3GPP TSG-T (Terminals) Meeting #17
Biarritz, France, 4 - 6 September, 2002

Tdoc TP-020203

Agenda Item: 5.2.3

Source: T2

Title: "Terminal Interfaces and Capabilities" Change Requests

Document for: Approval

Spec	CR	Rev	Rel	Subject	Cat	Vers-Current	Vers-New	T2 doc	Workitem
21.904	010	-	R99	CR to include references for UMTS_AMR2 Codec	F	3.4.0	3.5.0	T2-020690	TEI

3GPP TSG-T2 #18
Velen, Germany
12 -16 August 2002

T2-020690

CR-Form-v4

CHANGE REQUEST

⌘ **21.904** **CR** **10** ⌘ ev **-** ⌘ Current version: **3.4.0** ⌘

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

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

Title:	⌘	CR to include references for UMTS_AMR2 Codec
Source:	⌘	T2
Work item code:	⌘	AMR
Date:	⌘	2002-08-12
Category:	⌘	**F**
Release:	⌘	R99

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

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

Reason for change:	⌘	To Align with Core Specifications changes to accommodate UMTS_AMR2 Codec
Summary of change:	⌘	The changes refer to the relevant Core Specifications and documents.
Consequences if not approved:	⌘	TR21.904, UE Capabilities Requirements, will be out of date with R99 Core Specs

Clauses affected:	⌘	1. A new reference specification [45] is added in the Reference Section 2.0 for TS26.103. 2. Section 7.1.1.1. is updated to add core specifications references for UMTS AMR2 support, to explain the UMTS AMR2. 3. Annex I, change history, is shown as it will updated
Other specs affected:	⌘	☐ Other core specifications ⌘ 24.008, 26.103, 26.071, 26.093 ☐ Test specifications 34.121, 34.123 ☐ O&M Specifications
Other comments:	⌘	Changes to TR21.904 for support of the UMTS AMR2 codec have been presented at earlier meetings, see T2-010964 from T2#15, Cancun. The introductory comments in T2-010964 are included below for easy reference. TSG-CN has now made the requisite changes to the Rls99 version of TS24.008 in v3.c.0. hence as per prior discussions and TSG-T direction, a CR needs to be approved to indicate support of UMTS AMR2 under the specified circumstances (e.g. for dual-mode UMTS/GSM UEs). The attached CR is presented for review and approval as an output to T2. *Introductory comments in T2-010964* *CN1 has sent an LS to TSG-T and T2, N1-011286 (T2-010886) regarding the*

	UMTS_AMR2 codec. The T2 documents relevant to T2 actions with regard to this LS request are T2-010962 and T2-010963. *As mentioned in 962 and 963, and as per the decision of TSG-T, changes should be made to TR21.904. However, these changes can/should only be implemented subsequent to changes in the core specs to incorporate UMTS_AMR2 operation, otherwise the TR21.904 will be out of sync with, and ahead of, these core specs.* *Therefore this document is for information purposes only. It shows the changes which would be considered in a CR to incorporate support for UMTS_AMR2 and a refer-out to the core specs, after changes for UMTS_AMR2 support are incorporated in the core specs.*

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

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

1 Scope

The present document's scope is the Release 99 of the 3GPP specifications to which it refers. This document is not currently planned to be kept updated beyond December 2000.

The present document defines a baseline set of capability requirements that enable all UEs to "register" with all applicable 3GPP networks (depending on the availability of a appropriate subscription). It describes all the functions that a UE has to perform in order to "exist" within a 3GPP network. These functions are used to derive requirements for all aspects of UE baseline capability. The present document also identifies different UE Service Capabilities and the functions that a UE must perform in order to access a service. The actual capabilities that a UE must posses to meet these requirements are identified in the report and in some instances listed in the Annexes to the present document, as well as being described in the referenced implementation specifications.

The present document introduces the concept of "**service-less UE**" which can exist in the network but provides no user service. Although this is not a marketable UE type it describes from the standardisation viewpoint a baseline set of capabilities to which specific service-related UE capabilities can then be added.

The present document should not be used as the sole basis for UE design, only as an informative indication of capabilities required to support a given functionality, and as a pointer to the location of text describing said functionality, in the core specifications.

