ETSI TS 101 855 V4.0.0 (2003-06)

Technical Specification

**Digital cellular telecommunications system (Phase 2+);
Technical Specifications and Technical Reports
for a GERAN-based 3GPP system
(3GPP TS 01.01 version 4.0.0 Phase 2)**

Reference
RTS/TSGS-000101v400

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Foreword

This Technical Specification (TS) has been produced by 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 http://webapp.etsi.org/key/queryform.asp .

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 3GPP Technical Specifications and Technical Reports required to construct a GERAN-based system for 3GPP TS 01.01 version 4.0.0 Phase 2. The specifications and reports of 3GPP 3GPP TS 01.01 version 4.0.0 Phase 2 have a major version number 4 (e.g. 4.x.y).

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] 3GPP TR 01.04: "Abbreviations and acronyms ".

[2] 3GPP TR 21.900 v3 (R99): "Technical Specification Group working methods".

3 Abbreviations

For the purposes of the present document, the terms and definitions given in 3GPP TR 01.04 apply.

4 General

A detailed description of the specification numbering scheme is given in 3GPP TR 21.900.

5 Specifications and Reports

NOTE: The "for publication?" column of the table below indicates whether or not the documents are intended for adoption by the partner Standards Development Organizations as their own publications. Those marked "no" are internal working documents of the 3GPP TSGs.

Number	Title	WG prime	For publication?
01.01	Technical Specifications and Technical Reports for a GERAN-based 3GPP system	SP	Yes
01.02	General Description of a GSM Public Land Mobile Network (PLMN)	S1	Yes
01.04	Abbreviations and acronyms	GP	Yes
02.01	Principles of telecommunication services supported by a GSM Public Land Mobile Network(PLMN)	S1	Yes
02.02	Bearer Services (BS) Supported by a GSM Public Land Mobile Network (PLMN)	S1	Yes
02.03	Teleservices Supported by a GSM Public Land Mobile Network (PLMN)	S1	Yes
02.04	General on Supplementary Services	S1	Yes
02.06	Types of Mobile Stations (MS)	S1	Yes
02.07	Mobile Station (MS) Features	S1	Yes
02.09	Security aspects	S3	Yes
02.11	Service Accessibility	S1	Yes

Number	Title	WG prime	For publication?
02.16	International Mobile Station Equipment Identities (IMEI)	S1	Yes
02.17	Subscriber Identity Module (SIM); Functional characteristics	T3	Yes
02.24	Description of Charge Advice Information (CAI)	S1	Yes
02.30	Man-machine Interface (MMI) of the Mobile Station (MS)	S1	Yes
02.40	Procedures for Call Progress Indications	S1	Yes
02.41	Operator Determined Barring	S1	Yes
02.81	Line Identification Supplementary Services; Stage 1	S1	Yes
02.82	Call Forwarding (CF) Supplementary Services; Stage 1	S1	Yes
02.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1	S1	Yes
02.84	MultiParty (MPTY) Supplementary Services; Stage 1	S1	Yes
02.85	Closed User Group (CUG) Supplementary Services; Stage 1	S1	Yes
02.86	Advice of Charge (AoC) Supplementary Services; Stage 1	S1	Yes
02.88	Call Barring (CB) Supplementary Services; Stage 1	S1	Yes
02.90	Unstructured Supplementary Service Data (USSD); Stage 1	S1	Yes
03.01	Network Functions	S2	Yes
03.02	Network Architecture	S2	Yes
03.03	Numbering, Addressing and Identification	N4	Yes
03.04	Signalling Requirements Relating to Routing of Calls to Mobile Subscribers	N4	Yes
03.05	Technical performance objectives	NP	Yes
03.07	Restoration Procedures	N4	Yes
03.08	Organization of Subscriber Data	N4	Yes
03.09	Handover Procedures	N1	Yes
03.10	GSM Public Land Mobile Network (PLMN) Connection Types	N3	Yes
03.11	Technical Realization of Supplementary Services - General Aspects	N4	Yes
03.12	Location Registration Procedures	N4	Yes
03.13	Discontinuous Reception (DRX) in the GSM System	G1	Yes
03.14	Support of Dual Tone Multi-Frequency Signalling (DTMF) via the GSM System	N1	Yes
03.15	Technical Realization of Operator Determined Barring	N4	Yes
03.16	Subscriber Data Management	N4	Yes
03.20	Security-related Network Functions	S3	Yes
03.22	Functions related to Mobile Station (MS) in idle mode and group receive mode	G1	Yes
03.26	Multiband operation of GSM/DCS 1800 by a single operator	G1	Yes
03.30	Radio Network Planning Aspects	GP	Yes
03.38	Alphabets and language-specific information	T2	Yes
03.40	Technical realization of the Short Message Service (SMS)	T2	Yes
03.41	Technical Realization of Short Message Service Cell Broadcast (SMSCB)	T2	Yes
03.43	Support of Videotex	T2	Yes
03.44	Support of Teletex in a GSM Public Land Mobile Network (PLMN)	T2	Yes
03.45	Technical Realization of Facsimile Group 3 Service - transparent	N3	Yes
03.46	Technical Realization of Facsimile Group 3 Service - non transparent	N3	Yes
03.47	Example Protocol Stacks for Interconnecting Service Centre(s) (SC) and Mobile Services Switching Centre(s) (MSC)	T2	Yes
03.49	Example protocol stacks for interconnecting Cell Broadcast Centre (CBC) and Base Station Controler (BSC)	T2	Yes
03.50	Transmission Planning Aspects of the Speech Service in the GSM Public Land Mobile Network (PLMN) System	S4	Yes
03.70	Routeing of Calls to/from Public Data Networks (PDN)	N3	Yes
03.81	Line Identification Supplementary Services; Stage 2	N4	Yes
03.82	Call Forwarding (CF) Supplementary Services; Stage 2	N4	Yes
03.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 2	N4	Yes
03.84	Multi Party (MPTY) Supplementary Services; Stage 2	N4	Yes
03.85	Closed user Group (CUG) Supplementary Services; Stage 2	N4	Yes
03.86	Advice of Charge (AoC) Supplementary Services; Stage 2	N4	Yes
03.88	Call Barring (CB) supplementary services; Stage 2	N4	Yes
03.90	Unstructured Supplementary Service Data (USSD)	N4	Yes
04.01	Mobile Station - Base Station System (MS - BSS) Interface General Aspects and Principles	N1	Yes
04.02	GSM Public Land Mobile Network (PLMN) Access Reference Configuration	N1	Yes
04.03	Mobile Station - Base Station System (MS - BSS) Interface Channel Structures and Access Capabilities	G2	Yes
04.04	Layer 1 - General Requirements	G2	Yes
04.05	Data Link (DL) Layer General Aspects	G2	Yes

