TSG-RAN Meeting #18
New-Orleans, USA, 03 - 06 December 2002

Tdoc ⌘RP-020892

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1714** ⌘**rev** **1** ⌘ Current version: **3.12.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Correction on coding of GSM Classmark 2 and 3
Source:	⌘	Ericsson, Motorola, Nokia, Nortel, Qualcomm
Work item code:	⌘	TEI
Date:	⌘	3-12-2002
Category:	⌘	**F**
Release:	⌘	R99

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

Use one of the following releases:

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

Reason for change: ⌘

Additional changes introduced in revision 1 of this CR

The mapping of the GSM value part onto the octets string used in RRC is not entirely clear. This may result in interoperability problems.

Changes introduced in the original version of this CR

In the current RRC specification the format and coding of GSM Classmark 2 and 3 are defined by using a reference to TS 24.008. In TS 24.008 (i.e. section 10.5.1.6, 10.5.1.7) both Clasmark 2 and 3 are defined as type 4 information element, i.e. formatted either as TLV or LV. In GSM specifications (i.e. 24.008 or 04.18) the format TLV or LV is unambigously specified in each message. In case that T is present for these IEs (for optional IEs) then its value is specified in the message (the value of T is message speciffic).

In RRC case, a simple reference to 24.008 is not enough since it is not clear what format should be used. Moreover in case that the format is TLV then the value of T is currently unspecified (since GSM specs relates only to GSM messages). Moreover, when ASN.1 encoding is used the T and L are not necessary.

In RRC the Classmark 2 is specified as Octetstring of 5 impling that TLV is assumed but someone may interpret it also as LV and a spare octet.

The Classmark 3 is specified as Octetstring of 1 to 32 which is definitely ambigous.

Summary of change:	⌘	The following additional changes are proposed in revision 1 of this CR • For CM2 clarification is added that for each octet the first/ leftmost/ most significant bit of the octet contains b8 of the corresponding GSM octet. • For CM3 clarification is added that the first/ leftmost bit of the bit string resulting after encoding the CSN.1 is placed in the first/ leftmost/ most significant bit of the first octet. The proposed correction in the original version of this CR is: • Classmark 2 uses 'TLV' format. The value for T is specified in RRC and the value part is the same as in 24.008. The receiver should ignore the T and L fields. This behavior would allow the possibility to re-use these fields (i.e. T and L is 2 octets) in a further release. The proposed value for T is '33', i.e. this value is already used in 24.008 in case of LOCATION UPDATE REQUEST message. • Classmark 3 uses 'V' format to avoid the transmission of unnecessary information over the radio. The value part is encoded in the same way as in 24.008. **Impact analysis:** Impacted functionality: Inter-RAT handover In case on an 2G to 3G handover the BSC may be impacted since it has to prepare the container INTER RAT HANDOVER INFO WITH INTER-RAT CAPABILITIES which includes the CM2/CM3 information. There is no impact on GSM specification since the A interface message (i.e. HANDOVER REQUIRED) in 08.08 carries the information as a transparent container. In case of 3G to 2G handover, UTRAN may be impacted if it is not able to decode the CM2/CM3, e.g. UTRAN may not be able to configure properly the Inter-RAT measurements. Consequence if UE or UTRAN (or BSC) does not implement the CR is that the UTRAN may be unable to decode the Classmark 2 and 3 information. This may lead to a failure of the Inter-RAT handover. Clarification of a function where the specification is ambigous. Does not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise
Consequences if not approved:	⌘	If the CR is not approved then UTRAN may be unable to decode the GSM Classmark 2 and 3 and therefore the Inter-RAT handover may fail.

Clauses affected:	⌘	10.3.8.7, 11.2			
Other specs affected:	⌘	Y / N		⌘	
			X Other core specifications		
			X Test specifications		
			X O&M Specifications		
Other comments:	⌘				

How to create CRs using this form:

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

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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.

10.3.8.7 Inter-RAT UE radio access capability

This Information Element contains the inter-RAT UE radio access capability that is structured and coded according to the specification used for the corresponding system type.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *system*	MP			
>GSM				
>>Mobile Station Classmark 2	MP		Octet string (5)	This IE is formatted as 'TLV' and is coded in the same way as the *Mobile Station Classmark 2* information element in [5]. The first octet is the *Mobile station classmark 2 IEI* and its value ~~of the *Mobile station classmark 2 IEI*~~ shall be set to ~~'33'~~ 33H. The second octet is the *Length of mobile station classmark 2* and its value shall be set to 3. The octet 3 contains the first octet of the value part of the *Mobile Station Classmark 2* information element, the octet 4 contains the second octet of the value part of the *Mobile Station Classmark 2* information element and so on. For each of these octets, the first/ leftmost/ most significant bit of the octet contains b8 of the corresponding octet of the *Mobile Station Classmark 2*. In this version of the protocol the first two octets of the Mobile Station Classmark 2 IE containing the *Mobile station classmark 2 IEI* and the *Length of mobile station classmark 2 contents* should be ~~are~~ ignored by the receiver.~~Defined in [5]~~
>>Mobile Station Classmark 3	MP		Octet string (1..32)	This IE is formatted as 'V' and is coded in the same way as the value part in the *Mobile station classmark 3* information element in [5]. The first octet contains octet 1 of the value part of *Mobile station classmark 3*, the second octet contains octet 2 of the value part of *Mobile station classmark 3* and so on. NOTE 1: ~~Defined in [5]~~
>cdma2000				
>>cdma2000Message	MP	1.to.<maxInterSysMessages>		
>>>MSG_TYPE(s)	MP		Bit string (8)	Formatted and coded according to cdma2000 specifications
>>>cdma2000Messagepayload(s)	MP		Bit string (1..512)	Formatted and coded according to cdma2000 specifications

NOTE 1: ~~Depending on need, the GSM encoding may include final padding as defined in [5] to ensure the final result comprises a full number of octets~~The value part is specified by means of CSN.1, which encoding results in a bit string, to which final padding may be appended upto the next octet boundary [5]. The first/ leftmost bit of the CSN.1 bit string is placed in the first/ leftmost/ most significant bit of the first octet. This continues until the last bit of the CSN.1 bit string, which is placed in the last/ rightmost/ least significant bit of the last octet.

