 1 |
| Length | 1 | M | 1 |
| MMS Implementation Information | -- | M | 1 |
| MMS Relay/Server Tag | '81' | M | 1 |
| Length | X | M | Note 2 |
| MMS Relay/Server Address | -- | M | X |
| 1st Interface to Core Network and Bearer Information Tag (highest priority) | '82' | M | 1 |
| Length | Y1 | M | Note 2 |
| 1st Interface to Core Network and Bearer information | -- | M | Y1 |
| 2nd Interface to Core Network and Bearer Information Tag | '82' | O | 1 |
| Length | Y2 | O | Note 2 |
| 2nd Interface to Core Network and Bearer information | -- | O | Y2 |
| … | | | |
| nth Interface to Core Network and Bearer Information Tag | '82' | O | 1 |
| Length | Y3 | O | Note 2 |
| nth Interface to Core Network and Bearer information | -- | O | Y3 |
| GatewayTag | '83' | O | 1 |
| Length | Z | O | Note 2 |
| Gateway Information | -- | O | Z |
| Note 1 : This is the total size of the constructed TLV object<br>Note 2 : The length is coded according to ISO/IEC 8825 [35] | | | |

- MMS Implementation Tag '80'

  See section 4.2.67 for contents and coding.

- MMS Relay/server Tag '81'

  Contents:

  The MMS relay/server contains the address of the associated MMS relay/server.

  Coding:

  The MMS relay/server address is coded according to the guideline provided in 3GPP TS 23.140 [38].

- Interface to Core Network and Bearer Information Tag '82'

  Contents:

  The Interface to Core Network and Bearer Information may contain the following information to set up the bearer: Bearer, Address, Type of address, Speed, Call type, Authentication type, Authentication id, Authentication password.

  Coding:

  The coding is according to the guideline provided in 3GPP TS 23.140 [38].

- Gateway Tag '83'

  Contents:

  The Gateway may contain the following information; Address , Type of address, Port, Service, Authentication type , Authentication id and Authentication password.

  Coding:

  The coding is according to the guideline provided in 3GPP TS 23.140 [38].

Unused bytes shall be set to 'FF'.

## 4.2.70 $EF_{MMSUP}$ (MMS User Preferences)

If service n°52 is "available", this file shall be present.

This EF contains values for Multimedia Messaging Service User Preferences, which can be used by the ME for user assistance in preparation of mobile multimedia messages (e.g. default values for parameters that are often used).

| Identifier: '6FD1' | Structure: Linear Fixed | Optional |
|---|---|---|
| Record Length: X bytes | Update activity: low | |

Access Conditions:

| | |
|---|---|
| READ | PIN |
| UPDATE | PIN |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to X | MMS User Preference TLV Objects | M | X bytes |

- MMS User Preference tags

| Description | Tag Value |
|---|---|
| MMS Implementation Tag | '80' |
| MMS User preference profile name Tag | '81' |
| MMS User Preference information Tag | '82' |

MMS User Preference information

| Description | Value | M/O | Length (bytes) |
|---|---|---|---|
| MMS Implementation Tag | '80' | M | 1 |
| Length | 1 | M | Note |
| MMS Implementation information | -- | M | 1 |
| MMS User preference profile name Tag | '81' | M | 1 |
| Length | X | M | Note |
| MMS User profile name | -- | M | X |
| MMS User Preference information Tag | '82' | M | 1 |
| Length | Y | M | Note |
| MMS User Preference information | -- | M | Y |
| Note : The length is coded according to ISO/IEC 8825 [35] | | | |

- MMS Implementation Tag '80'

  For contents and coding see 4.2.67

- MMS User preference profile name Tag '81'

  Contents:

  Alpha tagging of the MMS user preference profile.

  Coding:

  this alpha-tagging shall use either:

  - the SMS default 7-bit coded alphabet as defined in TS 23.038 [5] with bit 8 set to 0. The alpha identifier shall be left justified.

  or:

  - one of the UCS2 coded options as defined in the annex of TS 31.101 [11].

- MMS User Preference information Tag '82'

  Contents:

  The following information elements may be coded; Sender Visibility, Delivery Report, Read-Reply, Priority, Time of Expiry and Earliest Delivery Time.

Coding:
Depending upon the MMS implementation as indicated in Tag '80'.

An Example for the coding of these parameters can be found in Annex J.

## 4.2.71 $EF_{MMSUCP}$ (MMS User Connectivity Parameters)

If service n°52 and n°55 are "available", this file shall be present.
This EF contains values for Multimedia Messaging Connectivity Parameters as determined by the user, which can be used by the ME for MMS network connection. This file may contain one or more sets of Multimedia Messaging User Connectivity Parameters. Each set of Multimedia Messaging User Connectivity Parameters may consist of one or more Interface to Core Network and Bearer information TLV objects, but shall contain only one MMS implementation TLV object, one MMS Relay/Server TLV object and one Gateway TLV object.The order of the Interface to Core Network and Bearer ~~bearer~~ information TLV objects in the MMS Connectivity TLV object defines the priority of the Interface to Core Network and Bearer information~~bearers~~, with the first TLV object having the highest priority.

| Identifier: '6FD2' | Structure: Transparent | Optional |
|---|---|---|
| File Size: $X_1$+…+ $X_n$ ~~X~~ bytes | Update activity: low | |

Access Conditions:

| | |
|---|---|
| READ | PIN |
| UPDATE | PIN/PIN2 (fixed during administrative management) |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to $X_1$~~X~~ | MMS Connectivity Parameters TLV object~~s~~ | O | $X_1$~~X~~ bytes |
| $X_1$+1 to $X_1$ + $X_2$ | MMS Connectivity Parameters TLV object | O | $X_2$ bytes |
| … | … | | |
| $X_1$+…+ $X_{n-1}$+1 to $X_1$+…+ $X_n$ | MMS Connectivity Parameters TLV object | O | $X_n$ bytes |

For the contents and coding see 4.2.69

# Annex J (informative): Example of MMS coding

This annex gives an example for the coding of MMS User Preferences, while the MMS User Information Preference parameters are coded according to the WAP implementation of MMS.

0x80 MMS Implementation Tag

0x01 Length

0x01 MMS Implementation information (WAP)

0x81 MMS User preference profile name Tag

0x1C Length

“Christmas Card”

0x82 MMS User Information Preference tag

0x19 Length

0x14 0x80 (visibility: hide)

0x06 0x80 (delivery report: yes)

0x10 0x80 (Read-reply: yes)

0x0F 0x81 (Priority: Normal)

0x07 0x07 0x80 0x05 0x11 0x22 0x33 0x44 0x55 (Delivery time tag: Value-Length: Absolute-token tag; Date Value-Length Date -Value)

0x08 0x06 0x81 0x04 0x55 0x22 0x33 0x44 (Expiry: Tag:: Value-Length : Relative-token Tag ; Delta -Second Value-Length, Delta -Second-Value )

**…**

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020655***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **119** ⌘ **rev** **-** ⌘ Current version: **3.9.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Use of USIM by 3G/GSM ME |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 20/08/02 |
| ***Category:*** | ⌘ | **F** |
| ***Release:*** | ⌘ | R99 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | A 3G or GSM/3G dual mode ME shall only use the USIM application (if present on a UICC). This is not stated explicitely in the specification at the moment.. |
| ***Summary of change:*** | ⌘ | Addition of a paragraph clarifying of the usage of the SIM and the USIM |
| ***Consequences if not approved:*** | ⌘ | Wrong implementations. Example: Dual mode ME using the SIM when roaming on a GSM network |

| | | | | | |
|---|---|---|---|---|---|
| ***Clauses affected:*** | ⌘ | 5.1 | | | |
| ***Other specs affected:*** | ⌘ | **Y** | **N** | | |
| | | | X | Other core specifications | ⌘ |
| | | | X | Test specifications | |
| | | | X | O&M Specifications | |
| ***Other comments:*** | ⌘ | | | | |

**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.

# 5.1 USIM management procedures

If a USIM application is present on the UICC, a 3G or GSM/3G dual mode ME shall only use the USIM application regardless of the radio access technology in use. In this case, a possibly existing SIM application shall never be used by a 3G or GSM/3G dual mode ME.

## 5.1.1 Initialisation

### 5.1.1.1 USIM application selection

After UICC activation (see TS 31.101 [11]), the ME selects a USIM application. If no $EF_{DIR}$ file is found or no USIM applications are listed in the $EF_{DIR}$ file, the ME then tries to select the GSM application as specified in GSM 11.11 [18].

After a successful USIM application selection, the selected USIM (AID) is stored on the UICC. This application is referred to as the last selected application. The last selected application shall be available on the UICC after a deactivation followed by an activation of the UICC.

If a USIM application is selected using partial DF name, the partial DF name supplied in the command shall uniquely identify a USIM application. Furthermore if a USIM application is selected using a partial DF name as specified in TS 31.101 [11] indicating in the SELECT command the last occurrence the UICC shall select the USIM application stored as the last application. If, in the SELECT command, the options first, next/previous are indicated, they have no meaning if an application has not been previously selected in the same session and shall return an appropriate error code.

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020656***

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# CHANGE REQUEST

⌘ **31.102** **CR** **120** ⌘ **rev** **-** ⌘ Current version: **4.5.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Use of USIM by 3G/GSM ME |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 20/08/02 |
| ***Category:*** | ⌘ | **A** |
| ***Release:*** | ⌘ | Rel-4 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*
*2 (GSM Phase 2)*
*R96 (Release 1996)*
*R97 (Release 1997)*
*R98 (Release 1998)*
*R99 (Release 1999)*
*Rel-4 (Release 4)*
*Rel-5 (Release 5)*
*Rel-6 (Release 6)*

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | A 3G or GSM/3G dual mode ME shall only use the USIM application (if present on a UICC). This is not stated explicitely in the specification at the moment.. |
| ***Summary of change:*** | ⌘ | Addition of a paragraph clarifying of the usage of the SIM and the USIM |
| ***Consequences if not approved:*** | ⌘ | Wrong implementations. Example: Dual mode ME using the SIM when roaming on a GSM network |

| | | | | | |
|---|---|---|---|---|---|
| ***Clauses affected:*** | ⌘ | 5.1 | | | |
| ***Other specs affected:*** | ⌘ | **Y** | **N** | | ⌘ |
| | | | X | Other core specifications | |
| | | | X | Test specifications | |
| | | | X | O&M Specifications | |
| ***Other comments:*** | ⌘ | | | | |

**How to create CRs using this form:**
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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.

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If a USIM application is present on the UICC, a 3G or GSM/3G dual mode ME shall only use the USIM application regardless of the radio access technology in use. In this case, a possibly existing SIM application shall never be used by a 3G or GSM/3G dual mode ME.

## 5.1.1 Initialisation

### 5.1.1.1 USIM application selection

After UICC activation (see TS 31.101 [11]), the ME select a USIM application. If no $EF_{DIR}$ file is found or no USIM applications are listed in the $EF_{DIR}$ file, the ME then tries to select the GSM application as specified in GSM 51.011 [18].

NOTE: There may be cards that need to be reset before selecting the GSM application.

After a successful USIM application selection, the selected USIM (AID) is stored on the UICC. This application is referred to as the last selected application. The last selected application shall be available on the UICC after a deactivation followed by an activation of the UICC.

If a USIM application is selected using partial DF name, the partial DF name supplied in the command shall uniquely identify a USIM application. Furthermore if a USIM application is selected using a partial DF name as specified in TS 31.101 [11] indicating in the SELECT command the last occurrence the UICC shall select the USIM application stored as the last application. If, in the SELECT command, the options first, next/previous are indicated, they have no meaning if an application has not been previously selected in the same session and shall return an appropriate error code.

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020657***

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# CHANGE REQUEST

⌘ **31.102** **CR** **121** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Use of USIM by 3G/GSM ME |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 20/08/02 |
| ***Category:*** | ⌘ | **F** |
| ***Release:*** | ⌘ | REL-5 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | A 3G or GSM/3G dual mode ME shall only use the USIM application (if present on a UICC). This is not stated explicitely in the specification at the moment.. |
| ***Summary of change:*** | ⌘ | Addition of a paragraph clarifying of the usage of the SIM and the USIM |
| ***Consequences if not approved:*** | ⌘ | Wrong implementations. Example: Dual mode ME using the SIM when roaming on a GSM network |

| | | | | | |
|---|---|---|---|---|---|
| ***Clauses affected:*** | ⌘ | 5.1 | | | |
| ***Other specs affected:*** | ⌘ | **Y** | **N** | | ⌘ |
| | | | **X** | Other core specifications | |
| | | | **X** | Test specifications | |
| | | | **X** | O&M Specifications | |
| ***Other comments:*** | ⌘ | | | | |

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# 5.1 USIM management procedures

If a USIM application is present on the UICC, a 3GPP ME shall only use the USIM application regardless of the radio access technology in use. In this case, a possibly existing SIM application shall never be used by a 3GPP ME.

## 5.1.1 Initialisation

### 5.1.1.1 USIM application selection

After UICC activation (see TS 31.101 [11]), the ME select a USIM application. If no $EF_{DIR}$ file is found or no USIM applications are listed in the $EF_{DIR}$ file, the ME then tries to select the GSM application as specified in GSM 51.011 [18].

NOTE: There may be cards that need to be reset before selecting the GSM application.

After a successful USIM application selection, the selected USIM (AID) is stored on the UICC. This application is referred to as the last selected application. The last selected application shall be available on the UICC after a deactivation followed by an activation of the UICC.