UE capability requirements may include some regulatory requirements (mandatory requirements). However, it is not intended to identify them as such in this report. Some of the requirements identified in this document as essential, may therefore also be "mandatory" according to the definition of that term appearing herein.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the version as of the date in the relevant Annex applies. Since this TR is not planned to be kept updated beyond December 2000, validity of non-specific references beyond this date should be verified by the reader.

[1] 3GPP TS 25.304: "UE Procedures in idle mode and procedures for cell reselection in connected mode ".

[2] 3GPP TS 25.303: "UE Functions and Inter-Layer Procedures in Connected Mode".

[3] 3GPP TS 22.101: "Service Principles".

[4] 3GPP TS 22.100: "UMTS Phase 1 Release 99".

[5] 3GPP TS 22.105: "Service Aspects, Services and Service Capabilities".

[6] 3GPP TS 22.121: "Service Aspects, Virtual Home Environment".

[7] 3GPP TS 22.129: "Handover between UMTS and GSM or other Radio systems".

[8] 3GPP TS 02.04: "Digital cellular telecommunications system (Phase2+); General on supplementary services".

[9] 3GPP TS 02.81: "Digital cellular telecommunication system (Phase 2+); Line identification supplementary services - Stage 1".

[10] 3GPP TS 02.82: "Digital cellular telecommunication system (Phase 2+); Call Forwarding (CF) supplementary services - Stage 1".

[11] 3GPP TS 02.83: "Digital cellular telecommunication system (Phase 2+); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 1".

[12] 3GPP TS 02.84: "Digital cellular telecommunication system (Phase 2+); MultiParty (MPTY) supplementary services - Stage 1".

[13] 3GPP TS 02.85: "Digital cellular telecommunication system (Phase 2+); Closed User Group (CUG) supplementary services - Stage 1".

[14] 3GPP TS 02.86: "Digital cellular telecommunication system (Phase 2+); Advice of Charge (AoC) supplementary services - Stage 1".

[15] 3GPP TS 02.88: "Digital cellular telecommunication system (Phase 2+); Call Barring (CB) supplementary services - Stage 1".

[16] 3GPP TS 02.91: "Digital cellular telecommunication system (Phase 2+); Explicit Call Transfer (ECT)".

[17] 3GPP TS 24.008: "Layer 3 specification".

[18] 3GPP TR 21.910: "Multi-mode UE issues - Categories, principles and procedures (Release 1999)".

[19] 3GPP TS 26.071: "Mandatory Speech Codec speech processing functions AMR Speech Codec; General Description".

[20] 3GPP TS 26.073: "ANSI-C code for the Adaptive Multi Rate speech codec".

[21] 3GPP TS 26.074: "Mandatory Speech Codec speech processing functions; AMR Speech Codec Test Sequences".

[22] 3GPP TS 26.090: "Mandatory Speech Codec speech processing functions AMR speech codec; Transcoding functions".

[23] 3GPP TS 26.091: "Mandatory Speech Codec speech processing functions AMR speech codec; Error concealment of lost frames".

[24] 3GPP TS 26.093: "Mandatory Speech Codec speech processing functions AMR Speech Codec; Source Controlled Rate operation".

[25] 3GPP TS 26.094: "Mandatory Speech Codec speech processing functions AMR Speech Codec; Voice Activity Detector (VAD)".

[26] 3GPP TS 26.110: "Codec for Circuit Switched Multimedia Telephony Service:General Description".

[27] 3GPP TS 26.111: "Modifications to H.324".

[28] 3GPP TS 26.112: "Call Set Up Requirements".

[29] 3GPP TR 26.911: "Terminal Implementor’s Guide".

[30] 3GPP TR 25.926: "UE Radio Access Capabilities".

[31] 3GPP TS 23.146: "Technical realisation of facsimile group 3 non-transparent".

[32] 3GPP TS 27.002: "Terminal Adaptation Functions (TAF) for services using asynchronous bearer capabilities".

[33] 3GPP TS 27.001: "General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".

[34] 3GPP TS 22.071: "Locations Service (LCS); Service description, Stage 1".

[35] 3GPP TS 25.305: "Stage 2 Functional Specification of Location Services in UTRAN".

