

Source: T3

Title: Change Request to SIM/USIM internal and external interworking
specification (TS 31.900)

Document for: Approval

This document contains several change requests as follows:

T3 Doc	Spec	CR	Rel	Cat	Subject
T3-020090	31.900	002	99	F	Correction to SIM/USIM file mapping table
T3-020146	31.900	003r1	99	D	CHV mapping
T3-020136	31.900	004	5	D	CHV mapping

CHANGE REQUEST

⌘ **31900 CR 002** ⌘ rev **-** ⌘ Current version: **3.1.0** ⌘

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

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

Title:	⌘ Correction to SIM/USIM file mapping table		
Source:	⌘ T3		
Work item code:	⌘ UICC1	Date:	⌘ 23/01/02
Category:	⌘ F	Release:	⌘ R99
	<i>Use one of the following categories:</i> 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.		<i>Use one of the following releases:</i> 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 ECC file is not shareable between the SIM and the USIM. BCCH under DF(GSM access) does not exist anymore
Summary of change:	⌘ Remove ECC and GSM access/BCCH files from SIM/USIM mapping table
Consequences if not approved:	⌘ Inconsistency between TR 31900 and TS 31.102/51.011

Clauses affected:	⌘ Annex C		
Other specs Affected:	⌘ <input type="checkbox"/> Other core specifications	⌘ <input type="checkbox"/>	
	<input type="checkbox"/> Test specifications	<input type="checkbox"/>	
	<input type="checkbox"/> O&M Specifications	<input type="checkbox"/>	
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.

Annex C: SIM/USIM file mapping table

The following table lists all SIM and USIM files that can be mapped in a UICC. Files not mentioned do not have a corresponding file in both applications. Mapping with multiple USIMs is not considered.

SIM Application DF / EF	USIM Application DF / EF	Mapping possible	
		single subscription UICC	double subscription UICC
GSM / IMSI	USIM / IMSI	yes	no
GSM / HPLMN	USIM / HPLMN	yes	yes, 1)
GSM / ACM	USIM / ACM	yes	yes, 1)
GSM / ACMmax	USIM / ACMmax	yes	yes, 1)
GSM / PUCT	USIM / PUCT	yes	yes, 1)
GSM / GID1	USIM / GID1	yes	yes, 1)
GSM / GID2	USIM / GID2	yes	yes, 1)
GSM / SPN	USIM / SPN	yes	yes, 1)
GSM / CBMI	USIM / CBMI	yes	
GSM / CBMIR	USIM / CBMIR	yes	
GSM / CBMID	USIM / CBMID	yes	yes, 1)
GSM / ACC	USIM / ACC	yes	no
GSM / FPLMN	USIM / FPLMN	yes	yes, 1)
GSM / LOCI	USIM / LOCI	yes	
GSM / LOCIGPRS	USIM / PSLOCI	yes	
GSM / AD	USIM / AD	yes	
GSM / ECC	USIM / ECC	yes	
GSM / eMLPP	USIM / eMLPP	yes	yes, 1)
GSM / AAeM	USIM / AAeM	yes	yes, 1)
GSM / DCK	USIM / DCK	yes	yes, 1)
GSM / CNL	USIM / CNL	yes	yes, 1)
GSM / PLMNwACT	USIM / PLMNwACT	yes	
GSM / OPLMNwACT	USIM / OPLMNwACT	yes	yes, 1)
GSM / HPLMNwACT	USIM / HPLMNwACT	yes, 3)	
GSM / RPLMNACT	USIM / RPLMNACT	no	
GSM / SUME	TELECOM / SUME	yes	
GSM / Kc	USIM / GSM / Kc	yes	no
GSM / KcGPRS	USIM / GSM / KcGPRS	yes	no
GSM / BCCH	USIM / GSM / BCCH	yes	
GSM / CPBCCH	USIM / GSM / CPBCCH	yes	
GSM / INVSCAN	USIM / GSM / INVSCAN	yes	yes, 1)
TELECOM / SMS	USIM / SMS	yes	
TELECOM / SMSP	USIM / SMSP	yes	yes, 1)
TELECOM / SMSS	USIM / SMSS	yes	
TELECOM / SMSR	USIM / SMSR	yes	
TELECOM / SDN	USIM / SDN	yes	yes, 1)
TELECOM / FDN	USIM / FDN	yes	
TELECOM / BDN	USIM / BDN	yes	
TELECOM / CMI	USIM / CMI	yes	
TELECOM / MSISDN	USIM / MSISDN	yes	no
TELECOM / EXT2	USIM / EXT2	yes	
TELECOM / EXT3	USIM / EXT3	yes	yes, 1)
TELECOM / EXT4	USIM / EXT4	yes	
TELECOM / ADN	... / PHONEBOOK / ADN	yes, required, 2)	
TELECOM / EXT1	... / PHONEBOOK / EXT1	yes, required, 2)	
TELECOM / ECCP	... / PHONEBOOK / CCP1	yes, required, 2)	
GSM / MEXE / all files	USIM / MEXE / all files	yes	yes, 1)
GSM / SoLSA / all files	USIM / SoLSA / all files	yes	yes, 1)