If a USIM application is selected using partial DF name, the partial DF name supplied in the command shall uniquely identify a USIM application. Furthermore if a USIM application is selected using a partial DF name as specified in TS 31.101 [11] indicating in the SELECT command the last occurrence the UICC shall select the USIM application stored as the last application. If, in the SELECT command, the options first, next/previous are indicated, they have no meaning if an application has not been previously selected in the same session and shall return an appropriate error code.

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020704***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **122** ⌘ **rev** **-** ⌘ Current version: **4.5.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Collection of essential corrections |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 22/08/2002 |
| ***Category:*** | ⌘ | **F** |
| ***Release:*** | ⌘ | REL-4 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

***Reason for change:*** ⌘ The list of changes is defining the order of changes that is also used in the following parts of this CR.

- Incorrect Note in the description of the FDD Cell Information and TDD Cell Information.
- The handling of the flag in “Entry Control Information” is not clear in the description of the $EF_{PBC.}$
- The coding of Previous Unique Identifier ($EF_{PUID}$) is missing in the specification.
- The identifier of $EF_{CCP1}$ is incorrect in the chapter "Files of USIM".
- The length of the records of EF(IMG) is wrongly indicated in the specification.
- Table G.1 is wrong.

***Summary of change:*** ⌘

- The "NOTE 2" in the description of FDD Cell Information and TDD Cell Information was changed from (n1+n2+**n2**) to (n1+n2+**n3**)
- Clarification of the description of “Entry Control information” to clarify the flag management in $EF_{PBC}$.
- The description of the coding for $EF_{PUID}$ is added
- The identifier of $EF_{CCP1}$ is corrected in the figures
- Changed the indicated length for $EF_{IMG}$ records to 9n+1 or 9n+2 bytes.
- Correction of table G.1.

***Consequences if not approved:*** ⌘

- Wrong implementations

***Clauses affected:*** ⌘ 3.3, 4.2.57; 4.4.2, 4.4.2.5; 4.4.2.12.4, 4.6.1.1, 4.7, Annex G

[Y] [N]

| | | | | | |
|---|---|---|---|---|---|
| ***Other specs Affected:*** | ⌘ | | **X** | Other core specifications | ⌘ |
| | | | **X** | Test specifications | |
| | | | **X** | O&M Specifications | |
| ***Other comments:*** | ⌘ | | | | |

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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.

## 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

| | |
|---|---|
| 3GPP | 3rd Generation Partnership Project |
| AC | Access Condition |
| ACL | APN Control List |
| ADF | Application Dedicated File |
| AID | Application IDentifier |
| AK | Anonymity key |
| ALW | ALWays |
| AMF | Authentication Management Field |
| AoC | Advice of Charge |
| APN | Access Point Name |
| ASN.1 | Abstract Syntax Notation One |
| AuC | Authentication Centre |
| AUTN | Authentication token |
| BDN | Barred Dialling Number |
| BER-TLV | Basic Encoding Rule - TLV |
| CCP | Capability Configuration Parameter |
| CK | Cipher key |
| CLI | Calling Line Identifier |
| CNL | Co-operative Network List |
| CPBCCH | COMPACT Packet BCCH |
| CS | Circuit switched |
| DCK | Depersonalisation Control Keys |
| DF | Dedicated File |
| DO | Data Object |
| EF | Elementary File |
| ~~EMUI~~ | ~~Encrypted Mobile User Identity~~ |
| FCP | File Control Parameters |
| FFS | For Further Study |
| ~~GMSI~~ | ~~Group Identity~~ |
| GSM | Global System for Mobile communications |
| HE | Home Environment |
| ICC | Integrated Circuit Card |
| ICI | Incoming Call Information |
| ICT | Incoming Call Timer |
| ID | IDentifier |
| IEI | Information Element Identifier |
| IK | Integrity key |
| IMSI | International Mobile Subscriber Identity |
| K | USIM Individual key |
| $K_C$ | Cryptographic key used by the cipher A5 |
| KSI | Key Set Identifier |
| LI | Language Indication |
| LSB | Least Significant Bit |
| MAC | Message authentication code |
| MAC-A | MAC used for authentication and key agreement |
| MAC-I | MAC used for data integrity of signalling messages |
| MCC | Mobile Country Code |
| MExE | Mobile Execution Environment |
| MF | Master File |
| MMI | Man Machine Interface |
| MNC | Mobile Network Code |
| MODE | Indication packet switched/circuit switched mode |
| MSB | Most Significant Bit |
| NEV | NEVer |
| NPI | Numbering Plan Identifier |
| OCI | Outgoing Call Information |
| OCT | Outgoing Call Timer |

| | |
|---|---|
| OFM | Operational Feature Monitor |
| PBID | Phonebook Identifier |
| PIN | Personal Identification Number |
| PL | Preferred Languages |
| PS | Packet switched |
| PS_DO | PIN Status Data Object |
| RAND | Random challenge |
| $RAND_{MS}$ | Random challenge stored in the USIM |
| RES | User response |
| RFU | Reserved for Future Use |
| RST | Reset |
| SDN | Service dialling number |
| SE | Security Environment |
| SFI | Short EF Identifier |
| SGSN | Serving GPRS Support Node |
| SN | Serving Network |
| SQN | Sequence number |
| SRES | Signed RESponse calculated by a USIM |
| SW | Status Word |
| TLV | Tag Length Value |
| USAT | USIM Application Toolkit |
| USIM | Universal Subscriber Identity Module |
| VLR | Visitor Location Register |
| XRES | Expected user RESponse |

## 4.2.57 $EF_{NETPAR}$ (Network Parameters)

This EF contains information concerning the cell frequencies

…

- - FDD Cell Information. If tag 'A1' is present in this EF the content of this TLV is as follows:

| Description | Value | M/O | Length |
|---|---|---|---|
| FDD Cell Information Tag | 'A1' | M | 1 |
| Length | 4+(2*m)+(4+2*n 1)+(4+2*n2)+(4+ 2*n3) (<=144) | M | 1 |
| FDD Intra Frequency information tag | '80' | M | 1 |
| Length | 2+2*m | M | 1 |
| Intra Frequency carrier frequency | | M | 2 |
| Intra Frequency scrambling codes | | M | 2*m (8 <= m <= 32) |
| FDD Inter Frequency information tag (see NOTE 1) | '81' | O | 1 |
| Length | 2+2*n (NOTE 2) | O | 1 |
| Inter Frequency carrier frequencies | | O | 2 |
| Inter Frequency scrambling codes | | O | 2*n (NOTE 2) |
| NOTE 1: This TLV object may occur up to 3 times within the constructed TLV object depending how many inter frequencies are indicated<br>NOTE 2: n is in this case n1, n2 or n3, 8 <= (n1+n2+n32)<=32 | | | |

- TDD Cell Information: If tag 'A2' is present in this EF the content of this TLV is as follows:

| Description | Value | M/O | Length |
|---|---|---|---|
| TDD Cell Information Tag | 'A2' | M | 1 |
| Length | 4+(2*m)+(4+2*n 1)+(4+2*n2)+(4+ 2*n3) (<=144) | M | 1 |
| TDD Intra Frequency information tag | '80' | M | 1 |
| Length | 2+2*m | M | 1 |
| Intra Frequency carrier frequency | | M | 2 |
| Intra Frequency scrambling codes | | M | 2*m (8 <= m <= 32) |
| TDD Inter Frequency information tag (see NOTE 1) | '81' | O | 1 |
| Length | 2+2*n (NOTE 2) | O | 1 |
| Inter Frequency carrier frequencies | | O | 2 |
| Inter Frequency scrambling codes | | O | 2*n (NOTE 2) |
| NOTE 1: This TLV object may occur up to 3 times within the constructed TLV object depending how many inter frequencies are indicated<br>NOTE 2: n is in this case n1, n2 or n3, 8 <= (n1+n2+n32)<=32 | | | |

## 4.4.2 Contents of files at the DF PHONEBOOK level

The UICC may contain a global phonebook, or application specific phonebooks, or both in parallel. When both phonebook types co-exist, they are independent and no data is shared. In this case, it shall be possible for the user to select which phonebook the user would like to access.

It is recommended that the terminal searches for the global phonebook located under $DF_{TELECOM}$ as its presence is not indicated anywhere in the USIM application.

The global phonebook is located in $DF_{PHONEBOOK}$ under $DF_{TELECOM.}$. Each specific USIM application phonebook is located in $DF_{PHONEBOOK}$ of its respective Application $DF_{USIM}$. The organisation of files in $DF_{PHONEBOOK}$ under $DF_{USIM}$ and under $DF_{TELECOM}$ follows the same rules. Yet $DF_{PHONEBOOK}$ under $DF_{USIM}$ may contain a different set of files than $DF_{PHONEBOOK}$ under $DF_{TELECOM}$. All phonebook related EFs are located under their respective $DF_{PHONEBOOK}$. USIM specific phonebooks are dedicated to application specific entries. Each application specific phonebook is protected by the application PIN.

$EF_{ADN}$ and $EF_{PBR}$ shall always be present if the $DF_{Phonebook}$ is present. If any phonebook file other than $EF_{ADN}$ or $EF_{EXT1,}$ is used, then $EF_{PBC}$ shall be present.

If a GSM application resides on the UICC, the EFs ADN and EXT1 from one $DF_{PHONEBOOK}$ (defined at GSM application installation) are mapped to $DF_{TELECOM}$. Their file IDs are specified in TS 51.011 [18], i.e. $EF_{ADN}$ = '6F3A' and $EF_{EXT1}$ = '6F4A', respectively. ~~$EF_{ADN}$ and $EF_{PBR}$ shall always be present if the $DF_{Phonebook}$ is present. If any phonebook file other than $EF_{ADN}$ or $EF_{EXT1,}$ is used, then $EF_{PBC}$ shall be present.~~

If the UICC is inserted into a ~~GSM~~ terminal accessing the ADN and EXT1 files under $DF_{TELECOM;}$ and a record in these files ~~phonebook~~ has been updated, a flag in the corresponding entry control information in the $EF_{PBC}$ is set from 0 to 1 by the ~~card~~UICC. If the UICC is later inserted into a ~~3G~~ terminal ~~again~~that supports the 3G phonebook, the terminal shall check the flag in $EF_{PBC}$ and if this flag is set, shall update the $EF_{CC}$, and then reset the flag. A ~~set~~ flag set in $EF_{PBC}$ results in a full synchronisation of the phonebook between an external entity and the UICC (if synchronisation is requested).

The EF structure related to the public phonebook is located under $DF_{PHONEBOOK}$ in $DF_{TELECOM}$. A USIM specific phonebook may exist for application specific entries. The application specific phonebook is protected by the application PIN. The organisation of files in the application specific phonebook follows the same rules as the one specified for the public phone book under $DF_{TELECOM}$. The application specific phonebook may contain a different set of files than the one in the public area under $DF_{TELECOM}$.

### 4.4.2.5 $EF_{PBC}$ (Phone Book Control)

This EF contains control information related to each entry in the phone book. This EF contains as many records as the $EF_{ADN}$ associated with it (shall be record to record). Each record in $EF_{PBC}$ points to a record in its $EF_{ADN}$. This file indicates the control information and the hidden information of each phone book entry.

The content of $EF_{PBC}$ is linked to the associated $EF_{ADN}$ record by means of the ADN record number/ID (there is a one to one mapping of record number/identifiers between $EF_{PBC}$ and $EF_{ADN}$).

**Structure of control file $EF_{PBC}$**

| Identifier: '4FXX' | Structure: linear fixed | Conditional (see Note) |
|---|---|---|
| SFI: 'YY' | | |
| Record length: 2 bytes | Update activity: low | |

Access Conditions:

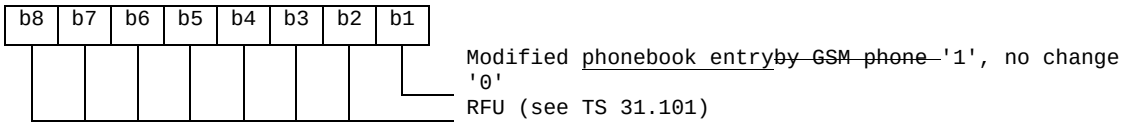
| | |
|---|---|
| READ | PIN |
| UPDATE | PIN |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Entry Control Information | M | 1 byte |
| 2 | Hidden Information | M | 1 byte |

NOTE: This file is mandatory if ~~and only if~~ one or both of the following is true:
- hidden entries are supported
- a GSM SIM application is supported in the UICC.

- Entry Control Information.
  Contents:
  - provides some characteristics about the phone book entry ~~(~~e.g. modification by a ~~GSM mobile)~~terminal accessing the ADN and EXT1 files under $DF_{TELECOM}$ (see clause 4.4.2)

  Coding:




- Hidden Information.
  Contents:
  indicates to which USIM application of the UICC this phone book entry belongs, so that the corresponding secret code can be verified to display the phone book entry. If the secret code is not verified, then the phone book entry is hidden.
  Coding:
  '00' – the phone book entry is not hidden;
  'xx' – the phone book entry is hidden. 'xx' is the record number in $EF_{DIR}$ of the associated USIM application.

#### 4.4.2.12.4 $EF_{PUID}$ (Previous Unique Identifier)

The PUID is used to store the previously used unique identifier (UID). The purpose of this file is to allow the terminal to quickly generate a new UID, which shall then be stored in the $EF_{UID}$.

