Technical Specification Terminals *TSGT#5(99)189*
Meeting #5, Kyongju, Korea, 07-08 October 1999

Source: **Ian Doig, MCC**

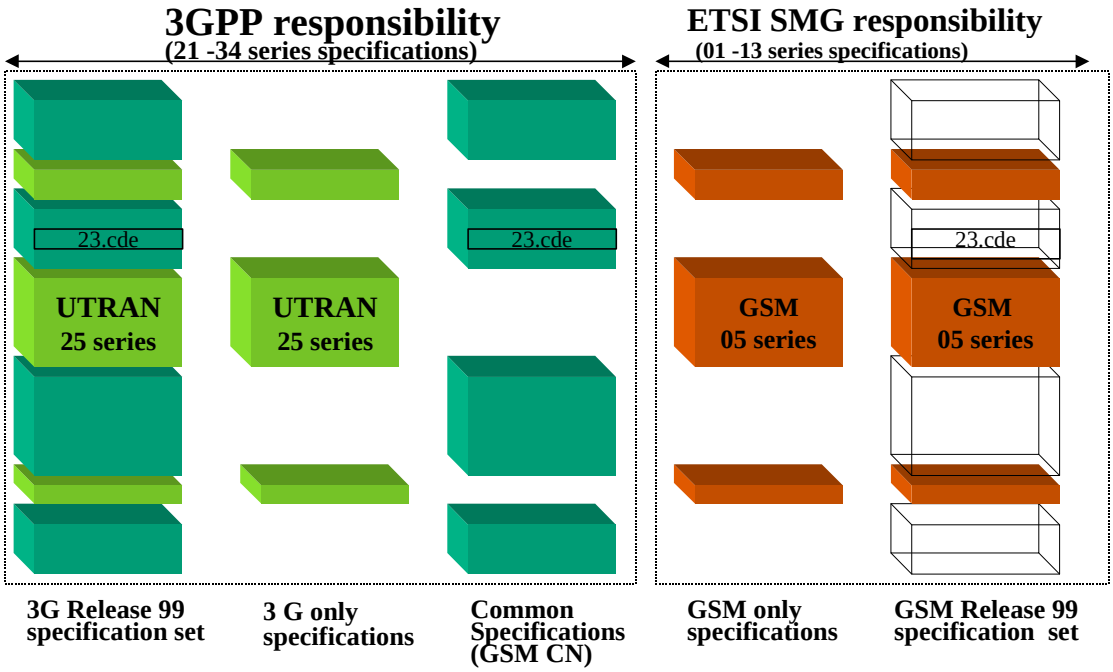
Title: GSM Specification 01.01 version 0.3.0

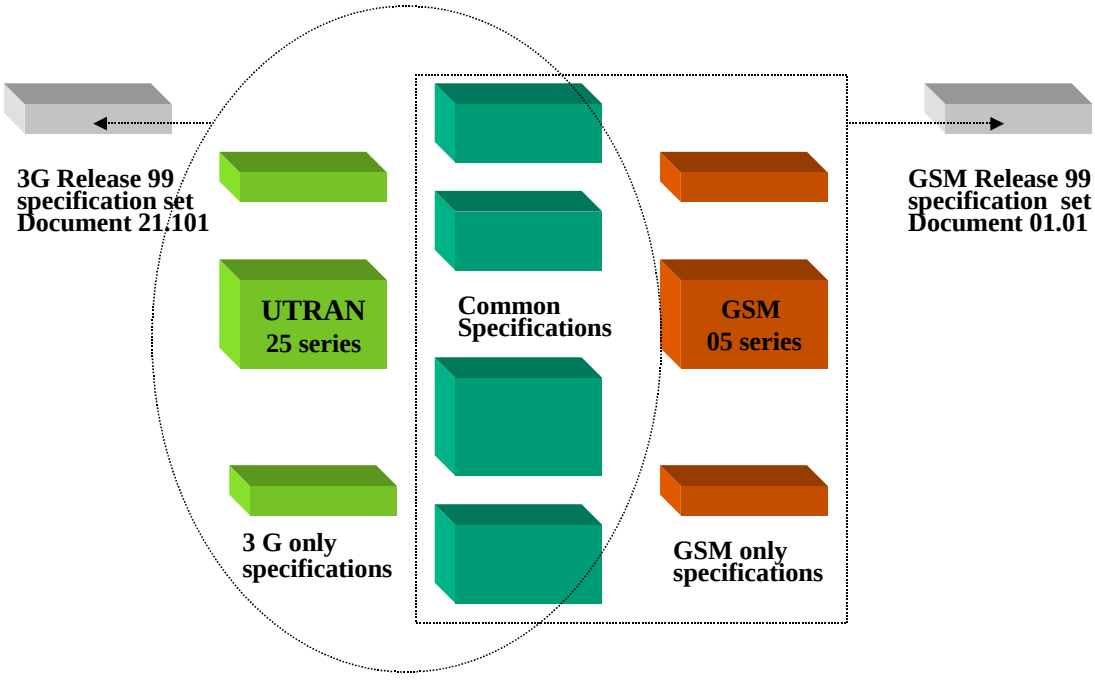
Document for: Information

Agenda Item:

The attached GSM 01.01 has been made available to the TSGs for information purposes only.