Note: 1) No mapping, if subscription specific differences are required
2) SIM file to be mapped with related USIM file either in DF PHONEBOOK under DF USIM or in DF PHONEBOOK under DF TELECOM
3) Only if the same settings apply to 2G and 3G operation

7.4 Secret codes

In 3G mode, 8 Application PINs with global key references are available and the UICC also supports up to 8 Local PINs with specific key references. Local PINs can only be used within an ADF. Further, up to 10 administrative PINs can be defined. A replacement PIN, called Universal PIN, may also exist.

In 2G mode, only CHV1 and CHV2 are available. They apply to files in DF-GSM and DF-TELECOM. Additionally, up to 11 administrative PINs can be defined.

Mapping of PINs between 2G and 3G operation modes, so that activation, deactivation or changing of a PIN in one operation mode has the same effect in the other operation mode, follow the following principles:

- **Mapping of CHV1**

CHV1 in the SIM application can be mapped to any USIM application PIN with a global key reference (or to the Universal PIN, [if the UICC is multi-verification capable](#)), but to only one at a time.

[When the UICC is single-verification capable, CHV1 can only be mapped to a USIM application PIN. Then, if the USIM application PIN is disabled, the CHV1 is also disabled and vice versa. See also Annex D.1.](#)

[When the UICC is multi-verification capable, different mappings of CHV1 are possible, depending on the standards release to which the UICC is compliant to:](#)

- [Static mapping: CHV1 is always mapped to a USIM application PIN. If the USIM application PIN is disabled and replaced by the Universal PIN, then also CHV1 is disabled. Thus when using the USIM, the user will have to verify the Universal PIN. When using the SIM, there will be no verification. Therefore, in this case the SIM and the USIM behave differently regarding the PIN/CHV1 verification from the user's point of view. See also Annex D.2.](#)
- [Dynamic mapping: CHV1 is mapped to the USIM application PIN but the mapping can change to the Universal PIN. When the USIM application PIN is enabled, then CHV1 is also enabled. If the USIM application PIN is disabled and not replaced, then CHV1 is disabled. If the USIM application PIN is disabled and replaced by the Universal PIN, then CHV1 is mapped to the Universal PIN, i.e. the mapping changes from the application PIN to its replacement. In this case the behaviour of the SIM and the USIM is exactly the same regarding the PIN/CHV1 verification from the user's point of view. See also Annex D.3.](#)

- **Mapping of CHV2**

CHV2 in the SIM application can be mapped to the corresponding local key reference belonging to the USIM application to which the CHV1 is mapped. In the 2G operation mode, this PIN is considered to be global, in the 3G operation mode, it is seen as a being local. If mapped, then, with respect to the requirement in TS GSM 11.11 [7] for CHV2, this PIN cannot be disabled in either operation mode. The UICC will return an appropriate error condition in that case.

- **Mapping of Local PINs**

A SIM does not support Local PINs, hence there is no correspondence in 2G operation mode. Local PINs cannot be mapped.

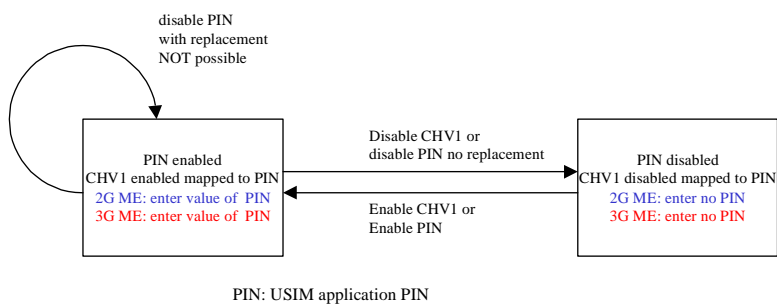
- **Mapping of administrative PINs**

The mapping of administrative PINs between the 2G and 3G operation modes is fully under the discretion of each network operator and card manufacturer.