**Structure of $EF_{PUID}$**

| Identifier: '4F24' | Structure: transparent | Conditional (see Note) |
|---|---|---|
| SFI: 'YY' | | |
| File size: 2 bytes | Update activity: high | |
| Access Conditions:<br>READ PIN<br>UPDATE PIN<br>DEACTIVATE ADM<br>ACTIVATE ADM | | |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to 2 | Previous Unique Identifier (PUID) of Phone Book Entry | M | 2 bytes |

NOTE: This file is mandatory if and only if synchronisation is supported in the phonebook.

- Previous Unique Identifier of Phone Book Entry.

  Content:

  - Previous number that was used to unambiguously identify the phone book entry for synchronisation purposes.

  Coding:

  - As for $EF_{UID}$

### 4.6.1.1 $EF_{IMG}$ (Image)

Each record of this EF identifies instances of one particular graphical image, which graphical image is identified by this EF's record number.

Image instances may differ as to their size, having different resolutions, and the way they are coded, using one of several image coding schemes.

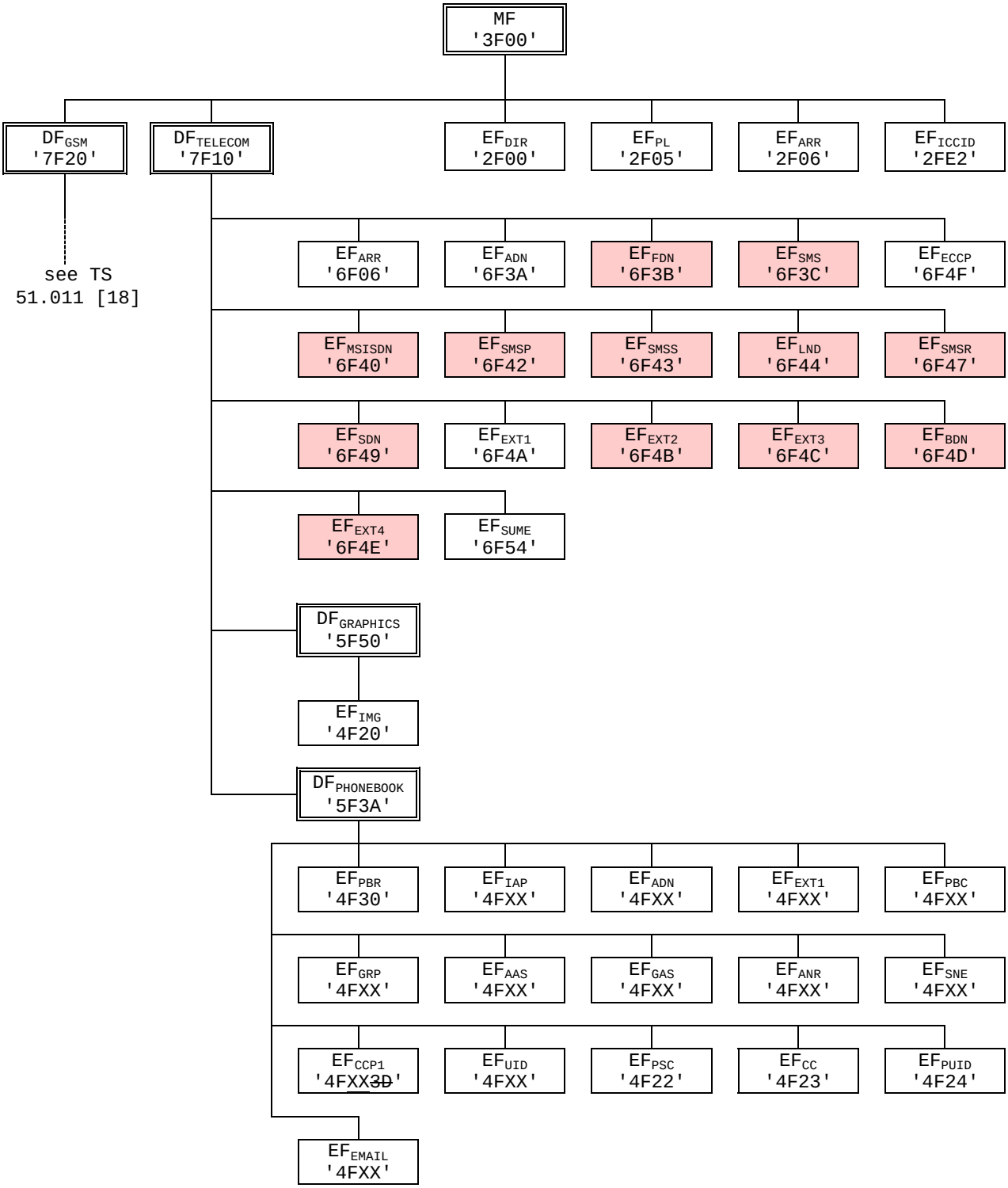
As an example, image k may represent a company logo, of which there are i instances in the UICC, of various resolutions and perhaps encoded in several image coding schemes. Then, the i instances of the company's logo are described in record k of this EF.

| Identifier: '4F20' | Structure: linear fixed | Optional |
|---|---|---|
| Record length: 9n+1 or 9n+2 bytes | Update activity: low | |
| Access Conditions:<br>READ PIN<br>UPDATE ADM<br>DEACTIVATE ADM<br>ACTIVATE ADM | | |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Number of Actual Image Instances | M | 1 byte |
| 2 to 10 | Descriptor of Image Instance 1 | M | 9 bytes |
| 11 to 19 | Descriptor of Image Instance 2 | O | 9 bytes |
| | | | |
| 9(n-1)+2 to 9n+1 | Descriptor of Image Instance n | O | 9 bytes |
| 9n + 2 | RFU (see TS 31.101 [11]) | O | 1 byte |

## 4.7 Files of USIM

This clause contains two figures depicting the file structure of the UICC and the $ADF_{USIM}$. $ADF_{USIM}$ shall be selected using the AID and information in $EF_{DIR}$.




NOTE: Files under $DF_{TELECOM}$ with shaded background are defined in TS 51.011 [18].

**Figure 4.1: File identifiers and directory structures of UICC**

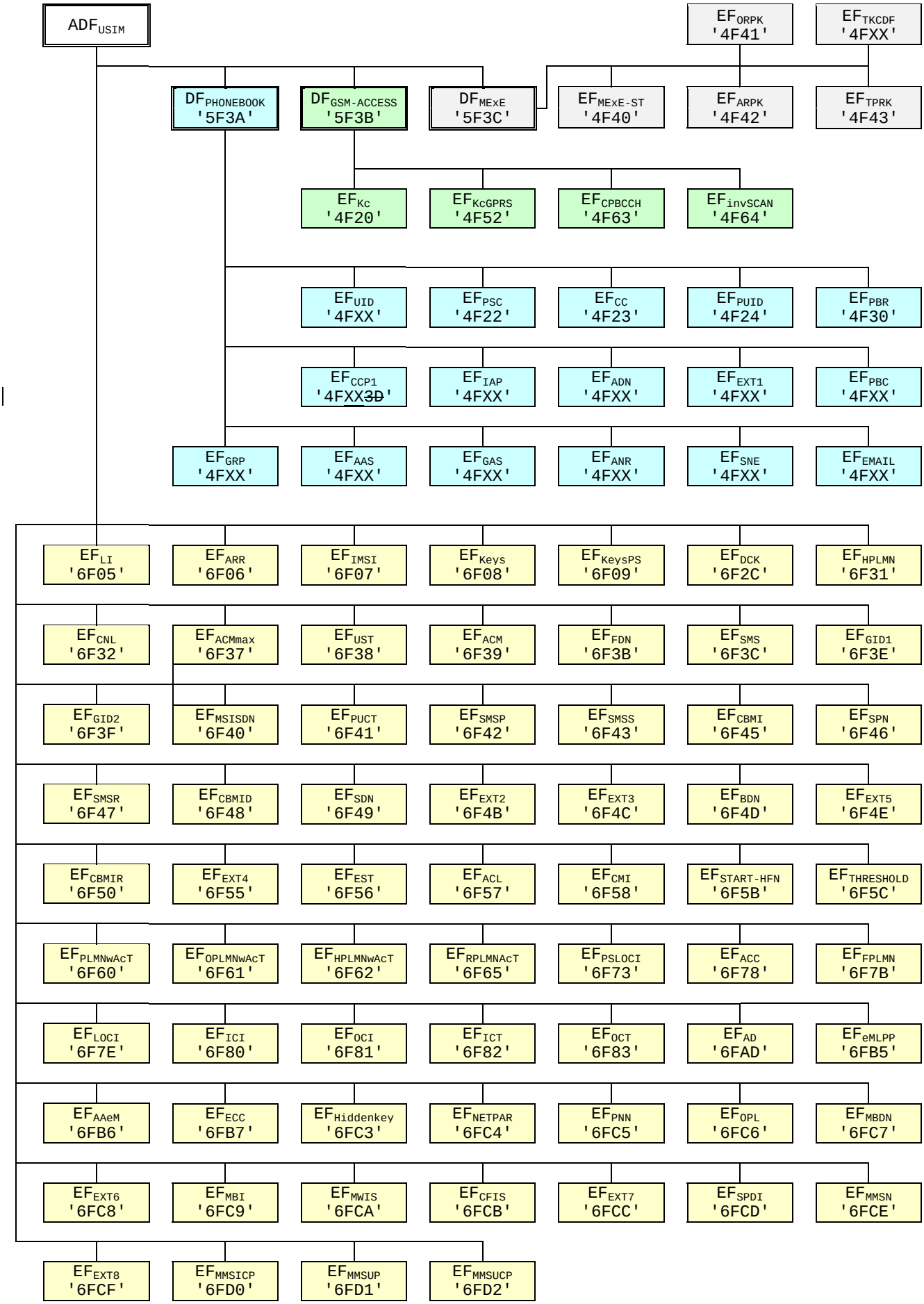

ADF USIM
EF ORPK '4F41'
EF TKCDF '4F4X'
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
EF MExE-ST '4F40'
EF ARPK '4F42'
EF TPRK '4F43'
EF Kc '4F20'
EF KcGPRS '4F52'
EF CPBCCH '4F63'
EF invSCAN '4F64'
EF UID '4FXX'
EF PSC '4F22'
EF CC '4F23'
EF PUID '4F24'
EF PBR '4F30'
EF CCP1 '4FXX3D'
EF IAP '4FXX'
EF ADN '4FXX'
EF EXT1 '4FXX'
EF PBC '4FXX'
EF GRP '4FXX'
EF AAS '4FXX'
EF GAS '4FXX'
EF ANR '4FXX'
EF SNE '4FXX'
EF EMAIL '4FXX'
EF LI '6F05'
EF ARR '6F06'
EF IMSI '6F07'
EF Keys '6F08'
EF KeysPS '6F09'
EF DCK '6F2C'
EF HPLMN '6F31'
EF CNL '6F32'
EF ACMmax '6F37'
EF UST '6F38'
EF ACM '6F39'
EF FDN '6F3B'
EF SMS '6F3C'
EF GID1 '6F3E'
EF GID2 '6F3F'
EF MSISDN '6F40'
EF PUCT '6F41'
EF SMSP '6F42'
EF SMSS '6F43'
EF CBMI '6F45'
EF SPN '6F46'
EF SMSR '6F47'
EF CBMID '6F48'
EF SDN '6F49'
EF EXT2 '6F4B'
EF EXT3 '6F4C'
EF BDN '6F4D'
EF EXT5 '6F4E'
EF CBMIR '6F50'
EF EXT4 '6F55'
EF EST '6F56'
EF ACL '6F57'
EF CMI '6F58'
EF START-HFN '6F5B'
EF THRESHOLD '6F5C'
EF PLMNwAcT '6F60'
EF OPLMNwAcT '6F61'
EF HPLMNwAcT '6F62'
EF RPLMNAcT '6F65'
EF PSLOCI '6F73'
EF ACC '6F78'
EF FPLMN '6F7B'
EF LOCI '6F7E'
EF ICI '6F80'
EF OCI '6F81'
EF ICT '6F82'
EF OCT '6F83'
EF AD '6FAD'
EF eMLPP '6FB5'
EF AAeM '6FB6'
EF ECC '6FB7'
EF Hiddenkey '6FC3'
EF NETPAR '6FC4'
EF PNN '6FC5'
EF OPL '6FC6'
EF MBDN '6FC7'
EF EXT6 '6FC8'
EF MBI '6FC9'
EF MWIS '6FCA'
EF CFIS '6FCB'
EF EXT7 '6FCC'
EF SPDI '6FCD'
EF MMSN '6FCE'
EF EXT8 '6FCF'
EF MMSICP '6FD0'
EF MMSUP '6FD1'
EF MMSUCP '6FD2'

**Figure 4.2: File identifiers and directory structures of USIM**

DF '5F70' is reserved for SoLSA. EF '4F30' ($EF_{SAL}$) and EF '4F31' ($EF_{SLL}$) are reserved under DF '5F70' (SoLSA).

# Annex G (informative): Phonebook Example

This example phonebook has more than 254 entries. Additional number (3 additional numbers) information, second name and e-mail information can be added to each ADN entry. In addition each entry has a 2 byte Unique ID (UID) attached to it. The phonebook also contains three files that are shared $EF_{EXT1}$, $EF_{AAS}$ and $EF_{GAS}$. These files are addressed from inside a file. $EF_{EXT1}$ is addressed via $EF_{ADN,}$ $EF_{ADN1}$, $EF_{AAS}$ is addressed via $EF_{ANRA1,}$ $EF_{ANRA1}$ and $EF_{GAS}$ is addressed via $EF_{GRP,}$ $EF_{GRP1}$. The phonebook supports two levels of grouping and hidden entries in $EF_{PBC.}$

Two records are needed in the phonebook reference file PBR '4F30' for supporting more than 254 entries. The content of the phonebook reference file PBR '4F30' records is as shown in table G.2. The structure of the $DF_{PHONEBOOK}$ is shown in table G.1.