Number	Title	WG prime	For publication?
04.06	Mobile Station - Base Stations System (MS - BSS) Interface Data Link (DL) Layer Specification	G2	Yes
04.07	Mobile Radio Interface Signalling Layer 3 - General Aspects	N1	Yes
04.08	Mobile radio interface layer 3 specification	N1	Yes
04.10	Mobile Radio Interface Layer 3 - Supplementary Services Specification - General Aspects	N4	Yes
04.11	Point-to-Point (PP) Short Message Service (SMS) Support on Mobile Radio Interface	N1	Yes
04.12	Short Message Service Cell Broadcast (SMSCB) Support on the Mobile Radio Interface	G2	Yes
04.13	Performance Requirements on Mobile Radio Interface	N1	Yes
04.21	Rate Adaption on the Mobile Station - Base Station System (MS-BSS) Interface	N3	Yes
04.22	Radio Link Protocol (RLP) for data and telematic services on the Mobile Station - Base Station System (MS - BSS) interface and the Base Station System - Mobile-services Switching Centre (BSS - MSC) interface	N3	Yes
04.80	Mobile Radio Interface Layer 3 - Supplementary Services Specification Formats and Coding	N4	Yes
04.81	Line Identification Supplementary Services; Stage 3	N4	Yes
04.82	Call Forwarding (CF) Supplementary Services; Stage 3	N4	Yes
04.83	Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 3	N4	Yes
04.84	Multi Party (MPTY) Supplementary Services; Stage 3	N4	Yes
04.85	Closed User Group (CUG) Supplementary Services; Stage 3	N4	Yes
04.86	Advice of Charge (AoC) Supplementary Services; Stage 3	N4	Yes
04.88	Call Barring (CB) Supplementary Services; Stage 3	N4	Yes
04.90	Unstructured Supplementary Service Data (USSD)	N4	Yes
05.01	Physical Layer on the Radio Path (General Description)	G1	Yes
05.02	Multiplexing and Multiple Access on the Radio Path	G1	Yes
05.03	Channel coding	G1	Yes
05.04	Modulation	G1	Yes
05.05	Radio Transmission and Reception	G1	Yes
05.08	Radio Subsystem Link Control	G1	Yes
05.10	Radio subsystem synchronization	G1	Yes
05.22	Radio link management in hierarchical networks	G1	Yes
05.50	Background for RF Requirements	G1	Yes
05.90	GSM Electromagnetic Compatibility (EMC) considerations	G1	Yes
06.01	Full Rate Speech Processing Functions	S4	Yes
06.02	Half Rate Speech Processing Functions	S4	Yes
06.06	Half Rate Speech: ANSI-C Code for GSM Half Rate Speech Codec	S4	Yes
06.07	Half Rate Speech: Test Sequence for GSM Half Rate Speech Codec	S4	Yes
06.08	Half Rate Speech; Performance Characterization of the GSM Half Rate speech codec	S4	Yes
06.10	Full Rate Speech Transcoding	S4	Yes
06.11	Substitution and Muting of Lost Frames for Full Rate Speech Channels	S4	Yes
06.12	Comfort Noise Aspects for Full Rate Speech Traffic Channels	S4	Yes
06.20	Half Rate Speech Transcoding	S4	Yes
06.21	Half rate speech; Substitution and muting of lost frames for half rate speech traffic channels	S4	Yes
06.22	Comfort Noise Aspects for Half Rate Speech Traffic Channels	S4	Yes
06.31	Discontinuous Transmission (DTX) for Full Rate Speech Traffic Channels	S4	Yes
06.32	Voice Activity Detection (VAD)	S4	Yes
06.41	Discontinuous Transmission (DTX) for Half Rate Speech Traffic Channels	S4	Yes
06.42	Voice Activity Detection (VAD) for Half Rate Speech Traffic Channels	S4	Yes
06.51	GSM Enhanced full rate speech processing functions: General description	S4	Yes
06.53	ANSI-C code for the GSM Enhanced Full Rate (EFR) speech codec	S4	Yes
06.54	Test sequences for the GSM Enhanced Full Rate (EFR)	S4	Yes
06.55	Performance characterisation of the GSM EFR Speech Codec	S4	Yes
06.60	Enhanced full rate speech transcoding	S4	Yes
06.61	Substitution and muting of lost frames for encanced full rate speech traffic channels	S4	Yes
06.62	Comfort noise aspects for Enhanced Full Rate (EFR) speech traffic channels	S4	Yes
06.81	Discontinuous Transmission (DTX) for encanced full rate speech traffic channels	S4	Yes
06.82	Voice Activity Detection (VAD) for encanced full rate speech traffic channels	S4	Yes
07.01	General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)	N3	Yes