[36] 3GPP TS 23.040: "Technical realisation of Short Message Service (SMS)".

[37] 3GPP TS 24.011: "Short Message Service Support on Mobile Radio Interface".

[38] 3GPP TS 23.041: "Technical realisation of Cell Broadcast Service (CBS)".

[39] 3GPP TS 22.042: "Network and Identity Timezone (NITZ); Service description, Stage 1".

[40] 3GPP TS 22.090: "Unstructured Supplementary Service Data (USSD) – Stage 1".

[41] 3GPP TS 24.080: "Mobile Radio Interface Layer 3 supplementary services specification; Formats and Coding".

[42] 3GPP TS 31.101: "UICC – Terminal Interface; Logical and Physical Characteristics".

[43] 3GPP TS 31.111: "USIM Application Toolkit (USAT)".

[44] 3GPP TS 23.057: "Mobile Station Application Execution Environment (MExE); Functional Description; Stage 2".

[45] 3GPP TS 26.103: " Speech Codec List for GSM and UMTS ".

5 UE Implementation Types

Although the baseline capability requirements define what is needed for service-less UEs there are a few basic service-less UE types which can be used to meet these requirements. Examples of these are as follows:

- UTRA FDD and/or TDD mode
- GSM mode

Further information on UE implementation types can be found in 21.910 [18].

7 UE Service Capabilities

UE Service Capabilities are required in addition to Baseline Capabilities in order that the UE can support a given service. In the 3GPP documentation unless otherwise stated, none of the identified UE Service Capabilities are Unconditionally Essential for the UE and the support of one service in a UE does not imply a requirement to support any other service (unless otherwise stated).

Details of negotiable implementation capabilities for the radio access domain are contained in [30]. However, the intention of that document is to identify the capabilities parameters that have to be notified by the UE to the UTRAN, rather than to explicitly identify the implementation capabilities required to support a given service.

7.1 3GPP Standardised UE Service Capabilities

The 3GPP release ‘99 requirements for the UE Service Capabilities listed below are listed in TS 22.100 UMTS Phase 1 Release 99 [4]. UMTS R99 will standardise the technical means by which a UE may implement the following UE Service Capabilities. The UE Service Capabilities can be divided into five main categories as follows:

1. **Tele-services (defined in [5])**
   - Speech.
   - Emergency Call (essential for all UE supporting the default speech service).
   - Short Message Service.
   - Cell Broadcast Service - CBS.

2. **Bearer Services**
   - Circuit-switched data
   - Packet-switched data
   - Defined by their attributes as described in [5].
     - Information transfer attributes (e.g. Information transfer rate, Information Transfer Characteristics,etc.).
     - Information quality attributes (e.g. Bit Error Ratio, Maximum transfer delay, Delay variation, etc.).

3. **Supplementary services**
   - Defined in GSM R'99[1]. Examples:
     - Call Forwarding as defined in [10].
     - Advice of Charge as defined in [14].
     - Explicit Call transfer as defined in [16].

4. **Service capabilities (described in [6])**
   - Mobile station Execution Environment (MExE).
   - Location Services (LCS).
   - SIM Application Toolkit (SAT).

5. **GSM system features (defined in [5])**
   - Network Identity and Time Zone (NITZ).
   - Unstructured Supplementary Service Data (USSD).

7.1.1 Support of 3GPP standardised UE Service Capabilities

7.1.1.1 Teleservices

7.1.1.1.1 Default Speech Service

The default speech service that is provided using the Adaptive MultiRate (AMR) codec, is unusual for UMTS in that it is a standardised service, rather than a service which can be supported by standardised capabilities, i.e. the implementation of the service itself is specified.

The AMR codec for implementation in UMTS UE equipment is defined in [19] to [25] and [45].

Support of the AMR in the UE has implications for the UE physical layer and layers 2/3 (Access Stratum), in addition to Layer 3 Non-Access Stratum. Annex B contains the Service Implementation Capabilities required for UEs supporting the default speech service.

Subsequent to December 2000, a second AMR codec has been specified for UMTS, called UMTS_AMR2. Support of the AMR in the UE has implications for operation in a dual-mode environment between UMTS and GSM. This operation is defined in [17] as listed in Annex B, in addition to being defined in the AMR Specifications listed in this clause.