The content of phonebook entries in the range from 1-508 is described in the tables G.3 and G.4.

**Table G.1: Structure of EFs inside $DF_{PHONEBOOK}$**

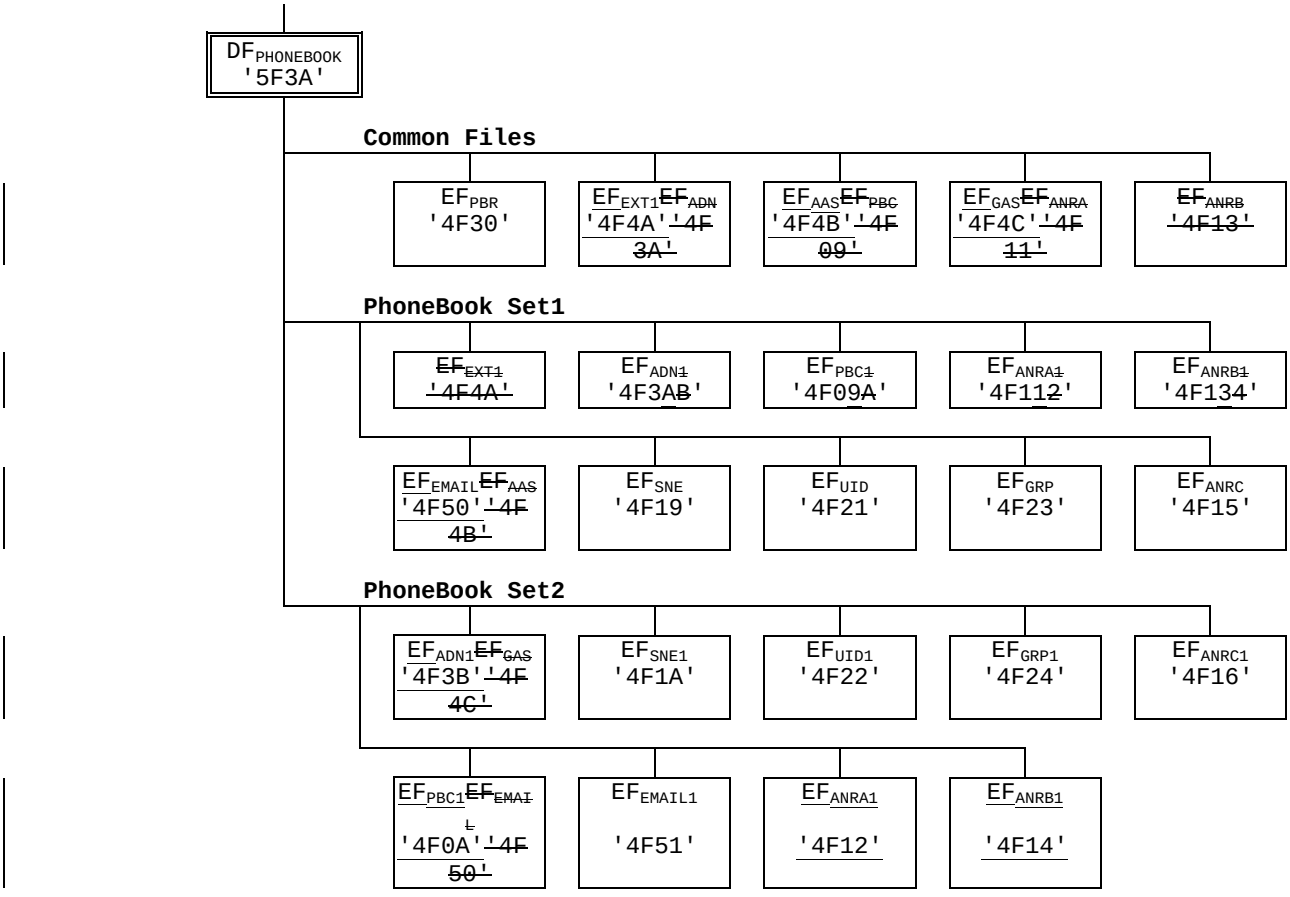



**Figure G.1: Structure and Relations of the Example Phone Book**

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020705***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **123** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Collection of essential corrections |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 22/08/2002 |
| ***Category:*** | ⌘ | **A** |
| ***Release:*** | ⌘ | REL-5 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

***Reason for change:*** ⌘ The list of changes is defining the order of changes that is also used in the following parts of this CR.

- Incorrect Note in the description of the FDD Cell Information and TDD Cell Information.
- The handling of the flag in “Entry Control Information” is not clear in the description of the $EF_{PBC.}$
- The coding of Previous Unique Identifier ($EF_{PUID}$) is missing in the specification.
- The identifier of $EF_{CCP1}$ is incorrect in the chapter "Files of USIM".
- The length of the records of EF(IMG) is wrongly indicated in the specification.
- Table G.1 is wrong.

***Summary of change:*** ⌘

- The "NOTE 2" in the description of FDD Cell Information and TDD Cell Information was changed from (n1+n2+**n2**) to (n1+n2+**n3**)
- Clarification of the description of “Entry Control information” to clarify the flag management in $EF_{PBC}$.
- The description of the coding for $EF_{PUID}$ is added
- The identifier of $EF_{CCP1}$ is corrected in the figures
- Changed the indicated length for $EF_{IMG}$ records to 9n+1 or 9n+2 bytes.
- Correction of table G.1.

***Consequences if not approved:*** ⌘

- Wrong implementations

***Clauses affected:*** ⌘ 3.3, 4.2.57; 4.4.2, 4.4.2.5; 4.4.2.12.4, 4.6.1.1, 4.7, Annex G

[Y] [N]

| | | | | | |
|---|---|---|---|---|---|
| ***Other specs Affected:*** | ⌘ | | **X** | Other core specifications | ⌘ |
| | | | **X** | Test specifications | |
| | | | **X** | O&M Specifications | |
| ***Other comments:*** | ⌘ | | | | |

**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.

## 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

| | |
|---|---|
| 3GPP | 3rd Generation Partnership Project |
| AC | Access Condition |
| ACL | APN Control List |
| ADF | Application Dedicated File |
| AID | Application IDentifier |
| AK | Anonymity key |
| ALW | ALWays |
| AMF | Authentication Management Field |
| AoC | Advice of Charge |
| APN | Access Point Name |
| ASN.1 | Abstract Syntax Notation One |
| AuC | Authentication Centre |
| AUTN | Authentication token |
| BDN | Barred Dialling Number |
| BER-TLV | Basic Encoding Rule - TLV |
| CCP | Capability Configuration Parameter |
| CK | Cipher key |
| CLI | Calling Line Identifier |
| CNL | Co-operative Network List |
| CPBCCH | COMPACT Packet BCCH |
| CS | Circuit switched |
| DCK | Depersonalisation Control Keys |
| DF | Dedicated File |
| DO | Data Object |
| EF | Elementary File |
| ~~EMUI~~ | ~~Encrypted Mobile User Identity~~ |
| FCP | File Control Parameters |
| FFS | For Further Study |
| ~~GMSI~~ | ~~Group Identity~~ |
| GSM | Global System for Mobile communications |
| HE | Home Environment |
| ICC | Integrated Circuit Card |
| ICI | Incoming Call Information |
| ICT | Incoming Call Timer |
| ID | IDentifier |
| IEI | Information Element Identifier |
| IK | Integrity key |
| IMSI | International Mobile Subscriber Identity |
| K | USIM Individual key |
| $K_C$ | Cryptographic key used by the cipher A5 |
| KSI | Key Set Identifier |
| LI | Language Indication |
| LSB | Least Significant Bit |
| MAC | Message authentication code |
| MAC-A | MAC used for authentication and key agreement |
| MAC-I | MAC used for data integrity of signalling messages |
| MCC | Mobile Country Code |
| MExE | Mobile Execution Environment |
| MF | Master File |
| MMI | Man Machine Interface |
| MNC | Mobile Network Code |
| MODE | Indication packet switched/circuit switched mode |
| MSB | Most Significant Bit |
| NEV | NEVer |
| NPI | Numbering Plan Identifier |
| OCI | Outgoing Call Information |
| OCT | Outgoing Call Timer |

| | |
|---|---|
| OFM | Operational Feature Monitor |
| PBID | Phonebook Identifier |
| PIN | Personal Identification Number |
| PL | Preferred Languages |
| PS | Packet switched |
| PS_DO | PIN Status Data Object |
| RAND | Random challenge |
| $RAND_{MS}$ | Random challenge stored in the USIM |
| RES | User response |
| RFU | Reserved for Future Use |
| RST | Reset |
| SDN | Service dialling number |
| SE | Security Environment |
| SFI | Short EF Identifier |
| SGSN | Serving GPRS Support Node |
| SN | Serving Network |
| SQN | Sequence number |
| SRES | Signed RESponse calculated by a USIM |
| SW | Status Word |
| TLV | Tag Length Value |
| USAT | USIM Application Toolkit |
| USIM | Universal Subscriber Identity Module |
| VLR | Visitor Location Register |
| XRES | Expected user RESponse |

## 4.2.57 $EF_{NETPAR}$ (Network Parameters)

This EF contains information concerning the cell frequencies

…

- - FDD Cell Information. If tag 'A1' is present in this EF the content of this TLV is as follows:

| Description | Value | M/O | Length |
|---|---|---|---|
| FDD Cell Information Tag | 'A1' | M | 1 |
| Length | 4+(2*m)+(4+2*n 1)+(4+2*n2)+(4+ 2*n3) (<=144) | M | 1 |
| FDD Intra Frequency information tag | '80' | M | 1 |
| Length | 2+2*m | M | 1 |
| Intra Frequency carrier frequency | | M | 2 |
| Intra Frequency scrambling codes | | M | 2*m (8 <= m <= 32) |
| FDD Inter Frequency information tag (see NOTE 1) | '81' | O | 1 |
| Length | 2+2*n (NOTE 2) | O | 1 |
| Inter Frequency carrier frequencies | | O | 2 |
| Inter Frequency scrambling codes | | O | 2*n (NOTE 2) |
| NOTE 1: This TLV object may occur up to 3 times within the constructed TLV object depending how many inter frequencies are indicated<br>NOTE 2: n is in this case n1, n2 or n3, 8 <= (n1+n2+n32)<=32 | | | |

- TDD Cell Information: If tag 'A2' is present in this EF the content of this TLV is as follows:

| Description | Value | M/O | Length |
|---|---|---|---|
| TDD Cell Information Tag | 'A2' | M | 1 |
| Length | 4+(2*m)+(4+2*n 1)+(4+2*n2)+(4+ 2*n3) (<=144) | M | 1 |
| TDD Intra Frequency information tag | '80' | M | 1 |
| Length | 2+2*m | M | 1 |
| Intra Frequency carrier frequency | | M | 2 |
| Intra Frequency scrambling codes | | M | 2*m (8 <= m <= 32) |
| TDD Inter Frequency information tag (see NOTE 1) | '81' | O | 1 |
| Length | 2+2*n (NOTE 2) | O | 1 |
| Inter Frequency carrier frequencies | | O | 2 |
| Inter Frequency scrambling codes | | O | 2*n (NOTE 2) |
| NOTE 1: This TLV object may occur up to 3 times within the constructed TLV object depending how many inter frequencies are indicated<br>NOTE 2: n is in this case n1, n2 or n3, 8 <= (n1+n2+n32)<=32 | | | |

## 4.4.2 Contents of files at the DF PHONEBOOK level

The UICC may contain a global phonebook, or application specific phonebooks, or both in parallel. When both phonebook types co-exist, they are independent and no data is shared. In this case, it shall be possible for the user to select which phonebook the user would like to access.

It is recommended that the terminal searches for the global phonebook located under $DF_{TELECOM}$ as its presence is not indicated anywhere in the USIM application.

The global phonebook is located in $DF_{PHONEBOOK}$ under $DF_{TELECOM.}$. Each specific USIM application phonebook is located in $DF_{PHONEBOOK}$ of its respective Application $DF_{USIM}$. The organisation of files in $DF_{PHONEBOOK}$ under $DF_{USIM}$ and under DF $_{TELECOM}$ follows the same rules. Yet $DF_{PHONEBOOK}$ under $DF_{USIM}$ may contain a different set of files than $DF_{PHONEBOOK}$ under $DF_{TELECOM}$. All phonebook related EFs are located under their respective $DF_{PHONEBOOK}$. USIM specific phonebooks are dedicated to application specific entries. Each application specific phonebook is protected by the application PIN.

$EF_{ADN}$ and $EF_{PBR}$ shall always be present if the $DF_{Phonebook}$ is present. If any phonebook file other than $EF_{ADN}$ or $EF_{EXT1,}$ is used, then $EF_{PBC}$ shall be present.

