

CR-Form-v3

CHANGE REQUEST

⌘ **31.102 CR 078** ⌘ rev **-** ⌘ Current version: **3.4.0** ⌘

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 ME/UE Radio Access Network Core Network

Title:	⌘ Correction of Tag values		
Source:	⌘ Nokia / NTT DoCoMo		
Work item code:	⌘ TEI	Date:	⌘ 14.3.2001
Category:	⌘ F	Release:	⌘ R99
Use <u>one</u> 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 <u>one</u> 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 TAG values for the phone book are defined incorrectly. The current tag values indicate a TLV of simple class although the TLV objects specified are constructed TLVs. The TAG values defined according to ASN.1 BER-TLV rules.
Summary of change:	⌘ Replace the first nibble in the tag value in the phone book tag definition with 'A'.
Consequences if not approved:	⌘ Current tag definition is not in accordance with the ASN.1 BER-TLV rules. A special tag interpreter is required in the ME for this case.

Clauses affected:	⌘ 2, 3.3, 4.4.2.1, 4.4.2.2, 5.3.1.1, Annex D, Annex G		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> 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://www.3gpp.org/specs/>. For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 21.111: "USIM and IC Card Requirements".
- [2] 3GPP TS 22.011: "Service accessibility".
- [3] 3GPP TS 22.024: "Description of Charge Advice Information (CAI)".
- [4] 3GPP TS 22.030: "Man-Machine Interface (MMI) of the Mobile Station (MS)".
- [5] 3GPP TS 23.038: "Alphabets and language".
- [6] 3GPP TS 23.040: "Technical realization of the Short Message Service (SMS) Point-to-Point (PP)".
- [7] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [8] 3GPP TS 22.067: "Enhanced Multi Level Precedence and Pre-emption service (eMLPP) - Stage 1".
- [9] 3GPP TS 24.008: "Mobile Radio Interface Layer 3 specification".
- [10] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".
- [11] 3GPP TS 31.101: "UICC-Terminal Interface, Physical and Logical Characteristics".
- [12] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".
- [13] 3GPP TS 33.102: "3G Security Architecture".
- [14] 3GPP TS 33.103: "3G Security; Integration Guidelines".
- [15] 3GPP TS 22.086: "Advice of charge (AoC) Supplementary Services - Stage 1".
- [16] 3GPP TS 23.041: "Technical realization of Short Message Service Cell Broadcast (SMSCB)".
- [17] 3GPP TS 02.07: "Mobile Stations (MS) features".
- [18] 3GPP TS 11.11: "Specification of the Subscriber Identity Module – Mobile Equipment (SIM – ME) interface".
- [19] ISO 639 (1988): "Code for the representation of names of languages".
- [20] ISO/IEC 7816-4 (1995): "Identification cards - Integrated circuit(s) cards with contacts, Part 4: Interindustry commands for interchange".
- [21] ISO/IEC 7816-5 (1994): "Identification cards - Integrated circuit(s) cards with contacts, Part 5: Numbering system and registration procedure for application identifiers".
- [22] ITU-T Recommendation E.164: "Numbering plan for the ISDN era".

- [23] ITU-T Recommendation T.50: "International Alphabet No. 5". (ISO 646 (1983): "Information processing - ISO 7-bits coded characters set for information interchange").
 - [24] 3GPP TS 22.101: "Service aspects; service principles".
 - [25] 3GPP TS 23.003: "Numbering, Addressing and Identification".
 - [26] ISO/IEC FCD 7816-9 (1999): "Identification cards - Integrated circuit(s) cards with contacts, Part 9: Additional Interindustry commands and security attributes".
 - [27] 3GPP TS 22.022: "Personalisation of GSM Mobile Equipment (ME); Mobile functionality specification".
 - [28] 3GPP TS 04.18 "Mobile Interface Layer3 Specification, Radio Resource control protocol"
 - [29] 3GPP TS 23.022: "Functions related to Mobile Station (MS) in idle mode and group receive mode".
 - [30] 3GPP TS 23.057: "Mobile Station Application Execution Environment (MExE);Functional description; Stage 2".
 - [31] 3GPP TS 23.122: "NAS Functions related to Mobile Station (MS) in idle mode"
 - [32] ISO/IEC 7816-6 (1996): "Identification cards -- Integrated circuit(s) cards with contacts -- Part 6: Interindustry data elements".
 - [33] 3GPP TS 25.101: "UE Radio Transmission and Reception (FDD)"
- [xx] [ISO/IEC 8825\(1990\): "Specification of Basic Encoding Rules for Abstract Syntax Notation One" Second Edition.](#)

