



SLOVENSKI STANDARD

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Digital cellular telecommunications system (Phase 2) (GSM); Mobile Station (MS) conformance specification; Part 3: Layer 3 (L3) Abstract Test Suite (ATS) (GSM 11.10-3 version 4.19.1)

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ICS:

33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)
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**Digital cellular telecommunications system (Phase 2);
Mobile Station (MS) conformance specification;
Part 3: Layer 3 (L3) Abstract Test Suite (ATS)
(GSM 11.10-3 version 4.19.1)**

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

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Foreword

This European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) of the European Telecommunications Standards Institute (ETSI).

This ETS describes the technical characteristics and methods of test for Mobile Stations (MSs), operating in the 900 MHz and 1 800 MHz frequency band (GSM 900 and DCS 1 800) within the digital cellular telecommunications system.

This ETS corresponds to GSM technical specification GSM 11.10-3 version 4.19.1.

This part of the ETS (Part 3), contains Tree and Tabular Combined Notation (TTCN) for Layer 3 conformity specifications for which mobile stations, within the digital cellular telecommunications system (Phase 2), are tested for compliance.

The graphical form ATS

The TTCN.GR representation of this ATS is contained in annex A of this ETS.

The machine processable ATS

The electronic forms of the machine processable files (TTCN MP format) corresponding to the ATS for Layer 3 are contained in the file L3-4191.mp¹⁾ (Layer 3) on the diskette included as a part of this ETS (Part 3).

ETS 300 607 consists of three parts, which have the following ETS numbers and titles:

ETS 300 607-1 Digital cellular telecommunications system (Phase 2);
Mobile Station (MS) conformance specification;
Part 1: Conformance specification

Reference: GSM 11.10-1.

ETS 300 607-2 Digital cellular telecommunications system (Phase 2);
Mobile Station (MS) conformance specification;
Part 2: Protocol Implementation Conformance Statement (ICS)
proforma specification

Reference: GSM 11.10-2.

**ETS 300 607-3 Digital cellular telecommunications system (Phase 1);
Mobile Station (MS) conformance specification;
Part 3: Layer 3 (L3) Abstract Test Suite (ATS)**

Reference: GSM 11.10-3.

Transposition dates	
Date of adoption of this ETS:	19 December 1997
Date of latest announcement of this ETS (doa):	30 April 1998
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 October 1998
Date of withdrawal of any conflicting National Standard (dow):	31 October 1998

1) This file is located in an archive file named 6073_EO.LZH. Other file formats are available on request.

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1 Scope

This European Telecommunication Standard (ETS) specifies the Abstract Test Suite (ATS) and partial IXIT proforma for the Network Layer (Layer 3) at the mobile radio interface of the GSM or DCS (Phase 2) mobile stations (MS) conforming to the ETSs for the Radio Resource management, the Mobility Management, the circuit-switched Call Control, the Supplementary Services and Short Message Services for the digital cellular telecommunications systems (Phase 2).

The ISO standards for the methodology of conformance testing are used as the basis for the test specifications.

2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

- [1] ISO/IEC 9646-1: "Information Technology-OSI- Conformance Testing Methodology and Framework, Part 1: General Concepts".
- [2] ISO/IEC 9646-2: "Information Technology-OSI- Conformance Testing Methodology and Framework, Part 2: Abstract Test Suite Specification".
- [3] ISO/IEC 9646-3: "Information Technology-OSI- Conformance Testing Methodology and Framework, Part 3: The Tree and Tabular Combined Notation".
- [4] ISO/IEC 9646-5: "Information Technology-OSI- Conformance Testing Methodology and Framework, Part 5: Requirements on test laboratories and clients for the conformance assessment process".
- [5] ISO/IEC 8824: "Information Technology-OSI- Specification of Abstract Syntax Notation One (ASN.1)".
- [6] ISO/IEC 8825: "Information Technology-OSI- Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)".
- [7] ITU-T Recommendation Q.773: "Specifications of Signalling System No.7; Transaction capabilities formats and encoding".
- [8] ETS 300 287: "Integrated Services Digital Network (ISDN); CCITT Signalling System No.7, Transaction Capabilities Application Part (TCAP) version 2".
- [9] ETS 300 406 (January 1995): "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".
- [10] ETS 300 501 (GSM 02.02): "Digital cellular telecommunications system (Phase 2); Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".
- [11] ETS 300 502 (GSM 02.03): "Digital cellular telecommunications system (Phase 2); Teleservices supported by a GSM Public Land Mobile Network (PLMN)".
- [12] ETS 300 504 (GSM 02.06): "Digital cellular telecommunications system (Phase 2); Types of Mobile Stations (MS)".
- [13] ETS 300 505 (GSM 02.07): "Digital cellular telecommunications system (Phase 2); Mobile Stations (MS) features".