The support team have produced a draft specification GSM 0101 identifying the basic content and the specifications of GSM R99. Note that an equivalent specification for 3G R99, 3G TS 21.101 is also available.





GSM 01.01 V0.3.0 (1999-10)

Technical Specification

Digital cellular telecommunications system (Phase 2+);
GSM Release 1999 Specifications
(GSM 01.01 version 0.3.0 Release 1999)

GLOBAL SYSTEM FOR
MOBILE COMMUNICATIONS

Reference
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Contents

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Foreword

This ETSI Technical Specification (TS) has been produced by the Special Mobile Group (SMG) of the European Telecommunications Standards Institute (ETSI).

This TS identifies the GSM system specifications for GSM Release 1999.

The contents of this TS are subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of this TS it will then be republished by ETSI with an identifying change of release date and an increase in version number as follows:

Version 8.x.y

where:

8 indicates release 1999 of GSM Phase 2+;

x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

y the third digit is incremented when editorial only changes have been incorporated in the specification.

Ed Note: This draft Specification has been produced following the SMG#29, ETSI Board#20 and PCG approval of SMG#29 TD P-99-546.

TD P-99-546 states "The provisional list given in annex A should be further elaborated and reviewed by SMG STCs and TSG WGs". This is an ongoing process, which it is hoped will be completed by SMG#30. It is anticipated that this Specification will then be presented to SMG#30 as V1.0.0 (to meet the approval time scale of V8.0.0 at SMG#31).

The content of Clause 5 should be considered unstable and is included only for completeness at this time. The R99 "Roadmap" style content requires further work (SMG 12 in conjunction with MCC?).

The recommendations from CN3 are not yet implemented.

The equivalent 3G Specification (21.101) is being developed in a similar manner within 3GPP and aligned with this document.

1 Scope

The present document identifies the GSM system specifications for GSM Release 1999.

2 References

This TS contains no references.

3 Abbreviations

For the purposes of the present document, the terms and definitions apply.

TBC

4 General

GSM Release 1999 consist of GSM only specifications and the GSM Core Network specifications developed for both GSM Release 1999 and Release 1999 of the 3rd Generation mobile system.

GSM Release 1999 also consist of many enhanced features developed within the 3rd Generation Partnership Project.

The present document identifies the GSM system set of specifications required to implement GSM Release 1999.

4.1 Specification and report numbering

Specifications for GSM Release 1999 only can be identified by the "**ab.de"** numbering scheme.

Specifications for both GSM Release 1999 and Release 1999 of the 3rd Generation mobile system are identified by the "**ab.cde"** numbering scheme.

NOTE: A "**c**" digit equal to zero indicates a GSM heritage of a Specification.

4.2 Specification series

In general the Specification series is identified as follows:

4.2.1 01 and 21-series

Requirements specifications

These specifications are often transient and contain requirements towards other specifications. They may become obsolete when technical solutions have been fully specified; they could then, e.g., be replaced by reports describing the performance of the system, they could be deleted without replacement or be kept for historical reasons but turned into background material. When found necessary and appropriate, the transient or permanent nature of a requirement specification may be expressed in its scope.

4.2.2 02 and 22-series

Service aspects

Specifications in this series specify services, service features, building blocks or platforms for services (a service feature or service building block may provide certain generic functionality's for the composition of a service, including the control by the user; a platform may comprise a single or more network elements, e.g. UIM, mobile terminal, auxiliary system to the core network etc.); stage 1 specifications that are felt appropriate belong into this series; reports defining services which can be realised by generic building blocks etc. also belong into this series.

4.2.3 03 and 23-series

Technical realisation

This series mainly contains stage 2 specifications (or specifications of a similar nature describing interworking over several interfaces, the behaviour in non-exceptional cases, etc.).

4.2.4 04 and 24-series

Signalling protocols (UE - CN network)

This series contains the detailed and bit exact stage 3 specifications of protocols between MS/UE and the Core network.

4.2.5 05 series

GSM Radio aspects

4.2.6 06 series

Codecs

This series defines speech codecs and other codecs for GSM.

4.2.7 07 and 27-series

Data

This series defines the functions necessary to support data applications at the user equipment side.

4.2.8 08 and 28-series

Signalling protocols (RSS - network part)

This series contains the detailed and bit exact stage 3 specifications of protocols relevant for interfaces internal to the Radio Access Network and between this and the Core Network.

4.2.9 09 and 29-series

Signalling protocols (NSS)

This series contains the detailed and bit exact stage 3 specifications of protocols within the Core Network.