3.3 Abbreviations

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

3GPP	3 rd 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
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

4.4.2.1 EF_{PBR} (Phone Book Reference file)

This file describes the structure of the phonebook. All EFs representing the phonebook are specified here, together with their file identifiers (FID) and their short file identifiers (SFI), if applicable.

Some types of EFs can occur more than once in the phonebook, e.g. there may be two entities of Abbreviated Dialling Numbers, EF_{ADN} and EF_{ADN1}. For these kinds of EFs, no fixed FID values are specified. Instead, the value '4FXX' indicates that the value is to be assigned by the card issuer. These assigned values are then indicated in the associated TLV object in EF_{PBR}.

EFs stating an SFI value ('XX') in the description of their structure shall provide an SFI. The value shall be assigned by the card issuer and is indicated in the associated TLV object in EF_{PBR}.

The reference file is a file that contains information how the information in the different files is to be combined together to form a phone book entry. The reference file contains records. Each record specifies the structure of up to 254 entries in the phone book. Each phone book entry consists of data stored in files indicated in the reference file record. The entry structure shall be the same over all the records in the EF_{PBR}. If more than 254 entries are to be stored, a second record is needed in the reference file. The structure of a phone book entry is defined by different TLV objects that are stored in a reference file record. The reference file record structure describes the way a record in a file that is part of the phonebook is used to create a complete entry. Three different types of file linking exist.

- Type 1 files: Files that contain as many records as the reference/master file (EF_{ADN}, EF_{ADN1}) and are linked on record number bases (Rec1 -> Rec1). The master file record number is the reference.
- Type 2 files: Files that contain less entries than the master file and are linked via pointers in the index administration file (EF_{IAP}).
- Type 3 files are files that are linked by a ~~TLV object~~ record identifier within a record.

Table 4.1: Phone Book Reference file Constructed Tags

Tag Value	Constructed TAG Description
'D8'A8'	Indicating files where the amount of records equal to master EF, type 1
'D9'A9'	Indicating files that are linked using the index administration file, type 2. Order of pointer appearance in index administration EF is the same as the order of file IDs following this tag
'DA'AA'	Indicating files that are addressed inside a TLV object, type 3. (The file pointed to is defined by the TLV object.)

The first file ID indicated using constructed Tag 'A8' is called the master EF. Access conditions for all other files in the index structure is set to the same as for the master EF unless otherwise specified.

File IDs indicated using constructed Tag 'A8' is a type 1 file and contains the same number of records as the first file that is indicated in the data part of this TLV object. All files following this Tag are mapped one to one using the record numbers/IDs of the first file indicated in this TLV object.

File IDs indicated using constructed Tag 'A9' are mapped to the master EF (the file ID indicated as the first data object in the TLV object using Tag 'A8') using the pointers in the index administration file. The order of the pointers in the index administration file is the same as the order of the file IDs presented after Tag 'A9'. If this Tag is not present in the reference file record the index administration file is not present in the structure. In case the index administration file is not present in the structure it is not indicated in the data following tag 'A8'.

File IDs indicated using constructed Tag 'AA' indicate files that are part of the reference structure but they are addressed using TLV objects in one or more of the files that are part of the reference structure. The length of the tag indicates whether the file to be addressed resides in the same directory or if a path to the file is provided in the TLV object.

4.4.2.2 EF_{IAP} (Index Administration Phone book)

This file is present if Tag 'D9' 'A9' is indicated in the reference file.

