3GPP TSG CN Plenary Meeting #18 **NP-020547**
4th - 6th December 2002. New Orleans, USA.

Source: **TSG CN WG 1**

Title: **CRs to Phase2 with mirror CRs on Work Item GSM/UMTS interworking towards 04.08 and 24.008**

Agenda item: **7.6**

Document for: **APPROVAL**

Introduction:

This document contains **7** CRs, **Phase2 with mirror CRs to** Work Item **" GSM/UMTS interworking"**, that have been agreed by **TSG CN WG1**, and are forwarded to TSG CN Plenary meeting #18 for approval.

Spec	CR #	Rev	CAT	Rel	Tdoc Title	Meeting	TDoc #	C_Version
04.08	A1135		A	R97	Clarification on revision level	N1-27	N1-022352	6.19.0
04.08	A1137		A	R98	Clarification on revision level	N1-27	N1-022353	7.18.0
04.08	A1139		F	Phase2	Clarification on revision level	N1-27	N1-022393	4.23.1
04.08	A1141		A	R96	Clarification on revision level	N1-27	N1-022394	5.18.1
24.008	722		A	R99	Clarification on revision level	N1-27	N1-022354	3.13.0
24.008	723		A	Rel-4	Clarification on revision level	N1-27	N1-022355	4.8.0
24.008	724		A	Rel-5	Clarification on revision level	N1-27	N1-022356	5.5.0

3GPP TSG-CN1 Meeting #27 ***Tdoc N1-022354***
Bangkok, Thailand, 11 – 15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **24.008** **CR** **722** ⌘ **rev** **-** ⌘ Current version: **3.13.0** ⌘

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

Title:	⌘	Clarification on Revision level
Source:	⌘	T-Mobile
Work item code:	⌘	GSM/UMTS interworking
Date:	⌘	04/11/2002
Category:	⌘	**A**
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:	⌘	In case of interworking of different releases between MS and network the upward compatibility is not clearly defined. The revision level indicates which release in the MS is implemented. The behaviour of the network if it receives an unknown revision level, is not clearly defined.
Summary of change:	⌘	The CR request, that a network shall use in case of unknown revision level signalled from the MS within the MS classmark information 1 and 2 the highest revision level of the network implementation.
Consequences if not approved:	⌘	If not approved than is there a risk that a network fall back to Phase1 in case of unknown revision level and reduce unnecessary the network capabilities.

Clauses affected:	⌘	10.5.1.5, 10.5.1.6

Other specs affected: ⌘	Y	N		⌘
	[ ]	[ ]	Other core specifications	
	[ ]	[ ]	Test specifications	
	[ ]	[ ]	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

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

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

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

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

10.5.1.5 Mobile Station Classmark 1

The purpose of the *Mobile Station Classmark 1* information element is to provide the network with information concerning aspects of high priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 1* information element is coded as shown in figure 10.5.5/3GPP TS 24.008 and table 10.5.5/3GPP TS 24.008.

The *Mobile Station Classmark 1* is a type 3 information element with 2 octets length.

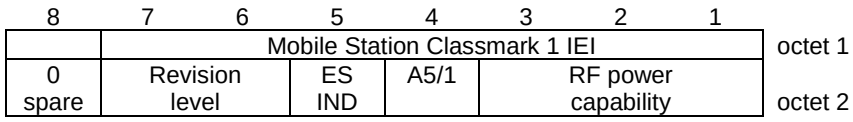

Figure 10.5.5/3GPP TS 24.008 *Mobile Station Classmark 1* information element

Table 10.5.5/3GPP TS 24.008: *Mobile Station Classmark 1* information element

Revision level (octet 2)
Bits
7 6
0 0 Reserved for GSM phase 1
0 1 Used by GSM phase 2 mobile stations
1 0 Used by mobile stations supporting R99 or later versions of the protocol
1 1 Reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 2, bit4)
An MS not supporting GSM shall set this bit to '1'.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF power capability (octet 2)
When GSM 450, GSM 480, GSM 850, GSM 900 P, E [or R] band is used (for exceptions see GSM 04.18), the MS shall indicate the RF power capability of the band used (see table);
When UMTS is used, a single band GSM 450, GSM 480, GSM 850, GSM 900 P, E [or R] MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table); in this case information on which single band is supported is found in classmark 3.
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5
All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see 3GPP TS 04.18, sub-clause 3.4.18), the MS shall indicate the RF power capability of the band used (see table):
When UMTS is used, a single band DCS1800 or PCS 1900 MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table); in this case information on which single band is supported is found in classmark 3.
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
All other values are reserved.

When UMTS is used, an MS not supporting any GSM band or a multiband GSM MS shall code this field as follows (see table):
Bits
3 2 1
1 1 1 RF Power capability is irrelevant in this information element
All other values are reserved.

10.5.1.6 Mobile Station Classmark 2

The purpose of the *Mobile Station Classmark 2* information element is to provide the network with information concerning aspects of both high and low priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 2* information element is coded as shown in figure 10.5.6/3GPP TS 24.008, table 10.5.6a/3GPP TS 24.008 and table 10.5.6b/3GPP TS 24.008.

The *Mobile Station Classmark 2* is a type 4 information element with 5 octets length.

8	7	6	5	4	3	2	1	
	Mobile station classmark 2 IEI							octet 1
Length of mobile station classmark 2 contents								octet 2
0 spare	Revision level		ES IND	A5/1	RF power capability			octet 3
0 spare	PS capa.	SS Screen. Indicator		SM ca pabi.	VBS	VGCS	FC	octet 4
CM3	0 spare	LCSVA CAP	UCS2	SoLSA	CMSP	A5/3	A5/2	octet 5

NOTE: Owing to backward compatibility problems, bit 8 of octet 4 should not be used unless it is also checked that the bits 8, 7 and 6 of octet 3 are not "0 0 0".

Figure 10.5.6/3GPP TS 24.008 *Mobile Station Classmark 2* information element

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

Revision level (octet 3)
Bits

7	**6**	
0	0	Reserved for GSM phase 1
0	1	Used by GSM phase 2 mobile stations
1	0	Used by mobile stations supporting R99 or later versions of the protocol
1	1	Reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 3, bit 5) "Controlled Early Classmark Sending" option implementation
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0	"Controlled Early Classmark Sending" option is not implemented in the MS
1	"Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

A5/1 algorithm supported (octet 3, bit 4)
An MS not supporting GSM shall set this bit to '1'.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF Power Capability (Octet 3)

When GSM 450, GSM 480, GSM 850, GSM 900 P, E [or R] band is used (for exceptions see GSM 04.18), the MS shall indicate the RF power capability of the band used (see table);
When UMTS is used, a single band GSM 450, GSM 480, GSM 850, GSM 900 P, E [or R] MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table); in this case information on which single band is supported is found in classmark 3.
Bits

3	**2**	**1**	
0	0	0	class 1
0	0	1	class 2
0	1	0	class 3
0	1	1	class 4
1	0	0	class 5

All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see GSM 04.18), the MS shall indicate the RF power capability of the band used (see table) ;
When UMTS is used, a single band DCS1800 or PCS 1900 MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table); in this case information on which single band is supported is found in classmark 3.
Bits

3	**2**	**1**	
0	0	0	class 1
0	0	1	class 2
0	1	0	class 3

All other values are reserved.