---

1 Note that Supplementary Services are used to complement and personalise the usage of basic telecommunication services (bearer services and teleservices). The capabilities standardised in UMTS shall enable provision of all the supplementary services specified in 3GPP TS 02.04 [8] and the 02.8x/02.9xseries [9] –[16].

Annex B:
Speech Service Implementation Capabilities

This annex identifies Service Implementation Capabilities that are required to support the default speech service. The references in this annex are to 3GPP documents agreed for release ’99 in June 2000. The referenced section numbers may change with future versions.

B.1 Physical layer implementation capabilities to support the default speech service

Table 10: FDD mode Physical Layer Service implementation capabilities for support of AMR speech service

Service Implementation Capability	Specification	Subclause(s)	Comments
Physical Layer UE procedures and measurements:			
Support of Handover	25.215 25.212	5.1, 6.1 4.4	Support of soft handover is Essential for all speech capable UE. Support of Inter-Frequency handover is Essential for all speech capable UE. Terminals shall support measurements commensurate with their mode/system capabilities, to facilitate inter-frequency, inter-mode & inter-system handover.
Power control	25.214 25.215	5.1.2, 5.2.1 5.1.7	Support of inner loop power control is Essential for all speech capable UE.
Error detection	25.212	4.2.1	Support of 0, 8, 12 and 16 bits CRC per transport block is essential for all UE. Support of 24 bits CRC per transport block is optional.
Channel Coding	25.212	4.2.3	Support of convolutional coding with rates ½ and 1/3 is Essential for all UE. Support of no coding and turbo coding is Optional.
Multiplexing	25.212 25.926	4.2.4 – 4.2.14 5.1	Uplink. In single service case, with only AMR and a dedicated signalling channel, it is Essential for all terminals to support at minimum 4 transport channels in uplink, of which 1-3 is reserved for AMR and 1 for dedicated signalling. Support of TTI=20 ms for all AMR transport channels except dedicated signalling channel is Essential for all terminals. Downlink In single service case, with only AMR and a dedicated signalling channel, it is Essential for all terminals to support at minimum 4 transport channels in downlink, of which 1-3 is reserved for AMR and 1 for dedicated signalling. Support of TTI=20 ms for all AMR transport channels except dedicated signalling channel is Essential for all terminals.

Service Implementation Capability	Specification	Subclause(s)	Comments
Transport format detection	25.212 25.926 26.071	4.3 5.1 5.0	In downlink, the support of transport format detection with TFCI is essential for all terminals both with fixed and flexible TrCH positions. In downlink, when SF=128 and fixed TrCH positions is used in the single service case, with only AMR and dedicated signalling channel, the support of blind transport format detection is essential for all terminals. In the single service case, with only AMR at one rate and dedicated signalling channel, it is essential for all terminals to support at minimum 2*(1+1+1)= 6 transport format combinations during the connection in uplink and downlink, of which 1 is reserved for 1 out of 8 AMR modes, 1 for SID frame, 1 for DTX and the multiplication of 2 is due to dedicated signalling channel having two possible rates (e.g. on/off).
Spreading and Scrambling Code Generation	25.213	4.2.1, 4.3	For the single service case, with only AMR and dedicated signalling channel, it is essential for all terminals to support SF=256, SF=128 and SF=64 in uplink.
Code de-spreading and de-scrambling	25.213	5.1, 5.2	It is essential for all terminals to support SF=128 and SF=256 in downlink
Support for downlink Transmit Diversity	25.211 25.214	5.3.1, 5.3.2 7	Support of open loop and closed loop transmit diversity is Essential for all terminals.
Support for Site Selection Diversity Transmission	25.214	5.2.1.4	Support of SSDT is Essential for all terminals.
Transport channels required:			
Dedicated channel (DCH)	25.211	4.1.1, 6	
Physical channels required:			
Dedicated Physical Data Channel (DPDCH)	25.211	5.2.1, 5.3.2, 6	
Dedicated Physical Control Channel (DPCCH)	25.211	5.2.1, 5.3.2, 6	

Table 11: TDD mode Physical Layer Service implementation capabilities for support of the AMR speech service