The EF contains pointers to the different records in the files that are part of the phone book. The index administration file record number/ID is mapped one to one with the corresponding EF_{ADN} (shall be record to record). The index administration file contains the same amount of records as EF_{ADN}. The order of the pointers in an EF_{IAP} shall be the same as the order of file IDs that appear in the TLV object indicated by Tag 'D9' 'A9' in the reference file record. The amount of bytes in a record is equal to the number of files indicated the EF_{PBR} following tag 'D9' 'A9'.

The value 'FF' is an invalid record number/ID and is used in any location in to indicate that no corresponding record in the indicated file is available.

The content of EF_{IAP} is set to 'FF' at the personalisation stage.

Index administration file EF_{IAP} structure

Identifier: '4FXX'		Structure: linear fixed		Conditional (see Note)	
SFI: 'XX'					
Record Length: X bytes			Update activity: high		
Access Conditions:					
READ		PIN			
UPDATE		PIN			
DEACTIVATE		ADM			
ACTIVATE		ADM			
Bytes	Description	M/O	Length		
1	Record number of the first object indicated after Tag 'D9'	M	1 byte		
2	Record number of the second object indicated after Tag 'D9'	M	1 byte		
X	Record number of the x th object indicated after Tag 'D9'	M	1 byte		
NOTE: This file is mandatory if and only if type 2 files are present.					

5.3 Subscription related procedures

5.3.1 Phone book procedures

5.3.1.1 Initialisation

The ME first reads the content of EF_{PBR} to determine the configuration phonebook. If the EF_{IAP} file is indicated in EF_{PBR} following tag '~~A~~8' the ME reads the content of EF_{IAP} in order to establish the relation ship between the content in the files indicated using tag '~~A~~9' and files indicated by tag '~~A~~8'. The ME may read the contents of the phone book related files in any order.

Annex D (informative): Tags defined in 31.102

Tag	Name of Data Element	Usage
'A0'	GSM cell information The following tags are encapsulated within under 'A0': '80' GSM Camping Frequency data object '81' GSM Neighbour Frequency Information data object	Network Parameters (EF _{NETPAR})
'A1'	FDD cell information The following tags are encapsulated within under 'A1': '80' FDD Intra Frequency data object '81' FDD Inter Frequency Information data object	Network Parameters (EF _{NETPAR})
'A2'	TDD cell information The following tags are encapsulated under within 'A2': '80' TDD Intra Frequency data object '81' TDD Inter Frequency Information data object	Network Parameters (EF _{NETPAR})
'D8 A8	Indicator for type 1 EFs (amount of records equal to master EF) The following tags are encapsulated within 'A8': 'C0' EF_{ADN} data object 'C1' EF_{IAP} data object 'C3' EF_{SNE} data object 'C4' EF_{ANR} data object 'C5' EF_{PBC} data object 'C6' EF_{GRP} data object 'C9' EF_{UID} data object 'CA' EF_{EMAIL} data object	Phone Book Reference File (EF _{PBR})
'D9 A9	Indicator for type 2 EFs (EFs linked via the index administration file) The following tags are encapsulated within 'A9': 'C3' EF_{SNE} data object 'C4' EF_{ANR} data object 'CA' EF_{EMAIL} data object	Phone Book Reference File (EF _{PBR})
'DA AA	Indicator for type 3 EFs (EFs addressed inside an object using a record identifier as a pointer TLV-object) The following tags are encapsulated under within ' XZ 'AA': 'C0' EF_{ADN} data object 'C1' EF_{IAP} data object 'C2' EF _{EXT1} data object 'C3' EF_{SNE} data object 'C4' EF_{ANR} data object 'C5' EF_{PBC} data object 'C6' EF_{GRP} data object 'C7' EF _{AAS} data object 'C8' EF _{GAS} data object 'C9' EF_{UID} data object 'CA' EF_{EMAIL} data object '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})

[For ASN.1 tag assignment rules see ISO/IEC 8825 \[xx\]](#)