If a GSM application resides on the UICC, the EFs ADN and EXT1 from one $DF_{PHONEBOOK}$ (defined at GSM application installation) are mapped to $DF_{TELECOM}$. Their file IDs are specified in TS 51.011 [18], i.e. $EF_{ADN}$ = '6F3A' and $EF_{EXT1}$ = '6F4A', respectively. ~~$EF_{ADN}$ and $EF_{PBR}$ shall always be present if the $DF_{Phonebook}$ is present. If any phonebook file other than $EF_{ADN}$ or $EF_{EXT1,}$ is used, then $EF_{PBC}$ shall be present.~~

If the UICC is inserted into a ~~GSM~~ terminal accessing the ADN and EXT1 files under $DF_{TELECOM;}$ and a record in these files ~~phonebook~~ has been updated, a flag in the corresponding entry control information in the $EF_{PBC}$ is set from 0 to 1 by the ~~card~~UICC. If the UICC is later inserted into a ~~3G~~ terminal ~~again~~that supports the 3G phonebook, the terminal shall check the flag in $EF_{PBC}$ and if this flag is set, shall update the $EF_{CC}$, and then reset the flag. A ~~set~~ flag set in $EF_{PBC}$ results in a full synchronisation of the phonebook between an external entity and the UICC (if synchronisation is requested).

The EF structure related to the public phonebook is located under $DF_{PHONEBOOK}$ in $DF_{TELECOM}$. A USIM specific phonebook may exist for application specific entries. The application specific phonebook is protected by the application PIN. The organisation of files in the application specific phonebook follows the same rules as the one specified for the public phone book under $DF_{TELECOM}$. The application specific phonebook may contain a different set of files than the one in the public area under $DF_{TELECOM}$.

### 4.4.2.5 $EF_{PBC}$ (Phone Book Control)

This EF contains control information related to each entry in the phone book. This EF contains as many records as the $EF_{ADN}$ associated with it (shall be record to record). Each record in $EF_{PBC}$ points to a record in its $EF_{ADN}$. This file indicates the control information and the hidden information of each phone book entry.

The content of $EF_{PBC}$ is linked to the associated $EF_{ADN}$ record by means of the ADN record number/ID (there is a one to one mapping of record number/identifiers between $EF_{PBC}$ and $EF_{ADN}$).

**Structure of control file $EF_{PBC}$**

| Identifier: '4FXX' | Structure: linear fixed | Conditional (see Note) |
|---|---|---|
| SFI: 'YY' | | |
| Record length: 2 bytes | Update activity: low | |

Access Conditions:

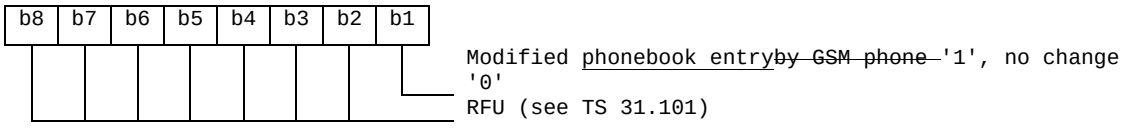
| | |
|---|---|
| READ | PIN |
| UPDATE | PIN |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Entry Control Information | M | 1 byte |
| 2 | Hidden Information | M | 1 byte |

NOTE: This file is mandatory if ~~and only if~~ one or both of the following is true:
- hidden entries are supported
- a GSM SIM application is supported in the UICC.

- Entry Control Information.
  Contents:
  - provides some characteristics about the phone book entry ~~(~~e.g. modification by a ~~GSM mobile)~~terminal accessing the ADN and EXT1 files under $DF_{TELECOM}$ (see clause 4.4.2)

  Coding:




- Hidden Information.
  Contents:
  indicates to which USIM application of the UICC this phone book entry belongs, so that the corresponding secret code can be verified to display the phone book entry. If the secret code is not verified, then the phone book entry is hidden.
  Coding:
  '00' – the phone book entry is not hidden;
  'xx' – the phone book entry is hidden. 'xx' is the record number in $EF_{DIR}$ of the associated USIM application.

#### 4.4.2.12.4 $EF_{PUID}$ (Previous Unique Identifier)

The PUID is used to store the previously used unique identifier (UID). The purpose of this file is to allow the terminal to quickly generate a new UID, which shall then be stored in the $EF_{UID}$.

**Structure of $EF_{PUID}$**

| Identifier: '4F24' | Structure: transparent | Conditional (see Note) |
|---|---|---|
| SFI: 'YY' | | |
| File size: 2 bytes | Update activity: high | |
| Access Conditions:<br>READ PIN<br>UPDATE PIN<br>DEACTIVATE ADM<br>ACTIVATE ADM | | |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to 2 | Previous Unique Identifier (PUID) of Phone Book Entry | M | 2 bytes |

NOTE: This file is mandatory if and only if synchronisation is supported in the phonebook.

- Previous Unique Identifier of Phone Book Entry.

  Content:

  - Previous number that was used to unambiguously identify the phone book entry for synchronisation purposes.

  Coding:

  - As for $EF_{UID}$

### 4.6.1.1 $EF_{IMG}$ (Image)

Each record of this EF identifies instances of one particular graphical image, which graphical image is identified by this EF's record number.

Image instances may differ as to their size, having different resolutions, and the way they are coded, using one of several image coding schemes.

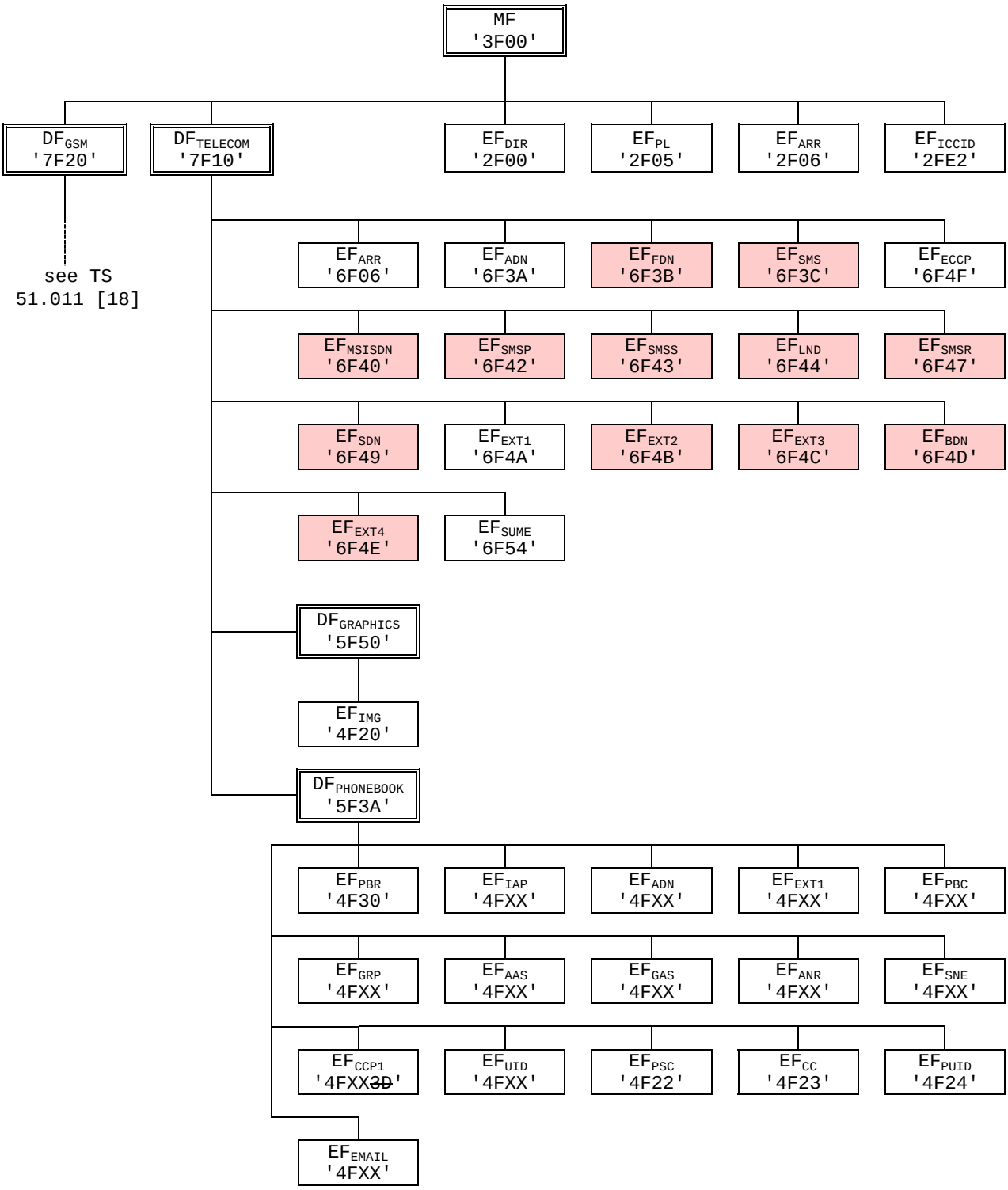
As an example, image k may represent a company logo, of which there are i instances in the UICC, of various resolutions and perhaps encoded in several image coding schemes. Then, the i instances of the company's logo are described in record k of this EF.

| Identifier: '4F20' | Structure: linear fixed | Optional |
|---|---|---|
| Record length: 9n+1 or 9n+2 bytes | Update activity: low | |
| Access Conditions:<br>READ PIN<br>UPDATE ADM<br>DEACTIVATE ADM<br>ACTIVATE ADM | | |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Number of Actual Image Instances | M | 1 byte |
| 2 to 10 | Descriptor of Image Instance 1 | M | 9 bytes |
| 11 to 19 | Descriptor of Image Instance 2 | O | 9 bytes |
| | | | |
| 9(n-1)+2 to 9n+1 | Descriptor of Image Instance n | O | 9 bytes |
| 9n + 2 | RFU (see TS 31.101 [11]) | O | 1 byte |

## 4.7 Files of USIM

This clause contains two figures depicting the file structure of the UICC and the $ADF_{USIM}$. $ADF_{USIM}$ shall be selected using the AID and information in $EF_{DIR}$.




NOTE: Files under $DF_{TELECOM}$ with shaded background are defined in TS 51.011 [18].

**Figure 4.1: File identifiers and directory structures of UICC**

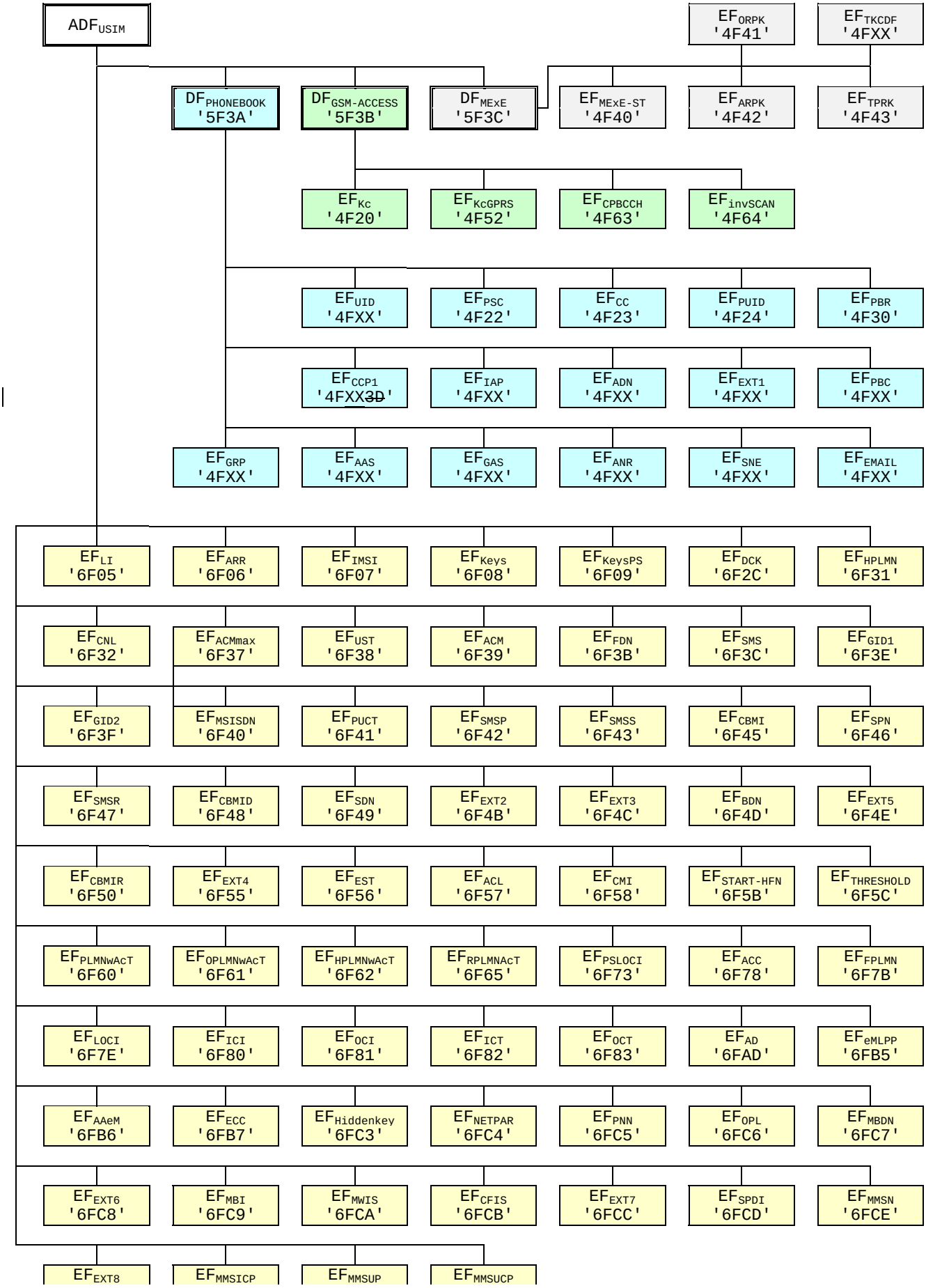


**Figure 4.2: File identifiers and directory structures of USIM**

DF '5F70' is reserved for SoLSA. EF '4F30' ($EF_{SAL}$) and EF '4F31' ($EF_{SLL}$) are reserved under DF '5F70' (SoLSA).

