Technical Specification Group Services and System Aspects ***TSGS#2(99)015***
Meeting #2, Fort Lauderdale, 2-4 March 1999

Source: **TSG_SA_WG1**

Title: **Change Requests to UMTS 22.00 and 22.05**

(Inputs from ARIB, ETSI & TTC)

Documents for: **Approval**

Agenda Item: **9.1**

The following Change Requests (CRs) affect TS22.00 on UMTS Phase 1 Specifications and TS22.05 on Services and Service capabilities Specifications.

CR_Number	S1	Title	Source (SA_WG1)	Who?
22.00A001	070	Cell Broadcast on 22.00	MMO	Stephan Kleier
22.00A002	069	Proposed General Requirements for IMT-2000/UMTS Network Standardisation	NTT DoCoMo, AT&T Wireless, TIM/CSELT, T-Mobil	Horst Rauch
22.00A007	058	Cross-Phase compatibility	France Telecom	David Verrier
22.05A006	066	Cell Broadcast - CR on 22.05	MMO	Stephan Kleier

TSG-SA Working Group 1 (Services) meeting #1
Sophia Antipolis
1st – 5th February 1999

TSGS1#1(99)070

CHANGE REQUEST No : **001** *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification GSM / UMTS: 22.00 Version 2.0.0

Submitted to SMG *list plenary meeting or STC here ↑* | for approval **X** / for information | without presentation ("non-strategic") **X** / with presentation ("strategic")

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: *(at least one should be marked with an X)* SIM [ ] ME [ ] Network [X]

Work item: UMTS

Source: Mannesmann Mobilfunk GmbH, Germany **Date:** 1999-02-04

Subject: Cell Broadcast Service in UMTS

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	X
D	Editorial modification	X

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	
UMTS	X

Reason for change: At recent ETSI SMG meetings (SMG#27, SMG1 in Rome) the opinion was endorsed that Short Message Service-Cell Broadcast (SMS-CB) is vital for 3rd Generation and respective functionality should be included. For the early phase of 3rd Generation deployments it is even more important as customers who roam into 3rd G coverage areas would lose services they are familiar with. The CR introduces necessary wording.

Clauses affected: 5

Other specs affected:

Other releases of same spec	[ ]	→ List of CRs:
Other core specifications	[ ]	→ List of CRs:
MS test specifications / TBRs	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc <--------- double-click here for help and instructions on how to create a CR.

5 Teleservices/Data Applications

UMTS phase 1 will enable the introduction of a range of new services (e.g. Internet services and Multimedia) and applications with the concept of service capabilities. The service capabilities are bearer services defined by parameters (e.g. QoS attributes) and mechanisms needed to realise services.

UMTS phase 1 shall at least support the following GSM teleservices currently handled by GSM : speech, emergency call and SMS. UMTS phase 1 shall support these teleservices as stated below :

Speech: A default speech codec shall be specified to provide speech service across the UTRAN and GSM access networks. The selected speech codec shall operate with no discernible loss of speech on handover between the GSM access network and the UTRAN.

Short Message Service-Point to Point (SMS-PP)**:** A short message service point to point shall be provided seamlessly (as far as the user or the users terminal equipment is concerned) across the UMTS and GSM access network. Additional features are planned for SMS in **Release 99.**

Short Message Service-Cell Broadcast (SMS-CB): A short message service cell broadcast shall be provided seamlessly (as far as the user or the users terminal equipment is concerned) across the UMTS and GSM network.

NOTE : Transfer of data to/from facsimile machines in the PSTN/ISDN should be supported seamlessly (as far as the user or the user's terminal is concerned) across the UMTS and GSM access network. It is envisaged that the main use of fax in the mobile environment will be via PCs. UMTS will not support direct end-to-end communication using T.30. Instead a store and forward service is envisaged where some kind of file transfer program is used to transfer text or images to a store and forward unit for subsequent delivery to the facsimile machine in the PSTN/ISDN. The user (or the users PC) may receive notification of successful delivery of the fax. No standardisation of a fax store and forward service is planned and it is envisaged that roaming subscribers will be supported via the VHE.