When UMTS is used, an MS not supporting any GSM ban d or a multiband GSM MS shall code this field as follows (see table):
Bits

3	**2**	**1**	
1	1	1	RF Power capability is irrelevant in this information element

All other values are reserved.

PS capability (pseudo-synchronization capability) (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **7**

0 PS capability not present
1 PS capability present

SS Screening Indicator (octet 4)
Bits

6	**5**	
0	0	defined in 3GPP TS 24.080
0	1	defined in 3GPP TS 24.080
1	0	defined in 3GPP TS 24.080
1	1	defined in 3GPP TS 24.080

SM capability (MT SMS pt to pt capability) (octet 4)
Bit **4**

0 Mobile station does not support mobile terminated point to point SMS
1 Mobile station supports mobile terminated point to point SMS

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

VBS notification reception (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **3**
0 no VBS capability or no notifications wanted
1 VBS capability and notifications wanted

VGCS notification reception (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **2**
0 no VGCS capability or no notifications wanted
1 VGCS capability and notifications wanted

FC Frequency Capability (octet 4)
When the GSM 400 or GSM 850 or DCS 1800 or PCS 1900 band or UMTS is used (for exceptions see GSM 04.18, for definitions of frequency band see GSM 05.05), this bit shall be sent with the value '0'.

Note: This bit conveys no information about support or non support of the E-GSM or R-GSM bands when GSM 400, GSM 850, DCS1800, PCS1900 band or UMTS is used.

When a GSM 900 band is used (for exceptions see GSM 04.18):
Bit **1**
0 The MS does not support the E-GSM or R-GSM band (For definition of frequency bands see GSM 05.05)
1 The MS does support the E-GSM or R-GSM (For definition of frequency bands see GSM 05.05)
Note: For mobile station supporting the R-GSM band further information can be found in MS Classmark 3.

CM3 (octet 5, bit 8)

0 The MS does not support any options that are indicated in CM3
1 The MS supports options that are indicated in classmark 3 IE

LCS VA capability (LCS value added location request notification capability) (octet 5,bit 6)

0 LCS value added location request notification capability not supported
1 LCS value added location request notification capability supported

UCS2 treatment (octet 5, bit 5)

This information field indicates the likely treatment by the mobile station of UCS2 encoded character strings. For backward compatibility reasons, if this field is not included, the value 0 shall be assumed by the receiver.
0 the ME has a preference for the default alphabet (defined in GSM 03.38) over UCS2.
1 the ME has no preference between the use of the default alphabet and the use of UCS2.

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

SoLSA (octet 5, bit 4)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 The ME does not support SoLSA.
1 The ME supports SoLSA.

CMSP: CM Service Prompt (octet 5, bit 3) $(CCBS)$

0 "Network initiated MO CM connection request" not supported.
1 "Network initiated MO CM connection request" supported for at least one CM protocol.

A5/3 algorithm supported (octet 5, bit 2)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available

A5/2 algorithm supported (octet 5, bit 1)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available

NOTE: Additional mobile station capability information might be obtained by invoking the classmark interrogation procedure when GSM is used.

3GPP TSG-CN1 Meeting #27 ***Tdoc N1-022355***
Bangkok, Thailand, 11 – 15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **24.008** **CR** **723** ⌘ **rev** **-** ⌘ Current version: **4.8.0** ⌘

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

Title:	⌘	Clarification on Revision level
Source:	⌘	T-Mobile
Work item code:	⌘	GSM/UMTS interworking
Date:	⌘	04/11/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

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

Use one of the following releases:

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

Reason for change:	⌘	In case of interworking of different releases between MS and network the upward compatibility is not clearly defined. The revision level indicates which release in the MS is implemented. The behaviour of the network if it receives an unknown revision level, is not clearly defined.
Summary of change:	⌘	The CR request, that a network shall use in case of unknown revision level signalled from the MS within the MS classmark information 1 and 2 the highest revision level of the network implementation.
Consequences if not approved:	⌘	If not approved than is there a risk that a network fall back to Phase1 in case of unknown revision level and reduce unnecessary the network capabilities.

Clauses affected:	⌘	10.5.1.5, 10.5.1.6

Other specs affected: ⌘	Y	N		⌘
	[ ]	[ ]	Other core specifications	
	[ ]	[ ]	Test specifications	
	[ ]	[ ]	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.

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.

10.5.1.5 Mobile Station Classmark 1

The purpose of the *Mobile Station Classmark 1* information element is to provide the network with information concerning aspects of high priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 1* information element is coded as shown in figure 10.5.5/3GPP TS 24.008 and table 10.5.5/3GPP TS 24.008.

The *Mobile Station Classmark 1* is a type 3 information element with 2 octets length.

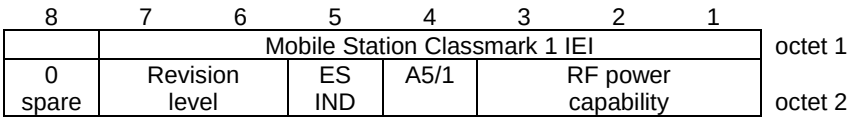

Figure 10.5.5/3GPP TS 24.008 *Mobile Station Classmark 1* information element

Table 10.5.5/3GPP TS 24.008: *Mobile Station Classmark 1* information element

Revision level (octet 2)
Bits
7 6
0 0 Reserved for GSM phase 1
0 1 Used by GSM phase 2 mobile stations
1 0 Used by mobile stations supporting R99 or later versions of the protocol
1 1 Reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 2, bit4)
An MS not supporting GSM shall set this bit to '1'.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF power capability (octet 2)
When GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] band is used (for exceptions see 04.18), the MS shall indicate the RF power capability of the band used (see table):
When UMTS is used, a single band GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case information on which single band is supported is found in classmark 3.
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5
All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see 3GPP TS 44.018, sub-clause 3.4.18), the MS shall indicate the RF power capability of the band used (see table):
When UMTS is used, a single band DCS 1800 or PCS 1900 MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case, information on which single band is supported is found in classmark 3.
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
All other values are reserved.
When UMTS is used, an MS not supporting any GSM band or a multiband GSM MS shall code this field as follows (see table):
Bits
3 2 1
1 1 1 RF power capability is irrelevant in this information element.
All other values are reserved.

10.5.1.6 Mobile Station Classmark 2

The purpose of the *Mobile Station Classmark 2* information element is to provide the network with information concerning aspects of both high and low priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 2* information element is coded as shown in figure 10.5.6/3GPP TS 24.008, table 10.5.6a/3GPP TS 24.008 and table 10.5.6b/3GPP TS 24.008.

The *Mobile Station Classmark 2* is a type 4 information element with 5 octets length.