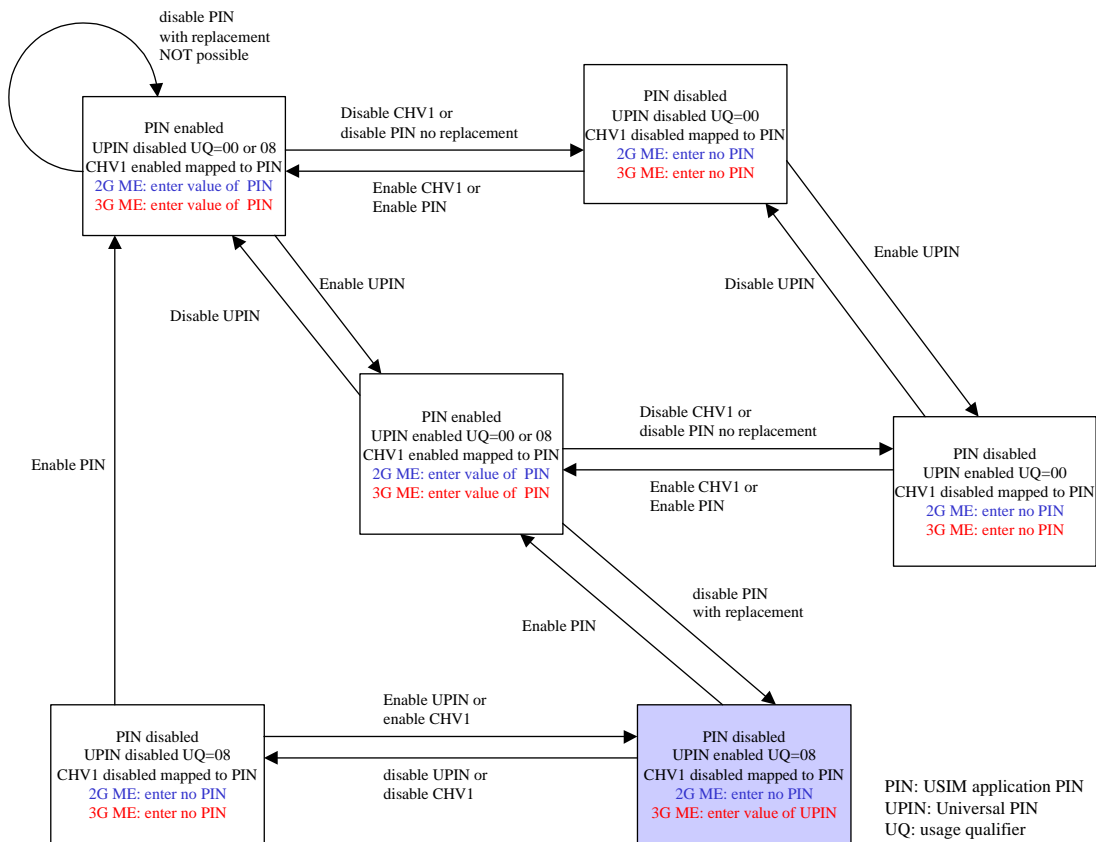
Annex D: CHV mapping

This annex illustrates the possible CHV mappings for a single-verification capable and a multi-verification capable UICC. In the diagrams D.2 and D.3, the gray box highlights the difference between the two solutions.

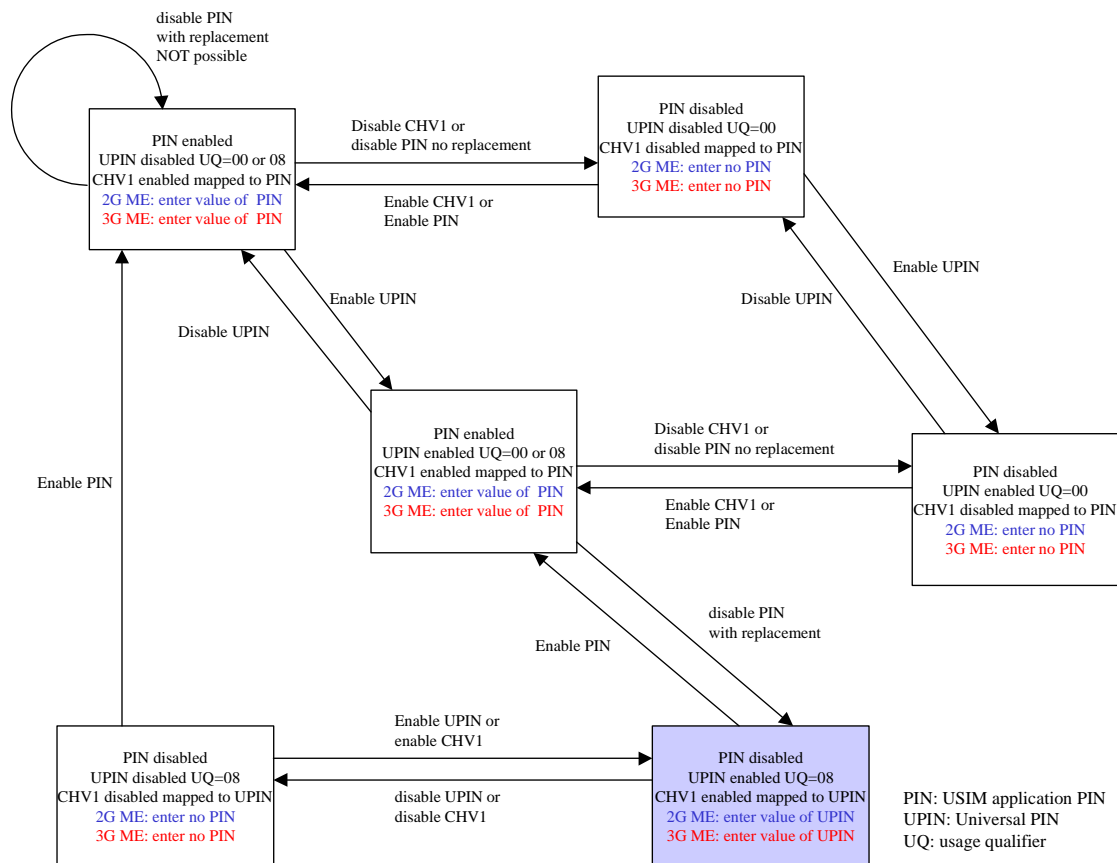
D.1 In a single-verification capable UICC



