Foreword

This draft European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) Technical Committee of the European Telecommunications Standards Institute (ETSI), and is now submitted for the One-step Approval Procedure phase of the ETSI standards approval procedure.

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 11.10-1 version 4.24.0.

This part of the ETS (Part 1), contains conformity specifications for which mobile stations, within the digital cellular telecommunications system (Phase 2), are tested for compliance. This ETS describes the test procedures, test conditions and test site and the provisions within the mobile station, to support the process of conformance testing.

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 (PICS) 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.

The specification from which this ETS has been derived was originally based on CEPT documentation, hence the presentation of this ETS may not be entirely in accordance with the ETSI/PNE Rules.

Proposed transposition dates	
Date of latest announcement of this ETS (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

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1 Scope

This European Telecommunications Standard (ETS) describes the technical characteristics and methods of test for Mobile Stations (MS), for the Pan European digital cellular communications system and Personal Communication Systems (PCS) operating in the 900 MHz and 1 800 MHz band (GSM 900 and DCS 1 800), standardized by ETSI Technical Committee Special Mobile Group (SMG).

A subset of the tests is referenced in the GSM Common Technical Regulations (CTRs) and is used for regulatory conformance testing according to the EEC procedures for Telecommunications Terminal Equipment (TTE) type approval (EC Directive 91/263/EEC; also known as the "Terminal Directive" or "Second Phase Directive"). The remaining tests can be used to verify conformance with the GSM core technical specifications for those requirements that are not considered "essential" in the sense of the EC Directive 91/263/EEC (Article 4).

This ETS covers the minimum characteristics considered necessary in order to provide sufficient performance for mobile equipment and to prevent interference to other services or to other users, and to the PLMNs.

It does not necessarily include all the characteristics which may be required by a user or subscriber, nor does it necessarily represent the optimum performance achievable.

It applies to the public land mobile radio service in the GSM 900 and DCS 1 800 systems, using constant envelope modulation and operating on radio frequencies in the 900 and 1 800 MHz bands respectively with a channel separation of 200 kHz and carrying 8 full rate channels or 16 half rate channels per carrier according to the TDMA principle.

This ETS is part of the GSM-series of technical specifications. This ETS neither replaces any of the other GSM technical specifications or GSM related ETS, nor is it created to provide full understanding of (or parts of) the GSM 900 and DCS 1 800 systems. This ETS lists the requirements, and provides the methods of test for testing a MS for conformance to the GSM standard.

For a full description of the system, reference should be made to all the GSM technical specifications or GSM related ETSs. Clause 2 provides a complete list of the GSM technical specifications, GSM related ETSs, and ETRs, on which this conformance test specifications is based.

This ETS applies to the unit which includes the hardware to establish a connection across the radio interface.

If there is a difference between this conformance test ETS, and any other GSM technical specification or GSM related ETS, then the other GSM technical specification or GSM related ETS shall prevail.

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 revision of any of these publications apply to the requirements specified in this ETS, only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] GSM 01.04 Version 4.1.2 (ETR 350): "Digital cellular telecommunication system (Phase 2); Abbreviations and acronyms".

[2] GSM 02.02 Version 4.2.2: "Digital cellular telecommunication system (Phase 2); Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".

[3] GSM 02.03 Version 4.3.1: "Digital cellular telecommunication system (Phase 2); Teleservices supported by a GSM Public Land Mobile Network (PLMN)".

[4] GSM 02.04 Version 4.9.1: "Digital cellular telecommunication system (Phase 2); General on supplementary services".

[5] GSM 02.06 Version 4.5.2: "Digital cellular telecommunication system (Phase 2); Types of Mobile Stations (MS)".

[6] GSM 02.07 Version 4.8.2: "Digital cellular telecommunication system (Phase 2); Mobile Station (MS) features".

[7] GSM 02.09 Version 4.4.1: "Digital cellular telecommunication system (Phase 2); Security aspects".

[8] GSM 02.11 Version 4.9.0: "Digital cellular telecommunication system (Phase 2); Service accessibility".

[9] GSM 02.17 Version 4.3.3: "Digital cellular telecommunication system (Phase 2); Subscriber identity modules Functional characteristics".

[10] GSM 02.24 Version 4.5.0: "Digital cellular telecommunication system (Phase 2); Description of Charge Advice Information (CAI)".

[11] GSM 02.30 Version 4.13.0: "Digital cellular telecommunication system (Phase 2); Man-Machine Interface (MMI) of the Mobile Station (MS)".

[12] GSM 02.81 Version 4.6.1: "Digital cellular telecommunication system (Phase 2); Line identification supplementary services - Stage 1".

[13] GSM 02.83 Version 4.6.7: "Digital cellular telecommunication system (Phase 2); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 1".

[14] GSM 02.84 Version 4.4.7: "Digital cellular telecommunication system (Phase 2); MultiParty (MPTY) supplementary services - Stage 1".

[15] GSM 02.86 Version 4.1.5: "Digital cellular telecommunication system (Phase 2); Advice of charge (AoC) supplementary services - Stage 1".

[16] GSM 02.88 Version 4.4.3: "Digital cellular telecommunication system (Phase 2); Call Barring (CB) supplementary services - Stage 1".

[17] GSM 02.90 Version 4.1.1: "Digital cellular telecommunications system (Phase 2); Stage 1 description of Unstructured Supplementary Service Data (USSD)".

[18] GSM 03.03 Version 4.9.0: "Digital cellular telecommunication system (Phase 2); Numbering, addressing and identification".

[19] GSM 03.11 Version 4.10.1: "Digital cellular telecommunication system (Phase 2); Technical realization of supplementary services".

[20] GSM 03.20 Version 4.4.1: "Digital cellular telecommunication system (Phase 2); Security related network functions".

[21] GSM 03.22 Version 4.11.0: "Digital cellular telecommunication system (Phase 2); Functions related to Mobile Station (MS) in idle mode".

[22] GSM 03.38 Version 4.0.1: "Digital cellular telecommunications system (Phase 2); Alphabets and language-specific information".

[23] GSM 03.40 Version 4.13.0: "Digital cellular telecommunication system (Phase 2); Technical realization of the Short Message Service (SMS) Point to Point (PP)".

[24] GSM 03.41 Version 4.11.0: "Digital cellular telecommunication system (Phase 2); Technical realization of Short Message Service Cell Broadcast (SMSCB)".

[25] GSM 03.45 Version 4.5.0: "Digital cellular telecommunication system (Phase 2); Technical realization of facsimile group 3 transparent".

[26] GSM 03.50 Version 4.4.0: "Digital cellular telecommunication system (Phase 2); Transmission planning aspects of the speech service in the GSM Public Land Mobile Network (PLMN) system".

[27] GSM 03.86 Version 4.6.1: "Digital cellular telecommunication system (Phase 2); Advice of Charge (AoC) supplementary services - Stage 2".

[28] GSM 04.04 Version 4.0.4: "Digital cellular telecommunication system (Phase 2); layer 1 General requirements".

[29] GSM 04.05 Version 4.0.3: "Digital cellular telecommunication system (Phase 2); Data Link (DL) layer General aspects".

[30] GSM 04.06 Version 4.4.0: "Digital cellular telecommunication system (Phase 2); Mobile Station - Base Station System (MS - BSS) interface Data Link (DL) layer specification".

[31] GSM 04.07 Version 4.3.1: "Digital cellular telecommunication system (Phase 2); Mobile radio interface signalling layer 3 General aspects".

[32] GSM 04.08 Version 4.22.0: "Digital cellular telecommunication system (Phase 2); Mobile radio interface layer 3 specification".

[33] GSM 04.10 Version 4.10.1: "Digital cellular telecommunication system (Phase 2); Mobile radio interface layer 3 Supplementary services specification General aspects".

[34] GSM 04.11 Version 4.10.0: "Digital cellular telecommunication system (Phase 2); Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[35] GSM 04.12 Version 4.6.0: "Digital cellular telecommunication system (Phase 2); Short Message Service Cell Broadcast (SMSCB) support on the mobile radio interface".

[36] GSM 04.13 Version 4.2.0: "Digital cellular telecommunication system (Phase 2); Performance requirements on mobile radio interface".

[37] GSM 04.21 Version 4.6.0: "Digital cellular telecommunication system (Phase 2); Rate adaption on the Mobile Station - Base Station System (MS - BSS) interface".

[38] GSM 04.22 Version 4.5.0: "Digital cellular telecommunication system (Phase 2); 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".

[39] GSM 04.80 Version 4.11.1: "Digital cellular telecommunication system (Phase 2); Mobile radio interface layer 3 supplementary services specification Formats and coding".

[40] GSM 04.81 Version 4.4.1: "Digital cellular telecommunication system (Phase 2); Line identification supplementary services - Stage 3".

[41] GSM 04.82 Version 4.9.1: "Digital cellular telecommunication system (Phase 2); Call Forwarding (CF) supplementary services - Stage 3".

[42] GSM 04.83 Version 4.6.1: "Digital cellular telecommunication system (Phase 2); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 3".

[43] GSM 04.84 Version 4.3.2: "Digital cellular telecommunication system (Phase 2); MultiParty (MPTY) supplementary services - Stage 3".

[44] GSM 04.86 Version 4.5.2: "Digital cellular telecommunication system (Phase 2); Advice of Charge (AoC) supplementary services - Stage 3".

[45] GSM 04.88 Version 4.7.1: "Digital cellular telecommunication system (Phase 2); Call Barring (CB) supplementary services - Stage 3".

[46] GSM 04.90 Version 4.1.1: "Digital cellular telecommunication system (Phase 2); Unstructured supplementary services operation - Stage 3".

[47] GSM 05.02 Version 4.9.1: "Digital cellular telecommunication system (Phase 2); Multiplexing and multiple access on the radio path".

[48] GSM 05.03 Version 4.5.1: "Digital cellular telecommunication system (Phase 2); Channel coding".

[49] GSM 05.04 Version 4.0.3: "Digital cellular telecommunication system (Phase 2); Modulation".

[50] GSM 05.05 Version 4.22.1: "Digital cellular telecommunication system (Phase 2); Radio transmission and reception".

[51] GSM 05.08 Version 4.21.1: "Digital cellular telecommunication system (Phase 2); Radio subsystem link control".

[52] GSM 05.10 Version 4.9.0: "Digital cellular telecommunication system (Phase 2); Radio subsystem synchronisation".

[53] GSM 06.01 Version 5.0.1: "Digital cellular telecommunication system; Full rate speech processing functions".

[54] GSM 06.02 Version 5.0.1: "Digital cellular telecommunication system; Half rate speech processing functions".

[55] GSM 06.07 Version 5.0.1: Digital cellular telecommunications system; Half rate speech. Part 8: Test sequences for the GSM half rate speech codec”.

[56] GSM 06.10 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Full rate speech transcoding".

[57] GSM 06.11 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Substitution and muting of lost frames for full rate speech channels".

[58] GSM 06.12 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Comfort noise aspect for full rate speech traffic channels".

[59] GSM 06.20 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Half rate speech transcoding".

[60] GSM 06.21 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Substitution and muting of lost frames for half rate speech traffic channels".

[61] GSM 06.22 Version 5.1.0: "Digital cellular telecommunication system (Phase 2); Comfort noise aspects for half rate speech traffic channels".

[62] GSM 06.31 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Discontinuous Transmission (DTX) for full rate speech traffic channel".

[63] GSM 06.32 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Voice Activity Detection (VAD)".

[64] GSM 06.41 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Discontinuous Transmission (DTX) for half rate speech traffic channels".

[65] GSM 06.42 Version 5.0.1: "Digital cellular telecommunication system (Phase 2); Voice Activity Detection (VAD) for half rate speech traffic channels".

[66] GSM 07.01 Version 4.10.0: "Digital cellular telecommunication system (Phase 2); General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".

[67] GSM 07.02 Version 4.5.1: "Digital cellular telecommunication system (Phase 2); Terminal Adaptation Functions (TAF) for services using asynchronous bearer capabilities".

[68] GSM 07.03 Version 4.5.1: "Digital cellular telecommunication system (Phase 2); Terminal Adaptation Functions (TAF) for services using synchronous bearer capabilities".

[69] GSM 09.02 Version 4.17.1: "Digital cellular telecommunication system (Phase 2); Mobile Application Part (MAP) specification".

