**3GPP TSG-T (Terminals) Meeting #13**
**Beijing, China, 19 - 21 September, 2001**

***Tdoc TP-010220***

**Source:** T3

**Title:** Change Requests on GPRS Operator Preferences

**Document for:** Approval

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The CRs to TS 31.102 and TS 51.011 were approved at TSG-T #12 in June, but the subsequent TSG-SA #12 meeting requested that they be postponed until the service requirements were clarified. TSG-SA1 did this as their subsequent meeting in July and so the same CRs are presented again for approval.

The two CRs to TS 21.111 and TS 42.017 related to the requirements for the feature and have been endorsed by SA1.

| T3 Doc | Spec | CR | Rel | Cat | Subject |
|---|---|---|---|---|---|
| T3-010532 | 21.111 | 006 | Rel-4 | C | GPRS Operator Preferences |
| T3-010534 | 42.017 | 001 | Rel-4 | C | GPRS operator preferences |
| T3-010385 | 31.102 | 082 | Rel-4 | C | Addition of Operators Preferences file for GPRS service usage |
| T3-010378 | 51.011 | 001 | Rel-4 | C | Addition of GPRS operator preferences |

*CR-Form-v4*

# CHANGE REQUEST

⌘ **TS 21.111 CR 006** ⌘ ev **-** ⌘ Current version: **4.0.0** ⌘

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

***Proposed change affects:*** ⌘ (U)SIM [X] ME/UE [ ] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | GPRS Operator Peferences |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 4th September 2001 |
| ***Category:*** | ⌘ | **C** |
| ***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)*

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | If networks change over time, i.e. upgrade from IPv4 to IPv6, or mobiles roam between IPv4 networks and IPv6 networks then these parameters will not be optimally set. A more dynamic method is required to overcome this problem. |
| ***Summary of change:*** | ⌘ | - The following line is added : " GPRS Operator Preferences" |
| ***Consequences if not approved:*** | ⌘ | Inconsistant and poor behaviour of GPRS/UMTS terminals when accessing the network. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 10.1 |
| ***Other specs affected:*** | ⌘ | [ ] Other core specifications ⌘<br>[ ] Test specifications<br>[ ] 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/3G_Specs/CRs.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.

# 10.1 USIM information storage requirements

The USIM shall contain information elements for 3G network operations. The USIM may contain information elements related to the subscriber, 3G services and home environment or service provider related information.

The UICC shall provide storage capability for the following:

- UICC related information:
    - IC card identification: a number uniquely identifying the UICC and the card issuer;
    - Preferred language(s);
    - Directory of applications.
- USIM related information:
    - Administrative information: indicates mode of operation of the USIM, e.g. normal, type approval;
    - USIM service table: indicates which optional services are provided by the USIM;
    - IMSI;
    - Language indication;
    - Location information;
    - Cipher key (Kc) and cipher key sequence number;
    - Access control class(es);
    - Forbidden PLMNs;
    - Phase identification;
    - Ciphering Key for GPRS;
    - ~~—~~GPRS location information;
    - GPRS Operator Preferences
    - Cell Broadcast related information;
    - Emergency call codes;
    - Phone numbers (ADN, FDN, SDN);
    - Short messages and related parameters;
    - Capability and Configuration parameters;
    - HPLMN search period [FFS];
    - BCCH information: list of carrier frequencies to be used for cell selection [FFS].
- Information accessible to the USIM and other applications:
    - ADN.

In addition, the USIM shall manage and provide storage for the following information in accordance with the security requirements of clause 5:

- PIN;
- PIN enabled/disabled indicator;
- PIN error counter;
- Unblock PIN;
- Unblock PIN error counter;
- Data integrity keys;
- Subscriber authentication keys.

*CR-Form-v4*

# CHANGE REQUEST

⌘ **TS 42.017** **CR** **CR001** ⌘ ev **-** ⌘ Current version: **4.0.0** ⌘

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

***Proposed change affects:*** ⌘ (U)SIM [X] ME/UE [ ] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | GPRS Operator Preferences |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 4th September 2001 |
| ***Category:*** | ⌘ | **C** |
| ***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)*

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | If networks change over time, i.e. upgrade from IPv4 to IPv6, or mobiles roam between IPv4 networks and IPv6 networks then these parameters will not be optimally set. A more dynamic method is required to overcome this problem. |
| ***Summary of change:*** | ⌘ | - Following line added : "GPRS Operator Preferences" |
| ***Consequences if not approved:*** | ⌘ | Inconsistant and poor behaviour of GPRS/UMTS terminals when accessing the network. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 6.1 |
| ***Other specs affected:*** | ⌘ | [ ] Other core specifications ⌘<br>[ ] Test specifications<br>[ ] 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/3G_Specs/CRs.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

## 6.1 Mandatory storage

The SIM shall provide storage capability for the following:

- Administrative information: indicates mode of operation of the SIM, e.g. normal, type approval.
- IC card identification: a number uniquely identifying the SIM and the card issuer.
- SIM service table: indicates which optional services are provided by the SIM.
- International Mobile Subscriber Identity (IMSI).
- Location information: comprising Temporary Mobile Subscriber Identity (TMSI), Location Area Information (LAI), Current value of Periodic Location Updating Timer (T3212) and the Location update status.
- Cipher key (Kc) and cipher key sequence number.
- —BCCH information: list of carrier frequencies to be used for cell selection.
- GPRS Operator Preferences
- Access control class(es): (see GSM 02.11 [6]).
- Forbidden PLMNs: (see GSM 02.11 [6]).
- HPLMN search period: used to control the time interval between HPLMN searches (see GSM 02.11 [6]).
- Language preference; subscriber preferred language(s) of MMI.
- Phase identification.

Location Information, Cipher Key and Cipher Key Sequence Number shall be updated on the SIM after each call termination and when the MS is correctly deactivated in accordance with the manufacturer's instructions.

In addition the SIM shall manage and provide storage for the following information in accordance with the security requirements of clause 5:

- CHV;
- CHV enabled/disabled indicator;
- CHV error counter;
- Unblock CHV;
- Unblock CHV error counter;
- Subscriber authentication key (Ki).

**3GPP T3 (USIM) Meeting #19, 8-11 May 01**
**St John, USVI**

***Tdoc T3-010385***
(revised version of T3-010244)

*CR-Form-v3*

# CHANGE REQUEST

⌘ **TS 31.102** **CR** **082** ⌘ rev **-** ⌘ Current version: **4.0.0** ⌘

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

***Proposed change affects:*** ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Addition of Operators Preferences file for GPRS service usage |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 10/05/01 |
| ***Category:*** | ⌘ | B |
| ***Release:*** | ⌘ | *REL-4* |

*Use one of the following categories:*
***F*** *(essential 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)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | The addition of a GPRS configuration file that defines the default settings for GPRS service when an application does not fully specify the GPRS settings. |
| ***Summary of change:*** | ⌘ | At present there are no defined settings of key parameters for GPRS connections. Therefore this field being optional has one change in the USIM service table for the addition of the optional feature. Secondly the addition of the GPRS Operator Preferences TLV encoded transparent file, describing the parameters. Finally the addition of the procedure |
| ***Consequences if not approved:*** | ⌘ | Indeterminate behaviour of GPRS services dependant on the Terminal manufacturer. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 4.2.8, 4.4, 4.7, 5.3.2x, Annex A, Annex D, Annex E |
| ***Other specs Affected:*** | ⌘ | [ ] Other core specifications ⌘<br>[ ] Test specifications<br>[ ] O&M Specifications |
| ***Other comments:*** | ⌘ | |

## 4.2.8 $EF_{UST}$ (USIM Service Table)

This EF indicates which services are available. If a service is not indicated as available in the USIM, the ME shall not select this service.

| Identifier: '6F38' | Structure: transparent | Mandatory |
|---|---|---|
| SFI: '04' | | |
| File size: X bytes, X >= 1 | Update activity: low | |

Access Conditions:

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

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Services n°1 to n°8 | M | 1 byte |
| 2 | Services n°9 to n°16 | O | 1 byte |
| 3 | Services n°17 to n°24 | O | 1 byte |
| 4 | Services n°25 to n°32 | O | 1 byte |
| etc. | | | |
| X | Services n°(8X-7) to n°(8X) | O | 1 byte |

-Services

Contents:

Service n°1 : Local Phone Book
Service n°2 : Fixed Dialling Numbers (FDN)
Service n°3 : Extension 2
Service n°4 : Service Dialling Numbers (SDN)
Service n°5 : Extension3
Service n°6 : Barred Dialling Numbers (BDN)
Service n°7 : Extension4
Service n°8 : Outgoing Call Information (OCI and OCT)
Service n°9 : Incoming Call Information (ICI and ICT)
Service n°10: Short Message Storage (SMS)
Service n°11: Short Message Status Reports (SMSR)
Service n°12: Short Message Service Parameters (SMSP)
Service n°13: Advice of Charge (AoC)
Service n°14: Capability Configuration Parameters (CCP)
Service n°15: Cell Broadcast Message Identifier
Service n°16: Cell Broadcast Message Identifier Ranges
Service n°17: Group Identifier Level 1
Service n°18: Group Identifier Level 2
Service n°19: Service Provider Name
Service n°20: User controlled PLMN selector with Access Technology
Service n°21: MSISDN
Service n°22: Image (IMG)
Service n°23: Not used (reserved for SoLSA)
Service n°24: Enhanced Multi-Level Precedence and Pre-emption Service
Service n°25: Automatic Answer for Emlpp
Service n°26: RFU
Service n°27: GSM Access
Service n°28: Data download via SMS-PP
Service n°29: Data download via SMS-CB
Service n°30: Call Control by USIM
Service n°31: MO-SMS Control by USIM
Service n°32: RUN AT COMMAND command
Service n°33: Packet Switched Domain
Service n°34: Enabled Services Table
Service n°35: APN Control List (ACL)
Service n°36: Depersonalisation Control Keys
Service n°37: Co-operative Network List
Service n°38: GSM security context
Service n°39 CPBCCH Information
Service n°40 Investigation Scan
Service n°41 MExE
Service n°42 Operator controlled PLMN selector with Access Technology
Service n°43 HPLMN selector with Access Technology
Service n° XX GPRS Operator Preferences

The EF shall contain at least one byte. Further bytes may be included, but if the EF includes an optional byte, then it is mandatory for the EF to also contain all bytes before that byte. Other services are possible in the future and will be coded on further bytes in the EF. The coding falls under the responsibility of the 3GPP.

Coding:

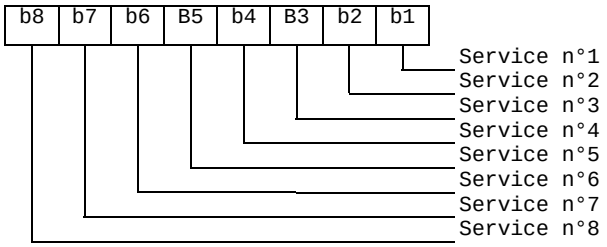
1 bit is used to code each service:

bit = 1: service available;

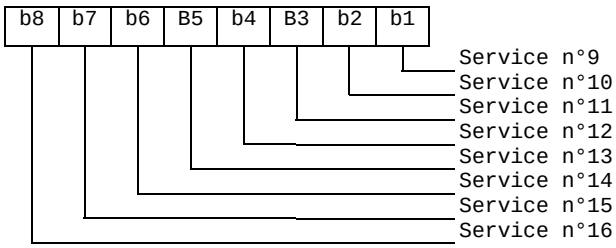
bit = 0: service not available.

- Service available means that the USIM has the capability to support the service and that the service is available for the user of the USIM unless the service is identified as "disabled" in $EF_{EST}$.
  Service not available means that the service shall not be used by the USIM user, even if the USIM has the capability to support the service.

First byte:




Second byte:




etc.

## 4.4.x $EF_{GPRSOperPrefs}$ (GPRS Operator Preferences)

This EF contains the Operators preferences for the use of the GPRS service.

| Identifier: '6Fxx' | Structure: transparent | Optional |
|---|---|---|
| SFI :'xx' | | |
| File size: X bytes | Update activity: low | |

Access Conditions:

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

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 – X | TLV object(s) containing GPRS operator preferences information | M | |

- $EF_{OperPrefs}$ Cell Information tags

| **Tag Value** | **Tag Description** |
|---|---|
| 'Ax' | GPRS operator preferences Tag |
| '80' | GPRS Class A Attachment preferences in Home PLMN tag |
| '81' | GPRS Class A Detachment preferences in Home PLMN tag |
| '82' | GPRS Class A Attachment preferences in Roaming PLMN tag |
| '83' | GPRS Class A Detachment preferences in Roaming PLMN tag |

After the constructed 'Ax' Tag object the TLVs thereafter define preferences for the terminal settings for a particular Class of terminal. These preferences cannot be repeated i.e. the tag value cannot be repeated.

- GPRS Attachment Preferences for Class A in home PLMN TLV

Contents

This TLV defines the Operators Class A terminal GPRS Attachment Preferences when in the Home PLMN.

Coding

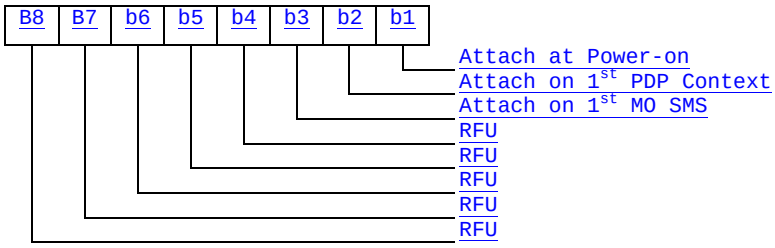
| **Description** | **M/O** | **Length** |
|---|---|---|
| GPRS Class A Attachment Preferences in Home PLMN Tag | M | 1 |
| Length | M | 1 |
| Class A Attachment Terminal Preferences | M | 1 |

- Class A Attachment Terminal Preferences

Contents

The operators GPRS Attachment Preferences in home PLMN for GPRS Class A terminal operation

Coding




- bit = 1: rule selected;
- bit = 0: rule not selected.

If bits b1 to b8 are not selected then this specifically means that the ME attachment rules take preference.

- GPRS Class A terminal Detachment Preferences in home PLMN TLV

Contents

This TLV details the Operator Preferences for GPRS detachment when in the Home PLMN

Coding

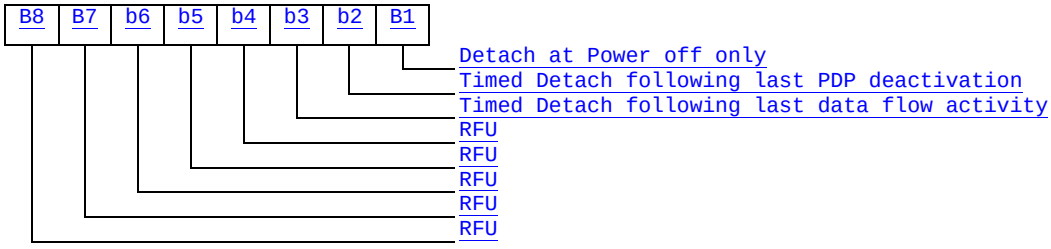
| **Description** | **M/O** | **Length** |
|---|---|---|
| GPRS Detachment Class A Preferences in home PLMN Tag | M | 1 |
| Length | M | 1 |
| Terminal Detachment Preferences | M | 1 |
| Detachment Timer Value | M | 2 |

-Terminal Detachment Preferences

Contents

The operators GPRS Detachment Preferences in home PLMN for GPRS Class A terminal operation

Coding




- bit = 1: activation rule selected;
- bit = 0: activation rule not selected.

If bit b1 is selected then bits b2 to b8 are ignored.

If bit b2 is selected bit b3 is ignored.

If bit b3 is selected bit b2 is ignored.

If bits b1 to b8 are not selected then this specifically means that the ME detachment rules take preference.

- Detachment Timer Value

Contents

The timer value for the Operator Preferences for timed GPRS detachment for Class A operation in home PLMN for use when bit b2 or b3 is set.

Coding

Value in minutes coded on two bytes: 0 to 65535 ('FFFF')

Value of '0000' means timer expires immediately.

Value of 'FFFF' means timer never expires.