3GPP TSG-SA WG1#1 (99/1)

Sophia Antipolis 1st. 5th. February 1999

Tdoc TSGS1#1(99)069

CHANGE REQUEST No : 002 *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification GSM / UMTS: 22.00 Version 20.0

Submitted to SMG *list plenary meeting or STC here ↑* | for approval | for information | without presentation ("non-strategic") X | with presentation ("strategic")

PT SMG CR cover form. Filename: ***crf26_3.doc***

Proposed change affects: *(at least one should be marked with an X)* SIM [ ] ME [ ] Network [X]

Work item:

Source: NTT DoCoMo, AT&T Wireless, TIM/CSELT, T-Mobil **Date:** 1999-02-03

Subject: Addition and clarification of general Operator requirement for 3G System

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	X
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	
UMTS	X

Reason for change: Some general operator requirements for IMT-2000/UMTS network standardisation need to be clarified such as 3GPP standardisation should allow the network operators to efficiently operate the network and deploy new technologies in an multi vendor environment.

Clauses affected:

Other specs affected:

Other releases of same spec		→ List of CRs:
Other core specifications		→ List of CRs:
MS test specifications / TBRs		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

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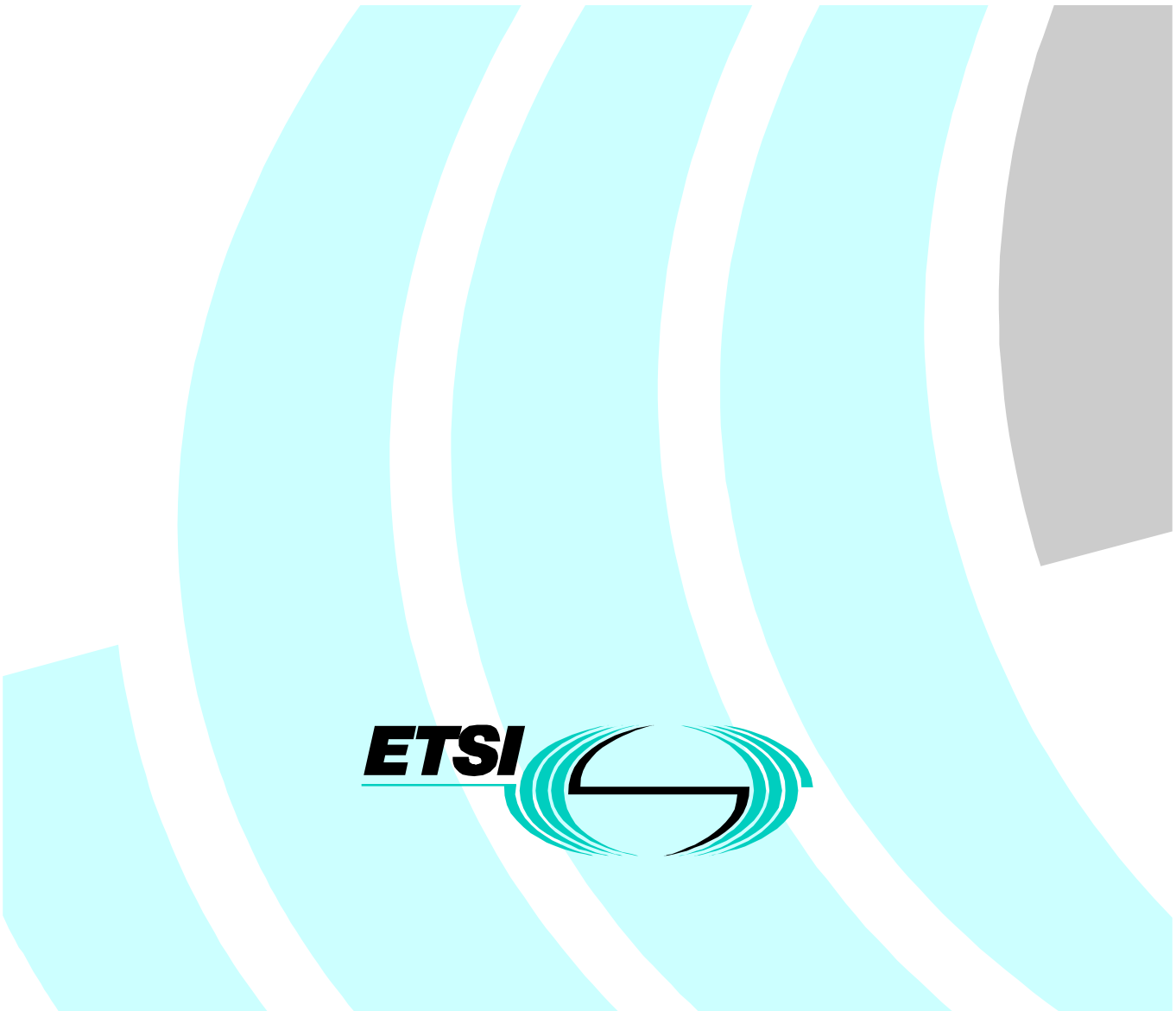
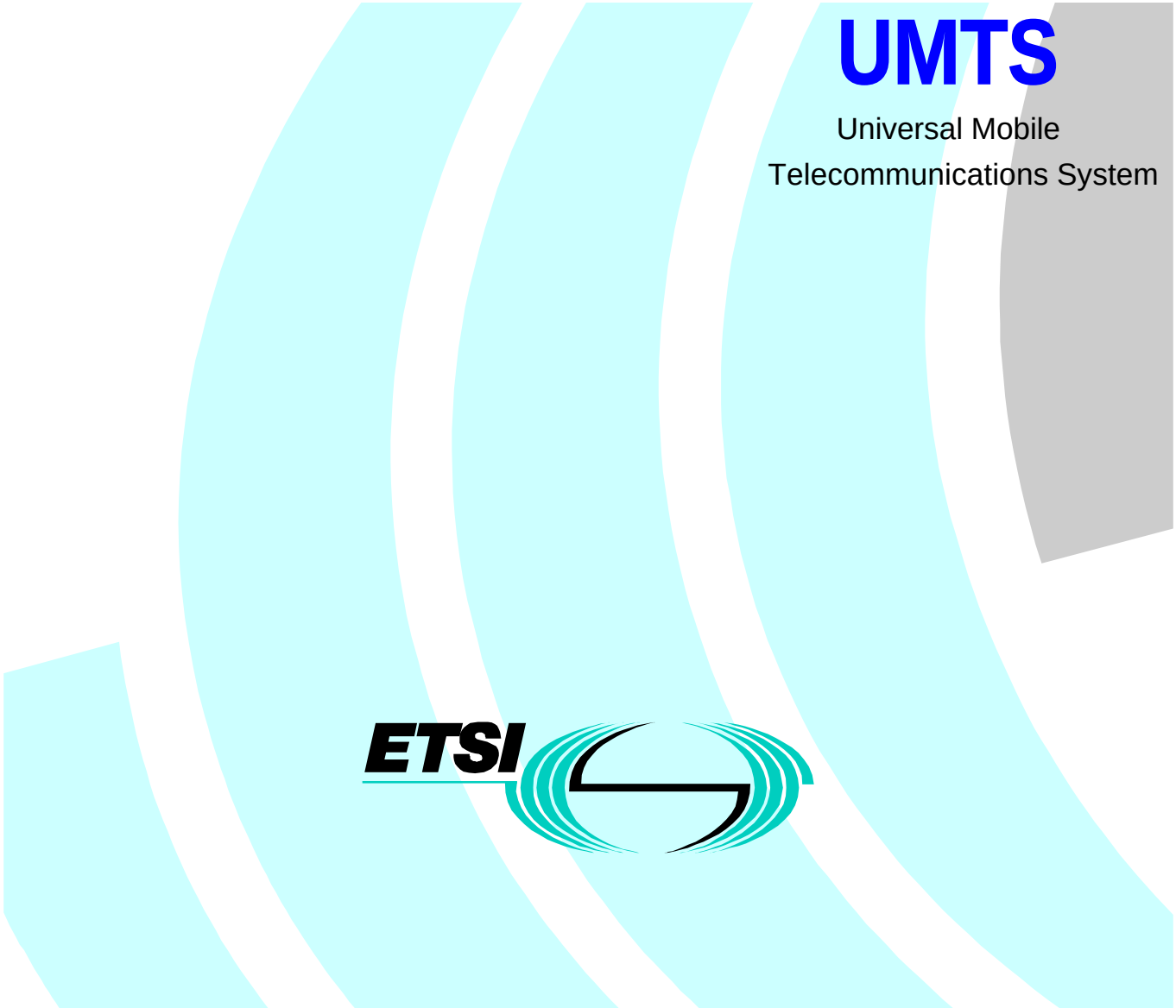