[70] GSM 09.06 Version 4.5.0: "Digital cellular telecommunication system (Phase 2); Interworking between a Public Land Mobile Network (PLMN) and a Packet Switched Public Data Network/Integrated Services Digital Network (PSPDN/ISDN) for the support of packet switched data transmission services".

[71] GSM 09.07 Version 4.12.1: "Digital cellular telecommunication system (Phase 2); General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".

[72] GSM 11.11 Version 4.20.0: "Digital cellular telecommunication system (Phase 2); Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

[73] GSM 11.12 Version 4.3.1: "Digital cellular telecommunications system (Phase 2); Specification of the 3 Volt Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

[74] CCITT Recommendation E.164: "Numbering plan for the ISDN era".

[75] CCITT Recommendation G.122: "Influence of national systems on stability talker echo in international connections".

[76] CCITT Recommendation G.223: "Assumptions for the calculation of noise on hypothetical reference circuits for telephony".

[77] CCITT Recommendation G.714: "Separate performance characteristics for the encoding and decoding sides of PCM channels applicable to 4-wire voice-frequency interfaces".

[78] CCITT Recommendation G.721: "32 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM) - General Aspects of Digital Transmission Systems; Terminal Equipments".

[79] CCITT Recommendation O.131: "Quantizing distortion measuring equipment using a pseudo-random noise test signal".

[80] CCITT Recommendation O.132: "Quantizing distortion measuring equipment using a sinusoidal test signal".

[81] CCITT Recommendation O.153: "Basic parameters for the measurement of error performance at bit rates below the primary rate".

[82] CCITT Recommendation P.34: "Transmission characteristics of hands-free telephones".

[83] CCITT Recommendation P.35: "Handset telephones".

[84] CCITT Recommendation P.50: "Artificial voices".

[85] CCITT Recommendation P.51: "Artificial mouth".

[86] CCITT Recommendation P.64: "Determination of sensitivity/frequency characteristics of local telephone systems".

[87] CCITT Recommendation P.76: "Determination of loudness ratings fundamental principles".

[88] CCITT Recommendation P.79: "Calculation of loudness ratings for telephone sets"

[89] CCITT Recommendation T.4: "Standardization of group 3 facsimile apparatus for document transmission".

[90] CCITT Recommendation T.21: "Standardized tests charts for document facsimile transmission".

[91] CCITT Recommendation T.30: "Procedures for document facsimile transmission in the general switched telephone network".

[92] CCITT Recommendation V.1: "Equivalence between binary notation symbols and the significant conditions of a two-condition code".

[93] CCITT Recommendation V.14: "Transmission of start-stop characters over synchronous bearer channels".

[94] CCITT Recommendation V.24: "List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)".

[95] CCITT Recommendation V.25bis: "Automatic calling and/or answering equipment on the general switched telephone network (GSTN) using the 100-series interchange circuits".

[96] CCITT Recommendation V.110: "Support of data terminal equipments with V-Series type interfaces by an integrated services digital network".

[97] CCITT Recommendation X.21: "Interface between data terminal equipment and data circuit-terminating equipment for synchronous operation on public data networks".

[98] CCITT Recommendation X.208: "Specification of Abstract Syntax Notation One (ASN.1)".

[99] CCITT Recommendation X.290: "OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - General concepts".

[100] ISO 3: "Preferred Numbers - Series of preferred Numbers".

[101] ISO 2110: "Information Technology - Data Communication - 25-Pole DTE/DCE Interface Connector and Contact Number Assignments".

[102] ISO 7816-3: "Identification cards - Integrated Circuit(s) Cards with Contacts - Part 3: Electronic Signals and Transmission Protocols".

[103] IEC Publication 68-2-1: "Environmental Testing Part 2: Tests - Tests A: Cold".

[104] IEC Publication 68-2-2: "Environmental Testing Part 2: Tests - Tests B: Dry Heat".

[105] IEC publication 68-2-36: "Environmental Testing Part 2: Tests - Test Fdb: Random Vibration Wide Band - Reproducibility Medium".

[106] ETR 028: "Radio Equipment and Systems (RES); Uncertainties in the measurement of mobile radio equipment characteristics

[107] ITU-T Recommendation P.57 (1993), « Artificials ears. »

3 Definitions, conventions, and applicability

For abbreviations and acronyms, see GSM 01.04.

3.1 Mobile station definition and configurations

In this ETS, a MS can be:

- a vehicle mounted station;
- a portable station;
- a handheld station;
- a vehicle mounted/portable station;
- a vehicle mounted/handheld station.

A MS is the complete equipment configuration which may take part in a communication. However, this may not be the MS as it is offered to a test house for conformance testing.

In general, the MS, as it will be presented to a test house for conformance testing, is the station without all the additional Terminal Equipment (TE). Such a piece of hardware is also called a Mobile Termination (MT), but in this ETS, the expression MS is used for any form of MS hardware as it is offered to the test house.

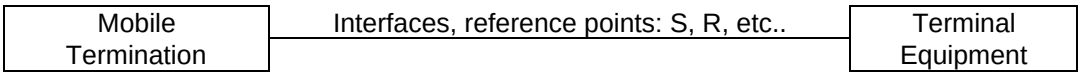

Figure 3-1

During the tests, the interfaces of the MT shall be connected to a System Simulator (SS), which will also emulate the TE. For some tests, it may be necessary to establish a pre-configured setup of the MS.

EXAMPLE: For reception of automatic fax group 3 to a fax machine on the R-interface, the MS needs configuration information about the presence of such a machine on that interface.

As an alternative, the TE may be physically integrated.

For a more detailed description of MS-configurations, see GSM 02.06.

3.2 Applicability

3.2.1 Applicability of this specification

If a MS is equipped with a connector, to connect terminal equipment on an S or R interface, then testing of the MS may include testing of appropriate functioning to and from this connector.

This ETS does not apply to TE which is to be connected to that connector (which constitutes a public interface), even if it is delivered with the MS.

3.2.2 Applicability of the individual tests

The applicability of each individual test is identified in the following table.

Table 3.1: Applicability of tests

Clause	Title	Applicability
11.1.1	Mobile Terminated (MT) calls	Each MT Bearer Service and MT Teleservice supported by the MS .
11.1.2	Mobile Originated (MO) calls	Each MO Bearer Service and MO Teleservice supported by the MS .
11.2	Verification of support of the single numbering scheme	All MS.
11.3	Verification of non-support of services (Advice of Charge Charging (AOCC))	MS which do not support AOCC.
11.4	Verification of non-support of services (call hold)	MS which support AOCC and do not support the Call Hold supplementary service.
11.5	Verification of non-support of services (multiparty)	MS which support Call Hold and AOCC, but do not support the Multi-Party supplementary service.
11.6	Verification of non-support of feature (Fixed Dialling Number (FDN))	MS which do not support FDN.
11.7	IMEI Security	All MS.
12.1.1	Conducted spurious emissions, MS allocated a channel	All MS with a permanent antenna connector.
12.1.2	Conducted spurious emissions, MS in idle mode	All MS with a permanent antenna connector.
12.2.1	Radiated spurious emissions, MS allocated a channel	All MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible.
12.2.2	Radiated spurious emissions, MS in idle mode	All MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible.
13.1	Frequency error and phase error	All MS.
13.2	Frequency error under multipath and interference conditions	All MS.
13.3	Transmitter output power and burst timing	All MS.
13.4	Output RF spectrum	All MS.
13.5	Intermodulation attenuation	DCS1800 MS.
14.1.1	Bad frame indication - TCH/FS	MS supporting speech
14.1.2	Bad frame indication - TCH/HS	MS supporting half-rate speech
14.2.1	Reference sensitivity - TCH/FS	MS supporting speech
14.2.2	Reference sensitivity - TCH/HS (Speech frames)	MS supporting half-rate speech
14.2.3	Reference sensitivity - FACCH/F	All MS
14.2.4	Reference sensitivity - FACCH/H	MS supporting half rate channels
14.2.5	Reference sensitivity - full rate data channels	MS supporting data
14.2.6	Reference sensitivity - half rate data channels	MS supporting half-rate data
14.2.7	Reference sensitivity - TCH/EFS	MS supporting TCH/EFS
14.3	Usable receiver input level range	MS supporting speech
14.4.1	Co-channel rejection - TCH/FS	MS supporting speech
14.4.2	Co-channel rejection - TCH/HS	MS supporting half-rate speech
14.4.3	Co-channel rejection - TCH/HS (SID frames)	MS supporting half-rate speech

Table 3.1: Applicability of tests (continued)

14.4.4	Co-channel rejection - FACCH/F	All MS
14.4.5	Reference sensitivity - half rate data channels	MS supporting half-rate data
14.4.6	Co-channel rejection - TCH/EFS	MS supporting TCH/EFS
14.5.1	Adjacent channel rejection - speech channels	MS supporting speech
14.5.2	Adjacent channel rejection - control channels	MS not supporting speech
14.6.1	Intermodulation rejection - speech channels	MS supporting speech
14.6.2	Intermodulation rejection - control channels	MS not supporting speech
14.7.1	Blocking and spurious response - speech channels	MS supporting speech
14.7.2	Blocking and spurious response - control channels	MS not supporting speech
14.8.1	AM suppression - speech channels	MS supporting speech
14.8.2	AM suppression - control channels	MS not supporting speech
15	Timing advance and absolute delay	All MS
16	Reception time tracking speed	All MS
17.1	Intra cell channel change	All MS
17.2	Inter cell handover	All MS
18	Temporary reception gaps	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic
19.1	Channel release after unrecoverable errors -1	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic
19.2	Channel release after unrecoverable errors - 2	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic
19.3	Channel release after unrecoverable errors - 3	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic
20.1	Cell selection	All MS
20.2	Cell selection with varying signal strength values	All MS
20.3	Basic cell reselection	All MS
20.4	Cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters	All MS
20.5	Cell reselection using parameters transmitted in the System Information type 2bis, type 7 and type 8 messages	All MS. Test purpose 2 is only applicable to EGSM900 and DCS1800 MS
20.6	Cell reselection timings	All MS
20.7	Priority of cells	All MS
20.8	Cell reselection when C1 (serving cell) < 0 for 5 seconds	All MS
20.9	Running average of the surrounding cell BCCH carrier signal levels	All MS
20.10	Running average of the serving cell BCCH carrier signal level	All MS

Table 3.1: Applicability of tests (continued)

20.11	Updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list	All MS
20.12	Decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers	All MS
20.13	Decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers	All MS
20.14	Emergency calls	MS supporting speech
20.15	Cell reselection due to MS rejection "LA not allowed"	All MS
20.16	Downlink signalling failure	All MS
20.17	Cell selection if no suitable cell found in 10 s	All MS
20.18	Cell reselection due to MS rejection "Roaming not allowed in this LA"	All MS
20.19	Cell selection on release of SDCCH and TCH	All MS
20.20.1	Multiband cell selection and reselection / Cell selection	MS supporting simultaneous multiband operation.
20.20.2	Multiband cell selection and reselection / Cell reselection	MS supporting simultaneous multiband operation.
21.1	Signal strength	All MS
21.2	Signal strength selectivity	All MS
21.3	Signal quality under static conditions	MS supporting speech
21.4	Signal quality under TU50 propagation conditions	All MS
22	Transmit power control timing and confirmation	All MS
23	Single frequency reference	All MS
25.2.1.1.1	Initialization when contention resolution required, Normal initialization	All MS
25.2.1.1.2.1	Initialization failure, Loss of UA frame	All MS
25.2.1.1.2.2	Initialization failure, UA frame with different information field	All MS
25.2.1.1.2.3	Initialization failure, Information frame and supervisory frames in response to an SABM frame	All MS
25.2.1.1.3	Initialization denial	All MS
25.2.1.1.4	Total initialization failure	All MS
25.2.1.2.1	Normal initialization without contention resolution	All MS
25.2.1.2.2	Initialization failure	All MS
25.2.1.2.3	Initialization denial	All MS
25.2.1.2.4	Total initialization failure	All MS
25.2.2.1	Sequence counting and I frame acknowledgements	All MS
25.2.2.2	Receipt of an I frame in the timer recovery state	All MS
25.2.2.3	Segmentation and concatenation	All MS
25.2.3	Normal layer 2 disconnection	All MS
25.2.4.1	I frame loss (MS to SS)	All MS
25.2.4.2	RR response frame loss (SS to MS)	All MS
25.2.4.3	RR response frame loss (MS to SS)	All MS
25.2.5.1	I frame with C bit set to zero	All MS
25.2.5.2	SABM frame with C bit set to zero	All MS