- GPRS Class A Terminal Attachment Preferences in Roaming PLMN TLV

Contents

This TLV details the Operator Preferences for GPRS Attachment when in the Roaming PLMN

Coding

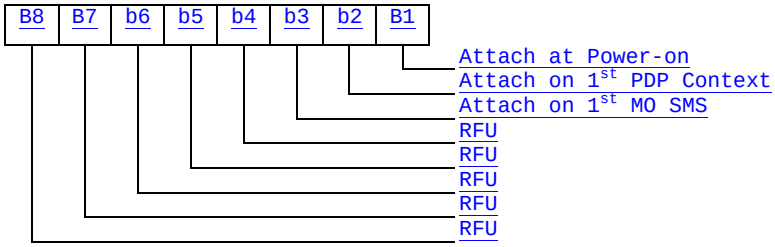
| **Description** | **M/O** | **Length** |
|---|---|---|
| GPRS Class A Attachment Preferences in Roaming PLMN Tag | M | 1 |
| Length | M | 1 |
| Class A Attachment Terminal Preferences | M | 1 |

- Class A Attachment Terminal Preferences

Contents

The operators GPRS Attachment Preferences in Roaming PLMN for GPRS Class A terminal operation

Coding




- bit = 1: rule selected;
- bit = 0: rule not selected.

If bits b1 to b8 are not selected then this specifically means that the ME attachment rules take preference.

- GPRS Class A Terminal Detachment Preferences in Roaming PLMN TLV

Contents

This TLV details the Operator Preferences for GPRS detachment when in the Roaming PLMN

Coding

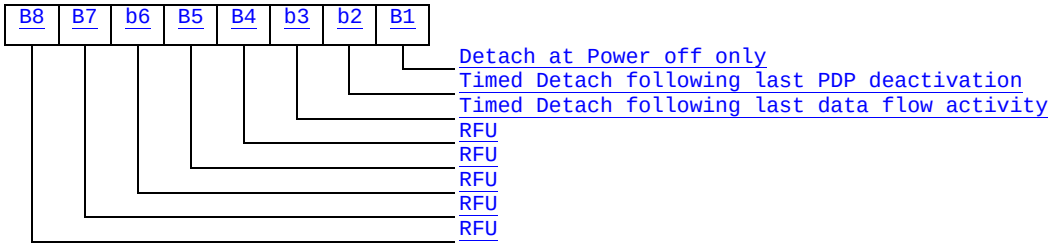
| Description | M/O | Length |
|---|---|---|
| GPRS Detachment Class A Preferences in Roaming PLMN Tag | M | 1 |
| Length | M | 1 |
| Terminal Detachment Preferences | M | 1 |
| Detachment Timer Value | M | 2 |

- Terminal Detachment Preferences

Contents

The operators GPRS Detachment Preferences in home PLMN for GPRS Class A terminal operation

Coding




- bit = 1: activation rule selected;
- bit = 0: activation rule not selected.

If bit b1 is selected then bits b2 to b8 are ignored.

If bit b2 is selected bit b3 is ignored.

If bit b3 is selected bit b2 is ignored.

If bits b1 to b8 are not selected then this specifically means that the ME detachment rules take preference.

- Detachment Timer Value

Contents

The timer value for the Operator preferences for timed GPRS detachment for Class A terminal operation in Roaming PLMN for use when either bit b2 or b3 is set.

Coding

Value in minutes coded on two bytes: 0 to 65535 (‘FFFF’)

Value of ‘0000’ means timer expires immediately.

Value of ‘FFFF’ means timer never expires.

# 4.7 Files of USIM

This subclause 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 $EF_{DIR}$.

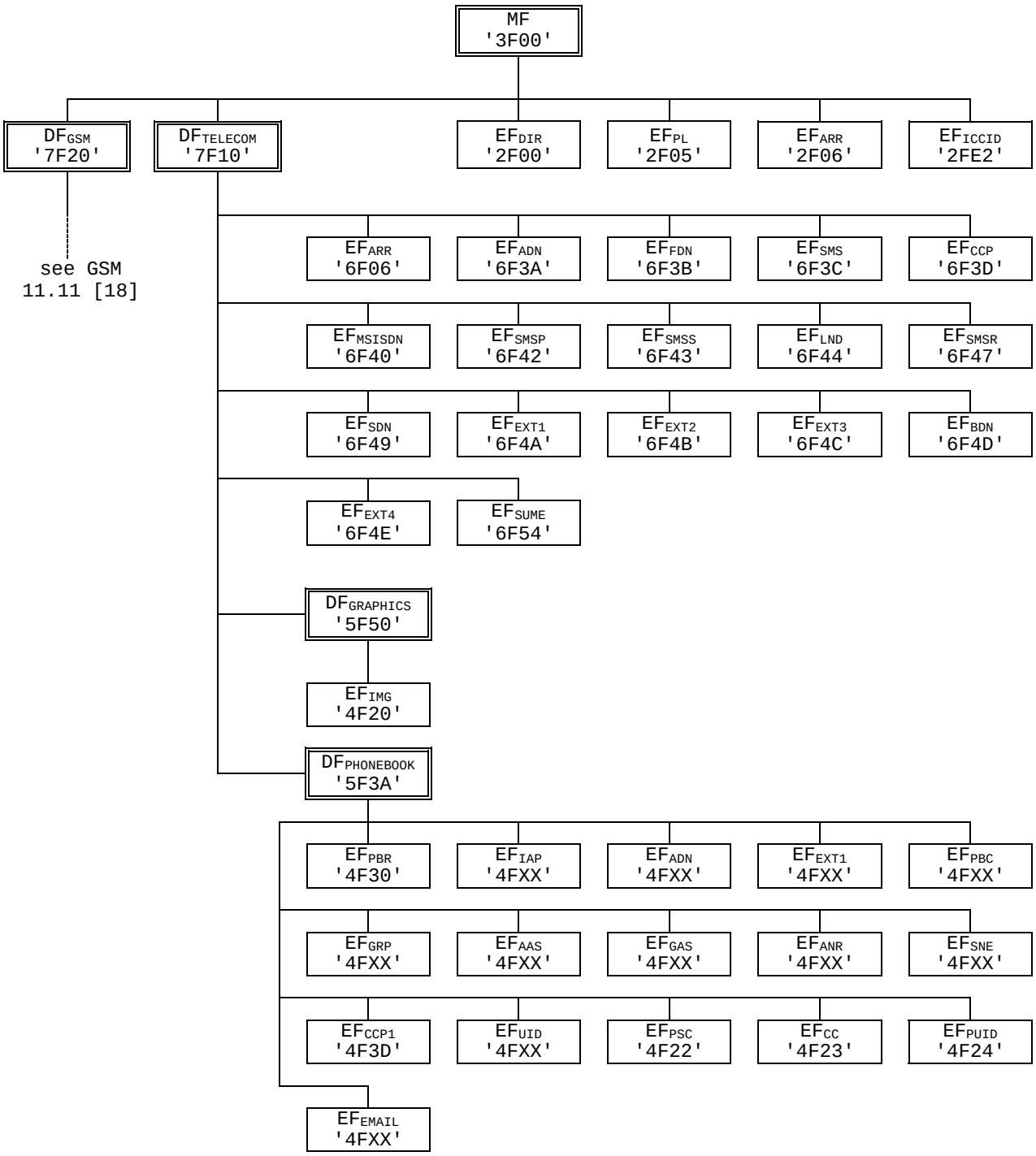
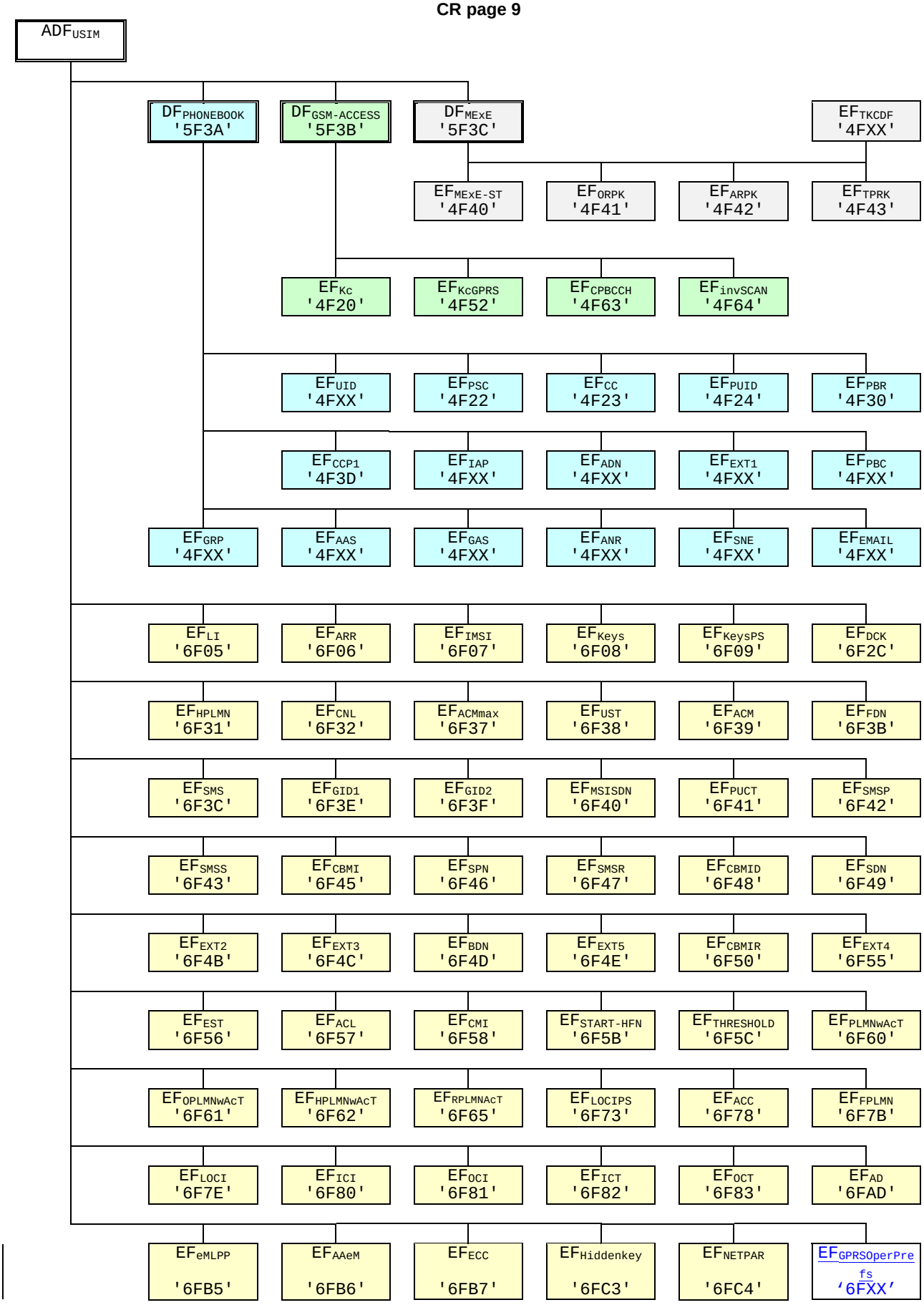