ETSI

UMTS 22.00 V2.0.0 (1999-01)

Technical Specification

Universal Mobile Telecommunications System (UMTS);
UMTS phase 1
(UMTS 22.00 version 2.0.0



4 UMTS phasing and releases overview

The UMTS system will be defined in a phased approach. This specification addresses the UMTS phase 1 capabilities for RELEASE '99.

The UMTS phase 1 requirements can be met by the capabilities of GSM phase 2+ release 99 including specific enhancements for UMTS. Additional developments to fully meet the requirements for UMTS phase 1 standardisation are listed in this specification.

The fundamental difference between GSM and UMTS phase 1 resides in the support of high bit rate bearer services with the notion of negotiated traffic and QoS characteristics. UMTS phase 1 shall in particular support bursty and asymmetric traffic in an efficient way. This shall allow UMTS phase 1 to support single- and multi-media N-ISDN applications and single- and multi-media IP applications.

The phase 1 USIM is developed on the basis of the phase 2+ release 99 SIM. When UMTS specific requirements have not been stated in this specification it is assumed that the GSM phase 2+ release 99 specifications for the SIM is adopted for the UMTS phase 1 requirements.

No specific requirement is addressed for the mobile termination since it relates to the UMTS access stratum and to the UMTS core network (depending whether peer entities end either in the access or in the core).

Regarding the phase 1 standardisation of UMTS access network, only the UTRAN (including all UTRA modes if several modes are defined) is considered as being part of the UMTS access network. Other types of access networks are for further consideration. UTRAN is a new access network and as such all the UTRAN requirements are defined in this specification. This includes in particular the interoperability requirements put on the UTRAN and GSM BSS access networks to cater with UMTS networks operating the two types of access networks.

UMTS phase 1 shall be developed in such a way that it supports compatibility with an evolved GSM network from the point of view of roaming and handover. This could be achieved by evolving from a GSM phase 2+ network but does not exclude other developments. Therefore, phase 1 specifications shall allow operators to introduce new technologies (such as ATM, IP,...). An overall UMTS system approach is needed for UMTS phase 1 development as it is more than the addition of a UTRAN to a GSM Phase 2+ architecture. Requirements to the GSM phase 2+ core network for UMTS should be incorporated.

To enable operators to utilize the network resources efficiently, the optimization of the signaling load as well as the reduction of the required overall transmission capacity is a critical success factor. Therefor the standard should aim for an architecture with minimal signaling traffic and optimized transmission infrastructure. If advantageous common mobility management and common subscriber data management for CS and PS traffic should be implemented in all relevant network elements. Furthermore the standard should support an integrated node (MSC/SGSN) for PS and CS traffic as well as separated nodes as in GSM/GPRS.