- [14] ETS 300 511 (GSM 02.30): "Digital cellular telecommunications system (Phase 2); Man-Machine Interface (MMI) of the Mobile Station (MS)".
- [15] ETS 300 523 (GSM 03.03): "Digital cellular telecommunications system (Phase 2); Numbering, addressing and identification".
- [16] ETS 300 527 (GSM 03.09): "Digital cellular telecommunications system (Phase 2); Handover procedures".
- [17] ETS 300 528 (GSM 03.10): "Digital cellular telecommunications system (Phase 2); GSM Public Land Mobile Network (PLMN) connection types".
- [18] ETS 300 529 (GSM 03.11): "Digital cellular telecommunications system (Phase 2); Technical realization of supplementary services".
- [19] ETS 300 530 (GSM 03.12): "Digital cellular telecommunications system (Phase 2); Location registration procedures".
- [20] ETS 300 532 (GSM 03.14): "Digital cellular telecommunications system (Phase 2); Support of Dual Tone Multi-Frequency signalling (DTMF) via the GSM system".
- [21] ETS 300 535 (GSM 03.22): "Digital cellular telecommunications system (Phase 2); Functions related to Mobile Station (MS) in idle mode".
- [22] ETS 300 536 (GSM 03.40): "Digital cellular telecommunications system (Phase 2); Technical realization of the Short Message Service (SMS) Point-to-Point (PP)".
- [23] ETS 300 537 (GSM 03.41): "Digital cellular telecommunications system (Phase 2); Technical realization of Short Message Service Cell Broadcast (SMSCB)".
- [24] ETS 300 550 (GSM 04.01): "Digital cellular telecommunications system (Phase 2); Mobile Station - Base Station System (MS - BSS) interface General aspects and principles".
- [25] ETS 300 552 (GSM 04.03): "Digital cellular telecommunications system (Phase 2); Mobile Station - Base Station System (MS - BSS) interface Channel structures and access capabilities".
- [26] ETS 300 553 (GSM 04.04): "Digital cellular telecommunications system (Phase 2); Layer 1 General requirements".
- [27] ETS 300 554 (GSM 04.05): "Digital cellular telecommunications system (Phase 2); Data Link (DL) layer General aspects".
- [28] ETS 300 555 (GSM 04.06): "Digital cellular telecommunications system (Phase 2); Mobile Station - Base Station System (MS - BSS) interface Data Link (DL) layer specification".
- [29] ETS 300 556 (GSM 04.07): "Digital cellular telecommunications system (Phase 2); Mobile radio interface signalling layer 3 General aspects".
- [30] ETS 300 557 (GSM 04.08): "Digital cellular telecommunications system (Phase 2); Mobile radio interface layer 3 specification".
- [31] ETS 300 558 (GSM 04.10): "Digital cellular telecommunications system (Phase 2); Mobile radio interface layer 3 Supplementary services specification General aspects".

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- [32] ETS 300 559 (GSM 04.11): "Digital cellular telecommunications system (Phase 2); Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".
- [33] ETS 300 560 (GSM 04.12): "Digital cellular telecommunications system (Phase 2); Short Message Service Cell Broadcast (SMSCB) support on the mobile radio interface".
- [34] ETS 300 564 (GSM 04.80): "Digital cellular telecommunications system (Phase 2); Mobile radio interface layer 3 Supplementary services specification Formats and coding".
- [35] ETS 300 565 (GSM 04.81): "Digital cellular telecommunications system (Phase 2); Line identification supplementary services - Stage 3".
- [36] ETS 300 566 (GSM 04.82): "Digital cellular telecommunications system (Phase 2); Call Forwarding (CF) supplementary services - Stage 3".
- [37] ETS 300 567 (GSM 04.83): "Digital cellular telecommunications system (Phase 2); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 3".
- [38] ETS 300 568 (GSM 04.84): "Digital cellular telecommunications system (Phase 2); Multi Party (MPTY) supplementary services - Stage 3".
- [39] ETS 300 569 (GSM 04.85): "Digital cellular telecommunications system (Phase 2); Closed User Group (CUG) supplementary services - Stage 3".
- [40] ETS 300 570 (GSM 04.86): "Digital cellular telecommunications system (Phase 2); Advice of Charge (AoC) supplementary services - Stage 3".
- [41] ETS 300 571 (GSM 04.88): "Digital cellular telecommunications system (Phase 2); Call Barring (CB) supplementary services - Stage 3".
- [42] ETS 300 572 (GSM 04.90): "Digital cellular telecommunications system (Phase 2); Unstructured Supplementary Services Data (USSD) - Stage 3".
- [43] ETS 300 573 (GSM 05.01): "Digital cellular telecommunications system (Phase 2); Physical layer on the radio path General description".
- [44] ETS 300 574 (GSM 05.02): "Digital cellular telecommunications system (Phase 2); Multiplexing and multiple access on the radio path".
- [45] ETS 300 575 (GSM 05.03): "Digital cellular telecommunications system (Phase 2); Channel coding".
- [46] ETS 300 576 (GSM 05.04): "Digital cellular telecommunications system (Phase 2); Modulation".
- [47] ETS 300 577 (GSM 05.05): "Digital cellular telecommunications system (Phase 2); Radio transmission and reception".
- [48] ETS 300 578 (GSM 05.08): "Digital cellular telecommunications system (Phase 2); Radio subsystem link control".
- [49] ETS 300 579 (GSM 05.10): "Digital cellular telecommunications system (Phase 2); Radio subsystem synchronization".
- [50] ETS 300 582 (GSM 07.01): "Digital cellular telecommunications system (Phase 2); General on Terminal Adaption Functions (TAF) for Mobile Stations (MS)".