Number	Title	WG prime	For publication?
07.02	Terminal Adaptation Functions (TAF) for Services Using Asynchronous Bearer Capabilities	N3	Yes
07.03	Terminal Adaptation Functions (TAF) for Services Using Synchronous Bearer Capabilities	N3	Yes
07.05	Use of Data Terminal Equipment - Data Circuit Terminating Equipment (DTE-DCE) Interface for Short Message Services (SMS) and Cell Broadcast Services (CBS)	T2	Yes
07.07	AT Command set for GSM Mobile Equipment (ME)	T2	Yes
08.01	General Aspects on the BSS-MSC Interface	G2	Yes
08.02	Base Station System - Mobile Services Switching Centre (BSS-MSC) Interface - Interface Principles	G2	Yes
08.04	Base Station System - Mobile Services Switching Centre (BSS-MSC) Interface Layer 1 Specification	G2	Yes
08.06	Signalling Transport Mechanism Specification for the Base Station System - Mobile Services Switching Centre (BSS-MSC) Interface	G2	Yes
08.08	Mobile-services Switching Centre - Base Station system (MSC-BSS) Interface Layer 3 Specification	G2	Yes
08.20	Rate Adaptation on the Base Station System - Mobile Service Switching Centre (BSS-MSC) Interface	N3	Yes
08.51	Base Station Controller - Base Tranceiver Station (BSC-BTS) Interface General Aspects	G2	Yes
08.52	Base Station Controller - Base Tranceiver Station (BSC-BTS) Interface - Interface Principles	G2	Yes
08.54	BSC-BTS Layer 1; Structure of Physical Circuits	G2	Yes
08.56	BSC-BTS Layer 2; Specification	G2	Yes
08.58	Base Station Controler - Base Transceiver Station (BCS-BTS) Interface Layer 3 Specification	G2	Yes
08.60	In-band control of remote transcoders and rate adaptors for Enhanced Full Rate (EFR) and full rate traffic channels	G1	Yes
08.61	In-band control of remote transcoders and rate adaptors for half rate traffic channels	G1	Yes
09.01	General Network Interworking Scenarios	N4	Yes
09.02	Mobile Application Part (MAP) Specification	N4	Yes
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)	N3	Yes
09.04	Interworking between the Public Land Mobile Network (PLMN) and the Circuit Switched Public Data Network (CSPDN)	N3	Yes
09.05	Interworking between the PLMN and the PSPDN for PAD Access	N3	Yes
09.06	Interworking between a Public Land Mobile Network (PLMN) and a Packet Switched Public Data Network/Intergrated Services digital Network (PSPDN/ISDN) for Support of Packet Switched Data Transmission Services	N3	Yes
09.07	General Requirements on Interworking between the Public Land Mobile Network (PLMN) and the Intergrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)	N3	Yes
09.08	Application of the Base Station System Application Part (BSSAP) on the E-Interface	N1	Yes
09.10	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)	N4	Yes
09.11	Signalling Interworking for Supplementary Services	N4	Yes
09.12	Application of ISUP Version 2 for the ISDN-PLMN (GSM) Signalling	SPAN3	Yes
09.90	Interworking between Phase 1 Infrastructure and Phase 2 Mobile Stations (MS)	N1	Yes
09.91	Interworking Aspects of the SIM/ME Interface Between Phase 1 and Phase 2	T3	Yes
09.94	Recommended infrastructure measures to overcome specific Mobile Station (MS) faults	N1	Yes
11.10-1	Mobile station (MS) conformance specification; Part 1: Conformance specification	G3new	Yes
11.10-2	Mobile station (MS) conformance specification; Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification	G3new	Yes
11.10-3	Mobile Station (MS) conformance specification; Part 3: Layer3 (L3) Abstract Test Suite (ATS)	G3new	Yes
11.11	Specification of the Subscriber Identity Module - Mobile Equipment (SIM-ME) Interface	T3	Yes
11.12	Specification on the 3 volt subscriber identity module Equipment (SIM-ME) Interface	T3	Yes
11.21	Base Station System (BSS) equipment specification; Radio aspects	G1	Yes
11.22	GSM Base Station and Ancillary Equipment, Physical and Electronical Parameters, Application of Standards and Guidance Notes	G1	Yes