4.2.10 11 series

SIM and conformance test

This series specifies the Subscriber Identity Module (SIM) and the interfaces between SIM and other entities. and the conformance test specifications for GSM.

4.2.11 12 series

Operation and maintenance

This series defines the application of TMN for GSM and other functions for operation, administration and maintenance of a GSM network.

4.2.12 13 series

Access requirements

This series contains Access requirement specifications for GSM.

5 Content of GSM Release 1999

5.1 GSM only Work Areas

Title
Enhanced Data rates for GSM Evolution (EDGE) - BSS Part
Enhanced Data rates for GSM Evolution (EDGE) - NSS Part[1]
General Packet Radio Service Phase 2 (GPRS) – radio part[2]
GSM on 450 MHz Frequency Band
BSS co-ordination of Radio Resource allocation for class A GPRS services - GSM Radio Access (R99)
BSS co-ordination of Core Network Resource allocation for class A GPRS services -GSM-3G Core Network (R99)[3]

[1] As EDGE will not be used by 3G network, this WI has been classified as a GSM only WI, even if it impacts the common R99 GSM/3G CN. However, this WI should study that the proposed changes are not incompatible with the use of the UTRAN by the R99 GSM/3G CN.

[2] Comprises some related sub-work items.

[3] Same remark as for note 1.

5.2 Common GSM/3G Work Areas

Title
Access to ISPs and Intranets in GPRS Phase 2 – Wireless/Remote Access to LANs (R99)
Access to ISPs and Intranets in GPRS Phase 2; Separation of General Packet Radio Service (GPRS) bearer establishment and ISP service environment setup (R99)
Advanced Addressing
Architecture of the GSM-UMTS Platform
Architecture overview of the GSM-UMTS System
Automatic Establishment of Roaming Relations
Call Forwarding Enhancements (CFE)
Calling Name Presentation – Euro (CNAP-EU)
CAMEL Phase 3
Charging and Billing for GPRS – Advice of Charge
Charging and Billing for GPRS – Hot Billing
Charging and Billing for GPRS – Pre-Paid
Enhanced QoS Support in GPRS
Follow Me
Fraud Information Gathering System applied to GPRS
General Packet Radio Service Phase 2 (GPRS) – network part[2]
Generic signalling mechanism for service support
GPRS - Point-To-Multipoint Services
GPRS Mobile IP Interworking
Idle mode classmark[4]
Immediate Service Termination (IST) : CAMEL free solution
Impact of Telecommunications Data Protection Directive on GSM Standards[5]
Interworking with Mobile Satellite Systems
LAPDm performance enhancement
MexE Release 99
MS and Network-Resident Execution Environments (MS/N-RExE)
MS Antenna Test Method[6]
Multiple Subscriber Profile (MSP) based on CAMEL ph. 3
Noise Suppression for AMR speech codec
Provision of text telephony service in GSM and UMTS
Service Continuity and Provision of VHE via GSM/UMTS
Service to GSM Handportables in trains[7]
Specification of a bearer independent protocol for SAT applications to exchange data over the GSM network
SS7 Security
Study on Combined GSM and Mobile IP Mobility Handling in UMTS IP CN
Study on provision of facsimile services in GSM and UMTS
Support for real time services in the Packet domain for GSM/GPRS/UMTS R99
Tandem Free Operation of speech codecs in Mobile-to-Mobile Calls (MMCs) : out-band
Tandem free aspects for UMTS and between UMTS and 2G systems
USSD Enhancements
Virtual Home Environment
Codec for Low Bitrate Multimedia Telephony Service
Support of non-realtime Multimedia Messaging Service
Mandatory Speech Codec for Narrowband Telephony Service
WAP WAE User Agent / SIM toolkit interworking
Generic Logical and Physical specification for IC card and terminal interface
Specification of administrative commands and functions for IC cards
Codec(s) for Wide band Telephony Services[8]
AMR – Wideband[9]

4 According to a working assumption made by N1, two MS Classmarks should be maintained both for UMTS and GSM, selectively used depending on the indication given by the CN. The WIs on MS classmark should be re-organised as to reflect such working assumption.

5 This WI should be renamed as "Impact of Telecommunications Data Protection Directive on GSM/3G Standards"

6 This WI might be split into "MS antenna test methods for GSM BSS" and "MS antenna test methods for UTRAN".

7 The applicability of this WI to 3G should be checked. If relevant to 3G, the WI should be renamed.

8 This WI was previously classified in SP-99331 as "3G only WI". However, it should be applicable also to GSM using e.g. EDGE BSS, as stated in some comments received in the meantime: this is the reason why it has now been moved to this category.