# Annex G (informative): Phonebook Example

This example phonebook has more than 254 entries. Additional number (3 additional numbers) information, second name and e-mail information can be added to each ADN entry. In addition each entry has a 2 byte Unique ID (UID) attached to it. The phonebook also contains three files that are shared $EF_{EXT1}$, $EF_{AAS}$ and $EF_{GAS}$. These files are addressed from inside a file. $EF_{EXT1}$ is addressed via $EF_{ADN,}$ $EF_{ADN1}$, $EF_{AAS}$ is addressed via $EF_{ANRA1,}$ $EF_{ANRA1}$ and $EF_{GAS}$ is addressed via $EF_{GRP,}$ $EF_{GRP1}$. The phonebook supports two levels of grouping and hidden entries in $EF_{PBC.}$

Two records are needed in the phonebook reference file PBR '4F30' for supporting more than 254 entries. The content of the phonebook reference file PBR '4F30' records is as shown in table G.2. The structure of the $DF_{PHONEBOOK}$ is shown in table G.1.

The content of phonebook entries in the range from 1-508 is described in the tables G.3 and G.4.

**Table G.1: Structure of EFs inside $DF_{PHONEBOOK}$**

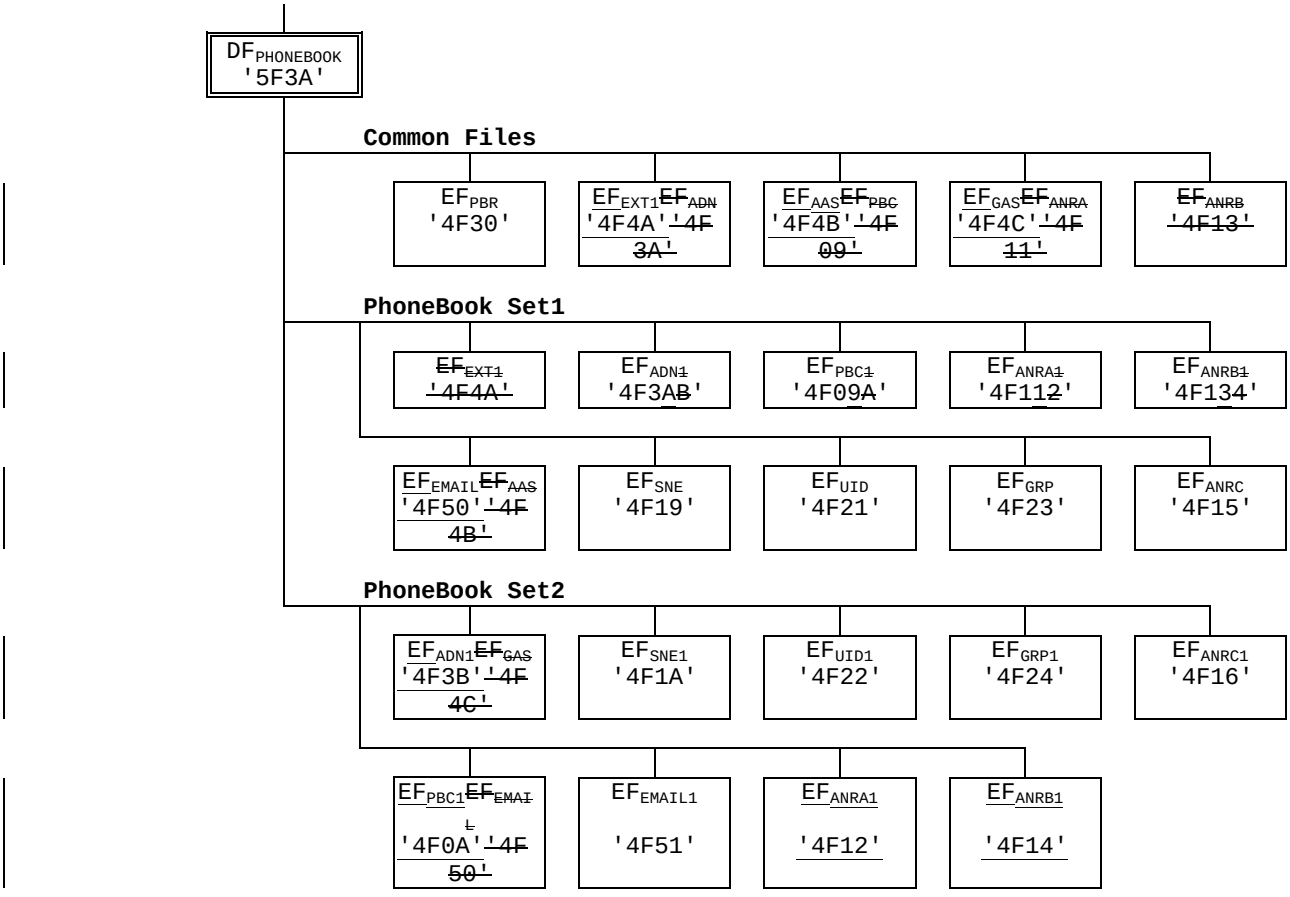



**Figure G.1: Structure and Relations of the Example Phone Book**

**3GPP TSG-T3 Meeting #24**
**Seattle, USA, 19-22 August 2002**

***Tdoc ⌘T3-020647***

*CR-Form-v7*

# CHANGE REQUEST

⌘ **31.102** **CR** **124** ⌘ **rev** **-** ⌘ Current version: **3.9.0** ⌘

*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⌘ [X] ME [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Collection of essential corrections |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 21/08/2002 |
| ***Category:*** | ⌘ | **F** |
| ***Release:*** | ⌘ | R99 |

*Use one of the following categories:*
***F*** *(correction)*
***A*** *(corresponds to a correction in an earlier release)*
***B*** *(addition of feature),*
***C*** *(functional modification of feature)*
***D*** *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

*Use one of the following releases:*

| | |
|---|---|
| *2* | *(GSM Phase 2)* |
| *R96* | *(Release 1996)* |
| *R97* | *(Release 1997)* |
| *R98* | *(Release 1998)* |
| *R99* | *(Release 1999)* |
| *Rel-4* | *(Release 4)* |
| *Rel-5* | *(Release 5)* |
| *Rel-6* | *(Release 6)* |

***Reason for change:*** ⌘ The list of changes is defining the order of changes that is also used in the following parts of this CR.

- Incorrect Note in the description of the FDD Cell Information and TDD Cell Information.
- The handling of the flag in “Entry Control Information” is not clear in the description of the $EF_{PBC.}$
- The coding of Previous Unique Identifier ($EF_{PUID}$) is missing in the specification
- The length of the records of EF(IMG) is wrongly indicated in the specification..
- The identifier of $EF_{CCP1}$ is incorrect in the chapter "Files of USIM".
- The identifier $EF_{EXT4}$ was missed in Annex A.
- Table G.1 is wrong.

***Summary of change:*** ⌘

- The "NOTE 2" in the description of FDD Cell Information and TDD Cell Information was changed from (n1+n2+**n2**) to (n1+n2+**n3**)
- Clarification of the description of “Entry Control information” to clarify the flag management in $EF_{PBC}$.
- The description of the coding for $EF_{PUID}$ is added
- Changed the indicated length for $EF_{IMG}$ records to 9n+1 or 9n+2 bytes.
- The identifier of $EF_{CCP1}$ is corrected in the figures
- The identifier $EF_{EXT4}$ was added in table "EF changes via Data Download or USAT applications".
- Correction of table G.1.

***Consequences if not approved:*** ⌘ Wrong implementation, with the following details:

- Incorrect description of the length bytes in FDD Inter Frequency information

| | |
|---|---|
| | and TDD Inter Frequency information<br>• The modification of the “Entry Control information” executed by the Terminal or the card is not clear.<br>• Undefined coding for "Previous Unique Identifier (PUID) of Phone Book Entry"<br>• Risk of wrong implementation in the SIM or the ME, resulting in a wrong inter-working of SIM and ME.<br>• Inconsistency of "Figure 4.1: File identifiers and directory structures of UICC" and "Figure 4.2: File identifiers and directory structures of USIM" with the identifier description of the File in chapter 4 "Contents of the Files".<br>• Incomplete description in table "EF changes via Data Download or USAT applications"<br>• Confusion on setting up a Phone book and this might lead to wrong USIM personalisation. |

| | | | | | |
|---|---|---|---|---|---|
| ***Clauses affected:*** | ⌘ | 3.3, 4.2.57; 4.4.2, 4.4.2.5; 4.4.2.12.4, 4.7,Annex A, Annex G | | | |
| | | **Y** | **N** | | |
| ***Other specs Affected:*** | ⌘ | | **X** | Other core specifications | ⌘ |
| | | | **X** | Test specifications | |
| | | | **X** | O&M Specifications | |
| ***Other comments:*** | ⌘ | | | | |

**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.

## 3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

| | |
|---|---|
| 3GPP | 3rd Generation Partnership Project |
| AC | Access Condition |
| ACL | APN Control List |
| ADF | Application Dedicated File |
| AID | Application IDentifier |
| AK | Anonymity key |
| ALW | ALWays |
| AMF | Authentication Management Field |
| AoC | Advice of Charge |
| APN | Access Point Name |
| ASN.1 | Abstract Syntax Notation One |
| AuC | Authentication Centre |
| AUTN | Authentication token |
| BDN | Barred Dialling Number |
| BER-TLV | Basic Encoding Rule - TLV |
| CCP | Capability Configuration Parameter |
| CK | Cipher key |
| CLI | Calling Line Identifier |
| CNL | Co-operative Network List |
| CPBCCH | COMPACT Packet BCCH |
| CS | Circuit switched |
| DCK | Depersonalisation Control Keys |
| DF | Dedicated File |
| DO | Data Object |
| EF | Elementary File |
| ~~EMUI~~ | ~~Encrypted Mobile User Identity~~ |
| FCP | File Control Parameters |
| FFS | For Further Study |
| ~~GMSI~~ | ~~Group Identity~~ |
| GSM | Global System for Mobile communications |
| HE | Home Environment |
| ICC | Integrated Circuit Card |
| ICI | Incoming Call Information |
| ICT | Incoming Call Timer |
| ID | IDentifier |
| IEI | Information Element Identifier |
| IK | Integrity key |
| IMSI | International Mobile Subscriber Identity |
| K | USIM Individual key |
| $K_C$ | Cryptographic key used by the cipher A5 |
| KSI | Key Set Identifier |
| LI | Language Indication |
| LSB | Least Significant Bit |
| MAC | Message authentication code |
| MAC-A | MAC used for authentication and key agreement |
| MAC-I | MAC used for data integrity of signalling messages |
| MCC | Mobile Country Code |
| MExE | Mobile Execution Environment |
| MF | Master File |
| MMI | Man Machine Interface |
| MNC | Mobile Network Code |
| MODE | Indication packet switched/circuit switched mode |
| MSB | Most Significant Bit |
| NEV | NEVer |
| NPI | Numbering Plan Identifier |
| OCI | Outgoing Call Information |
| OCT | Outgoing Call Timer |

| | |
|---|---|
| OFM | Operational Feature Monitor |
| PBID | Phonebook Identifier |
| PIN | Personal Identification Number |
| PL | Preferred Languages |
| PS | Packet switched |
| PS_DO | PIN Status Data Object |
| RAND | Random challenge |
| $RAND_{MS}$ | Random challenge stored in the USIM |
| RES | User response |
| RFU | Reserved for Future Use |
| RST | Reset |
| SDN | Service dialling number |
| SE | Security Environment |
| SFI | Short EF Identifier |
| SGSN | Serving GPRS Support Node |
| SN | Serving Network |
| SQN | Sequence number |
| SRES | Signed RESponse calculated by a USIM |
| SW | Status Word |
| TLV | Tag Length Value |
| USAT | USIM Application Toolkit |
| USIM | Universal Subscriber Identity Module |
| VLR | Visitor Location Register |
| XRES | Expected user RESponse |

## 4.2.57 $EF_{NETPAR}$ (Network Parameters)

This EF contains information concerning the cell frequencies

…

- - FDD Cell Information. If tag 'A1' is present in this EF the content of this TLV is as follows:

| Description | Value | M/O | Length |
|---|---|---|---|
| FDD Cell Information Tag | 'A1' | M | 1 |
| Length | 4+(2*m)+(4+2*n 1)+(4+2*n2)+(4+ 2*n3) (<=144) | M | 1 |
| FDD Intra Frequency information tag | '80' | M | 1 |
| Length | 2+2*m | M | 1 |
| Intra Frequency carrier frequency | | M | 2 |
| Intra Frequency scrambling codes | | M | 2*m (8 <= m <= 32) |
| FDD Inter Frequency information tag (see NOTE 1) | '81' | O | 1 |
| Length | 2+2*n (NOTE 2) | O | 1 |
| Inter Frequency carrier frequencies | | O | 2 |
| Inter Frequency scrambling codes | | O | 2*n (NOTE 2) |
| NOTE 1: This TLV object may occur up to 3 times within the constructed TLV object depending how many inter frequencies are indicated<br>NOTE 2: n is in this case n1, n2 or n3, 8 <= (n1+n2+n32)<=32 | | | |

- TDD Cell Information: If tag 'A2' is present in this EF the content of this TLV is as follows:

| Description | Value | M/O | Length |
|---|---|---|---|
| TDD Cell Information Tag | 'A2' | M | 1 |
| Length | 4+(2*m)+(4+2*n 1)+(4+2*n2)+(4+ 2*n3) (<=144) | M | 1 |
| TDD Intra Frequency information tag | '80' | M | 1 |
| Length | 2+2*m | M | 1 |
| Intra Frequency carrier frequency | | M | 2 |
| Intra Frequency scrambling codes | | M | 2*m (8 <= m <= 32) |
| TDD Inter Frequency information tag (see NOTE 1) | '81' | O | 1 |
| Length | 2+2*n (NOTE 2) | O | 1 |
| Inter Frequency carrier frequencies | | O | 2 |
| Inter Frequency scrambling codes | | O | 2*n (NOTE 2) |
| NOTE 1: This TLV object may occur up to 3 times within the constructed TLV object depending how many inter frequencies are indicated<br>NOTE 2: n is in this case n1, n2 or n3, 8 <= (n1+n2+n32)<=32 | | | |

## 4.4.2 Contents of files at the DF PHONEBOOK level

The UICC may contain a global phonebook, or application specific phonebooks, or both in parallel. When both phonebook types co-exist, they are independent and no data is shared. In this case, it shall be possible for the user to select which phonebook the user would like to access.