Service Implementation Capability	Specification	Sub/Clause(s)	Comments
Physical Layer UE procedures and measurements:			
Handover	25.225	5.1	Support of Intra and Inter Frequency hard handover is essential for all terminals. Terminals shall support measurements commensurate with their mode/system capabilities, to facilitate inter-frequency, inter-mode & inter-system handover.
Dynamic Channel Allocation	25.225	5.1	Terminals shall support measurement of SIR in different timeslots.
Power control	25.224 25.225	4.2 5	Support of inner loop control for DL power. Support of open loop control for UL power.
Error detection	25.222	4.2.1	Support of 0, 8, 12 and 16 bits CRC per transport block is essential for all terminals
Channel Coding	25.222	4.2.3	Support of convolutional coding with rates ½ and 1/3 is essential for all terminals.
Multiplexing	25.222 25.926	4.2.4 – 4.2.13 5.1	Uplink. In single service case, with only AMR and dedicated signalling channel, it is essential for all terminals to support at minimum 4 transport channels in uplink, of which 1-3 is reserved for AMR and 1 for dedicated signalling. Downlink. In single service case, with only AMR and dedicated signalling channel, it is essential for all terminals to support at minimum 4 transport channels in downlink, of which 1-3 is reserved for AMR and 1 for dedicated signalling. <Note: This assumes that fast mode control is required to be signalled in the downlink direction only. >
Transport format detection	25.222 25.926	4.2.13 5.1	The support of transport format detection with a TFCI length of 0, 4, 8, 16 and 32 bits is essential for all terminals. Support of 1024 transport format combinations is essential for all terminals
Spreading and Scrambling Code Generation	25.223	6	Terminals shall support spreading factors 8 and 16 for uplink transmission. Simultaneous transmission of up to two codes shall be supported.
Code de-spreading and de-scrambling	25.223	6	Terminals shall support simultaneous reception of up to 2 codes using spreading factor 16 for speech.
Support for Downlink Transmit diversity	25.221 25.224	5.4 4.8	Support channel estimation on different midambles
Timing Advance	25.224	4.3	Support of TA adjustment according to higher layer signalling
Discontinuous transmission	25.224	4.5	Each mobile must be capable to switch of transmission in those physical channels which are not needed to transmit the instantaneous TFC.
Transport channels necessary for the above:			
DCH	25.221	4.1.1.1, 6	
Physical channels necessary for above:			
Dedicated Physical Channel (DPCH)	25.221	5.2, 6	

B.2 Layer 2/3 Implementation Capabilities to support the default speech service

Table 12: Speech Service Implementation Capability for Layer 2/3 (access stratum)

Service Implementation Capability	Specification	Subclause(s)	Comments
UE procedures:			
RRC connection re-establishment	25.331	8.1.5 10.2.37 10.2.38 10.2.39	The following messages are required: - RRC connection re-establishment message - RRC connection re-establishment complete message - RRC connection re-establishment request message
Radio bearer establishment	25.303 25.331	6.2.1.1 8.2.1 10.2.31 10.2.32 10.2.33	The following messages are required: - Radio Bearer Setup message - Radio Bearer Setup Complete message - Radio Bearer Setup Failure message
Radio bearer reconfiguration	25.303 25.331	6.2.1.3 8.2.2 10.2.25 10.2.26 10.2.27	The following messages are required: - Radio Bearer Reconfiguration message - Radio Bearer Reconfiguration complete message - Radio Bearer Reconfiguration Failure message
Radio bearer release	25.303 25.331	6.2.1.2 8.2.3 10.2.28 10.2.29 10.2.30	The following messages are required: - Radio Bearer Release message - Radio Bearer Release Complete message - Radio Bearer Release Failure message
Transport channel reconfiguration	25.303 25.331	6.2.2 8.2.4 10.2.54 10.2.55 10.2.56	The following messages are required: - Transport channel reconfiguration message - Transport channel reconfiguration complete message - Transport channel reconfiguration failure message
Transport format combination control	25.303 25.331	6.2.4 8.2.5 10.2.57 10.2.58	The following messages are required: - Transport format combination control message - Transport format combination control failure message
Physical channel reconfiguration	25.303 25.331	6.2.3 8.2.6 10.2.20 10.2.21 10.2.22	The following messages are required: - Physical channel reconfiguration message - Physical channel reconfiguration complete message - Physical channel reconfiguration failure message
Active set update in soft handover	25.303 25.331	6.4.1 6.4.4 6.4.5 6.4.6 8.3.4 10.2.1 10.2.2 10.2.3	The following messages are required: - Active Set Update message - Active Set Update Complete message - Active Set Update Failure message