**Figure 4.1: File identifiers and directory structures of UICC**


ADF USIM
DF PHONEBOOK '5F3A'
DF GSM-ACCESS '5F3B'
DF MExE '5F3C'
EF TKCDF '4FXX'
EF MExE-ST '4F40'
EF ORPK '4F41'
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 '4F3D'
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 LOCIPS '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 GPRSOperPrefs '6FXX'

## 5.3.2x

Requirement: Service n° XX Present

Request: The ME performs the reading procedure with $EF_{GPRSOperPref}$.

# 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 |
| '6F3D' | 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 |
| '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 |
| '6Fxx' | GPRS Operator Preferences | Caution |
| | | |

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

# Annex D (informative): Tags defined in 31.102

| Tag | Name of Data Element | Usage |
|---|---|---|
| 'A0' | GSM cell information<br>The following are encapsulated under 'A0':<br>'80' GSM Camping Frequency data object<br>'81' GSM Neighbour Frequency Information data object | Network Parameters ($EF_{NETPAR}$) |
| 'A1' | FDD cell information<br>The following are encapsulated under 'A1':<br>'80' FDD Intra Frequency data object<br>'81' FDD Inter Frequency Information data object | Network Parameters ($EF_{NETPAR}$) |
| 'A2' | TDD cell information<br>The following are encapsulated under 'A2':<br>'80' TDD Intra Frequency data object<br>'81' TDD Inter Frequency Information data object | Network Parameters ($EF_{NETPAR}$) |
| 'D8' | Indicator for type 1 EFs (amount of records equal to master EF) | Phone Book Reference File ($EF_{PBR}$) |
| 'D9' | Indicator for type 2 EFs (EFs linked via the index administration file) | Phone Book Reference File ($EF_{PBR}$) |
| 'DA' | Indicator for type 3 EFs (EFs addressed inside a TLV object)<br>The following are encapsulated under 'XZ':<br>'C0' $EF_{ADN}$ data object<br>'C1' $EF_{IAP}$ data object<br>'C2' $EF_{ECT1}$ data object<br>'C3' $EF_{SNE}$ data object<br>'C4' $EF_{ANR}$ data object<br>'C5' $EF_{PBC}$ data object<br>'C6' $EF_{GRP}$ data object<br>'C7' $EF_{AAS}$ data object<br>'C8' $EF_{GAS}$ data object<br>'C9' $EF_{UID}$ data object<br>'CA' $EF_{EMAIL}$ data object<br>'CB' $EF_{CCP1}$ data object | Phone Book Reference File ($EF_{PBR}$) |
| 'DB' | Successful 3G authentication | Response to AUTHENTICATE |
| 'DC' | Synchronisation failure | Response to AUTHENTICATE |
| 'DD' | Access Point Name | APN Control List ($EF_{ACL}$) |
| 'AX' | GPRS Operator Preferences:<br>The following are encapsulated under 'AX':<br>'80' GPRS Class A Attachment Preferences in Home PLMN data object<br>'81' GPRS Class A Detachment Preferences in Home PLMN data object<br>'82' GPRS Class A Attachment Preferences in Roaming PLMN data object<br>'83' GPRS Class A Detachment Preferences in Roaming PLMN data object | |

# Annex E (informative):

Suggested contents of the EFs at pre-personalization
If EFs have an unassigned value, it may not be clear from the main text what this value should be. This annex suggests values in these cases.

| File Identification | Description | Value |
|---|---|---|
| '2F00' | Application directory | Card issuer/operator dependant |
| '2F05' | Preferred languages | 'FF…FF' |
| '2F06' | Access rule reference | Card issuer/operator dependant |
| '2FE2' | ICC identification | operator dependant |
| '4F20' | Image data | '00FF...FF' |
| '4FXX' | Image instance data files | 'FF…FF' |
| '4FXX' | Unique identifier | '0000' |
| '4F22' | Phone book synchronisation counter | '00000000' |
| '4F23' | Change counter | '0000' |
| '4F24' | Previous unique identifier | '0000' |
| '4F30' | Phone book reference file | Operator dependant |
| '4FXX' | Capability configuration parameters 1 | 'FF…FF' |
| '4F63' | CPBCCH Information | 'FF..FF' |
| '4F64' | Investigation PLMN scan | '00' |
| '4FXX' | E-mail addresses | 'FF…FF' |
| '4FXX' | Additional number alpha string | 'FF…FF' |
| '4FXX' | Second name entry | 'FF…FF' |
| '4FXX' | Abbreviated dialling numbers | 'FF...FF' |
| '4FXX' | Grouping file | '00…00' |
| '4FXX' | Grouping information alpha string | 'FF…FF' |
| '4FXX' | Phone book control | '0000' |
| '4FXX' | Index administration phone book | 'FF…FF' |
| '4FXX' | Additional number | 'FF…FF' |
| '4FXX' | Extension 1 | '00FF...FF' |
| '6F05' | Language indication | 'FF…FF' |
| '6F07' | IMSI | Operator dependant |
| '6F08' | Ciphering and integrity keys | '07FF…FF' |
| '6F09' | Ciphering and integrity keys for packet switched domain | '07FF…FF' |
| '6F20' | Ciphering key Kc | 'FF...FF07' |
| '6F2C' | De-personalization control keys | 'FF…FF' |
| '6F31' | HPLMN search period | 'FF' |
| '6F32' | Co-operative network list | 'FF…FF' |
| '6F37' | ACM maximum value | '000000' (see note 1) |
| '6F38' | USIM service table | Operator dependant |
| '6F39' | Accumulated call meter | '000000' |
| '6F3B' | Fixed dialling numbers | 'FF...FF' |
| '6F3C' | Short messages | '00FF...FF' |
| '6F3E' | Group identifier level 1 | Operator dependant |
| '6F3F' | Group identifier level 2 | Operator dependant |
| '6F40' | MSISDN storage | 'FF...FF' |
| '6F41' | PUCT | 'FFFFFF0000' |
| '6F42' | SMS parameters | 'FF...FF' |
| '6F43' | SMS status | 'FF...FF' |
| '6F45' | CBMI | 'FF...FF' |
| '6F46' | Service provider name | Operator dependant |
| '6F47' | Short message status reports | '00FF…FF' |
| '6F48' | CBMID | 'FF...FF' |
| '6F49' | Service Dialling Numbers | 'FF...FF' |
| '6F4B' | Extension 2 | '00FF...FF' |
| '6F4C' | Extension 3 | '00FF...FF' |

