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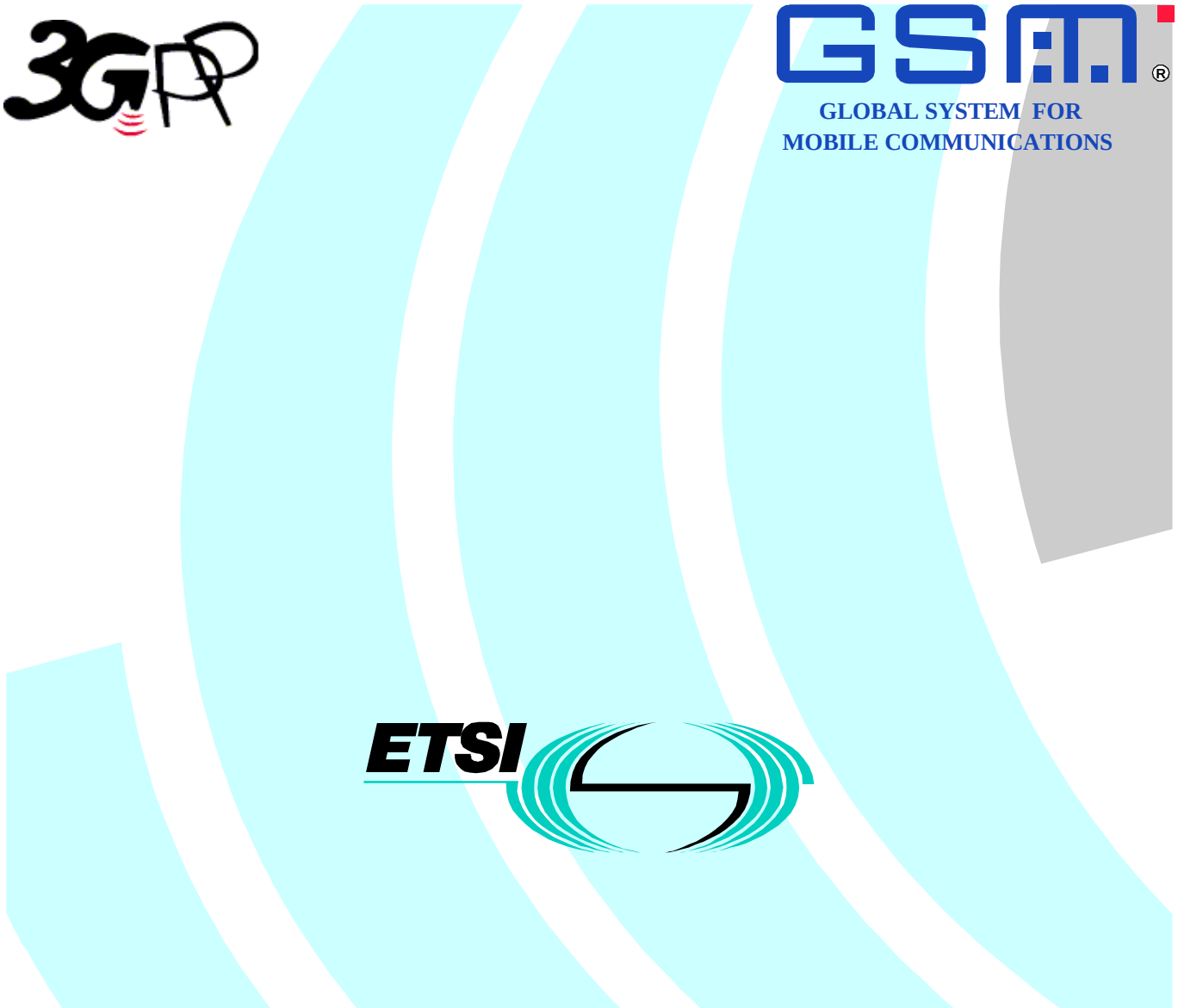
Technical Specification

Digital cellular telecommunications system (Phase 2+);
GSM Release 1999 Specifications
(3GPP TS 01.01 version 8.2.0 Release 1999)



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Foreword

This Technical Specification (TS) has been produced by the ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under www.etsi.org/key .

Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

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

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 latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document.*

[1] GSM 01.04: "Abbreviations and acronyms".

[2] 3GPP TS 51.010-1 (version 4, Release 4): " Mobile Station (MS) conformance specification; Part 1: Conformance specification ".

[3] 3GPP TS 51.010-2 (version 4, Release 4): "Mobile station (MS) conformance specification; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification".

[4] 3GPP TS 51.010-3 (version 4, Release 4): " Mobile station (MS) conformance specification; Part 3: Layer3 (L3) Abstract Test Suite (ATS)".