9 The merging of this WI with the WI entitled "Codec(s) for Wide band Telephony Services" should be studied.

Gateway Location Register (GLR)
Turbo-Charger: Feasibility Study
Pre-paging

The following WIs state in their title that they apply only for 3G system. However, it is proposed that these WIs also apply to GSM, as they impact the core network, which is common to GSM and UMTS. In case such proposal is accepted, they should be renamed and classified as common GSM/3G WIs.

UMTS Charging & Billing[10]
UMTS Numbering, Addressing and Identities**[11]**
UMTS Open Service Architecture
UMTS Core based on ATM Transport
IP-in-IP tunnelling in GPRS backbone for UMTS, phase 1
End to End UMTS QoS Management[12]
QoS for Speech and Multimedia Codec[13]
Multimedia in UMTS**[14]**
3G Audio-Visual Terminal Characteristics
3G charging management**[15]**
3G system fault management
3G system configuration management
3G system performance management

5.3 Release 99 Work Areas impacting other systems

Title
GPRS phase 2 for PCS1900
EDGE Compact and support for EGPRS in ANSI-136 networks

6 Specifications and Reports

Specification/Report Number and Specification/Report Title

6.1 GSM Only

Number	**Title**
01.02	General Description of a GSM Public Land Mobile Network (PLMN)
01.04	Abbreviations and Acronyms
01.31	Fraud Information Gathering System (FIGS); Service requirements - Stage 0
01.33	Lawful Interception requirements for GSM

10 If applicable to GSM, either the differences with the WI "Charging and billing for GPRS" should be stressed or these two WIs should be merged.

11 If applicable to GSM, then the WI "Advanced Addressing" should be merged to it.

12 If applicable to GSM, either the differences with the WI "Enhanced QoS Support in GPRS" should be stressed or these two WIs should be merged.

13 The differences with previous WI should be stressed.

14 Even if it can be surprising to move this WI to the 'common 3G/GSM WI' category, it should be stressed why the mechanisms developed for 3G are not applicable to e.g. GPRS CN and EGDE BSS.

15 The difference with the WI entitled "UMTS Charging & Billing" is that the latter specifies the requirements whereas "3G charging management" intends to specify the actual mechanisms. This should be clarified in the WI titles.

01.56	GSM Cordless Telephony System (CTS) (Phase 1); CTS Authentication and Key Generation Algorithms Requirements
02.01	Principles of Telecommunication Services Supported by a GSM Public Land Mobile Network(PLMN)
02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)
02.06	Types of Mobile Stations (MS)
02.07	Mobile Station (MS) Features
02.09	Security aspects
02.17	Subscriber Identity Modules, Functional Characteristics
02.19	Subscriber Identity Module Application Programming Interface (SIM API); Service description; Stage 1
02.31	Fraud Information Gathering System (FIGS) Service description - Stage 1
02.32	Immediate Service Termination (IST); Service description - Stage 1
02.33	Lawful intercept Stage 1
02.40	Procedures for Call Progress Indications
02.48	Security mechanisms for the SIM Application Toolkit; Stage 1
02.56	GSM Cordless Telephony System (CTS), Phase 1; Service description; Stage 1
02.63	Packet Data on Signalling channels Service (PDS) - Stage 1
02.76	Noise Suppression for the AMR
02.95	Digital cellular telecommunications system (Phase 2+); Support of Private Numbering Plan (SPNP); Service description, Stage 1
03.01	Network Functions
03.05	Technical Performance Objectives
03.13	Discontinuous Reception (DRX) in the GSM System
03.19	GSM API for SIM toolkit stage 2
03.20	Security-related Network Functions
03.26	Multiband operation of GSM/DCS 1800 by a single operator
03.30	Radio Network Planning Aspects
03.31	Fraud Information Gathering System (FIGS); Service description - Stage 2
03.33	Lawful Interception - stage 2
03.35	Immediate Service Termination (IST); Stage 2
03.47	Example Protocol Stacks for Interconnecting Service Centre(s) (SC) and Mobile Services Switching Centre(s) (MSC)
03.48	Tool Kit Security Stage 2
03.49	Example Protocol Stacs for Interconnecting Cell Broadcast Centre (CBC) and Base Station Controler (BSC)