Annex G (informative): Phonebook Example

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

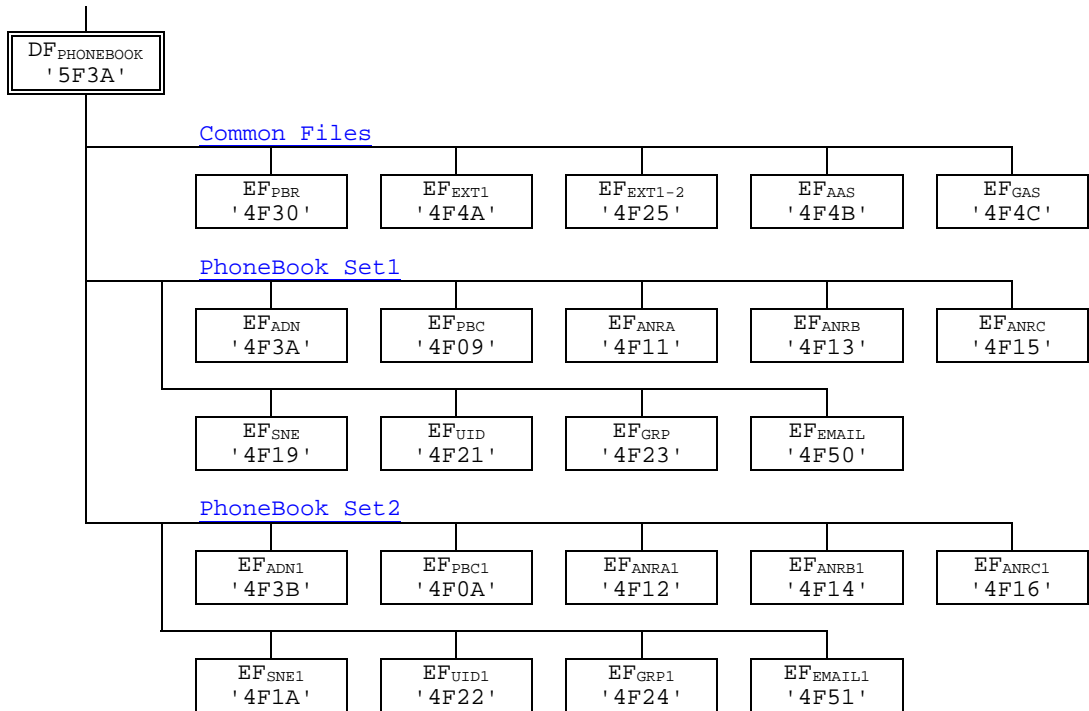


Table G.2: Contents of EF_{PBR}

Rec 1 Tag'D8' L='26'
Tag'A8'

[for PhoneBook Set1](#)

Tag'C0' L='03' '4F3A' '01' Tag'C5' L='03' '4F09' '02' Tag'C6' L='02' '4F23' Tag'C4' L='02' '4F11'

Tag'C4' L='02' '4F13' Tag'C4' L='02' '4F15' Tag'C3' L='02' '4F19' Tag'C9' L='02' '4F21'

Tag'CA' L='02' '4F50'

Tag'DA' L='0C'
Tag'AA'

Tag'C2' L='02' '4F4A' Tag'C7' L='02' '4F4B' Tag'C8' L='02' '4F4C' :FF'

Rec 2

Tag'D8'	L='24'
Tag'A8'	

[for PhoneBook Set2](#)

Tag'C0'	L='02'	'4F3B'	Tag'C5'	L='02'	'4F0A'	Tag'C6'	L='02'	'4F24'	Tag'C4'	L='02'	'4F12'
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Tag'C4'	L='02'	'4F14'	Tag'C4'	L='02'	'4F16'	Tag'C3'	L='02'	'4F1A'	Tag'C9'	L='02'	'4F22'
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Tag'CA'	L='02'	'4F51'
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Tag'DA'	L='0C'
Tag'AA'	

Tag'C2'	L='02'	'4F25'	Tag'C7'	L='02'	'4F4B'	Tag'C8'	L='02'	'4F4C'	'FF'	'FE'
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