From the viewpoint of the necessity of providing multi-vendor environments, interfaces within the UTRAN (such as Iub)~~Iub specifications~~ shall be standardized. ~~H~~However, since operator dependent O&M requirements over these interfaces~~Iub~~ may exist, specifications should be able to be expanded flexibly according to operator specific requirements

It should be noted that the advanced bearer capabilities of the phase 1 UMTS access network may not be fully supported by the phase 1 UMTS core network. This however guarantees the viability of the UMTS access network to allow the scope within phase 1 to support broadband bearer services.

A standard default speech codec shall be standardised for UMTS phase 1. UMTS should support tandem free operation from day 1 to enable lower transmission and equipment costs and for higher speech quality. Crossphase compatibility issues in transcoder location should be considered when moving from Phase 1 UTRAN to later releases.

TSG-SA Working Group 1 (Services) meeting #1
Sophia Antipolis
1st – 5th February 1999

TSGS1#1(99)058

CHANGE REQUEST No : *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification GSM / UMTS: 22.00 Version 2.0.0

Submitted to SMG *list plenary meeting or STC here ↑* | for approval **X** | for information | without presentation ("non-strategic") **X** | with presentation ("strategic")

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: *(at least one should be marked with an X)* SIM **X** ME **X** Network **X**

Work item: UMTS

Source: France Telecom **Date:** 1999-02

Subject: UMTS and Cross Phase Compatibility

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	X
C	Functional modification of feature	
D	Editorial modification	

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	
UMTS	X

Reason for change: addition of features according to MOU SERG requirements on UMTS and Cross Phase Compatibility.

Clauses affected: 4.1

Other specs affected:

Other releases of same spec		→ List of CRs:
Other core specifications		→ List of CRs:
MS test specifications / TBRs		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

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UMTS

Universal Mobile Telecommunications System (UMTS);

Universal Mobile Telecommunications System

UMTS phase 1

(UMTS 22.00 version 2.0.0

4 UMTS phasing and releases overview

The UMTS system will be defined in a phased approach. This specification addresses the UMTS phase 1 capabilities for RELEASE '99.
The UMTS phase 1 requirements can be met by the capabilities of GSM phase 2+ release 99 including specific enhancements for UMTS. Additional developments to fully meet the requirements for UMTS phase 1 standardisation are listed in this specification.
The fundamental difference between GSM and UMTS phase 1 resides in the support of high bit rate bearer services with the notion of negotiated traffic and QoS characteristics. UMTS phase 1 shall in particular support bursty and asymmetric traffic in an efficient way. This shall allow UMTS phase 1 to support single- and multi-media N-ISDN applications and single- and multi-media IP applications.
The phase 1 USIM is developed on the basis of the phase 2+ release 99 SIM. When UMTS specific requirements have not been stated in this specification it is assumed that the GSM phase 2+ release 99 specifications for the SIM is adopted for the UMTS phase 1 requirements.
No specific requirement is addressed for the mobile termination since it relates to the UMTS access stratum and to the UMTS core network (depending whether peer entities end either in the access or in the core).
Regarding the phase 1 standardisation of UMTS access network, only the UTRAN (including all UTRA modes if several modes are defined) is considered as being part of the UMTS access network. Other types of access networks are for further consideration. UTRAN is a new access network and as such all the UTRAN requirements are defined in this specification. This includes in particular the interoperability requirements put on the UTRAN and GSM BSS access networks to cater with UMTS networks operating the two types of access networks.
UMTS phase 1 shall be developed in such a way that it supports compatibility with an evolved GSM network from the point of view of roaming and handover. This could be achieved by evolving from a GSM phase 2+ network but does not exclude other developments. An overall UMTS system approach is needed for UMTS phase 1 development as it is more than the addition of a UTRAN to a GSM Phase 2+ architecture. Requirements to the GSM phase 2+ core network for UMTS should be incorporated.
It should be noted that the advanced bearer capabilities of the phase 1 UMTS access network may not be fully supported by the phase 1 UMTS core network. This however guarantees the viability of the UMTS access network to allow the scope within phase 1 to support broadband bearer services.
A standard default speech codec shall be standardised for UMTS phase 1. UMTS should support tandem free operation from day 1 to enable lower transmission and equipment costs and for higher speech quality. Crossphase compatibility issues in transcoder location should be considered when moving from Phase 1 UTRAN to later releases.