D.2 In a multi-verification capable UICC (static mapping)



D.3 In a multi-verification capable UICC (dynamic mapping)



Annex **ED**: Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2001-03	TP-11	TP-010045	-	-	Presented for information to TSG-T #11	0.4.1	1.0.0
2001-05	-	-	-	-	Version after T3 AdHoc #37 (Joint with SA3), new section 4.4 inserted, section 6.1, case 5 modified	1.0.0	1.1.0
2001-05	-	-	-	-	Version during T3#19. Minor modifications.	1.1.0	1.1.1
2001-05	-	-	-	-	Version after T3#19 plenary presentation. Editorial modifications.	1.1.1	1.1.2
2001-06	TP-12	TP-010113			Presented to TSG-T #12 for approval	1.1.2	2.0.0
2001-06	TP-12	-			Approved version (includes editorial changes compared to 2.0.0)	2.0.0	3.0.0
2001-09	TP-13	TP-010205	001		Sharing of enabling/disabling procedure between SIM and USIM	3.0.0	3.1.0
2002-01					CHV mapping, Annex E	3.1.0	3.2.0

Introduction

This document describes the different cases of interaction between an Identity Module (GSM-SIM or a 3G-UICC) and a GSM or 3G mobile equipment with a special focus on the diverse situations that can apply in a mixed 2G/3G network environment.

Depending on the technical properties of other involved network elements, particularly during authentication and key agreement, the ICC and the ME may or must support some specific features to allow for compatibility. This is a complex matter and has generated some amount of confusion as the basic conditions implied by the 3G UICC are not always as clearly understood as they should be. The present document gives guidance by summarising the important details and applying them to the (theoretically) possible cases of security interworking along the transmission chain.

The document further tries to explain the options of interworking that exist internally when a SIM and one or more USIM(s) are implemented together on a single UICC.

As this document is a technical report and not a technical specification, none of its contents have the character of a requirement. Merely they should be seen as a clarifying summary and straightforward interpretation of the underlying core specifications.

[The contents of this document are applicable to all 3GPP standard releases from R99 onwards unless otherwise stated.](#)

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.

- [1] 3GPP TS 31.101: "UICC-Terminal Interface; Physical and Logical Characteristics"
- [2] 3GPP TS 31.102: "Characteristics of the USIM Application"
- [3] 3GPP TS 21.111: "USIM and IC Card Requirements"
- [4] 3GPP TS 22.100: "UMTS Phase 1"
- [5] 3GPP TS 22.101: "Service Aspects; Service Principles"
- [6] 3GPP TS 33.102: "3G Security; Security Architecture"
- [7] 3GPP TS 11.11: "Specification of the Subscriber Identity Module - Mobile Equipment Interface"
- [8] [3GPP TS 51.011: "Specification of the Subscriber Identity Module - Mobile Equipment Interface"](#)

4.1 2G and 3G

The abbreviation 2G stands for 2nd generation technology and characterises elements of a mobile communication system which are based on the GSM standard, i.e. 2G technical specifications or their equivalent successors under the 3GPP administration. A 2G entity only comprises the mandatory and optional functionality specified in GSM and does not ensure any forward compatibility with 3G.

The abbreviation 3G stands for 3rd generation technology and characterises elements of a mobile communication system which are based on 3GPP technical specifications. A 3G entity only comprises the mandatory and optional functionality specified in 3G, features for 2G backward compatibility are only included if explicitly required by the relevant 3G specifications.

Some 3G specifications differentiate the functional extent of a mobile network entity between releases 98 and earlier (R98-) and releases 99 and later (R99+). As for example a GSM ME exists in both release categories while a 3G ME is only defined from release 99 onwards, this split does not make sense without mentioning the respective technology. For the purpose of this document it therefore appears more appropriate to differentiate between 2G and 3G only, with the relationship given by

2G = GSM = GSM R98- or GSM R99+

3G = 3G R99+

~~NOTE:— GSM or 3G releases later than R99 are not covered within the present document. 3GPP TSG-T WG3 will produce a follow-up version for R4.~~

4.5 Security related terms

2G AKA is the procedure to provide authentication of an ICC to a serving network domain and to generate the key Kc in accordance to the mechanisms specified in [GSM-TS 03.20](#). In a mixed 2G/3G network environment 2G AKA is performed when - except for the BSS - at least one other element is 2G.