**Continued....**

| File Identification | Description | Value |
|---|---|---|
| '6F4D' | Barred Dialling Numbers | 'FF...FF' |
| '6F4E' | Extension 5 | '00FF...FF' |
| '6F4F' | Capability configuration parameters 2 | 'FF...FF' |
| '6F50' | CBMIR | 'FF...FF' |
| '6F52' | GPRS Ciphering key KcGPRS | 'FF...FF07' |
| '6F54' | SetUp Menu Elements | Operator dependant |
| '6F55' | Extension 4 | 'FF...FF' |
| '6F56' | Enabled services table | Operator dependant |
| '6F57' | Access point name control list | '00FF…FF' |
| '6F58' | Comparison method information | 'FF…FF' |
| '6F5B' | Initialisation value for Hyperframe number | '00…00' |
| '6F5C' | Maximum value of START | Operator dependant |
| '6F60' | User controlled PLMN selector with Access Technology | 'FFFFFF0000..FFFFFF0000' |
| '6F61' | Operator controlled PLMN selector with Access Technology | 'FFFFFF0000..FFFFFF0000' |
| '6F62' | HPLMN selector with Access Technology | 'FFFFFF0000..FFFFFF0000' |
| '6F65' | RPLMN last used Access Technology | '0000' |
| '6F73' | Packet switched location information | 'FFFFFFFF FFFFFF xxxxxx 0000 FF 01' (see note 2) |
| '6F78' | Access control class | Operator dependant |
| '6F7B' | Forbidden PLMNs | 'FF...FF' |
| '6F7E | Location information | 'FFFFFFFF xxxxxx 0000 FF 01' (see note 2) |
| '6F80' | Incoming call information | 'FF…FF 000000 00 01FFFF' |
| '6F81' | Outgoing call information | 'FF…FF 000000 01FFFF' |
| '6F82' | Incoming call timer | '000000' |
| '6F83' | Outgoing call timer | '000000' |
| '6FAD' | Administrative data | Operator dependant |
| '6FB5' | EMLPP | Operator dependant |
| '6FB6' | AaeM | '00' |
| '6FB7' | Emergency call codes | Operator dependant |
| '6FC2' | Group identity | 'FFFFFFFF' |
| '6FC3' | Key for hidden phone book entries | 'FF…FF' |
| ‘6FC4' | Network Parameters | 'FF…FF' |
| ‘xxxx’ | GPRS Operator Preferences | Operator dependant |

NOTE 1: The value '000000' means that ACMmax is not valid, i.e. there is no restriction on the ACM. When assigning a value to ACMmax, care should be taken not to use values too close to the maximum possible value 'FFFFFF', because the INCREASE command does not update $EF_{ACM}$ if the units to be added would exceed 'FFFFFF'. This could affect the call termination procedure of the Advice of Charge function.

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to 3G TS 24.008 [9].

**3GPP T3 (USIM) Meeting #19**
**St. John, US Virgin Islands, 8th – 11 May 2001**

***Tdoc T3-010378***

*CR-Form-v3*

# CHANGE REQUEST

⌘ **TS 51.011** **CR** **001** ⌘ rev **-** ⌘ Current version: **4.0.0** ⌘

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

***Proposed change affects:*** ⌘ (U)SIM [X] ME/UE [X] Radio Access Network [ ] Core Network [ ]

| | | |
|---|---|---|
| ***Title:*** | ⌘ | Addition of Operators Preferences file for GPRS service usage |
| ***Source:*** | ⌘ | T3 |
| ***Work item code:*** | ⌘ | TEI |
| ***Date:*** | ⌘ | 10th May 2001 |
| ***Category:*** | ⌘ | B |
| ***Release:*** | ⌘ | *REL-4* |

*Use one of the following categories:*
***F*** *(essential 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)* |

| | | |
|---|---|---|
| ***Reason for change:*** | ⌘ | The addition of a GPRS configuration file that defines the default settings for GPRS service when an application does not fully specify the GPRS settings. |
| ***Summary of change:*** | ⌘ | At present there are no defined settings of key parameters for GPRS connections. Therefore this field being optional has one change in the USIM service table for the addition of the optional feature. Secondly the addition of the GPRS Operator Preferences TLV encoded transparent file, describing the parameters. Finally the addition of the procedure |
| ***Consequences if not approved:*** | ⌘ | Indeterminate behaviour of GPRS services dependant on the Terminal manufacturer. |

| | | |
|---|---|---|
| ***Clauses affected:*** | ⌘ | 10.3.7, 10.3.xx(new), 10.7, 11.5.xx(new), Annex D, Annex I, Annex X(new) |
| ***Other specs Affected:*** | ⌘ | [ ] Other core specifications ⌘<br>[ ] Test specifications<br>[ ] O&M Specifications |
| ***Other comments:*** | ⌘ | |

## 10.3.7 $EF_{SST}$ (SIM service table)

This EF indicates which services are allocated, and whether, if allocated, the service is activated. If a service is not allocated or not activated in the SIM, the ME shall not select this service.

| Identifier: '6F38' | Structure: transparent | Mandatory |
|---|---|---|
| File size: X bytes, X ≥ 2 | Update activity: low | |

Access Conditions:

| | |
|---|---|
| READ | CHV1 |
| UPDATE | ADM |
| INVALIDATE | ADM |
| REHABILITATE | ADM |

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 | Services n°1 to n°4 | M | 1 byte |
| 2 | Services n°5 to n°8 | M | 1 byte |
| 3 | Services n°9 to n°12 | O | 1 byte |
| 4 | Services n°13 to n°16 | O | 1 byte |
| 5 | Services n°17 to n°20 | O | 1 byte |
| 6 | Services n°21 to n°24 | O | 1 byte |
| 7 | Services n°25 to n°28 | O | 1 byte |
| 8 | Services n°29 to n°32 | O | 1 byte |
| etc. | | | |
| X | Services (4X-3) to (4X) | O | 1 byte |

-Services

Contents:

Service n°1 : CHV1 disable function
Service n°2 : Abbreviated Dialling Numbers (ADN)
Service n°3 : Fixed Dialling Numbers (FDN)
Service n°4 : Short Message Storage (SMS)
Service n°5 : Advice of Charge (AoC)
Service n°6 : Capability Configuration Parameters (CCP)
Service n°7 : PLMN selector
Service n°8 : RFU
Service n°9 : MSISDN
Service n°10: Extension1
Service n°11: Extension2
Service n°12: SMS Parameters
Service n°13: Last Number Dialled (LND)
Service n°14: Cell Broadcast Message Identifier
Service n°15: Group Identifier Level 1
Service n°16: Group Identifier Level 2
Service n°17: Service Provider Name
Service n°18: Service Dialling Numbers (SDN)
Service n°19: Extension3
Service n°20: RFU
Service n°21: VGCS Group Identifier List ($EF_{VGCS}$ and $EF_{VGCSS}$)
Service n°22: VBS Group Identifier List ($EF_{VBS}$ and $EF_{VBSS}$)
Service n°23: enhanced Multi-Level Precedence and Pre-emption Service
Service n°24: Automatic Answer for eMLPP
Service n°25: Data download via SMS-CB
Service n°26: Data download via SMS-PP
Service n°27: Menu selection
Service n°28: Call control
Service n°29: Proactive SIM
Service n°30: Cell Broadcast Message Identifier Ranges
Service n°31: Barred Dialling Numbers (BDN)
Service n°32: Extension4
Service n°33: De-personalization Control Keys
Service n°34: Co-operative Network List
Service n°35: Short Message Status Reports
Service n°36: Network's indication of alerting in the MS
Service n°37: Mobile Originated Short Message control by SIM
Service n°38: GPRS
Service n°39: Image (IMG)
Service n°40: SoLSA (Support of Local Service Area)
Service n°41: USSD string data object supported in Call Control
Service n°42: RUN AT COMMAND command
Service n°43: User controlled PLMN Selector with Access Technology

| | |
|---|---|
| Service n 44: | Operator controlled PLMN Selector with Access Technology |
| Service n 45 | HPLMN Selector with Access Technology |
| Service n 46: | CPBCCH Information |
| Service n 47: | Investigation Scan |
| Service n°48: | Extended Capability Configuration Parameters |
| Service n°49: | MExE |
| Service n°50: | RPLMN last used Access Technology |
| Service n°XX: | GPRS Operator Preferences |