4.1 Post UMTS Phase 1 operation

After phase 1, the new capabilities of UMTS shall be defined in annual releases where each release constitutes a coherent set of specifications covering UMTS mobile station, access network and core network .
UMTS phase 1 should facilitate evolution towards a single integrated core network infrastructure.
The introduction of Phase 1 UMTS shall not limit or restrict the evolution to later UMTS releases, however, the different starting points to introduce UMTS need to be taken into account.
Cross Phase compatibility shall be considered from day 1 and should include the following aspects:

1) Terminals (e.g. support of phase1 terminals in later releases of UMTS networks and vice-versa).
2) Signalling and protocols, including UTRAN to Core Network, inter network and terminal to network.
3) Security aspects (e.g. the relationship of GSM and UMTS security mechanisms).

Efficient mechanisms for communicating versions and managing cross phase issues shall be designed into the UMTS system from the very start. The mechanisms should be applicable to any components of the system that are planned to be, or might in the future be, phased. These principles might be applicable to : Hardware, Firmware, Software, APIs.

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TSGS1#1(99)066

CHANGE REQUEST No : **A006** *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification GSM / UMTS: 22.05 Version 3.3.0

Submitted to SMG *list plenary meeting or STC here ↑* | for approval **X** | for information | without presentation ("non-strategic") | with presentation ("strategic") **X**

PT SMG CR cover form. Filename: crf26_3.doc

Proposed change affects: *(at least one should be marked with an X)* SIM ☐ ME ☐ Network **X**

Work item: UMTS

Source: Mannesmann Mobilfunk GmbH, Germany **Date:** 1999-02-04

Subject: Cell Broadcast Service in UMTS.

Category: *(one category and one release only shall be marked with an X)*

F	Correction	
A	Corresponds to a correction in an earlier release	
B	Addition of feature	
C	Functional modification of feature	X
D	Editorial modification	X

Release:

Phase 2	
Release 96	
Release 97	
Release 98	
Release 99	
UMTS	X

Reason for change: At recent ETSI SMG meetings (SMG#27, SMG1 in Rome) the opinion was endorsed that Short Message Service-Cell Broadcast (SMS-CB) is vital for 3rd Generation and respective functionality should be included. For the early phase of 3rd Generation deployments it is even more important as customers who roam into 3rd G coverage areas would lose services they are familiar with. The CR introduces necessary wording.

Clauses affected: 6.4

Other specs affected:

Other releases of same spec	☐	→ List of CRs:
Other core specifications	☐	→ List of CRs:
MS test specifications / TBRs	☐	→ List of CRs:
BSS test specifications	☐	→ List of CRs:
O&M specifications	☐	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.4.3 Short Message Service - Point to Point (SMS-PP)

The short message service point to point as specified in GSM 02.03 shall be supported in UMTS. A short message service shall be provided seamlessly (as far as the user or the users terminal equipment is concerned) across the UMTS and GSM access network. Additional features are planned for SMS in Release 99.

6.4.4 Short Message Service - Cell Broadcast (SMS-CB)

A short message service cell broadcast shall be provided seamlessly (as far as the user or the users terminal equipment is concerned) across the UMTS and GSM network.