3G AKA is the procedure to provide mutual authentication between an ICC and a serving network domain and to generate the keys CK and IK in accordance to the mechanisms specified in 3G TS 33.102 [6]. For 3G AKA all involved elements - except for the BSS - have to be 3G.

2G Security Context is a state that is established between a user and a serving network domain (i.e. between the ICC and the VLR/SGSN) after the execution of 2G AKA, with ciphering Kc available at either side.

3G Security Context is a state that is established between a user and a serving network domain (i.e. between the ICC and the VLR/SGSN) after the execution of 3G AKA, with ciphering and integrity protection keys CK and IK available at either side. 3G Security Context is still given, if these keys are converted into Kc to work with a 2G BSS.

5 Interworking between the ME and the ICC

The 3G system is designed to be compatible with GSM and several interworking requirements apply. Regarding the ICC/ME interface, two basic requirements can be identified in the 3G standards:

- In 3G TS 22.100 [4], section 10: "The UMTS mobile terminal shall support phase 2 and phase 2+ GSM SIMs as access modules to UMTS networks." In other words: A 3G ME shall support a 2G ICC.
- In 3G TS 22.101 [5], section 11.1.3: "It shall be possible to use the UICC in 2G terminals to provide access to GSM networks. In order to achieve that option, it shall be possible to store a module containing 2G access functionalities on the UICC which shall be accessed via the standard GSM SIM-terminal interface." In other words: The UICC may contain a SIM application.

Note that it is not a requirement that a USIM has to be supported by a 2G ME, with the reason that the USIM comprises new and enhanced security features which obviously cannot be supported by a 2G ME. Instead, in order to allow a 3G UICC to work in a 2G ME, it is feasible to put a GSM application (according to [GSM-TS 11.11 \[71\]](#) / [TS 51.011 \[78\]](#)) onto the UICC in addition to the USIM.

For the ICC/ME interface, with two main types of ME and two main types of ICC, four different scenarios can be identified. They are described in the following sections.

5.1 3G ME and UICC

A 3G ME has to support the UICC. 3G TS 31.101 [1] and 3G TS 31.102 [2] apply.

According to 3G TS 21.111 [3] a 3G ME does not support a 5V ME/UICC interface. This is valid even when it accesses the SIM application on the UICC. According to the same specification, a UICC does always support at least two voltage classes, i.e. a 5V only UICC cannot exist.

In case of a UICC inserted in a 3G ME, nothing but the 3G command set (as defined in 3G TS 31.101 [1] and 3G TS 31.102 [2]) can be used by the ME. In particular, the 2G command RUN GSM ALGORITHM is not available.

To support a 2G/3G dual mode ME in a 2G radio access network, the USIM may provide functions for 2G backward compatibility. Two particular USIM services are defined for such purposes:

1. **Service n° 27: "GSM Access"**. This service is essential when a 2G BSS is involved. The USIM additionally generates the 2G ciphering key Kc required by the 2G air interface. From the security point of view, this behaviour can be characterised as "**3G + Kc mode**" (see below). Further, the USIM supports some additional 2G data storage elements that are necessary for 2G radio access.

2. **Service n° 38:** "GSM Security Context". This service is required when a 2G VLR/SGSN and/or a 2G HLR/AuC is involved. The USIM performs 2G AKA, i.e. it accepts 2G input data and generates 2G output data. From the security point of view, this behaviour can be characterised as "**virtual 2G mode**" (see below).

A 2G VLR/SGSN never goes with a 3G BSS. Hence when a 2G VLR/SGSN is involved, then a 2G BSS is always part of the transmission chain and service n° 27 is additionally required, i.e. services n° 27 and n° 38 have to be available at the same time.

If services n° 27 and n° 38 are not supported by the USIM (which the ME can detect from the USIM Service Table during the USIM activation procedure) network access is impossible in a mixed 2G/3G environment, even if a SIM application is available on the UICC. A 3G ME only accesses the USIM application on the UICC.

From the security point of view, the compatibility services are connected to up to three different operation modes (see also Annex B):

- **Normal 3G mode:** The results of the 3G algorithm are sent to the ME without any change. The USIM receives RAND and AUTN and responds with RES, CK and IK. This mode applies if service n° 27 is not available.
- **3G + Kc mode:** The 2G ciphering key Kc (derived from CK, IK) is additionally included in the response. The USIM receives RAND and AUTN and responds with RES, CK, IK and Kc. This requires conversion function c3 to be supported by the USIM. If service n° 27 is available in the USIM, this mode is always active and the ME picks the relevant values from the USIM response according to the present network situation.
- **Virtual 2G mode:** The USIM receives a 2G authentication request with RAND and returns a 2G authentication response with SRES (derived from RES) and ciphering key Kc (derived from CK, IK). This requires a particular algorithm execution mode plus conversion functions c2 and c3 to be supported by the USIM. If service n° 38 is available in the USIM, this mode is not always active. The ME may switch the USIM from normal 3G mode or 3G + Kc mode to virtual 2G mode by sending a particular command parameter according to the present network situation.