Table 3.1: Applicability of tests (continued)

25.2.6.1	N(S) sequence error	All MS
25.2.6.2	N(R) sequence error	All MS
25.2.6.3	Improper F bit	All MS
25.2.7	Test on receipt of invalid frames	All MS
26.2.1.1	Channel request / initial time	All MS
26.2.1.2	Channel request / repetition time	All MS
26.2.1.3	Channel request / random reference	All MS
26.2.2	IMSI detach and IMSI attach	Procedure 1, All MS Procedure 2, MS where SIM removal is possible without powering down Procedure 3, All MS
26.2.3	Sequenced MM / CC message transfer	All MS
26.2.4	Establishment cause, Procedure 1	MS supporting a service on a traffic channel
26.2.4	Establishment cause, Procedure 2	MS supporting a service on a half-rate channel
26.2.4	Establishment cause, Procedure 3	MS supporting speech
26.2.4	Establishment cause, Procedure 4	MS supporting a data service
26.2.4	Establishment cause, Procedure 5	All MS
26.2.4	Establishment cause, Procedure 6	All MS
26.2.4	Establishment cause, Procedure 7	MS supporting a non call related supplementary service operation
26.2.4	Establishment cause, Procedure 8	MS supporting SMS/PP MO
26.3.2	MS indication of available PLMNs	All MS
26.3.3	MS will send only if BSS is "on air", steps a - c	All MS
26.3.3	MS will send only if BSS is "on air", step d	MS supporting speech
26.3.4	Manual mode of PLMN selection	All MS
26.5.1	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unknown protocol discriminator	All MS
26.5.2.1.1	TI and skip indicator / RR / Idle Mode	All MS
26.5.2.1.2	TI and skip indicator / RR / RR-Connection established	All MS
26.5.2.2	TI and skip indicator / MM	All MS
26.5.2.3	TI and skip indicator / CC	MS supporting CC protocol for at least one Bearer Capability
26.5.3.1	Undefined or unexpected message type / undefined message type / CC	MS supporting CC protocol for at least one Bearer Capability
26.5.3.2	Undefined or unexpected message type / undefined message type / MM	MS supporting CC protocol for at least one Bearer Capability
26.5.3.3	Undefined or unexpected message type / undefined message type / RR	All MS
26.5.3.4	Undefined or unexpected message type / unexpected message type / CC	MS supporting CC protocol for at least one Bearer Capability
26.5.4.1	Unforeseen information elements in the non-imperative message part / duplicated information elements	All MS
26.5.5.1.1.1	Non-semantical mandatory IE errors / RR / missing mandatory IE error / special case	All MS
26.5.5.1.1.2	Non-semantical mandatory IE errors / RR / missing mandatory IE error / general case	All MS
26.5.5.1.2	Non-semantical mandatory IE errors / RR / comprehension required	All MS
26.5.5.2.1	Non-semantical mandatory IE errors / MM / syntactically incorrect mandatory IE	MS supporting CC protocol for at least one Bearer Capability

Table 3.1: Applicability of tests (continued)

26.5.5.2.2	Non-semantical mandatory IE errors / MM / syntactically incorrect mandatory IE	All MS
26.5.5.2.3	Non-semantical mandatory IE errors / MM / comprehension required	All MS
26.5.5.3.1.1	Non-semantical mandatory IE errors / CC / missing mandatory IE / disconnect message	MS supporting CC protocol for at least one Bearer Capability
26.5.5.3.1.2	Non-semantical mandatory IE errors / CC / missing mandatory IE / general case	MS supporting CC protocol for at least one Bearer Capability
26.5.5.3.2	Non-semantical mandatory IE errors / CC / comprehension required	MS supporting CC protocol for at least one Bearer Capability
26.5.6.1.1	Unknown IE, comprehension not required / MM / IE unknown in the protocol	All MS
26.5.6.1.2	Unknown IE, comprehension not required / MM / IE unknown in the message	All MS
26.5.6.2.1	Unknown information elements in the non-imperative message part / CC / Call establishment	MS supporting CC protocol for at least one Bearer Capability
26.5.6.2.2	Unknown information elements in the non-imperative message part / CC / disconnect	MS supporting CC protocol for at least one Bearer Capability
26.5.6.2.3	Unknown information elements in the non-imperative message part / CC / release	MS supporting CC protocol for at least one Bearer Capability
26.5.6.2.4	Unknown information elements in the non-imperative message part / CC / release complete	MS supporting CC protocol for at least one Bearer Capability
26.5.6.3	Unknown IE in the non-imperative message part, comprehension not required / RR	All MS
26.5.7.1.1	Spare bits / RR / paging channel	All MS
26.5.7.1.2	Spare bits / RR / BCCH	All MS
26.5.7.1.3	Spare bits / RR / AGCH	All MS
26.5.7.1.4	Spare bits / RR / Connected Mode	All MS
26.5.7.2	Spare bits / MM	All MS
26.5.7.3	Spare bits / CC	All MS
26.6.1.1	Immediate assignment / SDCCH or TCH assignment	First test, All MS Second test, MS supporting TCH/F Third test, MS supporting TCH/H
26.6.1.2	Immediate assignment / extended assignment	All MS
26.6.1.3	Immediate assignment / assignment rejection	All MS
26.6.1.4	Immediate assignment / ignore assignment	All MS
26.6.1.5	Immediate assignment after immediate assignment reject	All MS
26.6.2.1.1	Paging / normal / type 1	All MS
26.6.2.1.2	Paging / normal / type 2	All MS
26.6.2.1.3	Paging / normal / type 3	All MS
26.6.2.2	Paging / extended	All MS
26.6.2.3.1	Paging / reorganization / procedure 1	All MS
26.6.2.3.2	Paging / reorganization / procedure 2	All MS
26.6.2.4	Paging / same as before	All MS
26.6.2.5	Paging / multislot CCCH	All MS
26.6.3.1	Measurement / no neighbours	MS supporting CC protocol for at least one Bearer Capability
26.6.3.2	Measurement / all neighbours present	MS supporting CC protocol for at least one Bearer Capability
26.6.3.3	Measurement / barred cells and non-permitted NCCs	MS supporting CC protocol for at least one Bearer Capability

Table 3.1: Applicability of tests (continued)

26.6.3.4	Measurement / DTX	MS supporting CC protocol for at least one Bearer Capability
26.6.3.5	Measurement / Frequency Formats	MS supporting CC protocol for at least one Bearer Capability
26.6.3.6	Measurement / Multiband environment	MS supporting CC protocol for at least one bearer capability
26.6.4.1	Dedicated assignment / successful case	MS supporting a TCH
26.6.4.2.1	Dedicated assignment / failure / failure during active state, k = 1	MS supporting TCH/F and supporting CC-state U10
26.6.4.2.1	Dedicated assignment / failure / failure during active state, k = 2	MS supporting TCH/H and supporting CC-state U10
26.6.4.2.2	Dedicated assignment / failure / general case	MS supporting TCH
26.6.5.1	Handover / successful / active call / non-synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 2	MS supporting TCH/F and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 3	MS supporting TCH/F and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 4	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 5	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 6	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 7	MS supporting TCH/H and supporting CC-state U10
26.6.5.1	Handover / successful / active call / non-synchronized, M = 8	MS supporting TCH/H and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 2	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 3	MS supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 4	MS supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 5	MS supporting TCH/H and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 6	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 7	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 8	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 9	MS supporting TCH/F and supporting CC-state U10
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 10	MS supporting TCH/H and supporting CC-state U10
26.6.5.3	Handover / successful / active call / finely synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10
26.6.5.3	Handover / successful / active call / finely synchronized, M = 2	MS supporting TCH/H and supporting CC-state U10
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 1	MS supporting CC-state U10
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 2	MS supporting CC-state U10
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 3	MS supporting TCH/F and supporting CC-state U10

Table 3.1: Applicability of tests (continued)

26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 4	MS supporting TCH/H and supporting CC-state U10
26.6.5.5.1	Handover / successful / active call / pre-synchronized / Timing Advance IE not included	MS supporting TCH/F and supporting CC-state U10
26.6.5.5.2	Handover / successful / call being established / pre-synchronized / timing advance IE is included / reporting of observed time difference requested.	MS supporting TCH/F and supporting CC-state U10
26.6.5.6	Handover / successful / active call / pseudo synchronized	MS supporting TCH/F and supporting the pseudo synchronized handover procedure and supporting CC-state U10
26.6.5.7	Handover / successful / active call / non-synchronized / reporting of observed time difference requested.	MS supporting TCH/F and supporting CC-state U10
26.6.5.8	Handover / layer 3 failure	MS supporting TCH/F and supporting CC-state U10
26.6.5.9	Handover / layer 1 failure	MS supporting CC-state U10
26.6.6.1	Frequency redefinition, R = 1	All MS
26.6.6.1	Frequency redefinition, R = 2	MS supporting TCH/F
26.6.6.1	Frequency redefinition, R = 3	MS supporting TCH/H
26.6.7.1	Test of the channel mode modify procedure / full rate	MS supporting TCH/H
26.6.7.2	Test of the channel mode modify procedure / half rate	MS supporting TCH/F
26.6.8.1	Ciphering mode / start ciphering, k = 1	MS supporting CC state U10 and supporting encryption algorithm A5/1
26.6.8.1	Ciphering mode / start ciphering, k = 2	MS supporting CC state U10 and supporting encryption algorithm A5/2
26.6.8.2	Ciphering mode / no ciphering	MS supporting CC state U10
26.6.8.3	Ciphering mode / old cipher key	MS supporting CC state U10 and supporting encryption algorithm A5/1 and/or A5/2
26.6.8.4	Ciphering mode / change of mode, algorithm and key	MS supporting CC state U10 and supporting encryption algorithm A5/1 and/or A5/2
26.6.8.5	Ciphering mode / IMEISV request	All MS
26.6.11.1	Classmark change	MS supporting CC-state U10 and supporting more than one power class
26.6.11.2	Classmark interrogation	All MS
26.6.12.1	Channel release / SDCCH	All MS
26.6.12.2	Channel release / SDCCH - no L2 ACK	All MS
26.6.12.3	Channel release / TCH-F	MS supporting TCH/F
26.6.12.4	Channel release / TCH-F - no L2 ACK	MS supporting TCH/F
26.6.13.1	Dedicated assignment with starting time / successful case / time not elapsed	All MS
26.6.13.2	Dedicated assignment with starting time / successful case / time elapsed	All MS
26.6.13.3	Dedicated assignment with starting time and frequency redefinition / failure case / time not elapsed	All MS
26.6.13.4	Dedicated assignment with starting time and frequency redefinition / failure case / time elapsed	All MS
26.6.13.5	Handover with starting time / successful case / time not elapsed	All MS
26.6.13.6	Handover with starting time / successful case / time elapsed	All MS

Table 3.1: Applicability of tests (continued)

26.6.13.7	Handover with starting time and frequency redefinition / failure case / time not elapsed	All MS
26.6.13.8	Handover with starting time and frequency redefinition / failure case / time elapsed	All MS
26.6.13.9	Immediate assignment with starting time / successful case / time not elapsed	All MS
26.6.13.10	Immediate assignment with starting time / successful case / time elapsed	All MS
26.7.1	TMSI reallocation	All MS
26.7.2.1	Authentication accepted	All MS
26.7.2.2	Authentication rejected	All MS
26.7.3.1	General Identification	All MS
26.7.3.2	Handling of IMSI shorter than the maximum length	All MS
26.7.4.1	Location updating / accepted	All MS
26.7.4.2.1	Location updating / rejected / IMSI invalid	All MS
26.7.4.2.2	Location updating / rejected / PLMN not allowed, test 1	MS supporting speech
26.7.4.2.2	Location updating / rejected / PLMN not allowed, test 2	All MS
26.7.4.2.3	Location updating / rejected / location area not allowed	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 1	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 2	MS supporting speech
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 3	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 4	All MS
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 5	MS supporting SIM removal without powering down
26.7.4.3.1	Location updating / abnormal cases / random access fails	All MS
26.7.4.3.2	Location updating / abnormal cases / attempt counter less or equal to 4, LAI different	All MS
26.7.4.3.3	Location updating / abnormal cases / attempt counter equal to 4	All MS
26.7.4.3.4	Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI	All MS
26.7.4.4	Location updating / release / expiry of T3240	All MS
26.7.4.5.1	Location updating / periodic spread	All MS
26.7.4.5.2	Location updating / periodic normal / test 1	All MS
26.7.4.5.3	Location updating / periodic normal / test 2	All MS
26.7.4.5.4.1	Location updating / periodic HPLMN search / MS waits time T	All MS
26.7.4.5.4.2	Location updating / periodic HPLMN search / MS in manual mode	All MS
26.7.4.5.4.3	Location updating / periodic HPLMN search / MS waits at least two minutes and at most T minutes	All MS
26.7.4.6	Location updating / interworking of attach and periodic	All MS
26.7.5.2	MM connection / establishment with cipher	All MS