8	7	6	5	4	3	2	1	
	Mobile station classmark 2 IEI							octet 1
Length of mobile station classmark 2 contents								octet 2
0 spare	Revision level		ES IND	A5/1	RF power capability			octet 3
0 spare	PS capa.	SS Screen. Indicator		SM ca pabi.	VBS	VGCS	FC	octet 4
CM3	0 spare	LCSVA CAP	UCS2	SoLSA	CMSP	A5/3	A5/2	octet 5

NOTE: Owing to backward compatibility problems, bit 8 of octet 4 should not be used unless it is also checked that the bits 8, 7 and 6 of octet 3 are not "0 0 0".

Figure 10.5.6/3GPP TS 24.008 *Mobile Station Classmark 2* information element

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

Revision level (octet 3)
Bits
7 6
0 0 Reserved for GSM phase 1
0 1 Used by GSM phase 2 mobile stations
1 0 Used by mobile stations supporting R99 or later versions of the protocol
1 1 Reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 3, bit 5) "Controlled Early Classmark Sending" option implementation
AN MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

A5/1 algorithm supported (octet 3, bit 4)
An MS not supporting GSM shall set this bit to '1'.
An MS supporting GSM shall indicate the associated GSM capability (see table)

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF Power Capability (Octet 3)
When GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] band is used (for exceptions see 3GPP TS 44.018), the MS shall indicate the RF power capability of the band used (see table).
When UMTS is used, a single band GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case, information on which single band is supported is found in classmark 3.
Bits

3	**2**	**1**	
0	0	0	class 1
0	0	1	class 2
0	1	0	class 3
0	1	1	class 4
1	0	0	class 5

All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see 3GPP TS 44.018) The MS shall indicate the RF power capability of the band used (see table).
When UMTS is used, a single band DCS 1800 or PCS 1900 MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case, information on which single band is supported is found in classmark 3
Bits

3	**2**	**1**	
0	0	0	class 1
0	0	1	class 2
0	1	0	class 3

All other values are reserved.

When UMTS is used, an MS not supporting any GSM band or a multiband GSM MS shall code this field as follows (see table):
Bits

3	**2**	**1**	
1	1	1	RF Power capability is irrelevant in this information element

All other values are reserved.

PS capability (pseudo-synchronization capability) (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **7**
0 PS capability not present
1 PS capability present

SS Screening Indicator (octet 4)
Bits

6	**5**	
0	0	defined in 3GPP TS 24.080
0	1	defined in 3GPP TS 24.080
1	0	defined in 3GPP TS 24.080
1	1	defined in 3GPP TS 24.080

SM capability (MT SMS pt to pt capability) (octet 4)
Bit **4**
0 Mobile station does not support mobile terminated point to point SMS
1 Mobile station supports mobile terminated point to point SMS

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

VBS notification reception (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **3**
0 no VBS capability or no notifications wanted
1 VBS capability and notifications wanted

VGCS notification reception (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **2**
0 no VGCS capability or no notifications wanted
1 VGCS capability and notifications wanted

FC Frequency Capability (octet 4)
When the GSM 400, or GSM 700, or GSM 850, or DCS 1800, or PCS 1900 band or UMTS is used (for exceptions see 3GPP TS 44.018), for definitions of frequency band see 3GPP TS 45.005), this bit shall be sent with the value '0'.

Note: This bit conveys no information about support or non support of the E-GSM or R-GSM bands when GSM 400, GSM 700, GSM 850, DCS 1800, PCS 1900 band or UMTS is used.

When a GSM 900 band is used (for exceptions see 3GPP TS 44.018):
Bit **1**
0 The MS does not support the E-GSM or R-GSM band (For definition of frequency bands see 3GPP TS 45.005 [33])
1 The MS does support the E-GSM or R-GSM (For definition of frequency bands see 3GPP TS 45.005 [33])
NOTE: For mobile station supporting the R-GSM band further information can be found in MS Classmark 3.

CM3 (octet 5, bit 8)

0 The MS does not support any options that are indicated in CM3
1 The MS supports options that are indicated in classmark 3 IE

LCS VA capability (LCS value added location request notification capability) (octet 5,bit 6)

0 LCS value added location request notification capability not supported
1 LCS value added location request notification capability supported

UCS2 treatment (octet 5, bit 5)

This information field indicates the likely treatment by the mobile station of UCS2 encoded character strings. For backward compatibility reasons, if this field is not included, the value 0 shall be assumed by the receiver.
0 the ME has a preference for the default alphabet (defined in 3GPP TS 03.38) over UCS2.
1 the ME has no preference between the use of the default alphabet and the use of UCS2.

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

SoLSA (octet 5, bit 4)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 The ME does not support SoLSA.
1 The ME supports SoLSA.

CMSP: CM Service Prompt (octet 5, bit 3) $(CCBS)$

0 "Network initiated MO CM connection request" not supported.
1 "Network initiated MO CM connection request" supported for at least one CM protocol.

A5/3 algorithm supported (octet 5, bit 2)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available

A5/2 algorithm supported (octet 5, bit 1)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available

NOTE: Additional mobile station capability information might be obtained by invoking the classmark interrogation procedure when GSM is used.

3GPP TSG-CN1 Meeting #27 ***Tdoc N1-022356***
Bangkok, Thailand, 11 – 15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **24.008** **CR** **724** ⌘ **rev** **-** ⌘ Current version: **5.5.0** ⌘

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

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

Title:	⌘	Clarification on Revision level
Source:	⌘	T-Mobile
Work item code:	⌘	GSM/UMTS interworking
Date:	⌘	04/11/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

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

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

Reason for change:	⌘	In case of interworking of different releases between MS and network the upward compatibility is not clearly defined. The revision level indicates which release in the MS is implemented. The behaviour of the network if it receives an unknown revision level, is not clearly defined.
Summary of change:	⌘	The CR request, that a network shall use in case of unknown revision level signalled from the MS within the MS classmark information 1 and 2 the highest revision level of the network implementation.
Consequences if not approved:	⌘	If not approved than is there a risk that a network fall back to Phase1 in case of unknown revision level and reduce unnecessary the network capabilities.

Clauses affected:	⌘	10.5.1.5, 10.5.1.6

Other specs affected: ⌘	Y	N		⌘
	☐	☐	Other core specifications	
	☐	☐	Test specifications	
	☐	☐	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

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

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

10.5.1.5 Mobile Station Classmark 1

The purpose of the *Mobile Station Classmark 1* information element is to provide the network with information concerning aspects of high priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 1* information element is coded as shown in figure 10.5.5/3GPP TS 24.008 and table 10.5.5/3GPP TS 24.008.

The *Mobile Station Classmark 1* is a type 3 information element with 2 octets length.