03.50	Transmission Planning Aspects of the Speech Service in the GSM Public Land Mobile Network (PLMN) System
03.52	Lower layers of the GSM Cordless Telephony System (CTS) radio interface - Stage 2
03.56	GSM Cordless Telephony System (CTS), Phase 1; CTS Architecture Description; Stage 2
03.58	Characterisation, test methods and quality assessment for handsfree Mobile Stations (MSs)
03.64	Overall description of the GPRS radio interface; Stage 2
04.01	Mobile Station - Base Station System (MS - BSS) Interface General Aspects and Principles
04.02	GSM Public Land Mobile Network (PLMN) Access Reference Configuration
04.03	Mobile Station - Base Station System (MS - BSS) Interface Channel Structures and Access Capabilities
04.04	Layer 1 - General Requirements
04.05	Data Link (DL) Layer General Aspects
04.06	Mobile Station - Base Stations System (MS - BSS) Interface Data Link (DL) Layer Specification
04.08	Mobile Radio Interface Layer 3 specification Core Network Protocols stage 2 (structured procedures)
04.13	Performance Requirements on Mobile Radio Interface
04.14	Individual equipment type requirements and interworking; Special conformance testing functions
04.18	Mobile Radio Interface Layer 3 specification; Radio Resource Control Protocol
04.21	Rate Adaption on the Mobile Station - Base Station System (MS-BSS) Interface
04.33	Lawful intercept Stage 3
04.56	GSM Cordless Telephony System (CTS), (Phase 1) CTS Radio Interface Layer 3 Specification
04.57	GSM Cordless Telephony System (CTS), (Phase 1) CTS CTS supervising system Layer 3 Specification
04.60	General Packet Radio Service (GPRS); Mobile Station (MS) - Base Station System (BSS) interface; Radio Link Control/ Medium Access Control (RLC/MAC) protocol
04.63	Packet Data on Signalling channels Service (PDS) Service Description, Stage 3
04.64	Mobile Station - Serving GPRS Support Node (MS-SGSN) Logical Link Control (LLC) Layer Specification
05.01	Physical Layer on the Radio Path (General Description)
05.02	Multiplexing and Multiple Access on the Radio Path
05.03	Channel Coding
05.04	Modulation
05.05	Radio Transmission and Reception
05.08	Radio Subsystem Link Control
05.09	Link Adaptation
05.10	Radio Subsystem Synchronization
05.50	Background for RF Requirements

05.56	CTS-FP Radio Sub-system
06.01	Full Rate Speech Processing Functions
06.02	Half Rate Speech Processing Functions
06.06	Half Rate Speech - Part 7: ANSI-C Code for GSM Half Rate Speech Codec
06.07	Half Rate Speech - Part 8: Test Sequence for GSM Half Rate Speech Codec
06.08	Half Rate Speech; Performance Characterization of the GSM half rate speech codec
06.10	Full Rate Speech Transcoding
06.11	Substitution and Muting of Lost Frames for Full Rate Speech Channels
06.12	Comfort Noise Aspects for Full Rate Speech Traffic Channels
06.20	Half Rate Speech Transcoding
06.21	Substitution and Muting of Lost Frames for Half Rate Speech Traffic Channels
06.22	Comfort Noise Aspects for Half Rate Speech Traffic Channels
06.31	Discontinuous Transmission (DTX) for Full Rate Speech Traffic Channels
06.32	Voice Activity Detection (VAD)
06.41	Discontinuous Transmission (DTX) for Half Rate Speech Traffic Channels
06.42	Voice Activity Detection (VAD) for Half Rate Speech Traffic Channels
06.51	Enhanced full rate speech processing functions: General description
06.53	ANSI-C code for the enhanced full rate speech codec
06.54	Test sequences for the GSM Enhanced Full Rate (EFR)
06.55	Performance characterisation of the GSM EFR Speech Codec
06.60	Enhanced full rate speech transcoding
06.61	Substitution and muting of lost frames for encanced full rate speech traffic channels
06.62	Comfort noise aspects for Enhanced Full Rate (EFR) speech traffic channels
06.81	Discontinuous Transmission (DTX) for encanced full rate speech traffic channels
06.82	Voice Activity Detection (VAD) for encanced full rate speech traffic channels
06.85	Subjective tests on the interoperability of the HR/FR/EFR speech codecs; single, tandem and tandem free operation
08.01	Base Station System - Mobile Services Switching Centre (BSS-MSC) Interface General Aspects
08.02	Base Station System - Mobile Services Switching Centre (BSS-MSC) Interface - Interface Principles
08.04	Base Station System - Mobile Services Switching Centre (BSS-MSC) Interface Layer 1 Specification
08.06	Signalling Transport Mechanism Specification for the Base Station System - Mobile Services Switching Centre (BSS-MSC) Interface
08.08	Mobile Switching Centre - Base Station system (MSC-BSS) Interface Layer 3 Specification
08.14	General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN) interface; Gb Interface Layer 1