Note: The above specification was not available at the time of issue of the present document.

[5] 3GPP TS 51.010-4 (version 4, Release 4): "Mobile Station (MS) Conformance Specification; Part 4: SIM Application Toolkit conformance specification".

3 Abbreviations

For the purposes of the present document, the terms and definitions given in GSM 01.04 apply.

4 General

GSM Release 1999 consists 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 includes 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 are 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 for the composition of a service, including the control by the user; a platform may comprise one 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 realized by generic building blocks etc. also belong into this series.

4.2.3 03 and 23-series

Technical realization

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)

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

WI Title	Prime resp STC	Rel
BSS co-ordination of Radio Resource allocation for class A GPRS services - GSM Radio Access	SMG02	99
Enhanced Data rates for GSM Evolution (EDGE) - BSS	SMG02	99
General Packet Radio Service Phase 2 (GPRS) - radio part	SMG02	99
GSM on 400 MHz Frequency Band	SMG02	99
BSS co-ordination of Core Network Resource allocation for class A GPRS services -GSM-UMTS Core Network	SMG12	99

5.2 Common GSM/3G Work Areas

5.2.1 Work areas related to the services

WI Title	Prime responsible STC	Rel
Advanced Addressing	SMG01	99
Automatic Establishment of Roaming Relations	SMG01	99
CAMEL Phase 3	SMG01	99
Follow Me	SMG01	99
GSM Mobile Number Portability EURO MNP	SMG01	98
Service Continuity and Provision of VHE via GSM/UMTS	SMG01	99
UMTS Charging & Billing	SMG01	99
UMTS Numbering, Addressing and Identities	SMG01	99
Virtual Home Environment	SMG01	99
Unstructured Supplementary Service Data (USSD) enhancements	SMG01 and TSG-N	99
MS and Network-Resident Execution Environments (MS/N-RExE)	SMG01	99

5.2.2 Work areas related to the system architecture

WI Title	Prime responsible STC	Rel
Enhanced QoS Support in GPRS	S2	99
IP-in-IP tunneling in GPRS backbone for UMTS, phase 1	S2	99
UMTS Open Service Architecture	S2	99
Architecture of the GSM-UMTS Platform	S2/SMG12	99
Architecture overview of the GSM-UMTS System	S2/SMG12	99
End to End UMTS QoS Management	S2/SMG12	99
Multimedia in UMTS	S2/SMG12	99
Provision of text telephony service in GSM and UMTS	S2/SMG12	99
Study on Combined GSM and Mobile IP Mobility Handling in UMTS IP CN	S2/SMG12	99
Support for real time services in the Packet domain for GSM/GPRS/UMTS R99	S2/SMG12	99
UMTS Core based on ATM Transport	S2/SMG12	99
Location Services (LCS) for R99	S2	99
Support of non-realtime Multimedia Messaging Service	SMG04 / S2	99

5.2.3 Work areas related to the security

WI Title	Prime responsible STC	Rel
Fraud Information Gathering System applied to GPRS	SMG10	99
Immediate Service Termination (IST) : CAMEL free solution	SMG10	99
SS7 Security	SMG10	99

5.2.4 Work areas related to the codec

WI Title	Prime responsible STC	Rel
3G audio-visual terminal characteristics	S4	99
Codec for Low Bitrate Multimedia Telephony Service	S4	99
Mandatory Speech Codec for Narrowband Telephony Service	S4	99
Codec(s) for Wideband Telephony Services	S4	99
AMR – Wideband	S4	99
AMR - Adaptive Multi-Rate codec (GSM 10.70)	S4?	98
QoS for Speech and Multimedia Codec	S4	99
Tandem free operation in 3G systems and between 2G and 3G systems	S4	98

5.2.5 Work areas related to the network management

WI Title	Prime responsible STC	Rel
3G charging management	S5	99
3G system configuration management	S5	99
3G system fault management	S5	99
3G system performance management	S5	99
Charging and Billing for GPRS – Advice of Charge	SMG06	99
Charging and Billing for GPRS – Hot Billing	SMG06	99
Charging and Billing for GPRS – Pre-Paid	SMG06	99

5.2.6 Work areas related to the core network specification

Concerning N1 (layer MM/CM/SM) (SMG3A at SMG)

WI Title	Prime responsible STC	Rel
Pre-paging	N1	99
Turbo-Charger: Feasibility Study	N1	99
Unstructured Supplementary Service Data (USSD) enhancements	S1 / SMG01 and TSG-N	99
General Packet Radio Service Phase 2 (GPRS) - network part	SMG03	99
Tandem Free Operation of speech codecs in Mobile-to-Mobile Calls (MMCs) in band (including AMR)	SMG02 and SMG 11	98
Tandem Free Operation of speech codecs in Mobile-to-Mobile Calls (MMCs) : out-band	SMG03	99
Access to ISPs and Intranets in GPRS Phase 2 – Separation of GPRS Bearer Establishment and ISP Service Environment Setup	SMG03 / N	98 or 99