Service Implementation Capability	Specification	Subclause(s)	Comments
UE procedures:			
Inter-system handover	25.303 25.331	6.4.9 6.4.10 8.3.6 8.3.7 8.3.8 8.3.9 9.4 9.5 9.6 10.2.13 10.2.14	The following messages are required: - Inter-system handover command message - Inter-system handover failure message Note: support of Inter-system handover is required for multi-mode terminals only.
Hard handover	25.303 25.331	6.4.7 8.3.5	
Downlink outer loop control	25.331	8.2.9 10.2.9	The following message is required: - Downlink Outer Loop Control message
Logical channels required in addition to those required for the baseline functionality, for the above procedures:			
Dedicated traffic channel (DTCH)	25.301	5.3	
Transport channels required in addition to those required for the baseline functionality, for the above procedures			
Dedicated channel (DCH)	25.301	5.2	

B.3 Layer 3 (non-access stratum) implementation capabilities to support the default speech service

Table 12: UE Speech Service Implementation Capability for Layer 3 Non-Access Stratum
E: Essential Unconditional, C: Essential Conditional, O: Optional

		Service Implementation Capabilities		Ref. Doc	**Subclause(s)**	Tele-service for Terminals	Comments
						Speech (w/ E. call)	
	Layer 3 specification	UMTS Call Control (Optional)	Mobile originating call Establishment	24.008	5.2.1	C	Essential for speech service
			Mobile terminating call Establishment	24.008	5.2.2	C	Essential for speech service
			Call clearing – Exception conditions	24.008	5.4.2	C	Essential for speech service
			Call clearing – Clearing initiated by the mobile station	24.008	5.4.3	C	Essential for speech service
			Call clearing – Clearing initiated by the network	24.008	5.4.4	C	Essential for speech service
			In-band tones and announcements	24.008	5.5.1	C	Essential for speech service
			Status procedure	24.008	5.5.3	C	Essential for speech service
			Call re-establishment, mobile station side	24.008	5.5.4	C	Essential for speech service
			Progress	24.008	5.5.6	C	Essential for speech service
			DTMF protocol control procedure (send DTMF to PLMN direction)	24.008	5.5.7	C	Essential for speech service

Annex I:
Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
17/03/00	T#7	TP-000026			New	2.0.0	3.0.0
28/03/00					Editorial modification by MCC	3.0.0	3.0.1
21/06/00	T#8	TP-000073	001		Addition of reference measurement channel	3.0.1	3.1.0
21/06/00	T#8	TP-000073	002		Correction of terminology	3.0.1	3.1.0
21/06/00	T#8	TP-000073	003		Deletion of PCPCH/AICH timing relation	3.0.1	3.1.0
21/06/00	T#8	TP-000073	004		Reflection of changes in core specification 24.008 to v3.3.1	3.0.1	3.1.0
21/06/00	T#8	TP-000073	005		Reflection of document structure changes in core specifications and correction of editorial mistakes	3.0.1	3.1.0
22/10/00	T#9	TP-000143	006		Reflection of document structure changes in core specifications and correction of editorial mistakes in the annexes	3.1.0	3.2.0
22/10/00	T#9	TP-000143	007		Reflection of document structure changes in core specifications and correction of editorial mistakes in the main text	3.1.0	3.2.0
03/01/01	T#10	TP-000194	008		Reflection of the decision stop work on the TR after December 2000, and miscellaneous editorial corrections	3.2.0	3.3.0
21/09/01	T#13	TP-010212	009		Corrections to References List, AMR Specifications	3.3.0	3.4.0
xx/xx/02	T#xx	TP-010xxx	0xx		Corrections to incorporate support for UMTS_AMR2 Specifications	3.4.0	3.5.0