- [51] ETS 300 590 (GSM 08.08): "Digital cellular telecommunications system (Phase 2); Mobile-services Switching Centre - Base Station System (MSC - BSS) interface Layer 3 specification".
- [52] ETS 300 596 (GSM 08.58): "Digital cellular telecommunications system (Phase 2); Base Station Controller - Base Transceiver Station (BSC - BTS) interface Layer 3 specification".
- [53] ETS 300 599 (GSM 09.02): "Digital cellular telecommunications system (Phase 2); Mobile Application Part (MAP) specification".
- [54] ETS 300 607-1 (GSM 11.10-1): "Digital cellular telecommunications system (Phase 2); Mobile Station (MS) conformance specification; Part 1: Conformance specification".
- [55] ETS 300 607-2 (GSM 11.10-2): "Digital cellular telecommunications system (Phase 2); Mobile Station (MS) conformance specification; Part 2: Protocol Implementation Conformance Statement (PICS) Proforma specification".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the following definitions apply:

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [1].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [1].

Partial Protocol Implementation eXtra Information for Testing (IXIT): Refer to ISO/IEC 9646-1 [1].

Point of Controls and Observations (PCO): Refer to ISO/IEC 9646-1 [1].

Protocol Implementation Conformance Statement (ICS): Refer to ISO/IEC 9646-1 [1].

System Under Test (SUT): Refer to ISO/IEC 9646-1 [1].

3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

ATS	Abstract Test Suite
BI	Invalid Behaviour tests
BO	Inopportune Behaviour tests
BV	Valid Behaviour tests
CA	CApability tests
EDP-N	Event Detection Point - Notification
EDP-R	Event Detection Point - Request
ETS	European Telecommunication Standard
FE	Functional Entity
FSM	Finite State Machine
ICS	Implementation Conformance Statement
IUT	Implementation Under Test
IXIT	Implementation eXtra Information for Testing
PDU	Protocol Data Unit
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure

Further abbreviations used within GSM related ETS may be found in ETR 100.

Abbreviations for test case group names may be found in figure 1 and 2.

4 Test Suite Structure (TSS)

4.1 Test suite naming convention

The test group identifier for each group and subgroup is built according to the scheme in figure 1.

Identifier:	L3<c><s><g0><g1><g2><nn>
<c> = category:	BIT BIT, Basic Interconnection tests (not used) CA CA, Capability tests (not used) BV BV, Valid Behaviour tests BI-BO BI and BO, Invalid and Inopportune Behaviour tests
<g0> = group:	IN Initial tests ID Idle mode tests RR Radio Resource management MM Mobility Management CC Call Control SP Structured Procedures SS Supplementary services LLF Lower Layer Failures UUE Unknown, Unforeseen or erroneous Elements
<g1> = group:	CR Channel Request AT IMSI detach and IMSI attach SMT Sequenced MM / CC message transfer EC Establishment Cause IA Immediate assignment PG Test of paging MR Test of measurement report ASS Test of the channel HO Test of handover FR Test of frequency redefinition CMM Test of the channel mode modify procedure CY Test of ciphering mode setting CM Test of classmark CHR Test of channel release START Test of starting time IDAU Identification and authentication LU Location updating CON MM connection CCSMO State Machine Verification, Mobile Originating Call CCSMT State Machine Verification, Mobile Terminating Call SMICF State machine verification, In Call Functions CRE Call Re-establishment UUS User to user signalling UPD Unknown protocol discriminator TIS TI and skip indicator UMT Undefined or unexpected message type UIE Unforeseen information elements in the non-imperative NMIE Non-semantic mandatory IE errors CNR Unknown IE, comprehension not required SB Spare bits