The services n° 27 and n° 38 are both optional. Network operators can decide whether to include them into their USIMs and hence to allow network access with lower security level.

5.2 2G ME and UICC

As a 2G ME is not required to support a USIM, however this is not excluded by the standard. If it does not support a USIM this combination will only work if a SIM application is provided by the UICC. [GSM-TS 11.11 \[7\] / TS 51.011 \[78\]](#) applies.

5.3 3G ME and SIM

A 3G ME supports a 2G SIM. For this purpose it has to provide 2G SIM interface in addition to the 3G UICC interface. Access is possible to both 3G and 2G networks. The services that can be provided in this case may be limited to GSM like services. It is up to the 3G network operator to accept or reject the use of GSM SIMs as access modules to his network. [GSM-TS 11.11 \[7\] / TS 51.011 \[78\]](#) applies.

According to 3G TS 21.111 [3] and TS 22.100 [4] a 3G ME does not support a 5V ME/UICC or a 5V ME/SIM interface. This means that a 3G ME is not compatible with 5V only SIMs.

5.4 2G ME and SIM

This is the well-known 2G case. [GSM-TS 11.11 \[7\] / TS 51.011 \[78\]](#) applies. Access to 3G networks is not possible with this combination.

7.2 File mapping

When comparing the file structure of a SIM in ~~GSM~~ TS 11.11 [71] / TS 51.011 [78] with that of a USIM in 3G TS 31.102 [2] it strikes that many not only have the same name and file identifier (although under different DFs) but are entirely equal by size and content parameters. This generally allows for memory efficient implementation of a SIM together with a USIM as these files can be shared by both applications, i.e. necessary storage capacity is only required once. Further, shared files speed up the pre-personalization process as they save valuable programming time.

Therefore files should be mapped as far as possible, i.e. in all cases where basic properties are equal and identical contents do not conflict with the access by either a 2G or a 3G ME or with intended subscription differences when separate IMSIs are used (cases 1 or 2 in section 7.1). Mapping is not possible, when the content is clearly subscription dependent like in case of IMSI, Kc, KcGPRS or MSISDN in a double subscription UICC.

Annex C gives an overview on the SIM and USIM files that potentially can be mapped. A case by case decision should be conducted by the network operator / card manufacturer for each UICC implementation.

7.4 Secret codes

In 3G mode, 8 Application PINs with global key references are available and the UICC also supports up to 8 Local PINs with specific key references. Local PINs can only be used within an ADF. Further, up to 10 administrative PINs can be defined. A replacement PIN, called Universal PIN, may also exist.

In 2G mode, only CHV1 and CHV2 are available. They apply to files in DF-GSM and DF-TELECOM. Additionally, up to 11 administrative PINs can be defined.

Mapping of PINs between 2G and 3G operation modes, so that activation, deactivation or changing of a PIN in one operation mode has the same effect in the other operation mode, follow the following principles:

- **Mapping of CHV1**

CHV1 in the SIM application can be mapped to any USIM application PIN with a global key reference (or to the Universal PIN, [if the UICC is multi-verification capable](#)), but to only one at a time.

[When the UICC is single-verification capable, CHV1 can only be mapped to a USIM application PIN. Then, if the USIM application PIN is disabled, the CHV1 is also disabled and vice versa. See also Annex D.1.](#)

[When the UICC is multi-verification capable, different mappings of CHV1 are possible, depending on the standards release to which the UICC is compliant to:](#)

- [Static mapping: CHV1 is always mapped to a USIM application PIN. If the USIM application PIN is disabled and replaced by the Universal PIN, then also CHV1 is disabled. Thus when using the USIM, the user will have to verify the Universal PIN. When using the SIM, there will be no verification. Therefore, in this case the SIM and the USIM behave differently regarding the PIN/CHV1 verification from the user's point of view. Static mapping is only possible for R99 and REL-4 UICCs. See also Annex D.2.](#)
- [Dynamic mapping: CHV1 is mapped to the USIM application PIN but the mapping can change to the Universal PIN. When the USIM application PIN is enabled, then CHV1 is also enabled. If the USIM application PIN is disabled and not replaced, then CHV1 is disabled. If the USIM application PIN is disabled and replaced by the Universal PIN, then CHV1 is mapped to the Universal PIN, i.e. the mapping changes from the application PIN to its replacement. In this case the behaviour of the SIM and the USIM is exactly the same regarding the PIN/CHV1 verification from the user's point of view. Dynamic mapping is possible for UICCs of any 3G release. See also Annex D.3.](#)

- **Mapping of CHV2**

CHV2 in the SIM application can be mapped to the corresponding local key reference belonging to the USIM application to which the CHV1 is mapped. In the 2G operation mode, this PIN is considered to be global, in the 3G operation mode, it is seen as a being local. If mapped, then, with respect to the requirement in TS **GSM** 11.11 [\[7\]](#) / [TS 51.011 \[78\]](#) for CHV2, this PIN cannot be disabled in either operation mode. The UICC will return an appropriate error condition in that case.