Table 3.1: Applicability of tests (continued)

26.7.5.3	MM connection / establishment without cipher	All MS
26.7.5.4	MM connection / establishment rejected	All MS
26.7.5.5	MM connection / establishment rejected cause 4	All MS
26.7.5.6	MM connection / expiry T3230	All MS
26.7.5.7.1	MM connection / abortion by the network / cause #6	All MS
26.7.5.7.2	MM connection / abortion by the network / cause not equal to #6	MS supporting a non call related supplementary service operation
26.7.5.8.1	MM connection / follow-on request pending / test 1	All MS
26.7.5.8.2	MM connection / follow-on request pending / test 2	MS supporting the follow on request procedure
26.7.5.8.3	MM connection / follow-on request pending / test 3	All MS
26.8.1.2.1.1	Outgoing call / U0 null state / MM connection requested	MS supporting at least one MO circuit switched basic service
26.8.1.2.2.1	Outgoing call / U0.1 MM connection pending / CM service rejected	MS supporting at least one MO circuit switched basic service
26.8.1.2.2.2	Outgoing call / U0.1 MM connection pending / CM service accepted	MS supporting at least one MO circuit switched basic service
26.8.1.2.2.3	Outgoing call / U0.1 MM connection pending / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.1	Outgoing call / U1 call initiated / receiving CALL PROCEEDING	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.2	Outgoing call / U1 call initiated / rejecting with RELEASE COMPLETE	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.3	Outgoing call / U1 call initiated / T303 expiry	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.4	Outgoing call / U1 call initiated / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.5	Outgoing call / U1 call initiated / receiving ALERTING	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.6	Outgoing call / U1 call initiated / entering state U10	MS supporting at least one MO circuit switched basic service
26.8.1.2.3.7	Outgoing call / U1 call initiated / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.1	Outgoing call / U3 MS originating call proceeding / ALERTING received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.2	Outgoing call / U3 MS originating call proceeding / CONNECT received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.3	Outgoing call / U3 MS originating call proceeding / PROGRESS received without in band information	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.4	Outgoing call / U3 MS originating call proceeding / PROGRESS with in band information	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.5	Outgoing call / U3 MS originating call proceeding / DISCONNECT with in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.6	Outgoing call / U3 MS originating call proceeding / DISCONNECT without in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.7	Outgoing call / U3 MS originating call proceeding / RELEASE received	MS supporting at least one MO circuit switched basic service

Table 3.1: Applicability of tests (continued)

26.8.1.2.4.8	Outgoing call / U3 MS originating call proceeding / termination requested by the user	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.9	Outgoing call / U3 MS originating call proceeding / traffic channel allocation	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.10	Outgoing call / U3 MS originating call proceeding / timer T310 time-out	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.11	Outgoing call / U3 MS originating call proceeding / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.12	Outgoing call / U3 MS originating call proceeding / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.4.13	Outgoing call / U3 MS originating call proceeding / Internal alerting indication	MS supporting at least one MO circuit switched basic service for telephony
26.8.1.2.5.1	Outgoing call / U4 call delivered / CONNECT received	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.2	Outgoing call / U4 call delivered / termination requested by the user	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.3	Outgoing call / U4 call delivered / DISCONNECT with in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.4	Outgoing call / U4 call delivered / DISCONNECT without in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.5	Outgoing call / U4 call delivered / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.6	Outgoing call / U4 call delivered / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.7	Outgoing call / U4 call delivered / traffic channel allocation	MS supporting at least one MO circuit switched basic service
26.8.1.2.5.8	Outgoing call / U4 call delivered / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.1	U10 call active / termination requested by the user	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.2	U10 call active / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.3	U10 call active / DISCONNECT with in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.4	U10 call active / DISCONNECT without in band tones	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.5	U10 call active / RELEASE COMPLETE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.6.6	U10 call active / SETUP received	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.1	U11 disconnect request / clear collision	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.2	U11 disconnect request / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.3	U11 disconnect request / timer T305 time-out	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.4	U11 disconnect request / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.2.7.5	U11 disconnect request / unknown message received	MS supporting at least one MO circuit switched basic service
26.8.1.2.8.1	U12 disconnect indication / call releasing requested by the user	MS supporting bearer capability for speech
26.8.1.2.8.2	U12 disconnect indication / RELEASE received	MS supporting bearer capability for speech
26.8.1.2.8.3	U12 disconnect indication / lower layer failure	MS supporting bearer capability for speech

Table 3.1: Applicability of tests (continued)

26.8.1.2.8.4	U12 disconnect indication / unknown message received	MS supporting bearer capability for speech
26.8.1.2.9.1	Outgoing call / U19 release request / timer T308 time-out	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.2	Outgoing call / U19 release request / 2nd timer T308 time-out	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.3	Outgoing call / U19 release request / RELEASE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.4	Outgoing call / U19 release request / RELEASE COMPLETE received	MS supporting at least one MO circuit switched basic service
26.8.1.2.9.5	Outgoing call / U19 release request / lower layer failure	MS supporting at least one MO circuit switched basic service
26.8.1.3.1.1	Incoming call / U0 null state / SETUP received with a non supported bearer capability	All MS
26.8.1.3.2.1	Incoming call / U6 call present / automatic call rejection	MS supporting at least one MT circuit switched basic service
26.8.1.3.3.1	Incoming call / U9 mobile terminating call confirmed / alerting or immediate connecting	MS supporting at least one MT circuit switched basic service
26.8.1.3.3.2	Incoming call / U9 mobile terminating call confirmed / TCH assignment	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.3	Incoming call / U9 mobile terminating call confirmed / termination requested by the user	MS supporting at least one MT circuit switched basic service for which immediate connect is not used, and supporting sending DISCONNECT when in CC-state U9
26.8.1.3.3.4	Incoming call / U9 mobile terminating call confirmed / DISCONNECT received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.5	Incoming call / U9 mobile terminating call confirmed / RELEASE received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.6	Incoming call / U9 mobile terminating call confirmed / lower layer failure	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.3.7	Incoming call / U9 mobile terminating call confirmed / unknown message received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.1	Incoming call / U7 call received / call accepted	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.2	Incoming call / U7 call received / termination requested by the user	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.3	Incoming call / U7 call received / DISCONNECT received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.4	Incoming call / U7 call received / RELEASE received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.5	Incoming call / U7 call received / lower layer failure	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.6	Incoming call / U7 call received / unknown message received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used

Table 3.1: Applicability of tests (continued)

26.8.1.3.4.7	Incoming call / U7 call received / TCH assignment	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.4.8	Incoming call / U7 call received / RELEASE COMPLETE received	MS supporting at least one MT circuit switched basic service for which immediate connect is not used
26.8.1.3.5.1	Incoming call / U8 connect request / CONNECT acknowledged	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.2	Incoming call / U8 connect request / timer T313 time-out	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.3	Incoming call / U8 connect request / termination requested by the user	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.4	Incoming call / U8 connect request / DISCONNECT received with in-band information	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.5	Incoming call / U8 connect request / DISCONNECT received without in-band information	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.6	Incoming call / U8 connect request / RELEASE received	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.7	Incoming call / U8 connect request / lower layer failure	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.8	Incoming call / U8 connect request / TCH assignment	MS supporting at least one MT circuit switched basic service
26.8.1.3.5.9	Incoming call / U8 connect request / unknown message received	MS supporting at least one MT circuit switched basic service
26.8.1.4.1.1	In-call functions / DTMF information transfer / basic procedures	MS supporting MO DTMF protocol control procedure
26.8.1.4.2.1	In-call functions / User notification / MS terminated	MS supporting at least one circuit switched basic service
26.8.1.4.3.1	In-call functions / channel changes / a successful channel change in active state/ Handover and Assignment Command	MS supporting at least one MT circuit switched basic service
26.8.1.4.3.2	In-call functions / channel changes / an unsuccessful channel change in active mode/ Handover and Assignment Command	MS supporting at least one MT circuit switched basic service
26.8.1.4.4.1	In-call functions / MS terminated in-call modification / modify when new mode is not supported	MS supporting at least one circuit switched basic service
26.8.1.4.5.1	In-call functions / MS originated in-call modification / a successful case of modifying	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.2	In-call functions / MS originated in-call modification / modify rejected	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.3	In-call functions / MS originated in-call modification / an abnormal case of acceptance	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.4	In-call functions / MS originated in-call modification / an abnormal case of rejection	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.5	In-call functions / MS originated in-call modification / time-out of timer T323	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.6	In-call functions / MS originated in-call modification / a successful channel change in state mobile originating modify	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)

Table 3.1: Applicability of tests (continued)

26.8.1.4.5.7	In-call functions / MS originated in-call modification / an unsuccessful channel change in state mobile originating modify	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.8	In-call functions / MS originated in-call modification / unknown message received	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.1.4.5.9	In-call functions / MS originated in-call modification / a release complete received	MS supporting at least one dual mode bearer capability service (BS61, BS81 or TS61)
26.8.2.1	Call Re-establishment/call present, re-establishment allowed	MS supporting at least one bearer capability
26.8.2.2	Call Re-establishment/call present, re-establishment not allowed	MS supporting at least one MO circuit switched basic service
26.8.2.3	Call Re-establishment/call under establishment, transmission stopped	MS supporting at least one MO circuit switched basic service
26.8.3	User to user signalling	MS supporting at least one MT circuit switched basic service
26.9.2	Structured procedures / MS originated call / early assignment	MS supporting at least one MO teleservice
26.9.3	Structured procedures / MS originated call / late assignment	MS supporting at least one MO teleservice
26.9.4	Structured procedures / MS terminated call / early assignment	MS supporting at least one MT basic service
26.9.5	Structured procedures / MS terminated call / late assignment	MS supporting at least one MT teleservice
26.9.6.1.1	Structured procedures / emergency call / idle updated / preferred channel rate	MS supporting speech
26.9.6.1.2	Structured procedures / emergency call / idle updated, non-preferred channel rate	MS supporting half-rate speech
26.9.6.2.1	Structured procedures / emergency call / idle, no IMSI / accept case	MS supporting speech
26.9.6.2.2	Structured procedures / emergency call / idle, no IMSI / reject case	MS supporting speech
26.10.2.1	E-GSM signalling / RR / Measurement	MS supporting EGSM and supporting CC-state U10
26.10.2.2	E-GSM signalling / RR / Immediate assignment	MS supporting EGSM
26.10.2.3	E-GSM signalling / RR / channel assignment procedure	MS supporting EGSM
26.10.2.4.1	E-GSM signalling / RR / Handover / Successful handover	MS supporting EGSM and supporting CC-state U10
26.10.2.4.2	E-GSM signalling / RR / Handover / layer 1 failure	MS supporting EGSM and supporting CC-state U10
26.10.2.5	E-GSM signalling / RR / Frequency Redefinition	MS supporting EGSM
26.10.3.1	E-GSM signalling / Structured procedure / Mobile originated call	MS supporting EGSM and supporting at least one MO teleservice
26.10.3.2	E-GSM signalling / Structured procedures / emergency call	MS supporting EGSM and supporting speech
26.11.2.1	Multiband signalling / RR / Immediate assignment procedure	MS supporting simultaneous multiband operation
26.11.2.2.1	Multiband signalling / RR / Handover / successful / active call / non-synchronized	MS supporting simultaneous multiband operation and supporting TCH/F and supporting CC-state U10
26.11.2.2.2	Multiband signalling / RR / Handover / layer 1 failure	MS supporting simultaneous multiband operation and supporting CC-state U10