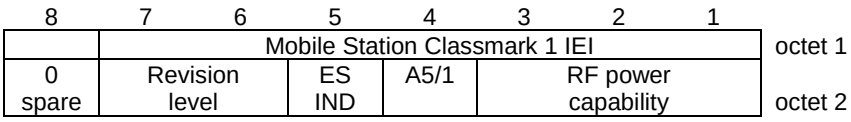

Figure 10.5.5/3GPP TS 24.008 *Mobile Station Classmark 1* information element

Table 10.5.5/3GPP TS 24.008: *Mobile Station Classmark 1* information element

Revision level (octet 2)
Bits
7 6
0 0 Reserved for GSM phase 1
0 1 Used by GSM phase 2 mobile stations
1 0 Used by mobile stations supporting R99 or later versions of the protocol
1 1 Reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 2, bit4)
An MS not supporting GSM shall set this bit to '1'.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF power capability (octet 2)
When GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] band is used (for exceptions see 04.18), the MS shall indicate the RF power capability of the band used (see table):
When UMTS is used, a single band GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case information on which single band is supported is found in classmark 3.
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5
All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see 3GPP TS 44.018, sub-clause 3.4.18), the MS shall indicate the RF power capability of the band used (see table):
When UMTS is used, a single band DCS 1800 or PCS 1900 MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case, information on which single band is supported is found in classmark 3.
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
All other values are reserved.
When UMTS is used, an MS not supporting any GSM band or a multiband GSM MS shall code this field as follows (see table):
Bits
3 2 1
1 1 1 RF power capability is irrelevant in this information element.
All other values are reserved.

10.5.1.6 Mobile Station Classmark 2

The purpose of the *Mobile Station Classmark 2* information element is to provide the network with information concerning aspects of both high and low priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 2* information element is coded as shown in figure 10.5.6/3GPP TS 24.008, table 10.5.6a/3GPP TS 24.008 and table 10.5.6b/3GPP TS 24.008.

The *Mobile Station Classmark 2* is a type 4 information element with 5 octets length.

8	7	6	5	4	3	2	1	
	Mobile station classmark 2 IEI							octet 1
Length of mobile station classmark 2 contents								octet 2
0 spare	Revision level		ES IND	A5/1	RF power capability			octet 3
0 spare	PS capa.	SS Screen. Indicator		SM ca pabi.	VBS	VGCS	FC	octet 4
CM3	0 spare	LCSVA CAP	UCS2	SoLSA	CMSP	A5/3	A5/2	octet 5

NOTE: Owing to backward compatibility problems, bit 8 of octet 4 should not be used unless it is also checked that the bits 8, 7 and 6 of octet 3 are not "0 0 0".

Figure 10.5.6/3GPP TS 24.008 *Mobile Station Classmark 2* information element

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

Revision level (octet 3)
Bits
7 6
0 0 Reserved for GSM phase 1
0 1 Used by GSM phase 2 mobile stations
1 0 Used by mobile stations supporting R99 or later versions of the protocol
1 1 Reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 3, bit 5) "Controlled Early Classmark Sending" option implementation
AN MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

A5/1 algorithm supported (octet 3, bit 4)
An MS not supporting GSM shall set this bit to '1'.
An MS supporting GSM shall indicate the associated GSM capability (see table)

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF Power Capability (Octet 3)
When GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] band is used (for exceptions see 3GPP TS 44.018), the MS shall indicate the RF power capability of the band used (see table).
When UMTS is used, a single band GSM 450, GSM 480, GSM 700, GSM 850, GSM 900 P, E [or R] MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case, information on which single band is supported is found in classmark 3.
Bits

3	**2**	**1**	
0	0	0	class 1
0	0	1	class 2
0	1	0	class 3
0	1	1	class 4
1	0	0	class 5

All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see 3GPP TS 44.018) The MS shall indicate the RF power capability of the band used (see table).
When UMTS is used, a single band DCS 1800 or PCS 1900 MS shall indicate the RF power capability corresponding to the (GSM) band it supports (see table). In this case, information on which single band is supported is found in classmark 3
Bits

3	**2**	**1**	
0	0	0	class 1
0	0	1	class 2
0	1	0	class 3

All other values are reserved.

When UMTS is used, an MS not supporting any GSM band or a multiband GSM MS shall code this field as follows (see table):
Bits

3	**2**	**1**	
1	1	1	RF Power capability is irrelevant in this information element

All other values are reserved.

PS capability (pseudo-synchronization capability) (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **7**
0 PS capability not present
1 PS capability present

SS Screening Indicator (octet 4)
Bits

6	**5**	
0	0	defined in 3GPP TS 24.080
0	1	defined in 3GPP TS 24.080
1	0	defined in 3GPP TS 24.080
1	1	defined in 3GPP TS 24.080

SM capability (MT SMS pt to pt capability) (octet 4)
Bit **4**
0 Mobile station does not support mobile terminated point to point SMS
1 Mobile station supports mobile terminated point to point SMS

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

VBS notification reception (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **3**
0 no VBS capability or no notifications wanted
1 VBS capability and notifications wanted

VGCS notification reception (octet 4)
An MS not supporting GSM shall set this bit to '0'.
An MS supporting GSM shall indicate the associated GSM capability (see table):
Bit **2**
0 no VGCS capability or no notifications wanted
1 VGCS capability and notifications wanted

FC Frequency Capability (octet 4)
When the GSM 400, or GSM 700, or GSM 850, or DCS 1800, or PCS 1900 band or UMTS is used (for exceptions see 3GPP TS 44.018), for definitions of frequency band see 3GPP TS 45.005), this bit shall be sent with the value '0'.

Note: This bit conveys no information about support or non support of the E-GSM or R-GSM bands when GSM 400, GSM 700, GSM 850, DCS 1800, PCS 1900 band or UMTS is used.

When a GSM 900 band is used (for exceptions see 3GPP TS 44.018):
Bit **1**
0 The MS does not support the E-GSM or R-GSM band (For definition of frequency bands see 3GPP TS 45.005 [33])
1 The MS does support the E-GSM or R-GSM (For definition of frequency bands see 3GPP TS 45.005 [33])
NOTE: For mobile station supporting the R-GSM band further information can be found in MS Classmark 3.

CM3 (octet 5, bit 8)

0 The MS does not support any options that are indicated in CM3
1 The MS supports options that are indicated in classmark 3 IE

LCS VA capability (LCS value added location request notification capability) (octet 5,bit 6)

0 LCS value added location request notification capability not supported
1 LCS value added location request notification capability supported

UCS2 treatment (octet 5, bit 5)

This information field indicates the likely treatment by the mobile station of UCS2 encoded character strings. For backward compatibility reasons, if this field is not included, the value 0 shall be assumed by the receiver.
0 the ME has a preference for the default alphabet (defined in 3GPP TS 03.38) over UCS2.
1 the ME has no preference between the use of the default alphabet and the use of UCS2.

Table 10.5.6a/3GPP TS 24.008: *Mobile Station Classmark 2* information element

SoLSA (octet 5, bit 4)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 The ME does not support SoLSA.
1 The ME supports SoLSA.

CMSP: CM Service Prompt (octet 5, bit 3) $(CCBS)$

0 "Network initiated MO CM connection request" not supported.
1 "Network initiated MO CM connection request" supported for at least one CM protocol.