- **Mapping of Local PINs**

A SIM does not support Local PINs, hence there is no correspondence in 2G operation mode. Local PINs cannot be mapped.

- **Mapping of administrative PINs**

The mapping of administrative PINs between the 2G and 3G operation modes is fully under the discretion of each network operator and card manufacturer.

7.6 Selection of cyclic files

As the SIM application and the USIM application are based on individual specifications, a particular difference applies for the selection of cyclic files.

For the SIM, ~~GSM~~-TS 11.11 [7] / [TS 51.011](#) [78] specifies that "After selection of a cyclic file (for either operation), the record pointer shall address the record updated or increased last.", whereas for the USIM it is required in 3G TS 31.101 [1] that "After a successful selection the record pointer is undefined.". In the latter case, the record pointer is set implicitly by the subsequent access command.

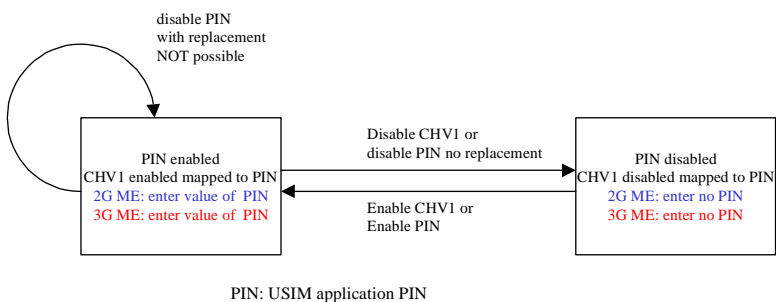
Therefore, in the case of a selection of cyclic files, the UICC will behave corresponding to its current operation mode, i.e. comply to 2G requirements when the SIM application is active and to 3G requirements when the USIM application is active.

A 3G ME shall handle this situation accordingly, i.e. depending on whether a SIM or a UICC is inserted.

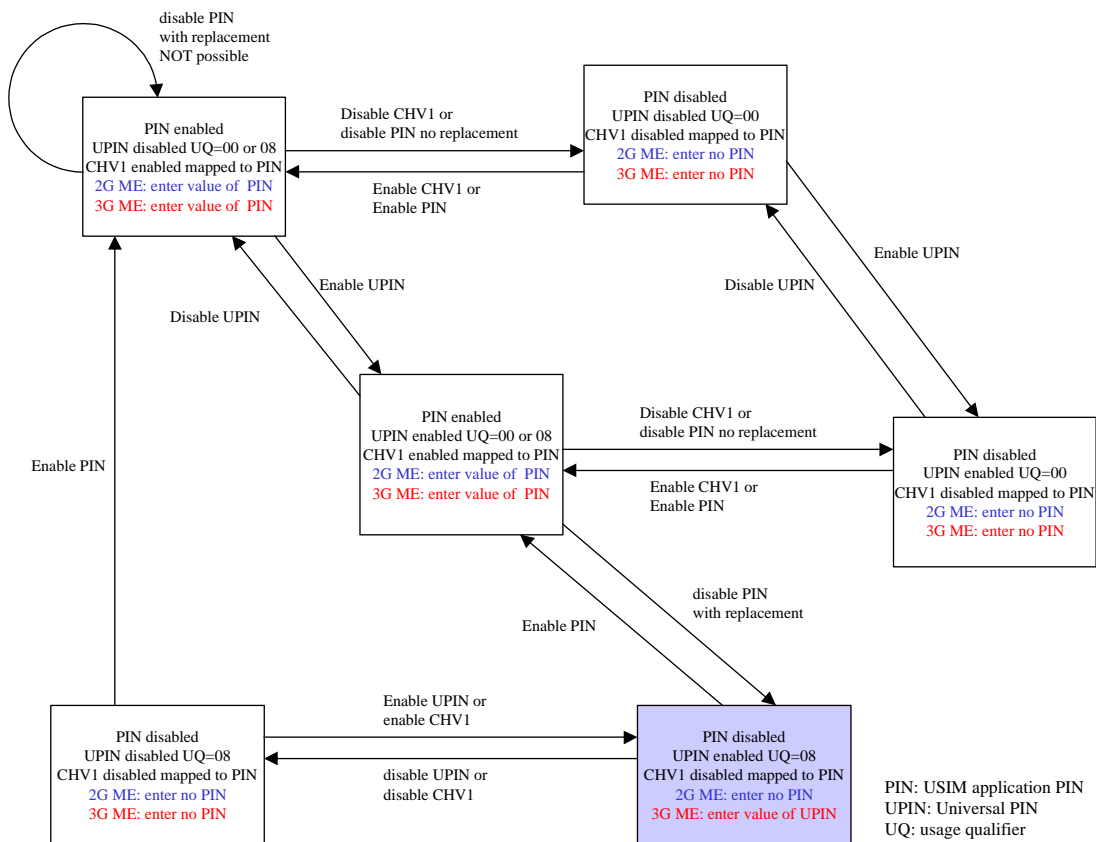
Annex D: CHV mapping

This annex illustrates the possible CHV mappings for a single-verification capable and a multi-verification capable UICC. In the diagrams D.2 and D.3, the gray box highlights the difference between the two solutions.