It is recommended that the terminal searches for the global phonebook located under $DF_{TELECOM}$ as its presence is not indicated anywhere in the USIM application.

The global phonebook is located in $DF_{PHONEBOOK}$ under $DF_{TELECOM.}$. Each specific USIM application phonebook is located in $DF_{PHONEBOOK}$ of its respective Application $DF_{USIM}$. The organisation of files in $DF_{PHONEBOOK}$ under $DF_{USIM}$ and under DF $_{TELECOM}$ follows the same rules. Yet $DF_{PHONEBOOK}$ under $DF_{USIM}$ may contain a different set of files than $DF_{PHONEBOOK}$ under $DF_{TELECOM}$. All phonebook related EFs are located under their respective $DF_{PHONEBOOK}$. USIM specific phonebooks are dedicated to application specific entries. Each application specific phonebook is protected by the application PIN.

$EF_{ADN}$ and $EF_{PBR}$ shall always be present if the $DF_{PHONEBOOK}$ is present. If any phonebook file other than $EF_{ADN}$ or $EF_{EXT1,}$ is used, then $EF_{PBC}$ shall be present.

If a GSM application resides on the UICC, the EFs ADN and EXT1 from one $DF_{PHONEBOOK}$ (defined at GSM application installation) are mapped to $DF_{TELECOM}$. Their file IDs are specified in GSM 11.11 [18], i.e. $EF_{ADN}$ = '6F3A' and $EF_{EXT1}$ = '6F4A', respectively.

~~$EF_{ADN}$ and $EF_{PBR}$ shall always be present if the $DF_{Phonebook}$ is present. If any phonebook file other than $EF_{ADN}$ or $EF_{EXT1,}$ is used, then $EF_{PBC}$ shall be present.~~

If the UICC is inserted into a ~~GSM~~ terminal accessing the ADN and EXT1 files under $DF_{TELECOM,}$ and a record in these files ~~phonebook~~ has been updated, a flag in the corresponding entry control information in the $EF_{PBC}$ is set from 0 to 1 by the ~~card~~UICC. If the UICC is later inserted into a ~~3G~~ terminal ~~again~~that supports the 3G phonebook, the terminal shall check the flag in $EF_{PBC}$ and if this flag is set, shall update the $EF_{CC}$, and then reset the flag. A ~~set~~ flag set in $EF_{PBC}$ results in a full synchronisation of the phonebook between an external entity and the UICC (if synchronisation is requested).

The EF structure related to the public phonebook is located under $DF_{PHONEBOOK}$ in $DF_{TELECOM}$. A USIM specific phonebook may exist for application specific entries. The application specific phonebook is protected by the application PIN. The organisation of files in the application specific phonebook follows the same rules as the one specified for the public phone book under $DF_{TELECOM}$. The application specific phonebook may contain a different set of files than the one in the public area under $DF_{TELECOM}$.

### 4.4.2.5 $EF_{PBC}$ (Phone Book Control)

This EF contains control information related to each entry in the phone book. This EF contains as many records as the $EF_{ADN}$ associated with it (shall be record to record). Each record in $EF_{PBC}$ points to a record in its $EF_{ADN}$. This file indicates the control information and the hidden information of each phone book entry.

The content of $EF_{PBC}$ is linked to the associated $EF_{ADN}$ record by means of the ADN record number/ID (there is a one to one mapping of record number/identifiers between $EF_{PBC}$ and $EF_{ADN}$).

**Structure of control file $EF_{PBC}$**

| Identifier: '4FXX' | Structure: linear fixed | Conditional (see Note) |
|---|---|---|
| SFI: 'YY' | | |
| Record length: 2 bytes | Update activity: low | |

Access Conditions:

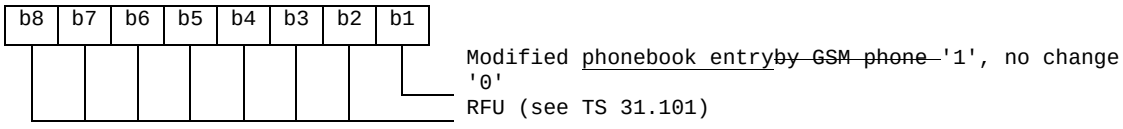
| | |
|---|---|
| READ | PIN |
| UPDATE | PIN |
| DEACTIVATE | ADM |
| ACTIVATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Entry Control Information | M | 1 byte |
| 2 | Hidden Information | M | 1 byte |

NOTE: This file is mandatory if ~~and only if~~ one or both of the following is true:
- hidden entries are supported
- a GSM SIM application is supported in the UICC.

- Entry Control Information.
  Contents:
  - provides some characteristics about the phone book entry ~~(~~e.g. modification by a ~~GSM mobile)~~terminal accessing the ADN and EXT1 files under $DF_{TELECOM}$ (see clause 4.4.2)

  Coding:




- Hidden Information.
  Contents:
  indicates to which USIM application of the UICC this phone book entry belongs, so that the corresponding secret code can be verified to display the phone book entry. If the secret code is not verified, then the phone book entry is hidden.
  Coding:
  '00' – the phone book entry is not hidden;
  'xx' – the phone book entry is hidden. 'xx' is the record number in $EF_{DIR}$ of the associated USIM application.

#### 4.4.2.12.4 $EF_{PUID}$ (Previous Unique Identifier)

The PUID is used to store the previously used unique identifier (UID). The purpose of this file is to allow the terminal to quickly generate a new UID, which shall then be stored in the $EF_{UID}$.

**Structure of $EF_{PUID}$**

| Identifier: '4F24' | Structure: transparent | Conditional (see Note) |
|---|---|---|
| SFI: 'YY' | | |
| File size: 2 bytes | Update activity: high | |
| Access Conditions:<br>READ PIN<br>UPDATE PIN<br>DEACTIVATE ADM<br>ACTIVATE ADM | | |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 to 2 | Previous Unique Identifier (PUID) of Phone Book Entry | M | 2 bytes |

NOTE: This file is mandatory if and only if synchronisation is supported in the phonebook.

- Previous Unique Identifier of Phone Book Entry.

  Content:

  - Previous number that was used to unambiguously identify the phone book entry for synchronisation purposes.

  Coding:

  - As for $EF_{UID}$

### 4.6.1.1 $EF_{IMG}$ (Image)

Each record of this EF identifies instances of one particular graphical image, which graphical image is identified by this EF's record number.

Image instances may differ as to their size, having different resolutions, and the way they are coded, using one of several image coding schemes.

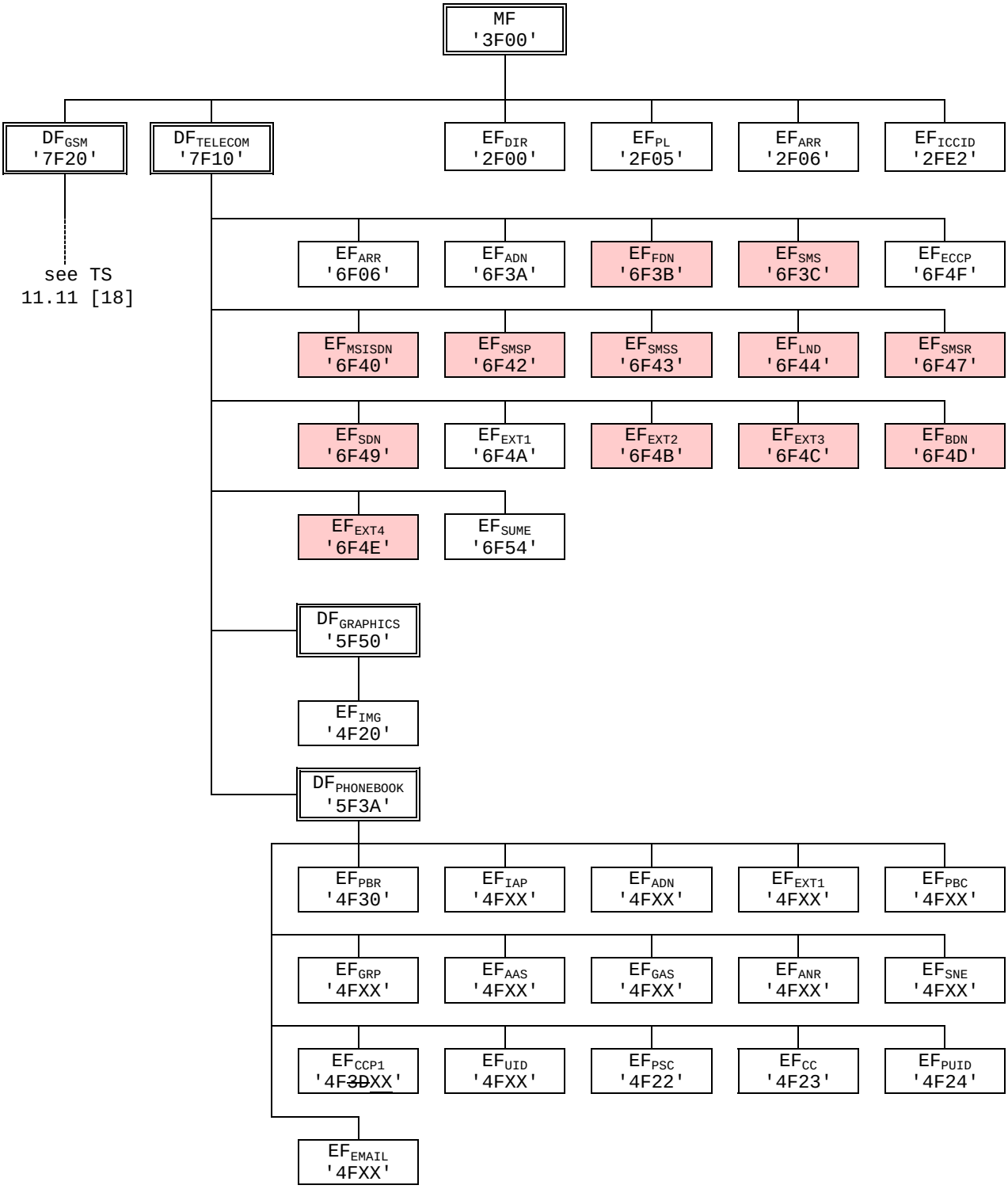
As an example, image k may represent a company logo, of which there are i instances in the UICC, of various resolutions and perhaps encoded in several image coding schemes. Then, the i instances of the company's logo are described in record k of this EF.

| Identifier: '4F20' | Structure: linear fixed | Optional |
|---|---|---|
| Record length: 9n+1 or 9n+2 bytes | Update activity: low | |
| Access Conditions:<br>READ PIN<br>UPDATE ADM<br>DEACTIVATE ADM<br>ACTIVATE ADM | | |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Number of Actual Image Instances | M | 1 byte |
| 2 to 10 | Descriptor of Image Instance 1 | M | 9 bytes |
| 11 to 19 | Descriptor of Image Instance 2 | O | 9 bytes |
| | | | |
| 9(n-1)+2 to 9n+1 | Descriptor of Image Instance n | O | 9 bytes |
| 9n + 2 | RFU (see TS 31.101 [11]) | O | 1 byte |

# 4.7 Files of USIM

This clause contains two figures depicting the file structure of the UICC and the $ADF_{USIM}$. $ADF_{USIM}$ shall be selected using the AID and information in $EF_{DIR}$.




NOTE: Files under $DF_{TELECOM}$ with shaded background are defined in TS 11.11 [18].