Table 3.1: Applicability of tests (continued)

26.11.2.3	Multiband signalling / RR / Measurement reporting	MS supporting simultaneous multiband operation and supporting CC protocol for at least one Bearer Capability
26.11.3.1.1	Multiband signalling / MM / Location updating / accepted	MS supporting simultaneous multiband operation
26.11.3.1.2	Multiband signalling / MM / Location updating / periodic	MS supporting simultaneous multiband operation
26.11.5.1	Multiband signalling / Structured procedures / MS originated call / early assignment	MS supporting simultaneous multiband operation and supporting at least one MO teleservice
26.11.5.2	Multiband signalling / Structured procedures / MS terminated call / late assignment	MS supporting simultaneous multiband operation and supporting at least one MT teleservice
26.12.1	EFR signalling / test of the channel mode modify procedure	MS supporting EFR speech
26.12.2.1	EFR signalling / Handover / active call / successful case	MS supporting EFR speech
26.12.2.2	EFR signalling / Handover / successful / call under establishment / non-synchronized	MS supporting EFR speech
26.12.3	EFR signalling / Structured procedures / MS originated call / late assignment	MS supporting EFR speech
26.12.4	EFR signalling / Structured procedures / MS terminated call / early assignment	MS supporting EFR speech
26.12.5	EFR signalling / Structured procedures / emergency call	MS supporting EFR speech
27.1.1	MS identification by short IMSI - Normal case	ME supporting either ID-1 or Plug-in SIM.
27.1.2	MS identification by short IMSI - Phase 1 DCS SIM	DCS ME supporting either ID-1 or Plug-in SIM.
27.2	MS identification by short TMSI	ME supporting either ID-1 or Plug-in SIM.
27.3	MS identification by long TMSI	ME supporting either ID-1 or Plug-in SIM.
27.4	MS identification by long IMSI, TMSI updating and cipher key sequence number assignment	ME supporting either ID-1 or Plug-in SIM.
27.5	Forbidden PLMNs, location updating and undefined cipher key	ME supporting either ID-1 or Plug-in SIM.
27.6	MS updating forbidden PLMNs	ME supporting either ID-1 or Plug-in SIM.
27.7	MS deleting forbidden PLMNs	ME supporting either ID-1 or Plug-in SIM.
27.8	MS updating the PLMN selector list	ME supporting either ID-1 or Plug-in SIM.
27.9	MS recognizing the priority order of the PLMN selector list	ME supporting either ID-1 or Plug-in SIM.
27.10	MS access control management	ME supporting either ID-1 or Plug-in SIM.
27.11.1.1	Bit/character duration during the transmission from the ME to the SIM	ME supporting either ID-1 or Plug-in SIM.
27.11.1.2	Bit/character duration during the transmission from the SIM simulator to the ME	ME supporting either ID-1 or Plug-in SIM.
27.11.1.3	Inter-character delay	ME supporting either ID-1 or Plug-in SIM.
27.11.1.4	Error handling during the transmission from the ME to the SIM simulator	ME supporting either ID-1 or Plug-in SIM.
27.11.1.5	Error handling during transmission from the SIM simulator to the ME	ME supporting either ID-1 or Plug-in SIM.
27.11.2.1	Acceptance of SIMs with internal RST	ME supporting either ID-1 or Plug-in SIM.
27.11.2.2	Acceptance of SIMs with active low RST	ME supporting either ID-1 or Plug-in SIM.
27.11.2.3	Characters of the answer to reset	ME supporting either ID-1 or Plug-in SIM.
27.11.2.4	PTS procedure	ME supporting either ID-1 or Plug-in SIM.
27.11.2.5	Reset repetition	ME supporting either ID-1 or Plug-in SIM.

Table 3.1: Applicability of tests (continued)

27.11.3	Command processing, procedure bytes	ME supporting either ID-1 or Plug-in SIM.
27.12.1	Operating speed in authentication procedure	ME supporting either ID-1 or Plug-in SIM.
27.12.2	Clock stop	ME supporting either ID-1 or Plug-in SIM.
27.13.1	Contact pressure	ME supporting either ID-1 or Plug-in SIM.
27.13.2	Shape of contacts for IC card SIM card reader	ME supporting either ID-1 or Plug-in SIM.
27.14.1	Entry of PIN	All ME
27.14.2	Change of PIN	All ME
27.14.3	Disabling the PIN	ME supporting either ID-1 or Plug-in SIM and supporting a feature to disable the PIN.
27.14.4	PUK entry	ME supporting either ID-1 or Plug-in SIM.
27.14.5	Entry of PIN2	ME supporting a feature requiring entry of PIN2 (e.g. AoC or FDN).
27.14.6	Change of PIN2	ME supporting PIN2
27.14.7	PUK2 entry	ME supporting either ID-1 or Plug-in SIM and supporting PIN2.
27.15	Abbreviated Dialling Numbers (ADN)	ME supporting either ID-1 or Plug-in SIM and supporting ADN.
27.16	MMI reaction to SIM status encoding	ME supporting either ID-1 or Plug-in SIM.
27.17.1.1	Phase preceding ME power on	All ME
27.17.1.2	Phase during SIM power on	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.17.1.3	Phase during ME power off with clock stop forbidden	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.17.1.4	Phase during ME power off with clock stop allowed	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.17.1.5.1	Reaction of 3V only MEs on SIM type recognition failure	ME with a 3V SIM interface.
27.17.1.5.2	Reaction of 3V only MEs on type recognition of 5V only SIMs	ME with a 3V SIM interface.
27.17.1.5.3	Reaction of 3V technology MEs on type recognition of 5V only SIMs	ME with a 5V/3V SIM interface.
27.17.1.5.4	Reaction of 3V technology MEs on type recognition of 3V technology SIMs	ME with a 5V/3V SIM interface.
27.17.2.1.1	Electrical tests on contact C1, Test 1	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.17.2.1.2	Electrical tests on contact C1, Test 2	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.17.2.2	Electrical tests on contact C2	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.17.2.3	Electrical tests on contact C3	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.17.2.5	Electrical tests on contact C7	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface.
27.18.1	ME and SIM with FND activated	ME supporting either ID-1 or Plug-in SIM and supporting FDN.
27.18.2	ME and SIM with FND deactivated	ME supporting either ID-1 or Plug-in SIM and supporting FDN.
27.18.3	Enabling, disabling and updating of FND	ME supporting either ID-1 or Plug-in SIM and supporting FDN.
27.19	Phase identification	ME supporting either ID-1 or Plug-in SIM.
27.20	SIM presence detection	All ME
27.21.1	AoC not supported by SIM	ME supporting AoCC.
27.21.2	Maximum frequency of ACM updating	ME supporting AoC
27.21.3	Call terminated when ACM greater than ACMmax	ME supporting AoCC

Table 3.1: Applicability of tests (continued)

27.21.4	Response codes of increase command	ME supporting AoC
28.2	Constraining the access to a single number (GSM 02.07 category 3)	MS supporting autocalling
28.3	Constraining the access to a single number (GSM 02.07 categories 1 and 2)	MS supporting autocalling
28.4	Behaviour of the MS when its list of blacklisted numbers is full	MS supporting autocalling
29.2.1	Verification of synchronisation	MS supporting data services in transparent mode.
29.2.2	Filtering of channel control information for transparent BCs	MS supporting the MT2 configuration.
29.2.3.1	Negotiation of Radio Channel Requirement (RCR)	MS with an external data interface.
29.2.3.2	Negotiation of Connection Element (CE)	MS with an external data interface
29.2.3.3	Negotiation of Number of Stop Bits, Number of Data bits, and Parity	MS supporting asynchronous data services.
29.2.3.4	Negotiation of Modem Type	MS supporting non-transparent data services.
29.2.3.5	Negotiation of Intermediate Rate	MS supporting non-transparent services on a TCH/F with a user rate of 4,8 kbit/s or lower.
29.2.3.6	Negotiation of User Information Layer 2 Protocol	MS supporting asynchronous bearer services in non-transparent mode.
29.2.3.7	Negotiation between TS 61 and TS 62: Mobile Originated call.	MS supporting TS 61
29.2.3.8	Negotiation between TS 61 and TS 62: Mobile Terminated call.	MS supporting TS 62 and not supporting TS 61.
29.2.4	Data Rate Adaptation for Synchronous Transparent Bearer Capabilities	MS supporting data over the Um-interface.
29.2.6.1	Data Rate Adaptation	MS supporting MT0 or MT2 configuration and supporting data over the Um-interface and supporting asynchronous data Bearer services
29.2.6.2	Passage of the Break Signal	MS supporting MT2 configuration
29.2.6.3	Overspeed/Underspeed Handling (Local Terminal)	MS supporting MT2 configuration
29.2.6.4	Overspeed/Underspeed Handling (Remote Terminal)	MS supporting MT2 configuration
29.2.7	Interchange circuit mapping for transparent bearer capabilities	MS supporting MT2 configuration
29.3.1.1	Normal initialization done by the MS	MS supporting at least one non-transparent bearer service
29.3.1.2.1	Loss of UA frame	MS supporting at least one non-transparent bearer service
29.3.1.2.2	Total loss of UA frame	MS supporting at least one non-transparent bearer service
29.3.2.2.1	N(S) sequence number	MS supporting at least one non-transparent bearer service
29.3.2.2.2	Transmission window	MS supporting at least one non-transparent bearer service
29.3.2.2.3	Busy condition	MS supporting at least one non-transparent bearer service
29.3.2.3.1	N(R) sequence number	MS supporting at least one non-transparent bearer service
29.3.2.3.2	Busy condition	MS supporting at least one non-transparent bearer service

Table 3.1: Applicability of tests (continued)

29.3.2.4.1	REJ frame	MS supporting at least one non-transparent bearer service
29.3.2.4.2.	SREJ frame	MS supporting at least one non-transparent bearer service
29.3.2.4.3	I+S reject frame	MS supporting at least one non-transparent bearer service
29.3.2.5.1	Rejection with REJ or SREJ supervisory frames	MS supporting at least one non-transparent bearer service
29.3.2.5.2	Retransmission of REJ or SREJ frames	MS supporting at least one non-transparent bearer service
29.3.2.5.3	I+S reject frame	MS supporting at least one non-transparent bearer service
29.3.2.6.1	SS in checkpoint recovery mode	MS supporting at least one non-transparent bearer service
29.3.2.6.2	End of the window	MS supporting at least one non-transparent bearer service
29.3.2.6.3	End of a sequence	MS supporting at least one non-transparent bearer service
29.3.2.6.4	Time-out of one frame	MS supporting at least one non-transparent bearer service
29.3.2.6.5	No response to checkpointing	MS supporting at least one non-transparent bearer service
29.3.2.6.6	Incorrect response to checkpointing	MS supporting at least one non-transparent bearer service
29.3.2.6.7	Total loss of response to checkpointing	MS supporting at least one non-transparent bearer service
29.3.2.6.8	Retransmission of a sequence	MS supporting at least one non-transparent bearer service
29.3.2.6.9	N2 retransmission of a sequence	MS supporting at least one non-transparent bearer service
29.3.3.1	Negotiation initiated by the SS	MS supporting at least one non-transparent bearer service
29.3.3.2	Negotiation initiated by the MS	MS supporting at least one non-transparent bearer service
29.3.3.3	Collision of XID frames	MS supporting at least one non-transparent bearer service
29.3.3.4	Loss of XID frames	MS supporting at least one non-transparent bearer service
29.3.3.5	Total loss of XID frames	MS supporting at least one non-transparent bearer service
29.4.2.1.1	Mobile originated call, Call establishment procedure, Alternate speech / facsimile	MS supporting TS61
29.4.2.1.2	Mobile originated call, Call establishment procedure, Automatic facsimile	MS supporting TS62
29.4.2.2	Pre-message procedure	MS supporting TS 61 and/or TS62
29.4.2.3	Message procedure	MS supporting TS 61 and/or TS62
29.4.2.4	Post-message procedure	MS supporting TS 61 and/or TS62
29.4.2.5	Call release procedure	MS supporting TS 61 and/or TS62
29.4.2.6	CTC processing - 4th PPR for the same block	MS supporting TS 61 and/or TS62 and supporting the error correction mode
29.4.2.7	Transition from Facsimile to Speech - Procedure interrupt generated by receiving station	MS supporting TS61
29.4.2.8	Transition from Facsimile to Speech - Procedure interrupt generated by transmitting station	MS supporting TS61