A5/3 algorithm supported (octet 5, bit 2)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available

A5/2 algorithm supported (octet 5, bit 1)
An MS not supporting GSM shall set this bit to ‘0’.
An MS supporting GSM shall indicate the associated GSM capability (see table):
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available

NOTE: Additional mobile station capability information might be obtained by invoking the classmark interrogation procedure when GSM is used.

3GPP TSG-CN1 Meeting #27 ***Tdoc N1-022352***
Bangkok, Thailand, 11 – 15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **04.08** **CR** **A1135** ⌘ **rev** **-** ⌘ Current version: **6.19.0** ⌘

*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 ☐ Radio Access Network ☒ Core Network ☒

Title:	⌘	Clarification on Revision level
Source:	⌘	T-Mobile
Work item code:	⌘	GSM/UMTS interworking
Date:	⌘	04/11/2002
Category:	⌘	**F**
Release:	⌘	R97

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:	⌘	In case of interworking of different releases between MS and network the upward compatibility is not clearly defined. The revision level indicates which release in the MS is implemented. The behaviour of the network if it receives an unknown revision level, is not clearly defined.
Summary of change:	⌘	The CR request, that a network shall use in case of unknown revision level signalled from the MS within the MS classmark information 1 and 2 the highest revision level of the network implementation.
Consequences if not approved:	⌘	If not approved than is there a risk that a network fall back to Phase1 in case of unknown revision level and reduce unnecessary the network capabilities.

Clauses affected:	⌘	10.5.1.5, 10.5.1.6

Other specs affected: ⌘	Y	N		⌘
	☐	☐	Other core specifications	
	☐	☐	Test specifications	
	☐	☐	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

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

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

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

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

10.5.1.5 Mobile Station Classmark 1

The purpose of the *Mobile Station Classmark 1* information element is to provide the network with information concerning aspects of high priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 1* information element is coded as shown in figure 10.5.5/GSM 04.08 and table 10.5.5/GSM 04.08.

The *Mobile Station Classmark 1* is a type 3 information element with 2 octets length.

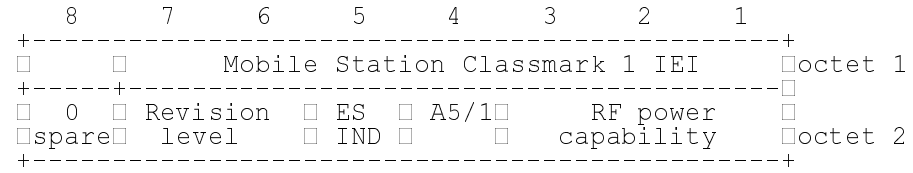

Figure 10.5.5/GSM 04.08: *Mobile Station Classmark 1* information element

Table 10.5.5/GSM 04.08: *Mobile Station Classmark 1* information element

Revision level (octet 2)

Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 mobile stations

All other values are reserved for future use.
If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented in the MS

1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 2, bit 4)

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF power capability (octet 2)

When the GSM P, E [or R] 900 MHz band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

10.5.1.6 Mobile Station Classmark 2

The purpose of the *Mobile Station Classmark 2* information element is to provide the network with information concerning aspects of both high and low priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 2* information element is coded as shown in figure 10.5.6/GSM 04.08, table 10.5.6a/GSM 04.08 and table 10.5.6b/GSM 04.08.

The *Mobile Station Classmark 2* is a type 4 information element with 5 octets length.

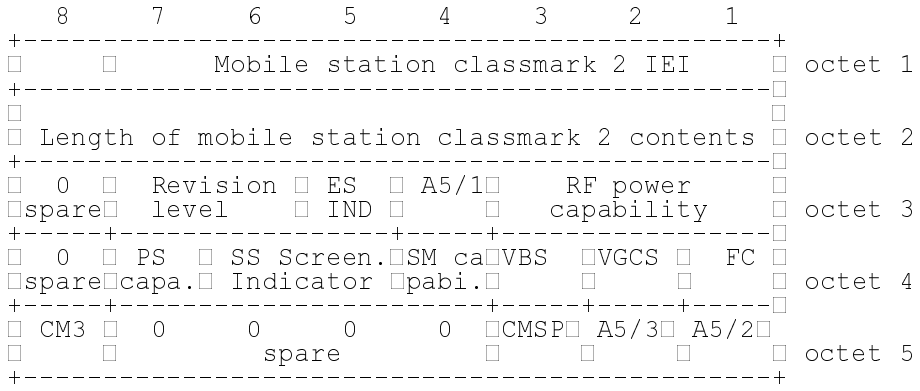

Figure 10.5.6/GSM 04.08: *Mobile Station Classmark 2* information element

NOTE: Owing to backward compatibility problems, bit 8 of octet 4 should not be used unless it is also checked that the bits 8, 7 and 6 of octet 3 are not "0 0 0".

Table 10.5.6a/GSM 04.08: *Mobile Station Classmark 2* information element

Revision level (octet 3)
Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 mobile stations

All other values are reserved for future use .
If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 3, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 3, bit 4)

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

When GSM 900 P, E [or R] band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

PS capability (pseudo-synchronization capability) (octet 4)
Bit **7**
0 PS capability not present
1 PS capability present

SS Screening Indicator (octet 4)
Bits
6 5
0 0 defined in GSM 04.80
0 1 defined in GSM 04.80
1 0 defined in GSM 04.80
1 1 defined in GSM 04.80

SM capability (MT SMS pt to pt capability) (octet 4)
Bit **4**
0 Mobile station does not support mobile terminated point to point SMS
1 Mobile station supports mobile terminated point to point SMS

Table 10.5.6b/GSM 04.08: *Mobile Station Classmark 2* information element

VBS notification reception (octet 4)
Bit **3**
0 no VBS capability or no notifications wanted
1 VBS capability and notifications wanted

VGCS notification reception (octet 4)
Bit **2**
0 no VGCS capability or no notifications wanted
1 VGCS capability and notifications wanted

FC Frequency Capability (octet 4)
When a GSM 900 band is used (for exceptions see 3.4.18):
Bit **1**
0 The MS does not support the E-GSM or R-GSM band (For definition of frequency bands see GSM 05.05)

1 The MS does support the E-GSM or R-GSM (For definition of frequency bands see GSM 05.05)
Note : For mobile station supporting the R-GSM band further information can be found in MS Classmark 3.

When the DCS 1800 band is used (for exceptions see 3.4.18):
Bit **1**
0 Reserved for future use (for definition of frequency bands see GSM 05.05)

Note: This bit conveys no information about support or non support of the E-GSM or R-GSM band when transmitted on a DCS 1800 channel.

CM3 (octet 5, bit 8)
0 The MS does not support any options that are indicated in CM3
1 The MS supports options that are indicated in classmark 3 IE

CMSP: CM Service Prompt (octet 5, bit 3) $(CCBS)$
0 “Network initiated MO CM connection request” not supported.
1 “Network initiated MO CM connection request” supported for at least one CM protocol.

A5/3 algorithm supported (octet 5, bit 2)
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available

A5/2 algorithm supported (octet 5, bit 1)
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available

NOTE: Additional mobile station capability information might be obtained by invoking the classmark interrogation procedure.