11.2 PDU definitions

```
/ . . .  /


-- ************************************************
--
--     OTHER INFORMATION ELEMENTS (10.3.8)
--
-- ************************************************

/ . . .  /

-- This IE is formatted as 'TLV' and is coded in the same way as the Mobile Station Classmark 2
-- information element in [5]. The first octet is the Mobile station classmark 2 IEI and its value
-- shall be set to 33H. The second octet is the Length of mobile station classmark 2 and its value
-- shall be set to 3. The octet 3 contains the first octet of the value part of the Mobile Station
-- Classmark 2 information element, the octet 4 contains the second octet of the value part of the
-- Mobile Station Classmark 2 information element and so on. For each of these octets, the first/
-- leftmost/ most significant bit of the octet contains b8 of the corresponding octet of the Mobile
-- Station Classmark 2.
GSM-Classmark2::=                   OCTET STRING (SIZE (5))

-- This IE is formatted as 'V' and is coded in the same way as the value part in the Mobile station
-- classmark 3 information element in [5]. The first octet contains octet 1 of the value part of
-- Mobile station classmark 3, the second octet contains octet 2 of the value part of Mobile station
-- classmark 3 and so on.
-- The value part is specified by means of CSN.1, which encoding results in a bit string, to which
-- final padding may be appended upto the next octet boundary [5]. The first/ leftmost bit of the
-- CSN.1 bit string is placed in the first/ leftmost/ most significant bit of the first
-- octet. This continues until the last bit of the CSN.1 bit string, which is placed in the last/
-- rightmost/ least significant bit of the last octet.
GSM-Classmark3::=                   OCTET STRING (SIZE (1..32))
```

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⌘ **25.331** **CR** **1715** ⌘ **rev** **1** ⌘ Current version: **4.7.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	Correction on coding of GSM Classmark 2 and 3
Source:	⌘	Ericsson, Motorola, Nokia, Nortel, Qualcomm
Work item code:	⌘	TEI
Date:	⌘	3-12-2002
Category:	⌘	**A**
Release:	⌘	REL-4

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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘

Additional changes introduced in revision 1 of this CR

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In RRC case, a simple reference to 24.008 is not enough since it is not clear what format should be used. Moreover in case that the format is TLV then the value of T is currently unspecified (since GSM specs relates only to GSM messages). Moreover, when ASN.1 encoding is used the T and L are not necessary.

In RRC the Classmark 2 is specified as Octetstring of 5 impling that TLV is assumed but someone may interpret it also as LV and a spare octet.

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Consequences if not approved:	⌘	If the CR is not approved then UTRAN may be unable to decode the GSM Classmark 2 and 3 and therefore the Inter-RAT handover may fail.

Clauses affected:	⌘	10.3.8.7, 11.2			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1716** ⌘ **rev** **1** ⌘ Current version: **5.2.0** ⌘

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Work item code:	⌘	TEI
Date:	⌘	3-12-2002
Category:	⌘	**A**
Release:	⌘	REL-5

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Reason for change: ⌘

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Consequences if not approved:	⌘	If the CR is not approved then UTRAN may be unable to decode the GSM Classmark 2 and 3 and therefore the Inter-RAT handover may fail.

Clauses affected:	⌘	10.3.8.7, 11.2			
Other specs affected:	⌘	**Y**	**N**	Other core specifications	⌘
				Test specifications	
				O&M Specifications	
Other comments:	⌘				

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>>Mobile Station Classmark 3	MP		Octet string (1..32)	This IE is formatted as 'V' and is coded in the same way as the value part in the *Mobile station classmark 3* information element in [5]. The first octet contains octet 1 of the value part of *Mobile station classmark 3*, the second octet contains octet 2 of the value part of *Mobile station classmark 3* and so on. NOTE 1: ~~Defined in [5]~~
>cdma2000				
>>cdma2000Message	MP	1.to.<maxInterSysMessages>		
>>>MSG_TYPE(s)	MP		Bit string (8)	Formatted and coded according to cdma2000 specifications
>>>cdma2000Messagepayload(s)	MP		Bit string (1..512)	Formatted and coded according to cdma2000 specifications

NOTE 1: ~~Depending on need, the GSM encoding may include final padding as defined in [5] to ensure the final result comprises a full number of octets~~The value part is specified by means of CSN.1, which encoding results in a bit string, to which final padding may be appended upto the next octet boundary [5]. The first/ leftmost bit of the CSN.1 bit string is placed in the first/ leftmost/ most significant bit of the first octet. This continues until the last bit of the CSN.1 bit string, which is placed in the last/ rightmost/ least significant bit of the last octet.

11.2 PDU definitions

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--
-- ************************************************

/ . . .  /

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-- shall be set to 3. The octet 3 contains the first octet of the value part of the Mobile Station
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GSM-Classmark2::=                   OCTET STRING (SIZE (5))

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