## 10.3.xx EF$_{GPRSOperPrefs}$ (GPRS Operator Preferences)

This EF contains the Operators preferences for the use of the GPRS service.

| Identifier: '6Fxx' | Structure: transparent | Optional |
|---|---|---|
| SFI :'xx' | | |
| File size: X bytes | Update activity: low | |

Access Conditions:

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

| Bytes | Description | M/O | Length |
|---|---|---|---|
| 1 – X | TLV object(s) containing GPRS operator preferences information | M | |

- EF$_{OperPrefs}$ Cell Information tags

| **Tag Value** | **Tag Description** |
|---|---|
| 'Ax' | GPRS operator preferences Tag |
| '80' | GPRS Class A Attachment preferences in Home PLMN tag |
| '81' | GPRS Class A Detachment preferences in Home PLMN tag |
| '82' | GPRS Class A Attachment preferences in Roaming PLMN tag |
| '83' | GPRS Class A Detachment preferences in Roaming PLMN tag |

After the constructed 'Ax' Tag object the TLVs thereafter define preferences for the terminal settings for a particular Class of terminal. These preferences cannot be repeated i.e. the tag value cannot be repeated.

- GPRS Attachment Preferences for Class A in home PLMN TLV

Contents

This TLV defines the Operators Class A terminal GPRS Attachment Preferences when in the Home PLMN.

Coding

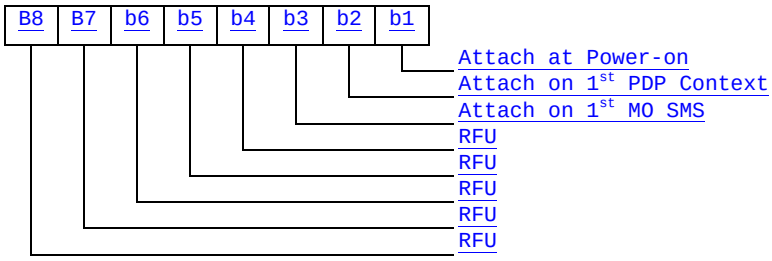
| **Description** | **M/O** | **Length** |
|---|---|---|
| GPRS Class A Attachment Preferences in Home PLMN Tag | M | 1 |
| Length | M | 1 |
| Class A Attachment Terminal Preferences | M | 1 |

- Class A Attachment Terminal Preferences

Contents

The operators GPRS Attachment Preferences in home PLMN for GPRS Class A terminal operation

Coding




- bit = 1: rule selected;
- bit = 0: rule not selected.

If bits b1 to b8 are not selected then this specifically means that the ME attachment rules take preference.

- GPRS Class A terminal Detachment Preferences in home PLMN TLV

Contents

This TLV details the Operator Preferences for GPRS detachment when in the Home PLMN

Coding

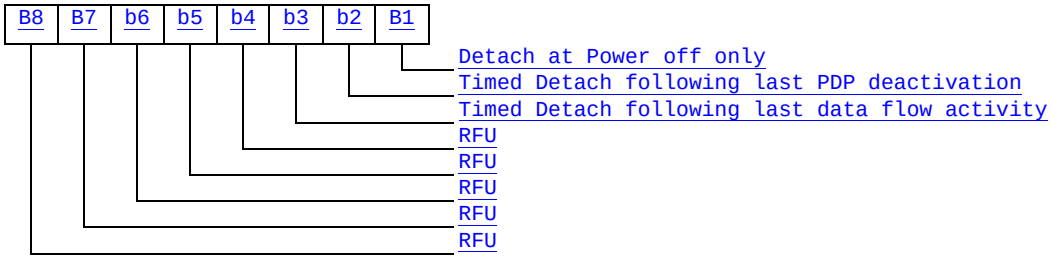
| **Description** | **M/O** | **Length** |
|---|---|---|
| GPRS Detachment Class A Preferences in home PLMN Tag | M | 1 |
| Length | M | 1 |
| Terminal Detachment Preferences | M | 1 |
| Detachment Timer Value | M | 2 |

-Terminal Detachment Preferences

Contents

The operators GPRS Detachment Preferences in home PLMN for GPRS Class A terminal operation

Coding




- bit = 1: activation rule selected;
- bit = 0: activation rule not selected.

If bit b1 is selected then bits b2 to b8 are ignored.

If bit b2 is selected bit b3 is ignored.

If bit b3 is selected bit b2 is ignored.

If bits b1 to b8 are not selected then this specifically means that the ME detachment rules take preference.

- Detachment Timer Value

Contents

The timer value for the Operator Preferences for timed GPRS detachment for Class A operation in home PLMN for use when bit b2 or b3 is set.

Coding

Value in minutes coded on two bytes: 0 to 65535 ('FFFF')

Value of '0000' means timer expires immediately.

Value of 'FFFF' means timer never expires.

- GPRS Class A Terminal Attachment Preferences in Roaming PLMN TLV

Contents

This TLV details the Operator Preferences for GPRS Attachment when in the Roaming PLMN

Coding

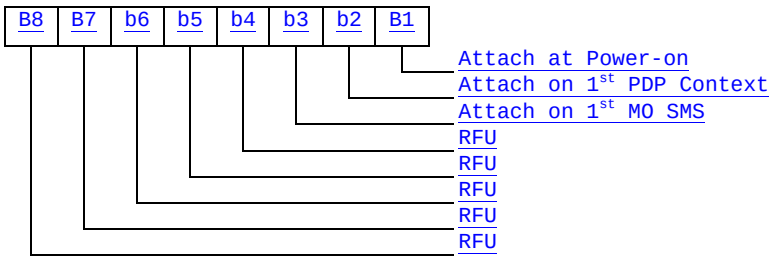
| **Description** | **M/O** | **Length** |
|---|---|---|
| GPRS Class A Attachment Preferences in Roaming PLMN Tag | M | 1 |
| Length | M | 1 |
| Class A Attachment Terminal Preferences | M | 1 |

- Class A Attachment Terminal Preferences

Contents

The operators GPRS Attachment Preferences in Roaming PLMN for GPRS Class A terminal operation

Coding




- bit = 1: rule selected;
- bit = 0: rule not selected.

If bits b1 to b8 are not selected then this specifically means that the ME attachment rules take preference.

- GPRS Class A Terminal Detachment Preferences in Roaming PLMN TLV

Contents

This TLV details the Operator Preferences for GPRS detachment when in the Roaming PLMN

Coding

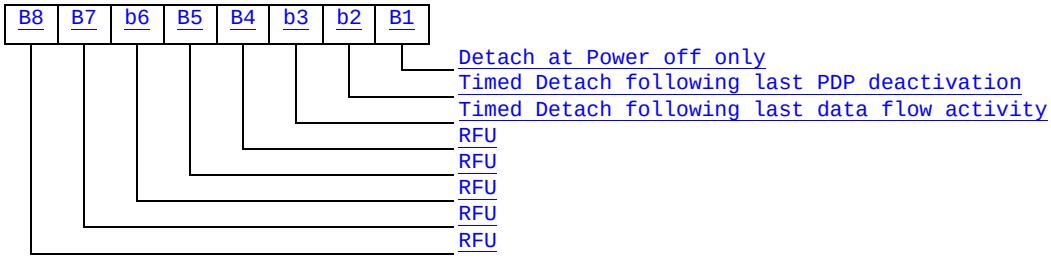
| Description | M/O | Length |
|---|---|---|
| GPRS Detachment Class A Preferences in Roaming PLMN Tag | M | 1 |
| Length | M | 1 |
| Terminal Detachment Preferences | M | 1 |
| Detachment Timer Value | M | 2 |

- Terminal Detachment Preferences

Contents

The operators GPRS Detachment Preferences in home PLMN for GPRS Class A terminal operation

Coding




- bit = 1: activation rule selected;
- bit = 0: activation rule not selected.