**Figure 4.1: File identifiers and directory structures of UICC**

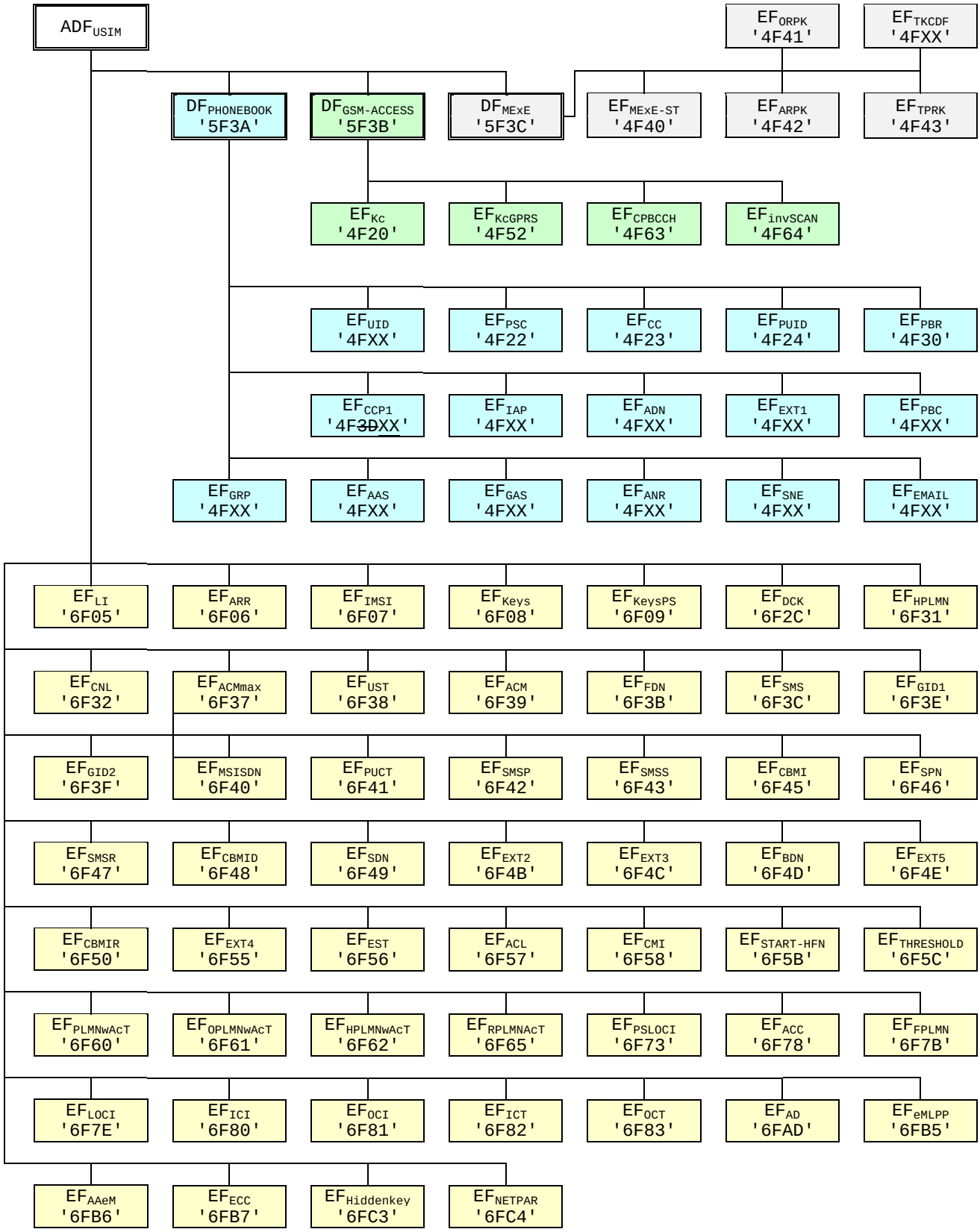



**Figure 4.2: File identifiers and directory structures of USIM**

DF '5F70' is reserved for SoLSA. EF '4F30' ($EF_{SAL}$) and EF '4F31' ($EF_{SLL}$) are reserved under DF '5F70' (SoLSA).

# Annex A (informative): EF changes via Data Download or USAT applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by a USAT Application, is advisable. Updating of certain EFs "over the air" such as $EF_{ACC}$ could result in unpredictable behaviour of the UE; these are marked "Caution" in the table below. Certain EFs are marked "No"; under no circumstances should "over the air" changes of these EFs be considered.

| File identification | Description | Change advised |
|---|---|---|
| '2F00' | Application directory | |
| '2F05' | Preferred languages | Yes |
| '2F06' | Access rule reference | |
| '2FE2' | ICC identification | No |
| '4F20' | Image data | Yes |
| '4FXX' | Image Instance data Files | Yes |
| '4FXX' | Unique identifier | Yes |
| '4F22' | Phone book synchronisation counter | Yes |
| '4F23' | Change counter | Yes |
| '4F24' | Previous unique identifier | Yes |
| '4F30' | Phone book reference file | Yes |
| '4FXX' | Capability configuration parameters 1 | Yes |
| '4F75' | CPBCCH Information | No |
| '4F76 | Investigation Scan | Caution |
| '4FXX' | Additional number alpha string | Yes |
| '4FXX' | Additional number | Yes |
| '4FXX' | Second name entry | Yes |
| '4FXX' | Grouping information alpha string | Yes |
| '4FXX' | Phone book control | Yes |
| '4FXX' | E-mail addresses | Yes |
| '4FXX' | Index administration phone book | Yes |
| '4FXX' | Extension 1 | Yes |
| '4FXX' | Abbreviated dialling numbers | Yes |
| '4FXX' | Grouping file | Yes |
| '6F05' | Language indication | Yes |
| '6F07' | IMSI | Caution (Note 1) |
| '6F08' | Ciphering and integrity keys | No |
| '6F09' | Ciphering and integrity keys for packet switched domain | No |
| '6F20' | Ciphering key Kc | No |
| '6F2C' | De-personalization Control Keys | Caution |
| '6F31' | HPLMN search period | Caution |
| '6F32' | Co-operative network list | Caution |
| '6F37' | ACM maximum value | Yes |
| '6F38' | USIM service table | Caution |
| '6F39' | Accumulated call meter | Yes |
| '6F3B' | Fixed dialling numbers | Yes |
| '6F3C' | Short messages | Yes |
| '6F4F' | Extended Capability configuration parameters | Yes |
| '6F3E' | Group identifier level 1 | Yes |
| '6F3F' | Group identifier level 2 | Yes |
| | | |

Continued….

| File identification | Description | Change advised |
|---|---|---|
| '6F40' | MSISDN storage | Yes |
| '6F41' | PUCT | Yes |
| '6F42' | SMS parameters | Yes |
| '6F43' | SMS status | Yes |
| '6F44' | Last number dialled | Yes |
| '6F45' | CBMI | Caution |
| '6F46' | Service provider name | Yes |
| '6F47' | Short message status reports | Yes |
| '6F48' | CBMID | Yes |
| '6F49' | Service Dialling Numbers | Yes |
| '6F4B' | Extension 2 | Yes |
| '6F4C' | Extension 3 | Yes |
| '6F4D' | Barred dialling numbers | Yes |
| '6F4E' | Extension 5 | Yes |
| '6F4F' | Capability configuration parameters 2 | Yes |
| '6F50' | CBMIR | Yes |
| '6F52' | GPRS Ciphering key KcGPRS | No |
| '6F54' | SetUp Menu Elements | Yes |
| '6F55' | Extension 4 | Yes |
| '6F56' | Enabled services table | |
| '6F57' | Access point name control list | |
| '6F58' | Comparison method information | |
| '6F5B' | Initialisation value for Hyperframe number | Caution |
| '6F5C' | Maximum value of START | Yes |
| '6F60' | User controlled PLMN selector with Access Technology | No |
| '6F61' | Operator controlled PLMN selector with Access Technology | Caution |
| '6F62' | HPLMN selector with Access Technology | Caution |
| '6F63' | RPLMN last used Access Technology | Caution |
| '6F73' | Packet switched location information | Caution |
| '6F78' | Access control class | Caution |
| '6F7B' | Forbidden PLMNs | Caution |
| '6F7E' | Location information | No (Note 1) |
| '6F80' | Incoming call information | Yes |
| '6F81' | Outgoing call information | Yes |
| '6F82' | Incoming call timer | Yes |
| '6F83' | Outgoing call timer | Yes |
| '6FAD' | Administrative data | Caution |
| '6FB5' | Enhanced Multi Level Pre-emption and Priority | Yes |
| '6FB6' | Automatic Answer for eMLPP Service | Yes |
| '6FB7' | Emergency Call Codes | Caution |
| '6FC2' | Group identity | No |
| '6FC3' | Key for hidden phone book entries | |
| '6FC4' | Network Parameters | No |

NOTE1: If $EF_{IMSI}$ is changed, the UICC should issue REFRESH as defined in TS 31.111 and update $EF_{LOCI}$ accordingly.

# Annex G (informative): Phonebook Example

This example phonebook has more than 254 entries. Additional number (3 additional numbers) information, second name and e-mail information can be added to each ADN entry. In addition each entry has a 2 byte Unique ID (UID) attached to it. The phonebook also contains three files that are shared $EF_{EXT1}$, $EF_{AAS}$ and $EF_{GAS}$. These files are addressed from inside a file. $EF_{EXT1}$ is addressed via $EF_{ADN,}$ $EF_{ADN1}$, $EF_{AAS}$ is addressed via $EF_{ANRA1,}$ $EF_{ANRA1}$ and $EF_{GAS}$ is addressed via $EF_{GRP,}$ $EF_{GRP1}$. The phonebook supports two levels of grouping and hidden entries in $EF_{PBC.}$

Two records are needed in the phonebook reference file PBR '4F30' for supporting more than 254 entries. The content of the phonebook reference file PBR '4F30' records is as shown in table G.2. The structure of the $DF_{PHONEBOOK}$ is shown in table G.1.

The content of phonebook entries in the range from 1-508 is described in the tables G.3 and G.4.

**Table G.1: Structure of EFs inside $DF_{PHONEBOOK}$**

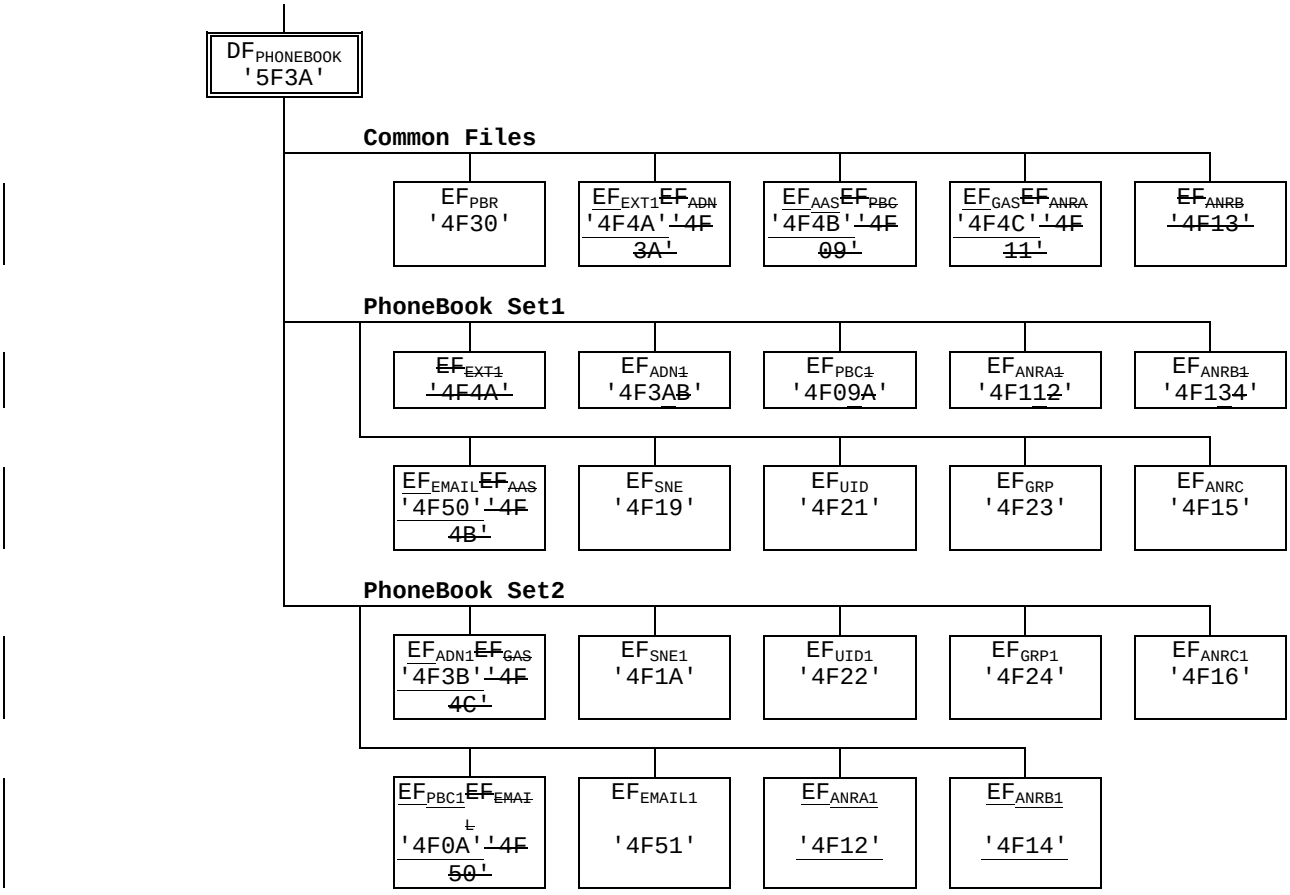



**Figure G.1: Structure and Relations of the Example Phone Book**