Table 3.1: Applicability of tests (continued)

29.4.2.9	Quality check	MS supporting transparent facsimile group 3
29.4.3.1.1.1	Mobile terminated call, Call Establishment Procedure, Alternate Speech/Facsimile, DCD Mobile Terminated	MS supporting TS61
29.4.3.1.1.2	Mobile terminated call, Call Establishment Procedure, Alternate Speech/Facsimile, DCD mobile originated	MS supporting TS61
29.4.3.1.2	Mobile terminated call, Call Establishment Procedure, Automatic facsimile	MS supporting TS62
29.4.3.2	Pre-message procedure	MS supporting TS 61 and/or TS62
29.4.3.3	Message procedure	MS supporting TS 61 and/or TS62
29.4.3.4	Post-message procedure	MS supporting TS 61 and/or TS62
29.4.3.5	Call release procedure	MS supporting TS 61 and/or TS62
29.4.3.6	Speed conversion factor	MS supporting TS 61 and/or TS62
29.4.3.7	Quality Check	??
29.4.3	Notes	
30.1	Sending sensitivity/frequency response	MS with handset and supporting speech
30.2	Sending loudness rating	MS with handset and supporting speech
30.3	Receiving sensitivity/frequency response	MS with handset and supporting speech
30.4	Receiving loudness rating	MS with handset and supporting speech
30.5.1	Side Tone Masking Rating (STMR)	MS with handset and supporting speech
30.5.2	Listener Side Tone Rating (LSTR)	MS with handset and supporting speech
30.6.1	Echo Loss (EL)	MS with handset and supporting speech
30.6.2	Stability margin	MS supporting speech
30.7.1	Distortion, Sending	MS with handset and supporting speech
30.7.2	Distortion, Receiving	MS with handset and supporting speech
30.8	Sidetone distortion	MS with handset and supporting speech
30.9.1	Out-of-band signals, Sending	MS with handset and supporting speech
30.9.2	Out-of-band signals, Receiving	MS with handset and supporting speech
30.10.1	Idle channel noise, Sending	MS with handset and supporting speech
30.10.2	Idle channel noise, Receiving	MS with handset and supporting speech
31.2.1.1.1	Call forwarding supplementary services, Registration accepted	All MS
31.2.1.1.2	Call forwarding supplementary services, Registration rejected	All MS
31.2.1.2.1	Call forwarding supplementary services, Erasure accepted	All MS
31.2.1.2.2	Call forwarding supplementary services, Erasure rejected	All MS
31.2.1.3	Call forwarding supplementary services, Activation	All MS
31.2.1.4	Call forwarding supplementary services, Deactivation	All MS
31.2.1.6.1	Call forwarding supplementary services, Interrogation accepted	All MS
31.2.1.6.2	Call forwarding supplementary services, Interrogation rejected	All MS
31.2.1.7.1.1	Call forwarding supplementary services, Notification during an incoming call	MS supporting CFB and/or CFNRy
31.2.1.7.1.2	Call forwarding supplementary services, Notification during an outgoing call	All MS
31.2.1.7.2	Call forwarding supplementary services, Forwarded-to mobile subscriber side	All MS
31.6.1.1	AOC time related charging / MS originated call	MS supporting AOCC and CC-state U10

Table 3.1: Applicability of tests (continued)

31.6.1.2	AOC time related charging / MS terminated call	MS supporting AOCC and CC-state U10
31.6.1.5	Change in charging information during a call	MS supporting AOCC and CC-state U10
31.6.1.6	Different formats of charging information	MS supporting AOCC and CC-state U10
31.6.1.7	AOC on a Call Hold call	MS supporting AOCC and CC-state U10
31.6.1.8	AOC on a Multi-party call	MS supporting AOCC and CC-state U10
31.6.2.1	Removal of SIM during an active call	MS supporting AOCC and CC-state U10
31.6.2.2	Interruption of power supply during an active call	MS supporting AOCC and CC-state U10
31.6.2.3	MS going out of coverage during an active AOCC call	MS supporting AOCC and CC-state U10
31.6.2.4	ACMmax operation / Mobile Originating	MS supporting AOCC and CC-state U10
31.6.2.5	ACMmax operation / Mobile Terminating	MS supporting AOCC and CC-state U10
31.8.1	Registration of a password	All MS
31.8.1.1	Registration accepted	All MS
31.8.1.2.1	Rejection after invoke of the RegisterPassword operation	All MS
31.8.1.2.2	Rejection after password check with negative result	All MS
31.8.1.2.3	Rejection after new password mismatch	All MS
31.8.3.1	Activation accepted	All MS
31.8.3.2.1	Rejection after invoke of ActivateSS operation	All MS
31.8.3.2.2	Rejection after use of password procedure	All MS
31.8.4.1	Deactivation accepted	All MS
31.8.4.2.1	Rejection after invoke of DeactivateSS operation	All MS
31.8.4.2.2	Rejection after use of password procedure	All MS
31.8.6.1	Interrogation accepted	All MS
31.8.6.2	Interrogation rejected	All MS
31.8.7	Normal operation	All MS
31.9.1.1	ProcessUnstructuredSS-request/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.1.2	ProcessUnstructuredSS-request/cross phase compatibility and error handling	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.1	UnstructuredSS-Notify/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.2	UnstructuredSS-Notify/rejected on user busy	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.3	UnstructuredSS-Request/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.9.2.4	UnstructuredSS-Request/rejected on user busy	MS supporting USSD, supporting TCH/F and supporting CC-state U10
31.10	MMI input for USSD	All MS
32.1	Full Rate Downlink speech transcoding	MS supporting TCH/FS
32.2	Full Rate Downlink receiver DTX functions	MS supporting TCH/FS
32.3	Full Rate Uplink speech transcoding	MS supporting TCH/FS
32.4	Full Rate Uplink transmitter DTX functions	MS supporting TCH/FS
32.5	Full Rate Speech channel transmission delay	MS supporting TCH/FS
32.5.4	Downlink processing delay	MS supporting TCH/FS
32.5.5	Downlink coding delay	MS supporting TCH/FS
32.5.6	Uplink processing delay	MS supporting TCH/FS
32.5.7	Uplink coding delay	MS supporting TCH/FS
32.6	Half Rate Downlink speech transcoding	MS supporting TCH/HS
32.7	Half Rate Downlink receiver DTX functions	MS supporting TCH/HS

Table 3.1: Applicability of tests (concluded)

32.8	Half Rate Uplink speech transcoding	MS supporting TCH/HS
32.9	Half Rate Uplink transmitter DTX functions	MS supporting TCH/HS
32.10	Half Rate Speech channel transmission delay	MS supporting TCH/HS
32.10.4	Downlink processing delay	MS supporting TCH/HS
32.10.5	Downlink coding delay	MS supporting TCH/HS
32.10.6	Uplink processing delay	MS supporting TCH/HS
32.10.7	Uplink coding delay	MS supporting TCH/HS
32.11	Intra cell channel change from a TCH/HS to a TCH/FS	MS supporting TCH/HS
32.12	Intra cell channel change from a TCH/FS to a TCH/HS	MS supporting TCH/HS
33.1	Entry and display of called number	All MS
33.2.4	Ringing tone	All MS
33.2.5	Busy tone	All MS
33.2.6	Congestion tone	All MS
33.2.7	Authentication failure tone	All MS
33.2.8	Number unobtainable tone	All MS
33.2.9	Call dropped tone	All MS
33.3	Network selection / indication	All MS
33.4	Invalid and blocked PIN indicators	All MS
33.5	Service indicator	All MS
33.6	Subscription identity management	All MS
33.7	Barring of outgoing calls	MS supporting barring of outgoing calls
33.8	Prevention of unauthorized calls	MS supporting prevention of unauthorized calls
34.2.1	SMS mobile terminated	MS supporting SMS MT/PP and supporting CC-state U10
34.2.2	SMS mobile originated	MS supporting SMS MO/PP and supporting CC-state U10
34.2.3	Test of memory full condition and memory available notification:	MS supporting SMS MT/PP and storing of short messages in the SIM
34.2.4	Test of the status report capabilities and of SMS-COMMAND:	MS supporting status report capabilities
34.2.5.1	Short message class 0	MS supporting SMS MT/PP and display of received short messages
34.2.5.2	Test of class 1 short messages	MS supporting storing of received Class I Short Messages and display of stored Short Messages
34.2.5.3	Test of class 2 short messages	MS supporting storing of received Class II Short Messages in the SIM
34.2.7	Test of the replace mechanism for SM type 1-7	MS supporting Replace Short Messages and display of received Short Messages
34.2.8	Test of the reply path scheme	MS supporting reply procedures, display of received Short Messages and submitting Short Messages
34.3	Short message service cell broadcast	All MS
35	Low battery voltage detection	All MS

3.2.3 Applicability to terminal equipment

If a MS is delivered for conformance testing, and it contains physically integrated TE, then this ETS applies to the complete MS including that TE.

This ETS also applies to separate TE that is delivered for conformance testing with the MS. The MS is then tested as an MT0. In that case, the specific TE with which the MS is tested is documented in the test report.

3.3 Definitions

The following definitions are used in this ETS:

idle updated:

The MS is defined to be "idle updated" if the following three conditions are fulfilled:

- its update status is U1 UPDATED (cf. GSM 04.08);
- it is in the MM state MM-IDLE (cf. GSM 04.08);
- it is in the RR idle mode (cf. GSM 04.08).

idle not updated:

The MS is defined to be "idle not updated" if the following three conditions are fulfilled:

- its update status is U2 NOT UPDATED (cf. GSM 04.08);
- it is in the MM state MM-IDLE (cf. GSM 04.08);
- it is in the RR idle mode (cf. GSM 04.08).

arbitrary:

If for a test, a test purpose, a test group, or a test suite, which uses a certain parameter the value of that parameter has to be chosen arbitrarily in a certain set of values, this means that:

- for each value in the set the MS is required to fulfil the requirements of the test, test purpose, test group, or test suite, but that
- the test, test purpose, test group, or test suite is only performed for one value in the set, the selection of which is made by the test operator.

3.4 Conventions for mathematical notations

For the purpose of this ETS mathematical terms used throughout this ETS are given in this subclause.

3.4.1 Mathematical signs

The "plus or minus" sign is expressed by "+/-".
The sign "multiplied by" is expressed by "*".
The sign "divided by" is expressed by "/", or the common division bar.
The sign "greater than or equal to" is expressed by ">=".
The sign "less than or equal to" is expressed by "<=".

3.4.2 Powers to the base 10

Powers to the base 10 are expressed by "10Ex", where x is the exponent, e.g. 10E-5, 10E6.

3.5 Conventions on electrical terms

3.5.1 Radio Frequency (RF) input signal level

In general, the RF input signal level to the MS is expressed in terms of the received field strength E in dBµV/m (assuming a 0 dBi gain antenna). This is related to the power level P in dBm by the following formula (see GSM 05.05)

GSM 900: E (dBµV/m) = P (dBm) + 136,5 (calculated for a frequency of 925 MHz).
DCS 1 800: E (dBµV/m) = P (dBm) + 142,3 (calculated for a frequency of 1 795 MHz).

According to annex 1 subclause A1.1.5.3, in all tests in which a handheld MS normally only equipped with integral antenna is the unit under test, the equivalent input signal level into a temporary test connector is determined from:

Ein = Ereq + F

where: Ein = input signal level to a temporary antenna connector (dBµVemf);
Ereq = signal level required by the test (dBµVemf);
F = coupling factor (dB) at the respective ARFCN.

Since F has to be determined by each test house individually, Ein cannot be given as a figure in test procedures.

If the case of integral antenna is applicable, the input signal level is then expressed in the test procedures as:

Ereq dBµVemf( ),

where the empty parenthesis is to be read as Ein.