08.16	General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN) Interface; Network Service
08.18	General Packet Radio Service (GPRS); Base Station System (BSS) - Serving GPRS Support Node (SGSN); BSS GPRS Protocol
08.51	Base Station Controller - Base Tranceiver Station (BSC-BTS) Interface General Aspects
08.52	Base Station Controller - Base Tranceiver Station (BSC-BTS) Interface - Interface Principles
08.54	Base Station Controler - Base Transceiver Station (BSC-BTS) Interface Layer 1 Structure of Physical Circuits
08.56	Base Station Controller - Base Tranceiver Station (BSC-BTS) Interface Layer 2 Specification
08.58	Base Station Controler - Base Transceiver Station (BCS-BTS) Interface Layer 3 Specification
08.60	Inband Control of Remote Transcoders and Rate Adaptors
08.61	Inband Control of Remote Transcoder and Rate Adaptors;(Half Rate)
08.71	Location services (LCS) SMLC-BSS interface L 3
09.01	General Network Interworking Scenarios
09.03	Signalling Requirements on Interworking between the Intergrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN) and the Public Land Mobile Network (PLMN)
09.08	Application of the Base Station System Application Part (BSSAP) on the E-Interface
09.90	Interworking between Phase 1 Infrastructure and Phase 2 Mobile Stations (MS)
09.91	IW SIM/ME Int Ph1 & Ph2
09.94	Interworking Aspects of the SIM/ME Interface Between Phase 1 and Phase 2
11.10-1	Conformance Specification
11.10-2	Mobile Station (MS) Conformance Specification, Part 2 – ICS
11.10-3	Mobile Station (MS) Conformance Specification, Part 3 – Abstract Test suites
11.11	Specification of the Subscriber Identity Module - Mobile Equipment (SIM-ME) Interface
11.14	Phase 2+ SIM app Tool kit
11.17	SIM test
11.18	Specification of the 1.8 Volt Subscriber Identity Module - Mobile Equipment (SIM - ME) Interface
11.19	CTS SIM Fixed Part
11.21	GSM Radio Aspects Base Station System Equipment Specification
11.23	GSM Signalling Aspects Base Station System equipment Specification
11.26	GSM Repeater Equipment Specification
11.56	CTS phase 1, CTS Fixed Part Tests
12.00	Objectives and Structure of GSM Public Land Mobile Network (PLMN) Management
12.03	Security Management
12.04	Perf data measurements

12.05 Event & call data

12.08 Subscriber and Equipment trace

12.11 Fault management of the Base Station System (BSS)

12.15 GPRS charging

6.2 Common GSM and UMTS

22.002 Bearer Services Supported by a GSM PLMN

22.004 General on Supplementary Services

22.011 Service accessibility

22.016 International Mobile Equipment Identities (IMEI)

22.022 Personalisation of GSM ME Mobile functionality specification - Stage 1

22.024 Description of Charge Advice Information (CAI)

22.030 Man-Machine Interface (MMI) of the Mobile Station (MS)

22.034 High Speed Circuit Switched Data (HSCSD) - Stage 1

22.038 SIM application toolkit (SAT); Stage 1

22.041 Operator Determined Call Barring

22.042 Network Identity and Time Zone (NITZ), stage 1

22.043 Support of Localised Service Area (SoLSA) - Stage 1

22.053 Tandem Free Operation of speech codecs; Stage 1 service description

22.057 Mobile Station Application Execution Environment (MExE); Stage 1

22.060 General Packet Radio Service (GPRS); Stage 1

22.066 Support of Mobile Number Portability (MNP); Stage 1

22.067 enhanced Multi-Level Precedence and Pre-emption service (eMLPP) - Stage 1

22.068 Voice Group Call Service (VGCS); Stage 1(ASCI spec)

22.069 Voice Broadcast Service (VBS); Stage 1(ASCI spec)

22.071 Location Services (LCS); Stage 1 (T1P1)

22.072 Call Deflection (CD); Stage 1

22.078 CAMEL phase 3; Stage 1

22.079 Support of Optimal Routing; Stage 1

22.081 Line Identification Supplementary Services; Stage 1

22.082 Call Forwarding (CF) Supplementary Services; Stage 1

22.083 Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1

22.084 MultiParty (MPTY) Supplementary Service; Stage 1

22.085 Closed User Group (CUG) Supplementary Services; Stage 1

22.086 Advice of Charge (AoC) Supplementary Services; Stage 1

22.087	User-to-user signalling (UUS); Stage 1
22.088	Call Barring (CB) Supplementary Services; Stage 1
22.090	Unstructured Supplementary Service Data (USSD); Stage 1
22.091	Explicit Call Transfer (ECT) Supplementary Service; Stage 1
22.093	Call Completion to Busy Subscriber (CCBS); Stage 1
22.094	Follow Me Stage 1
22.096	Calling Name Presentation (CNAP); Stage 1 (T1P1)
22.097	Multiple Subscriber Profile (MSP); Stage 1
22.115	Service Aspects Charging and billing
22.121	Provision of Services in UMTS - The Virtual Home Environment
22.129	Handover Requirements between UMTS and GSM or other Radio Systems
23.002	Network Architecture
23.003	Numbering, Addressing and Identification
23.007	Restoration procedures
23.008	Organisation of subscriber data
23.009	Handover procedures
23.010	Public Land Mobile Network (PLMN) Connection Types
23.011	Technical Realization of Supplementary Services - General Aspects
23.012	Location registration procedures
23.014	Support of Dual Tone Multi Frequency (DTMF) signalling
23.015	Technical realisation of Operator Determined Barring (ODB)
23.016	Subscriber data management - Stage 2
23.018	Basic Call Handling - Technical realisation
23.022	Functions related to Mobile Station (MS) in idle mode
23.032	Universal Geographical Area Description (GAD)
23.034	High Speed Circuit Switched Data (HSCSD) - Stage 2
23.038	Alphabets & Language
23.039	Interface Protocols for the Connection of Short Message Service Centers (SMSCs) to Short Message Entities (SMEs)
23.040	Technical realisation of SMS Point to Point
23.041	Technical Realization of Short Message Service Cell Broadcast (SMSCB)
23.042	Compression algorithm for SMS
23.043	Support of Videotext
23.044	Support of Teletext in a Public Land Mobile Network (PLMN)
23.045	Technical realisation of facsimile Group 3 service- transparent