3GPP TSG-CN1 Meeting #27 ***Tdoc N1-022353***
Bangkok, Thailand, 11 – 15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **04.08** **CR** **A1137** ⌘ **rev** **-** ⌘ Current version: **7.18.0** ⌘

*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 ☐ Radio Access Network [X] Core Network [X]

Title:	⌘	Clarification on Revision level
Source:	⌘	T-Mobile
Work item code:	⌘	GSM/UMTS interworking
Date:	⌘	04/11/2002
Category:	⌘	**A**
Release:	⌘	R98

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:	⌘	In case of interworking of different releases between MS and network the upward compatibility is not clearly defined. The revision level indicates which release in the MS is implemented. The behaviour of the network if it receives an unknown revision level, is not clearly defined.
Summary of change:	⌘	The CR request, that a network shall use in case of unknown revision level signalled from the MS within the MS classmark information 1 and 2 the highest revision level of the network implementation.
Consequences if not approved:	⌘	If not approved than is there a risk that a network fall back to Phase1 in case of unknown revision level and reduce unnecessary the network capabilities.

Clauses affected:	⌘	10.5.1.5, 10.5.1.6

Other specs affected: ⌘	Y	N		⌘
	☐	☐	Other core specifications	
	☐	☐	Test specifications	
	☐	☐	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

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

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

10.5.1.5 Mobile Station Classmark 1

The purpose of the *Mobile Station Classmark 1* information element is to provide the network with information concerning aspects of high priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 1* information element is coded as shown in figure 10.5.5/GSM 04.08 and table 10.5.5/GSM 04.08.

The *Mobile Station Classmark 1* is a type 3 information element with 2 octets length.

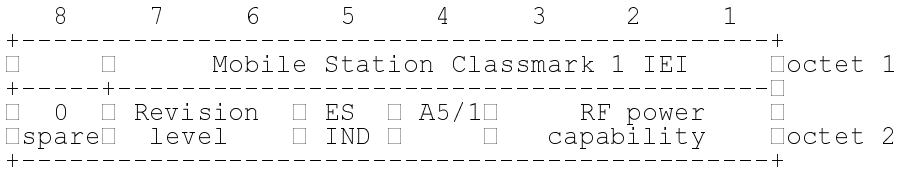

Figure 10.5.5/GSM 04.08: *Mobile Station Classmark 1* information element

Table 10.5.5/GSM 04.08: *Mobile Station Classmark 1* information element

Revision level (octet 2)

Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 mobile stations

All other values are reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented in the MS

1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 2, bit 4)

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF power capability (octet 2)

When the GSM P, E [or R] 900 MHz band is used (for exceptions see 3.4.18):

Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see 3.4.18):

Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

10.5.1.6 Mobile Station Classmark 2

The purpose of the *Mobile Station Classmark 2* information element is to provide the network with information concerning aspects of both high and low priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 2* information element is coded as shown in figure 10.5.6/GSM 04.08, table 10.5.6a/GSM 04.08 and table 10.5.6b/GSM 04.08.

The *Mobile Station Classmark 2* is a type 4 information element with 5 octets length.

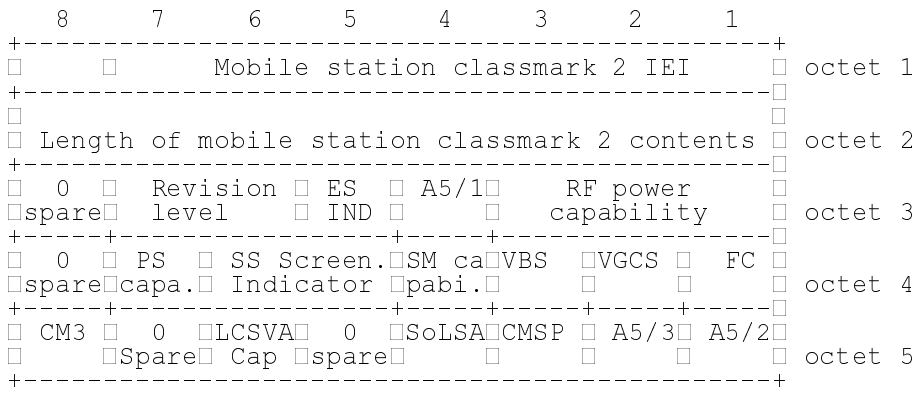

Figure 10.5.6/GSM 04.08: *Mobile Station Classmark 2* information element

NOTE: Owing to backward compatibility problems, bit 8 of octet 4 should not be used unless it is also checked that the bits 8, 7 and 6 of octet 3 are not "0 0 0".

Table 10.5.6a/GSM 04.08: *Mobile Station Classmark 2* information element

Revision level (octet 3)
Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 mobile stations

All other values are reserved for future use If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 3, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 3, bit 4)

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF Power Capability (Octet 3)
When GSM 900 P, E [or R] band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 or PCS 1900 band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

PS capability (pseudo-synchronization capability) (octet 4)
Bit **7**
0 PS capability not present
1 PS capability present

SS Screening Indicator (octet 4)
Bits
6 5
0 0 defined in GSM 04.80
0 1 defined in GSM 04.80
1 0 defined in GSM 04.80
1 1 defined in GSM 04.80

SM capability (MT SMS pt to pt capability) (octet 4)
Bit **4**
0 Mobile station does not support mobile terminated point to point SMS
1 Mobile station supports mobile terminated point to point SMS

Table 10.5.6b/GSM 04.08: *Mobile Station Classmark 2* information element

VBS notification reception (octet 4)
Bit **3**
0 no VBS capability or no notifications wanted
1 VBS capability and notifications wanted

VGCS notification reception (octet 4)
Bit **2**
0 no VGCS capability or no notifications wanted
1 VGCS capability and notifications wanted

FC Frequency Capability (octet 4)
When a GSM 900 band is used (for exceptions see 3.4.18):
Bit **1**
0 The MS does not support the E-GSM or R-GSM band (For definition of frequency bands see GSM 05.05)

1 The MS does support the E-GSM or R-GSM (For definition of frequency bands see GSM 05.05)
Note : For mobile station supporting the R-GSM band further information can be found in MS Classmark 3.

When the DCS 1800 band is used (for exceptions see 3.4.18):
Bit **1**
0 Reserved for future use (for definition of frequency bands see GSM 05.05)

NOTE: This bit conveys no information about support or non support of the E-GSM or R-GSM band when transmitted on a DCS 1800 channel.

CM3 (octet 5, bit 8)
0 The MS does not support any options that are indicated in CM3
1 The MS supports options that are indicated in classmark 3 IE

LCS VA capability (LCS value added location request notification capability) (octet 5,bit 6)
0 LCS value added location request notification capability not supported
1 LCS value added location request notification capability supported

SoLSA (octet 5, bit 4**)**
0 The ME does not support SoLSA.
1 The ME supports SoLSA.