Alternatively, the input signal level to the MS at the antenna connector can be expressed in dBµVemf( ). This is related to the power level P in dBm by the following formula, assuming a 50 ohm antenna connector:

Input signal level (dBµVemf( )) = P(dBm) + 113

3.5.2 Reference sensitivity level

In this ETS the term:

Reference Sensitivity level ( )

is used to indicate that the SS establishes reference sensitivity level taking account of any loses associated with the RF connection to the MS.

3.5.3 Power level of fading signal

The power level of a fading signal is defined as the total signal level averaged over time.

3.6 Terms on test conditions

3.6.1 Radio test conditions

The radio propagation conditions refer to multipath propagation models of GSM 05.05.

They are expressed by typical profiles:

- static
- rural area (RA);
- hilly terrain (HT);
- urban area (TU); or for
- equalization test (EQ).

The non-static profiles are also related to typical speeds of movement of the MS expressed in km/h, e.g. TU1,5, TU3, TU50, HT100, EQ50.

In this ETS the following conventions are used:

Table 3.2

Term	for GSM 900 represents	for DCS 1 800 represents
RA	RA250	RA130
HT	HT100	HT100
TUhigh	TU50	TU50
TUlow	TU3	TU1,5
EQ	EQ50	EQ50

For tests using ARFCN ranges the following table shall be used.

Table 3.3

Term	P-GSM 900	DCS 1 800	E-GSM 900
Low ARFCN range	1 to 5	513 to 523	975 to 980
Mid ARFCN range	60 to 65	690 to 710	60 to 65
High ARFCN range	120 to 124	874 to 884	120 to 124

NOTE 1: For definitions of P-GSM 900, DCS 1 800 and E-GSM 900 refer to GSM 05.05.

NOTE 2: In this ETS the term "GSM 900" is used to cover the primary GSM band and the extended GSM band.

4 Test Equipment

4.1 Terms used to describe test equipment in this ETS

In order to perform MS conformity testing, the use of test equipment is necessary to provide the MS with stimulus signals and to analyse and record the resulting responses.

Throughout this ETS the term "System Simulator" is used to describe the suite of test equipment required to interact with the following MS interfaces:

- antenna
- acoustic
- data port
- power supply
- DAI

The term "SIM simulator" is used to describe the test equipment required to interact with the SIM/ME interface.

A "test SIM" has the physical characteristics of a standard SIM card, (see 11.11) with specific parameters defined in annex 4.

4.2 Functional requirements of test equipment

This ETS does not include a functional description of the test equipment required to perform the tests. These requirements should be deduced from the test descriptions and the information in annex 5.

Annex 5 describes the requirements for the test equipment which cannot be derived from, and which are assumed in, the conformance test descriptions described in this ETS. Specifically, stimulus setting and measurement uncertainty requirements are defined in annex 5.

5 Testing methodology in general (layers 1, 2, and 3)

5.1 Testing of optional functions and procedures

Any function or procedure which is optional, as indicated in this ETS , may be subject to a conformance test if it is implemented in the MS.

A declaration by the apparatus supplier (PICS/PIXIT) is used to determine whether an optional function/procedure has been implemented.

5.2 Test interfaces and facilities

The air interface (Um reference point) provides the main test interface for the purpose of performing conformance tests.

The SS layer 2 and layer 3 shall react with the MS on the air interface in accordance with the BSS requirements in the GSM 04.xx and 05.xx series recommendations, except where the description defines otherwise.

The provision of the following special conformance test facilities is mandatory where applicable:

- support of special conformance test functions, which are enabled by the insertion of a dedicated SIM for testing (test-SIM);

- provision of a Digital Audio Interface (only for MS which support speech services, or alternate speech/data services);

- for equipment which does not have a permanent external 50 ohm connector, a temporary 50 ohm antenna connector shall be provided in accordance with the requirements of annex 1 GC7;

- for MS supporting diversity, or for any other reason having more than one RF connector (or temporary connector in the case of integral antenna MS) the manufacturer shall supply coupling and / or terminating devices so that the tests can be performed via a single transmit / receive RF connection.

Furthermore, an optional Electrical Man Machine Interface (EMMI), is specified.

These special conformance test facilities, with the exception of the temporary antenna connector, are described in subclause 36.1.

Actions at the user side of the equipment under test (i.e. at the man-machine Interface, at the S- or R-interface, at the SIM-interface, execution of higher layer processes in the case of data services) are used to invoke actions at layers 1, 2 and 3 of the Dm-channel protocol within the equipment under test.

5.3 Different protocol layers

The conformance tests for each layer of the Dm-channel protocol are specified separately and the test configuration(s) to be used in testing each layer is specified in the subclause of this ETS relating to the conformance tests for that layer.

5.4 Information to be provided by the apparatus supplier

The apparatus supplier shall provide two kinds of information:

- information with respect to the protocol: Protocol Implementation Conformance Statement (PICS);

- information with respect to the man machine interface: Protocol Implementation Extra Information required for Testing (PIXIT).

The complete list of the information to be provided by the apparatus supplier is a matter between the apparatus supplier and the test house but an example of the information to be supplied is given in informative annex 3 of this ETS.

5.5 Definitions of transmit and receive times

The time a burst is received or transmitted is defined to be in the middle of the burst, i.e. transition from Bit Number BN74 to BN75 for all bursts except random access bursts, the middle of which is the transition from BN48 to BN49.

The reception/transmission time of speech or data blocks or a signalling frame (layer 2 and layer 3) is defined to be the reception/transmission time of the last burst containing part of the block or frame.

The start of a layer 2 or 3 frame is defined to be the time of the first burst containing part of the layer 2 or 3 frame. (The time of a burst is defined to be in the middle of the burst.)

The end of a layer 2 or 3 frame is defined to be the time of the last burst containing part of the layer 2 or 3 frame.

6 Reference test methods.

6.1 General

Annex 1 gives reference test conditions to be used throughout this ETS, unless otherwise specified. It consists of a part on general conditions, and a part on normal and extreme test conditions.

Unless otherwise specified, tests are run using the normal test conditions.

If a test is to be run using the extreme test conditions then this is identified in the test description.

For all tests, the MS is connected to the SS. This connection, unless otherwise specified, is to the permanent antenna connector for a MS which is equipped with one, or via the temporary antenna connector defined in annex 1, GC7, for a MS with an integral antenna, and not normally having a means of connecting an external antenna.

6.2 Choice of frequencies in the frequency hopping mode

For the tests using frequency hopping, 38 frequencies are used over

P-GSM 900: a 21 MHz band
E-GSM 900: a [21] MHz band
DCS 1 800: a 75 MHz band

Table 6.1: Hopping frequencies

	ARFCN
P-GSM900	10, 14, 17, 18, 22, 24, 26, 30, 31, 34, 38, 42, 45, 46, 50, 52, 54, 58, 59, 62, 66, 70, 73, 74, 78, 80, 82, 86, 87, 90, 94, 98, 101, 102, 106, 108, 110, 114
E-GSM900	984, 988, 991, 992, 996, 998, 1000, 1004, 1005, 1008, 1012, 1016, 1019, 1020, 1022, 2, 6, 10, 14, 17, 18, 22, 24, 26, 30, 31, 34, 38, 42, 45, 46, 50, 52, 54, 58, 59, 62, 64
DCS1800	522, 539, 543, 556, 564, 573, 585, 590, 606, 607, 624, 627, 641, 648, 658, 669, 675, 690, 692, 709, 711, 726, 732, 743, 753, 760, 774, 777, 794, 795, 811, 816, 828, 837, 845, 858, 862, 879

NOTE: The range of frequencies available during tests under simulated fading conditions is restricted by the fading simulator bandwidth.

6.3 "Ideal" radio conditions

In this ETS the following conditions are referenced by the term "ideal" radio conditions:

No multipath conditions
MS power control level:
GSM 900: 7

DCS 1 800: 3

RF level to MS: 63 dBµVemf( ) (not tests in subclause 14.4, 14.5 or 18.1.4)

RF level to MS: 20 dB above reference sensitivity level ( ) (subclause 14.4 and 14.5)

RF level to MS: 28 dBµVemf( ) (tests in subclause 18.1.4)

6.4 Standard test signals.

The standard test signals C0, C1, I0, I1 and I2 as used in this ETS, are defined in annex 5.

6.5 Power (control) levels.

In this ETS, except where explicitly stated otherwise, if the MS is commanded to its minimum power (control) level, the SS is allowed to signal power control level 19 for GSM 900, and 15 for DCS 1 800. Furthermore, except where explicitly stated otherwise, if the MS is commanded to its maximum power (control) level, and if MS_TXPWR_MAX_CCH is set to the maximum output power of the MS, the SS is allowed to signal the power control level corresponding to the maximum output power for the power class of the MS. For a GSM 900 power class 2 MS, the SS is allowed to signal power control level 2.

7 Implicit testing

For some GSM features conformance is not verified explicitly in this ETS. This does not imply that correct functioning of these features is not essential, but that these are implicitly tested to a sufficient degree in other tests. Examples for implicitly tested features are frequency hopping and encryption.

It should be noted that for these features some aspects have to be and are explicitly tested, e.g. the ability to switch to frequency hopping or non-hopping, and the ability to change the encryption mode setting.

8 Measurement uncertainty

The measured value relating to the corresponding limit shall be used to determine whether or not a terminal equipment meets the requirement. (ETR 028 annex B)

This process is often referred to as "shared risk".

9 Format of tests

In general the following basic format for tests is used:

...* Title
- *.*..*.1 Definition and applicability
  This sections provides, if necessary, a definition of the feature/function being tested and the applicability of the test to different MS (e.g. speech only, data only etc.).
- *.*..*.2 Conformance requirement
  This section details the core specification requirements being tested and includes any necessary core specification references.
- *.*..*.3 Test purpose
  This section details the purpose of the test.
- *.*..*.4 Method of test
  - *.*..*.4.1 Initial conditions
    If present this section defines the initial conditions to be established before running the test.
  - *.*..*.4.2 Procedure

This section details the test procedure.

...*.5 Test requirements

This section details the conditions to be met for successful completion of the test.

[However for the Layer 3 tests, in general, a slightly modified format, as described below, is used:

...* Title

...*.1 Conformance requirement

References

...*.2 Test purpose

...*.3 Method of test

Initial conditions
Related PICS/PIXIT statement
Foreseen final state of the MS
Test Procedure
Maximum duration of the test
Expected sequence]

10 Generic call set up procedures

10.1 Generic call set-up procedure for mobile terminating speech calls

In the test procedures described in this ETS, unless otherwise stated in the test description, the Mobile Terminating Speech call set-up procedure shall be as described in this section.

NOTE: In test cases where a fading profile is required, a different and appropriate ARFCN may be selected, for instance if the fading simulator bandwidth does not allow use of the default ARFCN.

10.1.1 Initial conditions

System Simulator:

1 cell, default parameters.

Mobile Station:

- The MS shall be operated under normal test conditions (see annex 1 TC.2.1)

- The special Test-SIM (see annex 4) shall be inserted.

- The MS is "idle, updated", with a TMSI assigned and listening to the BCCH/CCCH of the active cell.

10.1.2 Definition of system information messages

The following parameters shall be coded into the system information messages. Parameters shall be coded according to GSM 04.08.

The RACH Control Parameters IE shall be the same in SYSTEM INFORMATION TYPE 1, TYPE 2, TYPE 3 and TYPE 4 messages.

The Location Area Identification IE, Cell Selection Parameters IE, and P1 bit shall be the same in SYSTEM INFORMATION TYPE 3 and TYPE 4 messages.