Number	Title	WG prime	For publication?
11.23	GSM Signalling Aspects Base Station System equipment Specification	G1	Yes
11.24	GSM Transcoding and Rate Adaptation: Base Station System Equipment Specification	G1	Yes
11.26	Base Station System (BSS) equipment specification; Part 4: Repeaters	G1	Yes
12.00	Objectives and Structure of GSM Public Land Mobile Network (PLMN) Management	S5	Yes
12.01	Network Management (NM); Part 2: Common aspects of SM/DCS 1800 Network Management	S5	Yes
12.02	Subscriber, Mobile Equipment (ME) and Services Data Administration	S5	Yes
12.03	Security Management	S5	Yes
12.04	Performance data measurements	S5	Yes
12.05	Subscriber Related Call and Event Data	S5	Yes
12.06	Network Configuration Management and Administration	S5	Yes
12.08	Subscriber and Equipment trace	S5	Yes
12.11	Fault management of the Base Station System (BSS)	S5	Yes
12.20	Base Station System (BSS) Management Information	S5	Yes
12.21	Network Management (NM) procedures and messages on the A-bis interface	G1	Yes
12.22	Interworking of GSM Network Management (NM) Procedures and Messages at the Base Station Controller (BSC)	G1	Yes
12.30	ETSI Object Identifier Tree; Mobile Domain O&M	S5	Yes

Annex A (informative): Change history

Change history						
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**New version**
2001-06	SP-12	SP-010278	-	-	First draft	3GPP TS 41.103 version 0.0.0
2001-06-20	SP-12	SP-010384			updates table of specs	0.1.0
2001-09-12	SP-13	SP-010421			updates table of specs	1.0.0
2002-03-04	SP-15	SP-020098			updates table of specs; adds columns for freeze info	1.1.0
2002-03-13		SP-020203			updates table of specs	1.2.0
2002-06-03	SP-16	SP-020274			updates table of specs, minor corrections	2.0.0
2002-06-11		SP-020401			updates table of specs, minor corrections	2.1.0
2002-06-12		SP-020411			updates table of specs; sets unknown freeze target dates blank	2.2.0
					approved	5.0.0
2002-09	SP-17	SP-020616	001	1	update list of specs; editorial corrections to spec titles	5.1.0
2002-12	SP-18	SP-020833	002	1	Correction to list of specs, editorial corrections to spec titles	5.2.0
2003-03	SP-19	SP-030077	003	1	Correction to list of specs, editorial corrections to spec titles	5.3.0
2003-06	SP-20	SP-030228	004	1	Back formation of TS 01.01 for GSM Phase 1 – generic part	3GPP TS 01.01 version 3.0.0
			005		Back formation of TS 01.01 for GSM Phase 1 – list of specs	
			012		Update of list of specs for next Release	4.0.0

History

Document history		
V4.0.0	June 2003	Publication