If bit b1 is selected then bits b2 to b8 are ignored.

If bit b2 is selected bit b3 is ignored.

If bit b3 is selected bit b2 is ignored.

If bits b1 to b8 are not selected then this specifically means that the ME detachment rules take preference.

- Detachment Timer Value

Contents

The timer value for the Operator preferences for timed GPRS detachment for Class A terminal operation in Roaming PLMN for use when either bit b2 or b3 is set.

Coding

Value in minutes coded on two bytes: 0 to 65535 (‘FFFF’)

Value of ‘0000’ means timer expires immediately.

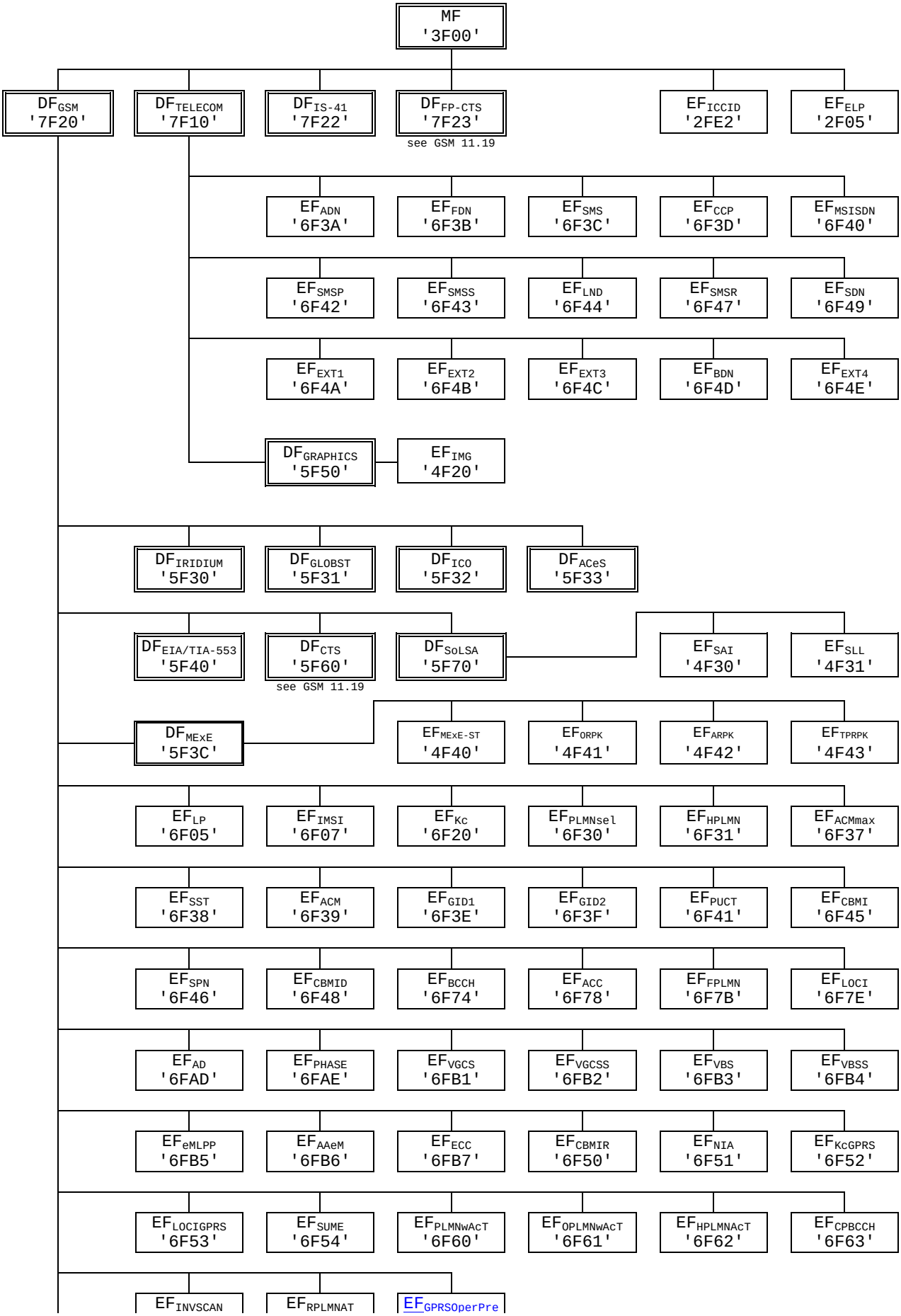
Value of ‘FFFF’ means timer never expires.

## 10.7 Files of GSM

This subclause contains a figure depicting the file structure of the SIM. $DF_{GSM}$ shall be selected using the identifier '7F20'. If selection by this means fails, then DCS 1800 MEs shall, and optionally GSM MEs may then select $DF_{GSM}$ with '7F21'.

NOTE 1: The selection of the GSM application using the identifier '7F21', if selection by means of the identifier '7F20' fails, is to ensure backwards compatibility with those Phase 1 SIMs which only support the DCS 1800 application using the Phase 1 directory $DF_{DCS1800}$ coded '7F21'.

NOTE 2: To ensure backwards compatibility with those Phase 1 DCS 1800 MEs which have no means to select $DF_{GSM}$ two options have been specified. These options are given in GSM 09.91 [17].


MF '3F00'
DF_GSM '7F20'
DF_TELECOM '7F10'
DF_IS-41 '7F22'
DF_FP-CTS '7F23'
see GSM 11.19
EF_ICCID '2FE2'
EF_ELP '2F05'
EF_ADN '6F3A'
EF_FDN '6F3B'
EF_SMS '6F3C'
EF_CCP '6F3D'
EF_MSISDN '6F40'
EF_SMSP '6F42'
EF_SMSS '6F43'
EF_LND '6F44'
EF_SMSR '6F47'
EF_SDN '6F49'
EF_EXT1 '6F4A'
EF_EXT2 '6F4B'
EF_EXT3 '6F4C'
EF_BDN '6F4D'
EF_EXT4 '6F4E'
DF_GRAPHICS '5F50'
EF_IMG '4F20'
DF_IRIDIUM '5F30'
DF_GLOBST '5F31'
DF_ICO '5F32'
DF_ACeS '5F33'
DF_EIA/TIA-553 '5F40'
DF_CTS '5F60'
see GSM 11.19
DF_SoLSA '5F70'
EF_SAI '4F30'
EF_SLL '4F31'
DF_MExE '5F3C'
EF_MExE-ST '4F40'
EF_ORPK '4F41'
EF_ARPK '4F42'
EF_TPRPK '4F43'
EF_LP '6F05'
EF_IMSI '6F07'
EF_Kc '6F20'
EF_PLMNsel '6F30'
EF_HPLMN '6F31'
EF_ACMmax '6F37'
EF_SST '6F38'
EF_ACM '6F39'
EF_GID1 '6F3E'
EF_GID2 '6F3F'
EF_PUCT '6F41'
EF_CBMI '6F45'
EF_SPN '6F46'
EF_CBMID '6F48'
EF_BCCH '6F74'
EF_ACC '6F78'
EF_FPLMN '6F7B'
EF_LOCI '6F7E'
EF_AD '6FAD'
EF_PHASE '6FAE'
EF_VGCS '6FB1'
EF_VGCSS '6FB2'
EF_VBS '6FB3'
EF_VBSS '6FB4'
EF_eMLPP '6FB5'
EF_AAeM '6FB6'
EF_ECC '6FB7'
EF_CBMIR '6F50'
EF_NIA '6F51'
EF_KcGPRS '6F52'
EF_LOCIGPRS '6F53'
EF_SUME '6F54'
EF_PLMNwAcT '6F60'
EF_OPLMNwAcT '6F61'
EF_HPLMNAcT '6F62'
EF_CPBCCH '6F63'
EF_INVSCAN
EF_RPLMNAT
EF_GPRSOperPre

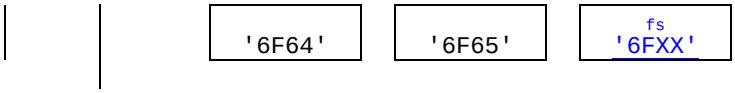



**Figure 8: File identifiers and directory structures of GSM**

## 11.5.xx

Requirement: Service n$^{o}$ XX Present

Request: The ME performs the reading procedure with $EF_{GPRSOperPref}$.