CMSP: CM Service Prompt (octet 5, bit 3) $(CCBS)$
0 "Network initiated MO CM connection request" not supported.
1 "Network initiated MO CM connection request" supported for at least one CM protocol.

A5/3 algorithm supported (octet 5, bit 2)
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available

A5/2 algorithm supported (octet 5, bit 1)
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available

NOTE: Additional mobile station capability information might be obtained by invoking the classmark interrogation procedure.

3GPP TSG-CN1 Meeting #27 ***Tdoc N1-022393***
Bangkok, Thailand, 11 – 15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **04.08** **CR** **A1139** ⌘ **rev** **-** ⌘ Current version: **4.23.1** ⌘

*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 ☐ Radio Access Network ☒ Core Network ☒

Title:	⌘	Clarification on Revision level
Source:	⌘	T-Mobile
Work item code:	⌘	GSM/UMTS interworking
Date:	⌘	04/11/2002
Category:	⌘	**F**
Release:	⌘	2

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:	⌘	In case of interworking of different releases between MS and network the upward compatibility is not clearly defined. The revision level indicates which release in the MS is implemented. The behaviour of the network if it receives an unknown revision level, is not clearly defined.
Summary of change:	⌘	The CR request, that a network shall use in case of unknown revision level signalled from the MS within the MS classmark information 1 and 2 the highest revision level of the network implementation.
Consequences if not approved:	⌘	If not approved than is there a risk that a network fall back to Phase1 in case of unknown revision level and reduce unnecessary the network capabilities.

Clauses affected:	⌘	10.5.1.5, 10.5.1.6

Other specs affected: ⌘	Y	N		⌘
	☐	☐	Other core specifications	
	☐	☐	Test specifications	
	☐	☐	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.
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.

10.5.1.5 Mobile Station Classmark 1

The purpose of the *Mobile Station Classmark 1* information element is to provide the network with information concerning aspects of high priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 1* information element is coded as shown in figure 10.6/GSM 04.08 and table 10.9/GSM 04.08.

The *Mobile Station Classmark 1* is a type 3 information element with 2 octets length.

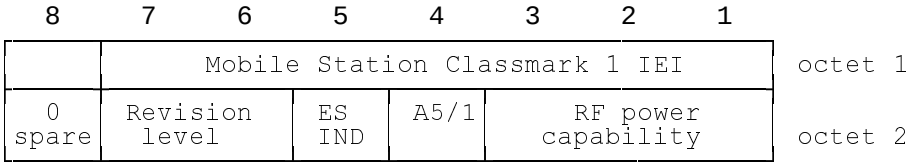

FIGURE 10.6/GSM 04.08
***Mobile Station Classmark 1* information element**

Revision level (octet 2)

Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 MSs

All other values are reserved for future use. . If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented

1 "Controlled Early Classmark Sending" option is implemented

A5/1 algorithm supported (octet 2, bit 4)
0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF power capability (octet 2)

When the GSM 900 band is used (for exceptions see section 3.4.12):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 band is used (for exceptions see section 3.4.12):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

Table 10.9/GSM 04.08
***Mobile Station Classmark 1* information element**

10.5.1.6 Mobile Station Classmark 2

The purpose of the *Mobile Station Classmark 2* information element is to provide the network with information concerning aspects of both high and low priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 2* information element is coded as shown in figure 10.7/GSM 04.08, table 10.10a/GSM 04.08 and table 10.10b/GSM 04.08.

The *Mobile Station Classmark 2* is a type 4 information element with 5 octets length.

8	7	6	5	4	3	2	1	
	Mobile station classmark 2 IEI							octet 1
Length of mobile station classmark 2 contents								octet 2
0 spare	Revision level		ES IND	A5/1	RF power capability			octet 3
0 spare	PS capa.	SS Screen. Indicator		SM capabi.	0 spare		FC	octet 4
CM3	0 spare			0	0	A5/3	A5/2	octet 5

FIGURE 10.7/GSM 04.08
***Mobile Station Classmark 2* information element**

NOTE: Owing to backward compatibility problems, bit 8 of octet 4 should not be used unless it is also checked that the bits 8, 7 and 6 of octet 3 are not "0 0 0".

Revision level (octet 3)
Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 MSs

All other values are reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented
1 "Controlled Early Classmark Sending" option is implemented

A5/1 algorithm supported (octet 3, bit 4)

0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

When the GSM 900 band is used (for exceptions see 3.4.12):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 band is used (for exceptions see 3.4.12):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

PS capability (pseudo-synchronization capability) (octet 4)
Bit 7
0 PS capability not present
1 PS capability present

SS Screening Indicator (octet 4)
Bits
6 5
0 0 defined in GSM 04.80
0 1 defined in GSM 04.80
1 0 defined in GSM 04.80
1 1 defined in GSM 04.80

SM capability (MT SMS pt to pt capability) (octet 4)
Bit 4
0 Mobile Station does not support mobile terminated point to point SMS
1 Mobile Station supports mobile terminated point to point SMS

Table 10.10a/GSM 04.08
***Mobile Station Classmark 2* information element**

FC Frequency Capability (octet 4)
When the GSM 900 band is used (for exceptions see 3.4.12):
bit 1
0 The mobile station does not support the extension band G1 in addition to the primary GSM band. (For definition of frequency bands see GSM 05.05)
1 The mobile station does support the extension band G1 in addition to the primary GSM band. (For definition of frequency bands see GSM 05.05)

When the DCS 1800 band is used (for exceptions see 3.4.12):
bit 1
0 Reserved for future use (for definition of frequency bands see GSM 05.05)

Note: This bit conveys no information about support or non support of the G1 extension band when transmitted on a DCS 1800 channel.

Classmark 3 (octet 5, bit 8)
0 No additional MS capability information available
1 Additional MS capabilities are described in the Classmark 3 information element

A5/3 algorithm supported (octet 5, bit 2)
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available

A5/2 algorithm supported (octet 5, bit 1)
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available

Table 10.10b/GSM 04.08
***Mobile Station Classmark 2* information element**

NOTE: Additional mobile station capability information might be obtained by invoking the classmark interrogation procedure.

3GPP TSG-CN1 Meeting #27 ***Tdoc N1-022394***
Bangkok, Thailand, 11 – 15 November 2002

CR-Form-v7

CHANGE REQUEST

⌘ **04.08** **CR** **A1141** ⌘ **rev** **-** ⌘ Current version: **5.18.1** ⌘

*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 ☐ Radio Access Network **X** Core Network **X**

Title:	⌘	Clarification on Revision level
Source:	⌘	T-Mobile
Work item code:	⌘	GSM/UMTS interworking
Date:	⌘	04/11/2002
Category:	⌘	**A**
Release:	⌘	R96

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:

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

Reason for change:	⌘	In case of interworking of different releases between MS and network the upward compatibility is not clearly defined. The revision level indicates which release in the MS is implemented. The behaviour of the network if it receives an unknown revision level, is not clearly defined.
Summary of change:	⌘	The CR request, that a network shall use in case of unknown revision level signalled from the MS within the MS classmark information 1 and 2 the highest revision level of the network implementation.
Consequences if not approved:	⌘	If not approved than is there a risk that a network fall back to Phase1 in case of unknown revision level and reduce unnecessary the network capabilities.