23.046 Technical realisation of facsimile Group 3 service- non-transparent

23.053 Tandem Free Operation (TFO); Service description; Stage 2

23.054 Shared Interworking Functions - Stage 2

23.057 Mobile Station Application Execution Environment (MExE)

23.060 General Packet Radio Service (GPRS) Service description; Stage 2

23.066 Support of GSM Mobile Number Portability (MNP) stage 2

23.067 Enhanced Multi-Level Precedence and Preemption Service (EMLPP) - Stage 2

23.068 Voice Group Call Service (VGCS) - Stage 2

23.069 Voice Broadcast service (VBS) - Stage 2

23.070 Routing of calls to/from Public Data Networks

23.071 Location Services (LCS) Stage 2

23.072 Call Deflection Supplementary Service - Stage 2

23.073 Support of Localised Service Area (SoLSA) - Stage 2

23.078 CAMEL Stage 2

23.079 Support of optical routeing - Phase 1 - Stage 2

23.081 Line Identification Supplementary Services - Stage 2

23.082 Call Forwarding (CF) Supplementary Services - Stage 2

23.083 Call Waiting (CW) and Call Hold (HOLD) Supplementary Service - Stage 2

23.084 MultiParty (MPTY) Supplementary Service - Stage 2

23.085 Closed User Group (CUG) Supplementary Service - Stage 2

23.086 Advice of Charge (AoC) Supplementary Service - Stage 2

23.087 User-to-User Signalling (UUS) - Stage 2

23.088 Call Barring (CB) Supplementary Service - Stage 2

23.090 Unstructured Supplementary Service Data (USSD) - Stage 2

23.091 Explicit Call Transfer (ECT) Supplementary Service - Stage 2

23.093 Call Completion to Busy Subscriber (CCBS) - Stage 2

23.094 Follow Me Stage 2

23.096 Name Identification Supplementary Service - Stage 2

23.097 Multiple Subscriber Profile (MSP); Stage 2

23.101 General UMTS Architecture

23.108 Mobile Radio Interface Layer 3 specification Core Network Protocols stage 2 (structured procedures)

23.110 UMTS Access Stratum;

Services and Functions

23.121 Architecture Requirements for release 99

23.907	Quality of Service
23.908	Technical report on Pre-Paging
23.909	Technical report on the Gateway Location Register
23.920	Evolution of the GSM platform towards UMTS
23.923	Combined GSM and Mobile IP mobility handling in UMTS IP CN
23.925	UMTS Core network based ATM transport
23.927	VHE, Open Service Architecture
23.960	Framework of Network functions to support multimedia services in UMTS
24.007	Mobile Radio Interface Signalling Layer 3 - General Aspects
24.008	Mobile Radio Interface Layer 3 specification; Core Network Protocols-Stage 3
24.010	Mobile Radio Interface Layer 3 - Supplementary Services Specification - General Aspects
24.011	Point-to-Point (PP) Short Message Service (SMS) Support on Mobile Radio Interface
24.012	Short Message Service Cell Broadcast (SMSCB) Support on the Mobile Radio Interface
24.022	Radio Link Protocol (RLP) for Data and Telematic Services on the (MS-BSS) Interface and the Base Station System - Mobile-services Switching Centre (BSS-MSC) Interface
24.030	Location Services (LCS); Mobile radio interface layer 3 supplementary services specification; Mobile Originating Location Request (MO-LR).
24.031	Location Services (LCS); Mobile Station (MS) - Serving Mobile Location Centre (SMLC); Radio Resource LCS Protocol (RRLP)
24.035	Location Services (LCS); Broadcast Network Assistance for Enhanced Observed Time Difference (E-OTD) and Global Positioning System (GPS) Positioning Methods
24.065	Mobile Station (MS) - Serving GPRS Support Node (SGSN); Subnetwork Dependent Convergence Protocol (SNDCP)
24.067	Enhanced Multi-Level Precedence and Pre-emption service (eMLPP) - Stage 3
24.068	Group Call Control (GCC) Protocol
24.069	Broadcast Call Control (BCC) Protocol - Stage 3
24.071	Location Services (LCS) Stage 3
24.072	Call Deflection Supplementary Service - Stage 3
24.080	Mobile radio Layer 3 Supplementary Service specification - Formats and coding
24.081	Line Identification Supplementary Service - Stage 3
24.082	Call Forwarding Supplementary Service - Stage 3
24.083	Call Waiting (CW) and Call Hold (HOLD) Supplementary Service - Stage 3
24.084	MultiParty (MPTY) Supplementary Service - Stage 3
24.085	Closed User Group (CUG) Supplementary Service - Stage 3
24.086	Advice of Charge (AoC) Supplementary Service - Stage 3
24.087	User-to-User Signalling (UUS) - Stage 3
24.088	Call Barring (CB) Supplementary Service - Stage 3