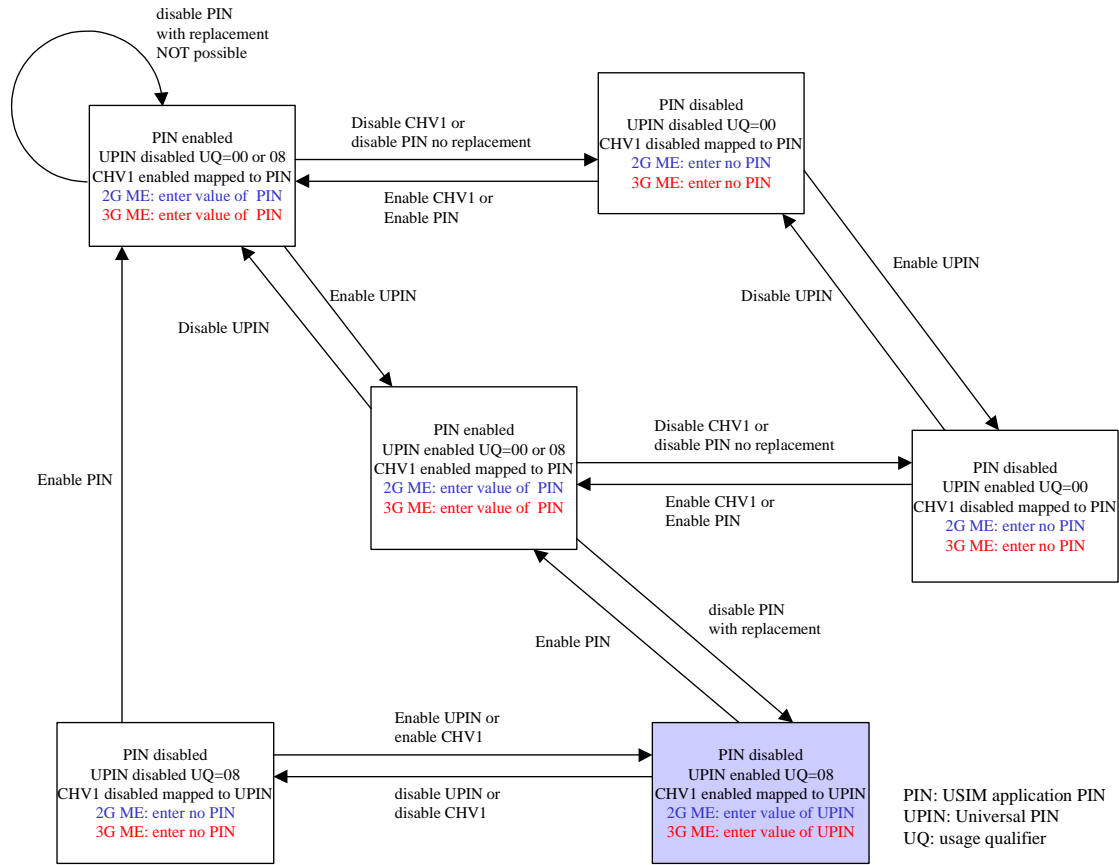
D.1 In a single-verification capable UICC



D.2 In a multi-verification capable UICC (static mapping)



D.3 In a multi-verification capable UICC (dynamic mapping)



Annex ED: Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
2001-03	TP-11	TP-010045	-	-	Presented for information to TSG-T #11	0.4.1	1.0.0
2001-05	-	-	-	-	Version after T3 AdHoc #37 (Joint with SA3), new section 4.4 inserted, section 6.1, case 5 modified	1.0.0	1.1.0
2001-05	-	-	-	-	Version during T3#19. Minor modifications.	1.1.0	1.1.1
2001-05	-	-	-	-	Version after T3#19 plenary presentation. Editorial modifications.	1.1.1	1.1.2
2001-06	TP-12	TP-010113			Presented to TSG-T #12 for approval	1.1.2	2.0.0
2001-06	TP-12	-			Approved version (includes editorial changes compared to 2.0.0)	2.0.0	3.0.0
2001-09	TP-13	TP-010205	001		Sharing of enabling/disabling procedure between SIM and USIM	3.0.0	3.1.0
2002-01					CHV mapping, Annex D	3.1.0	5.0.0