Clauses affected:	⌘	10.5.1.5, 10.5.1.6

Other specs affected: ⌘	Y	N		⌘
	☐	☐	Other core specifications	
	☐	☐	Test specifications	
	☐	☐	O&M Specifications	

Other comments: ⌘

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10.5.1.5 Mobile Station Classmark 1

The purpose of the *Mobile Station Classmark 1* information element is to provide the network with information concerning aspects of high priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 1* information element is coded as shown in figure 10.6/GSM 04.08 and table 10.9/GSM 04.08.

The *Mobile Station Classmark 1* is a type 3 information element with 2 octets length.

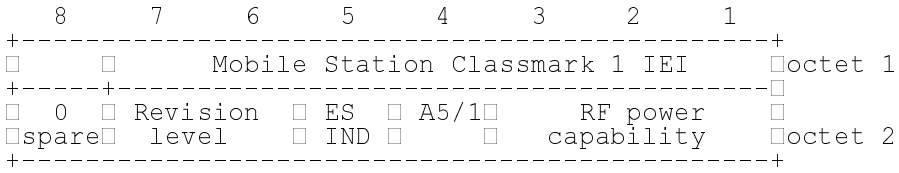

Figure 10.6/GSM 04.08: *Mobile Station Classmark 1* information element

Table 10.9/GSM 04.08: *Mobile Station Classmark 1* information element

Revision level (octet 2)

Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 mobile stations

All other values are reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet 2, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented in the MS

1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 2, bit 4)
0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

RF power capability (octet 2)

When the GSM P, E [or R] 900 MHz band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

10.5.1.6 Mobile Station Classmark 2

The purpose of the *Mobile Station Classmark 2* information element is to provide the network with information concerning aspects of both high and low priority of the mobile station equipment. This affects the manner in which the network handles the operation of the mobile station. The Mobile Station Classmark information indicates general mobile station characteristics and it shall therefore, except for fields explicitly indicated, be independent of the frequency band of the channel it is sent on.

The *Mobile Station Classmark 2* information element is coded as shown in figure 10.7/GSM 04.08, table 10.10a/GSM 04.08 and table 10.10b/GSM 04.08.

The *Mobile Station Classmark 2* is a type 4 information element with 5 octets length.

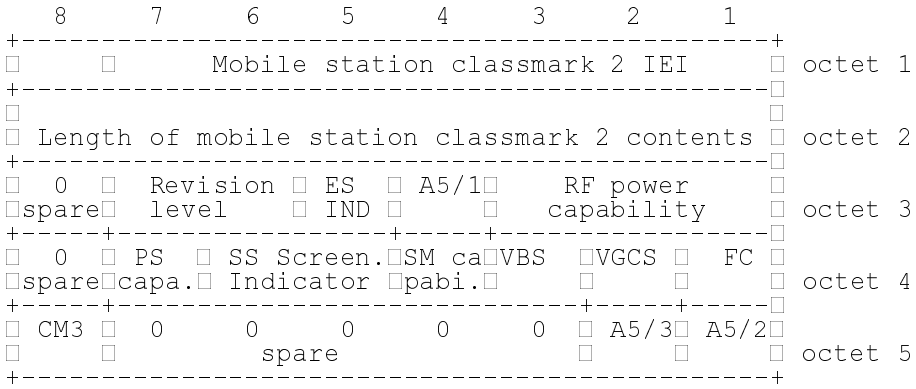

Figure 10.7/GSM 04.08: *Mobile Station Classmark 2* information element

NOTE: Owing to backward compatibility problems, bit 8 of octet 4 should not be used unless it is also checked that the bits 8, 7 and 6 of octet 3 are not "0 0 0".

Table 10.10a/GSM 04.08: *Mobile Station Classmark 2* information element

Revision level (octet 3)
Bits
7 6
0 0 Reserved for phase 1
0 1 Used by phase 2 mobile stations

All other values are reserved for future use. If the network receives a revision level specified as 'reserved for future use', then it shall use the highest revision level supported by the network.

ES IND (octet3, bit 5) "Controlled Early Classmark Sending" option implementation

0 "Controlled Early Classmark Sending" option is not implemented in the MS
1 "Controlled Early Classmark Sending" option is implemented in the MS

NOTE: The value of the ES IND gives the implementation in the MS. It's value is **not** dependent on the broadcast SI 3 Rest Octet <Early Classmark Sending Control> value.

A5/1 algorithm supported (octet 3, bit 4)
0 encryption algorithm A5/1 available
1 encryption algorithm A5/1 not available

When GSM 900 P, E [or R] band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3
0 1 1 class 4
1 0 0 class 5

All other values are reserved.

When the DCS 1800 band is used (for exceptions see 3.4.18):
Bits
3 2 1
0 0 0 class 1
0 0 1 class 2
0 1 0 class 3

All other values are reserved.

PS capability (pseudo-synchronization capability) (octet 4)
Bit **7**
0 PS capability not present

1 PS capability present

SS Screening Indicator (octet 4)
Bits
6 5
0 0 defined in GSM 04.80
0 1 defined in GSM 04.80
1 0 defined in GSM 04.80
1 1 defined in GSM 04.80

SM capability (MT SMS pt to pt capability) (octet 4)
Bit **4**
0 Mobile station does not support mobile terminated point to point SMS
1 Mobile station supports mobile terminated point to point SMS

Table 10.10b/GSM 04.08: *Mobile Station Classmark 2* information element

VBS notification reception (octet 4)
Bit **3**
0 no VBS capability or no notifications wanted
1 VBS capability and notifications wanted

VGCS notification reception (octet 4)
Bit **2**
0 no VGCS capability or no notifications wanted
1 VGCS capability and notifications wanted

FC Frequency Capability (octet 4)
When a GSM 900 band is used (for exceptions see 3.4.18):
Bit **1**
0 The MS does not support the E-GSM or R-GSM band
(For definition of frequency bands see GSM 05.05)

1 The MS does support the E-GSM or R-GSM band. (For definition of frequency bands see GSM 05.05)

Note: For mobile stations supporting the R-GSM band further information can be found in MS Classmark 3.
When the DCS 1800 band is used (for exceptions see 3.4.18):
Bit **1**
0 Reserved for future use (for definition of frequency bands see GSM 05.05)

Note: This bit conveys no information about support or non support of the E-GSM or R-GSM band when transmitted on a DCS 1800 channel.

CM3 (octet 5, bit 8)
0 The MS does not support any options that are indicated in CM3
1 The MS supports options that are indicated in classmark 3 IE

A5/3 algorithm supported (octet 5, bit 2)
0 encryption algorithm A5/3 not available
1 encryption algorithm A5/3 available

A5/2 algorithm supported (octet 5, bit 1)
0 encryption algorithm A5/2 not available
1 encryption algorithm A5/2 available

NOTE: Additional mobile station capability information might be obtained by invoking the classmark interrogation procedure.