# Annex D (informative):
# Suggested contents of the EFs at pre-personalization

If EFs have an unassigned value, it may not be clear from the main text what this value should be. This annex suggests values in these cases.

| File Identification | Description | Value |
|---|---|---|
| '2FE2' | ICC identification | operator dependant (see 10.1.1) |
| '2F05' | Extended Language preference | 'FF…FF' |
| '6F05' | Language preference | 'FF' |
| '6F07' | IMSI | operator dependant (see 10.3.2) |
| '6F20' | Ciphering key Kc | 'FF...FF07' |
| '6F30' | PLMN selector | 'FF...FF' |
| '6F31' | HPLMN search period | 'FF' |
| '6F37' | ACM maximum value | '000000' (see note 1) |
| '6F38' | SIM service table | operator dependant (see 10.3.7) |
| '6F39' | Accumulated call meter | '000000' |
| '6F3E' | Group identifier level 1 | operator dependant |
| '6F3F' | Group identifier level 2 | operator dependant |
| '6F41' | PUCT | 'FFFFFF0000' |
| '6F45' | CBMI | 'FF...FF' |
| '6F46' | Service provider name | 'FF...FF' |
| '6F48' | CBMID | 'FF...FF' |
| '6F49' | Service Dialling Numbers | 'FF...FF' |
| '6F74' | BCCH information | 'FF...FF' |
| '6F78' | Access control class | operator dependant (see 10.1.12) |
| '6F7B' | Forbidden PLMNs | 'FF...FF' |
| '6F7E | Location information | 'FFFFFFFF xxxxxx 0000 FF 01' (see note 2) |
| '6FAD' | Administrative data | operator dependant (see 10.3.15) |
| '6FAE' | Phase identification | see 10.3.16 |
| '6F3A' | Abbreviated dialling numbers | 'FF...FF' |
| '6F3B' | Fixed dialling numbers | 'FF...FF' |
| '6F3C' | Short messages | '00FF...FF' |
| '6F3D' | Capability configuration parameters | 'FF...FF' |
| '6F40' | MSISDN storage | 'FF...FF' |
| '6F42' | SMS parameters | 'FF...FF' |
| '6F43' | SMS status | 'FF...FF' |
| '6F44' | Last number dialled | 'FF...FF' |
| '6F47' | Short message status reports | '00FF…FF' |
| '6F4A' | Extension 1 | 'FF...FF' |
| '6F4B' | Extension 2 | 'FF...FF' |
| '6F4C' | Extension 3 | 'FF...FF' |
| '6F4D' | Barred dialling numbers | 'FF...FF' |
| '6F4E' | Extension 4 | 'FF...FF' |
| '6F4F' | Extended capability configuration parameters | 'FF...FF' |
| '6F51' | Network's indication of alerting | 'FF...FF' |
| '6F52' | GPRS Ciphering key KcGPRS | 'FF...FF07' |
| '6F53' | GPRS Location Information | 'FFFFFFFF FFFFFF xxxxxx 0000 FF 01' |
| '6F54' | SetUpMenu Elements | operator dependant (see 10.3.34) |
| '6F58' | Comparison method information | 'FF…FF' |
| '6F60' | User controlled PLMN Selector with Access Technology | 'FFFFFF0000..FFFFFF0000' |
| '6F61' | Operator controlled PLMN Selector with Access Technology | 'FFFFFF0000..FFFFFF0000' |
| '6F62' | HPLMN Selector with Access Technology | 'FFFFFF0000..FFFFFF0000' |
| '6F63' | CPBCCH information | 'FF..FF' |
| '6F64' | Investigation Scan | '00' |
| '6F65' | RPLMN last used Access Technology | '0000' |
| '4F20' | Image data | '00FF...FF' |
| '4F30' | SoLSA Access Indicator) | '00FF...FF' |
| '4F31' | SoLSA LSA List | 'FF...FF' |
| '6Fxx' | GPRS Operator Preferences | Operator dependant |

NOTE 1: The value '000000' means that ACMmax is not valid, i.e. there is no restriction on the ACM. When assigning a value to ACMmax, care should be taken not to use values too close to the maximum possible value 'FFFFFF', because the INCREASE command does not update $EF_{ACM}$ if the units to be added would exceed 'FFFFFF'. This could affect the call termination procedure of the Advice of Charge function.

NOTE 2: xxxxxx stands for any valid MCC and MNC, coded according to TS 04.08 [15].

# Annex I (informative): EF changes via Data Download or SIM Toolkit applications

This annex defines if changing the content of an EF by the network (e.g. by sending an SMS), or by SIM Toolkit Application (e.g. by using the SIM API), is advisable. Updating of certain EFs, "over the air" such as $EF_{ACC}$ could result in unpredictable behaviour of the MS; 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 |
|---|---|---|
| '2F05' | Extended Language preference | Yes |
| '2FE2' | ICC identification | No |
| '4F20' | Image data | Yes |
| '4Fxx' | Image Instance data Files | Yes |
| '6F05' | Language preference | Yes |
| '6F07' | IMSI | Caution (note) |
| '6F20' | Ciphering key Kc | No |
| '6F2C' | De-personalization Control Keys | Caution |
| '6F30' | PLMN selector | Caution |
| '6F31' | HPLMN search period | Caution |
| '6F32' | Co-operative network | Caution |
| '6F37' | ACM maximum value | Yes |
| '6F38' | SIM service table | Caution |
| '6F39' | Accumulated call meter | Yes |
| '6F3A' | Abbreviated dialling numbers | Yes |
| '6F3B' | Fixed dialling numbers | Yes |
| '6F3C' | Short messages | Yes |
| '6F3D' | Capability configuration parameters | Yes |
| '6F3E' | Group identifier level 1 | Yes |
| '6F3F' | Group identifier level 2 | Yes |
| '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 |
| '6F4A' | Extension 1 | Yes |
| '6F4B' | Extension 2 | Yes |
| '6F4C' | Extension 3 | Yes |
| '6F4D' | Barred dialling numbers | Yes |
| '6F4E' | Extension 4 | Yes |
| '6F50' | CBMIR | Yes |
| '6F51' | Network's indication of alerting | Caution |
| '6F52' | GPRS Ciphering key KcGPRS | No |
| '6F53' | GPRS Location Information | Caution |
| '6F58' | Comparison method information | |
| '6F60' | User controlled PLMN Selector with Access Technology | see 3GPP TS 22.011 |
| '6F61' | Operator controlled PLMN Selector with Access Technology | Caution |
| '6F62' | HPLMN Selector with Access Technology | Caution |
| '6F63' | CPBCCH information | No |
| '6F64' | Investigation scan | Caution |
| '6F65' | RPLMN last used Access Technology | No |
| '6F74' | BCCH information | No |
| '6F78' | Access control class | Caution |
| '6F7B' | Forbidden PLMNs | Caution |
| '6F7E' | Location information | No (note) |
| '6FAD' | Administrative data | Caution |
| '6FAE' | Phase identification | Caution |

**Continued.....**

| File identification | Description | Change advised |
|---|---|---|
| '6FB1' | Voice Group Call Service | Yes |
| '6FB2' | Voice Group Call Service Status | Yes |
| '6FB3' | Voice Broadcast Service | Yes |
| '6FB4' | Voice Broadcast Service Status | Yes |
| '6FB5' | Enhanced Multi Level Pre-emption and Priority | Yes |
| '6FB6' | Automatic Answer for eMLPP Service | Yes |
| '6FB7' | Emergency Call Codes | Caution |
| '6Fxx' | GPRS Operator Preferences | Caution |
| NOTE: If $EF_{IMSI}$ is changed, the SIM should issue REFRESH as defined in TS 11.14 [27] and update $EF_{LOCI}$ accordingly. | | |

# Annex X (informative): Tags defined in 51.011

| Tag | Name of Data Element | Usage |
|---|---|---|
| 'A0' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'A1' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'A2' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'A8' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'A9' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'AA' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'DB' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'DC' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'DD' | Reserved for 3G 31.102 [52] | Reserved for 3G 31.102 [52] |
| 'AX' | GPRS Operator Preferences:<br>The following are encapsulated under 'AX':<br>'80' GPRS Class A Attachment Preferences in Home PLMN data object<br>'81' GPRS Class A Detachment Preferences in Home PLMN data object<br>'82' GPRS Class A Attachment Preferences in Roaming PLMN data object<br>'83' GPRS Class A Detachment Preferences in Roaming PLMN data object | |