24.090	Unstructured Supplementary Service Data (USSD) - Stage 3
24.091	Explicit Call Transfer (ECT) Supllementary Service - Stage 3
24.093	Call Completion to Busy Subscriber (CCBS) - Stage 3
24.094	Follow Me Stage 3
24.096	Name Identification Supplementary Service - Stage 3
26.075	AMR speech Codec; Performance Characterization of the GSM AMR Speech Codec
26.110	Codec for Circuit switched Multimedia Telephony Service; General Description
26.111	Codec for Circuit switched Multimedia Telephony Service; Modifications to H.324
26.112	Codec for Circuit switched Multimedia Telephony Service; Call Set-Up Requirements
26.911	Codec for Circuit switched Multimedia Telephony Service;Terminal Implementor's Guide
26.912	Codec for Circuit switched Multimedia Telephony Service;Quantitative performance evaluation of H.324 Annex C over 3G
26.913	Quantitative performance evaluation of real-time packet switched multimedia services over 3G
27.001	General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)
27.002	Terminal Adaptation Functions (TAF) for services using Asynchronous bearer capabilities
27.003	Terminal Adaptation Functions (TAF) for services using Synchronous bearer capabilities
27.005	Use of Data Terminal Equipment - Data Circuit terminating Equipment (DTE - DCE) interface for Short Message Service (SMS) and Cell Broadcast Service (CBS)
27.007	AT command set for 3G User Equipment (UE)
27.010	Terminal Equipment to User Equipment (TE-UE) multiplexer protocol User Equipment (UE)
27.060	GPRS Mobile Stations supporting GPRS
28.020	Rate Adaptation on the BSS-MSC Interface
28.031	Location Services (LCS); Serving Mobile Location Centre (SMLC) - Serving Mobile Location Center (SMLC); SMLC Peer Protocol (SMLCPP) Location Centre (SMLC); Radio Resource LCS Protocol (RRLP)
28.062	Inband Tandem Free Operation (TFO) of Speech Codecs; Service Description; Stage 3
29.002	Mobile Application Part (MAP)
29.004	Interworking between the PLMN and the CSPDN
29.005	Interworking between the PLMN and the PSPDN
29.006	Interworking between a PLMN and the ISDN or PSTN for support of Packet Switched data transmission services
29.007	General requirements on Interworking between the PLMN and the ISDN or PSTN
29.010	Information Element Mapping between Mobile Station - Base Station System (MS - BSS) and Base Station System - Mobile-services Switching Centre (BSS - MCS) Signalling Procedures and the Mobile Application Part (MAP)
29.011	Signalling Interworking for Supplementary Services
29.013	Signalling interworking between ISDN supplementary services Application Service Element (ASE) and Mobile Application Part (MAP) protocols

29.016	Serving GPRS Support Mode SGSN - Visitors Location Register (VLR); Gs Interface Network Service Specification
29.018	Serving GPRS Support Mode SGSN - Visitors Location Register (VLR); Gs Interface Layer 3 Specification
29.031	Location Services (LCS); Base Station System Application Part LCS Extension (BSSAP-LE)
29.060	GPRS Tunnelling protocol (GPT) across the Gn and Gp interface
29.061	General Packet Radio Service (GPRS); Interworking between the Public Land Mobile Network (PLMN) supporting GPRS and Packet
29.078	CAMEL phase 3; Stage 3

Annex A (informative): Document change history

Status of GSM 01.01		
Date	**Version**	**Information about changes**
August 1999	version 0.0.0	1st draft created by MCC
August 1999	version 0.0.1	Comment from SMG6/S5 and N1 included. New LCS specs
September 1999	version 0.0.2	Transfer of 04.12 to 24.012 included, 22.121, 22.115, 22.129 included (SA1 comment)
September 1999	version 0.0.3	Joint SMG11/S4 Meeting decisions on AMR and TFO
September 1999	version 0.1.0	Joint SMG11/S4, S2 and WOME comments included
September 1999	version 0.2.0	03.41 transferred T2/SMG4
October 1999	version 0.3.0	Editorial changes

History

Document history		