Concerning N2 (Camel) (SMG3C at SMG)

None

Concerning N3 (Interworking with external networks) (SMG3D at SMG)

WI Title	Prime responsible STC	Rel
Enhanced Data rates for GSM Evolution (EDGE) - NSS	N3 / SMG03	99

5.2.7 Work areas related to the testing of the MS

WI Title	Prime responsible STC	Rel
MS Protocol/RF/EMC conformance specification	SMG7	99

5.2.8 Work areas related to the data

WI Title	Prime responsible STC	Rel
SMS Advanced Cell Broadcast	T2	99
SMS Cell Broadcast	T2	99
Messaging (Multimedia Messaging Service); Stage 2/3	T2	99
Messaging (Short Message Service (SMS); Stage 2/3	T2	99
Terminal interfaces (Alternatives to AT commands)	T2	99
Terminal interfaces (AT commands for 3GPP)	T2	99
Access to ISPs and Intranets in GPRS Phase 2 – Wireless/Remote Access to LANs	SMG03	99
Connecting an octet stream to a port on an Internet host	SMG03	98
GPRS Mobile IP Interworking	SMG03	99
Mobile Station Execution Environment (MExE)	SMG03	98 - 99
Modem and ISDN interworking for GPRS	SMG03	98
Study on provision of facsimile services in GSM and UMTS	SMG03	99
Unstructured octet stream GPRS PDP Type	SMG03	98
Access to ISPs and Intranets in GPRS Phase 2 – Separation of GPRS Bearer Establishment and ISP Service Environment Setup	SMG03 / N	98 or 99
Support of non-realtime Multimedia Messaging Service	SMG03 / S2	99
GPRS - Point-To-Multipoint Services	SMG03	99

5.2.9 Work areas related to the User Card

WI Title	Prime responsible STC	Rel
Specification of administrative commands and functions for IC cards	T	99
WAP WAE User Agent / SIM toolkit interworking	T	99
GSM-API for SIM-Toolkit	SMG09	98
Specification of a bearer independent protocol for SAT applications to exchange data over the GSM network	SMG09	99
SIM toolkit test specification	SMG09	99
Generic Logical and Physical specification for IC card and terminal interface	SMG09	99
Specification of administrative commands and functions for IC cards	SMG09	99

5.2.10 Work areas related to the access network

Concerning the testing of the BSS (RAN4 at 3GPP, SMG2C at SMG)

None

Concerning all the other groups

None

5.2.11 Work areas handled by other groups

WI Title	Prime responsible STC	Rel
Location Services (LCS)	T1P1	98
EDGE Compact	SMG02	99
support for EGPRS in ANSI-136 networks	SMG02	99

5.3 Release 99 work areas impacting other systems

None

6 Specifications and Reports

Specifications in the range 01,xx to 13.xx are 'pure' GSM specs. Those in the range 21.xxx to 35.xxx are common to GSM and UMTS implementations.

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01.61	General Packet Radio Service (GPRS); GPRS ciphering algorithm requirements	S3
02.09	Security Aspects	S3
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02.32	Immediate Service Termination (IST); Service description; Stage 1	S3
02.33	Lawful Interception; Stage 1	S3
02.43	Support of Localised Service Area (SoLSA); Service description; Stage 1	S1
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03.68	Voice Group Call Service (VGCS); Stage 2	N1
03.69	Voice Broadcast service (VBS); Stage 2	N1
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Note: 11.10-1 exists as a Release 1999 specification, but was closed at meeting number 32 of ETSI TC SMG (June 2000). Its contents are thus out of date, and it cannot be reliably used for conformance testing. In fact, the Release 1999 conformance specifications are contained in the corresponding Release 4 specifications, 51.010-1 to -4 [2], [3], [4] and [5].

6.1 (void)

6.2 (void)

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
October 1999	version 0.4.0	Updated to align with 21.101
November	version 1.0.0	Updated to align with 21.101. For information to SMG#30
November	version 1.1.0	Updated to align with 21.101.
June 00	version 2.0.0	Updated and checked by SMG12 chairman and MCC. Approved by SMG#32
June 00	version 8.0.0	Cleaned up.

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
2000-12	SA#10	SP-000526	001		Corrections to table of specs which comprise GSM Release 1999	8.0.0	8.1.0
2001-06	SA#12	SP-010382	002	1	Correction to list of specs	8.1.0	8.2.0

History

Document history		
V8.0.0	October 2000	Publication
V8.1.0	December 2000	Publication
V8.2.0	July 2001	Publication