SYSTEM INFORMATION TYPE 1

Information Element	Value/remark
Cell channel description	Includes the hopping sequence ARFCNs, if hopping is used
RACH control parameters	
MAX RETRANS	Any Value
TX-INTEGER	Any Value
CELL BAR ACCESS	Not barred
CALL RE-ESTABLISHMENT	Not Allowed
EMERGENCY CALL	Allowed
ACCESS CONTROL CLASS (0...9, 11...15)	None Barred
SI1 rest octets	Spare Octets

SYSTEM INFORMATION TYPE 2

Information Element	Value/remark
BCCH Frequency list	Indicates seven surrounding cells on any ARFCN of the supported band, excluding ARFCNs in or immediately adjacent to those specified in section 6.2
NCC permitted	
NCC PERMITTED	e.g. all NCCs permitted
RACH control parameters	
MAX RETRANS	Any Value
TX-INTEGER	Any Value
CELL BAR ACCESS	Not barred
CALL RE-ESTABLISHMENT	Not Allowed
EMERGENCY CALL	Allowed
ACCESS CONTROL CLASS (0...9, 11...15)	None Barred

SYSTEM INFORMATION TYPE 3

Information Element	Value/remark
Cell identity	
CI VALUE	0001 hex (not relevant)
Location Area Identification	
MCC	001 decimal (not relevant)
MNC	01 decimal (not relevant)
LAC	0001 hex (not relevant)
Control Channel Description	
ATT (IMSI att/det)	MS shall not apply (not relevant)
BS-AG-BLKS-RES	0 blocks reserved (not relevant)
CCCH-CONF	Combined CCCH/SDCCH (not relevant)
BS-PA-MFRMS	5 multiframes (not relevant)
T3212	Infinite
Cell options	
PWRC	power control not set
DTX	MS must not use DTX
RADIO LINK TIME-OUT	8
Cell selection parameters	
CELL RESELECT HYSTERESIS	0 dB
MS-TXPWR-MAX-CCH	Max. output power of MS
RXLEV-ACCESS-MIN	-90 dBm
ACS	There are no additional cell parameters included in SI7 and SI8
NECI	New establishment cause not supported
RACH control parameters	
MAX RETRANS	Any Value
TX-INTEGER	Any Value
CELL BAR ACCESS	Not barred
CALL RE-ESTABLISHMENT	Not Allowed
EMERGENCY CALL	Allowed
ACCESS CONTROL CLASS (0...9, 11...15)	None Barred
SI3 rest octets	
P1	C2 parameters not present

SYSTEM INFORMATION TYPE 4

Information Element	Value/remark
Location Area Identification	
MCC	001 decimal (not relevant)
MNC	01 decimal (not relevant)
LAC	0001 hex (not relevant)
Cell selection parameters	
CELL RESELECT HYSTERESIS	0 dB
MS-TXPWR-MAX-CCH	Max. output power of MS
RXLEV-ACCESS-MIN	-90 dBm
RACH control parameters	
MAX RETRANS	Any Value
TX-INTEGER	Any Value
CELL BAR ACCESS	Not barred
CALL RE-ESTABLISHMENT	Not Allowed
EMERGENCY CALL	Allowed
ACCESS CONTROL CLASS (0...9, 11...15)	None Barred
CBCH Channel Description	Omitted
CBCH Mobile Allocation	Omitted
SI4 rest octets	
P1	C2 parameters not present

SYSTEM INFORMATION TYPE 5

Information Element	Value/remark
Neighbour cell description	As Cell Channel Description in SI 1

SYSTEM INFORMATION TYPE 6

Information Element	Value/remark
Cell identity	
CI VALUE	0001 hex (not relevant)
Location Area Identification	
MCC	001 decimal (not relevant)
MNC	01 decimal (not relevant)
LAC	0001 hex (not relevant)
Cell options	
PWRC	power control not set
DTX	MS must not use DTX
RADIO LINK TIME-OUT	8
NCC permitted	
NCC PERMITTED	e.g. all NCCs permitted

10.1.3 Procedure

An MS terminating call on a TCH/FS shall be established under ideal radio conditions and with Timing advance set to 0, as follows:

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	Sent on the correct paging subchannel
2	MS -> SS	CHANNEL REQUEST	Establishment cause indicates "answer to paging".
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	PAGING RESPONSE	Message is contained in SABM.
5	SS -> MS	AUTHENTICATION REQUEST	
6	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
7	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
8	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
9	SS		SS starts ciphering.
10	SS -> MS	SETUP	Message contains the signal IE
11	MS -> SS	CALL CONFIRMED	
A12	MS -> SS	CONNECT	
B12	MS -> SS	ALERTING	
B13	MS		An alerting indication as defined in a PICS/PIXIT statement given by the MS.
B14	MS		The MS is made to accept the call in a way described in a PICS/PIXIT statement.
B15	MS -> SS	CONNECT	
16	SS -> MS	ASSIGNMENT COMMAND	
17	MS -> SS	ASSIGNMENT COMPLETE	
18	MS		The TCH is through connected in both directions.
19	SS -> MS	CONNECT ACKNOWLEDGE	

10.1.4 Specific message contents

PAGING REQUEST TYPE 1 (GSM 04.08, 9.1.22) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Page Mode	Normal Paging
Channel Needed	spare, any channel
Mobile Identity 1	
Odd/even no of digits	As applicable for TMSI
Type of Identity	TMSI
Identity digits	As applicable
Mobile Identity 2	Omitted
P1 rest octets	Spare octets

IMMEDIATE ASSIGNMENT (GSM 04.08, 9.1.18) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Page Mode	Normal
Channel Description	
Channel Type	SDCCH/SACCH 1(4)
Time slot number	zero
Training seq. code	same as BCCH
Hopping	No
ARFCN	ARFCN of the BCCH
Random Reference	
Random access info	As in CHAN REQ
N51, N32, N26	As applicable
Timing Advance	0
Mobile allocation	length 0 due to hopping
IA rest octets	Spare octets

AUTHENTICATION REQUEST (GSM 04.08, 9.2.2) to the MS

Information Element	Value/remark
Protocol Discriminator	MM
Skip Indicator	0000
Message Type	
Ciphering key seq. number	Arbitrary
Authent. parameter RAND	Arbitrary

CIPHERING MODE COMMAND (GSM 04.08, 9.1.9) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Ciphering mode setting	Start ciphering
Algorithm Identifier	Supported by the MS
Cipher Response	IMEISV shall not be included

SETUP (GSM 04.08, 9.3.23) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	SS orig.
Message Type	
Signal	any non-reserved value
Bearer capability 1	Appropriate for the basic service selected for the test or omitted

ASSIGNMENT COMMAND (GSM 04.08, 9.1.2) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Channel Description	
Channel type	Bm + ACCHs
Time slot number	Arbitrary
Training seq. code	Default
Hopping	No
ARFCN	Default
Power level	Power control level 7
Channel mode	Speech full rate version 1

CONNECT ACKNOWLEDGE (GSM 04.08, 9.3.6) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	SS orig.
Message Type	

10.2 Generic call set-up procedure for mobile originating speech calls

In the test procedures described in this ETS, unless otherwise stated in the test description, the Mobile Originating Speech (MOC) call set-up procedure shall be as described in this clause.

NOTE: In test cases where a fading profile is required, a different and appropriate ARFCN may be selected, for instance if the fading simulator bandwidth does not allow use of the default ARFCN.

10.2.1 Initial conditions

System Simulator:
1 cell, default parameters.

Mobile Station:
- The MS shall be operated under normal test conditions (see [Annex 1 TC.2.1])

- The special Test-SIM (see annex 4) shall be inserted.

- The MS is "idle, updated", with a TMSI assigned and listening to the BCCH/CCCH of the active cell.

10.2.2 Definition of system information messages

See clause 10.1.2.

10.2.3 Procedure

An MS originating call on a TCH/FS shall be established under ideal radio conditions and with Timing advance set to 0, as follows:

Step	Direction	Message	Comments
1	MS		"called number" entered
2	MS -> SS	CHANNEL REQUEST	Establishment cause indicates "originating call, NECI <> 1".
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	CM SERVICE REQUEST	Message is contained in SABM.
5	SS -> MS	AUTHENTICATION REQUEST	
6	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
7	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
8	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
9	SS		SS starts ciphering.
10	MS -> SS	SETUP	
11	SS -> MS	CALL PROCEEDING	
12	SS -> MS	ALERTING	
13	MS		An alerting indication as defined in an PICS/PIXIT statement is given by the MS.
14	SS -> MS	ASSIGNMENT COMMAND	
15	MS -> SS	ASSIGNMENT COMPLETE	
16	SS -> MS	CONNECT	
17	MS -> SS	CONNECT ACKNOWLEDGE	
18	MS		The TCH is through connected in both directions

10.2.4 Specific message contents

IMMEDIATE ASSIGNMENT (GSM 04.08, 9.1.18) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Page Mode	Normal
Channel Description	
Channel Type	SDCCH/SACCH 1(4)
Time slot number	zero
Training seq. code	same as BCCH
Hopping	No
ARFCN	ARFCN of the BCCH
Random Reference	
Random access info	As in CHAN REQ
N51, N32, N26	As applicable
Timing Advance	0
Mobile allocation	length 0 due to hopping
IA rest octets	Spare octets

AUTHENTICATION REQUEST (GSM 04.08, 9.2.2) to the MS

Information Element	Value/remark
Protocol Discriminator	MM
Skip Indicator	0000
Message Type	
Ciphering key seq. number	Arbitrary
Authent. parameter RAND	Arbitrary

CIPHERING MODE COMMAND (GSM 04.08, 9.1.9) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Ciphering mode setting	Start ciphering
Algorithm Identifier	Supported by the MS
Cipher Response	IMEISV shall not be included

CALL PROCEEDING (GSM 04.08, 9.3.3) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	As derived from SETUP
Message Type	
Repeat Indicator	Omitted
Bearer Capability 1	Omitted
Bearer Capability 2	Omitted
Facility	Omitted
Progress Indicator	Omitted

ALERTING (GSM 04.08, 9.3.1) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	As derived from SETUP
Message Type	
Facility	Omitted
Progress Indicator	Omitted
User-user	Omitted

ASSIGNMENT COMMAND (GSM 04.08, 9.1.2) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Channel Description	
Channel type	Bm + ACCHs
Time slot number	Arbitrary
Training seq. code	Default
Hopping	No
ARFCN	Default
Power level	Power control level 7
Channel mode	Speech full rate version 1

CONNECT (GSM 04.08, 9.3.5) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	As derived from SETUP
Message Type	
Facility	Omitted
Progress Indicator	Omitted
Connected number	Omitted
Connected Subaddress	Omitted
User-user	Omitted

10.3 Generic call set-up procedure for mobile terminating data calls

In the test procedures described in this ETS, unless otherwise stated in the test description, the Mobile Terminating Data call set-up procedure shall be as described in this section.

NOTE: In test cases where a fading profile is required, a different and appropriate ARFCN may be selected, for instance if the fading simulator bandwidth does not allow use of the default ARFCN.

10.3.1 Initial conditions

System Simulator:
1 cell, default parameters.

Mobile Station:
- The MS shall be operated under normal test conditions (see Annex 1 TC.2.1)

- The special Test-SIM (see annex 4) shall be inserted.

- The MS is "idle, updated", with a TMSI assigned and listening to the BCCH/CCCH of the active cell.

10.3.2 Definition of system information messages

See clause 10.1.2.

10.3.3 Procedure

An MS terminating call on a TCH shall be established under ideal radio conditions and with Timing advance set to 0, as follows:

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	Sent on the correct paging subchannel
2	MS -> SS	CHANNEL REQUEST	Establishment cause indicates "answer to paging".
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	PAGING RESPONSE	Message is contained in SABM.
5	SS -> MS	AUTHENTICATION REQUEST	
6	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
7	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
8	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
9	SS		SS starts ciphering.
10	SS -> MS	SETUP	A call is set up according to the required characteristics of the test procedure. Bearer Capability and Signal IEs included
11	MS -> SS	CALL CONFIRMED	Bearer Capability shall or shall not be included according to the rules given in GSM 04.08 and GSM 07.01.
A12	MS -> SS	CONNECT	
B12	MS -> SS	ALERTING	
B13	MS		An alerting indication as defined in a PICS/PIXIT statement given by the MS.
B14	MS		The MS is made to accept the call in a way described in a PICS/PIXIT statement.
B15	MS -> SS	CONNECT	
16	SS -> MS	ASSIGNMENT COMMAND	
17	MS -> SS	ASSIGNMENT COMPLETE	
18	MS		The TCH is through connected in both directions.
19	SS -> MS	CONNECT ACKNOWLEDGE	

10.3.4 Specific message contents

PAGING REQUEST TYPE 1 (GSM 04.08, 9.1.22) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Page Mode	Normal Paging
Channel Needed	spare, any channel
Mobile Identity 1	
Odd/even no of digits	As applicable for TMSI
Type of Identity	TMSI
Identity digits	As applicable
Mobile Identity 2	Omitted
P1 rest octets	Spare octets

IMMEDIATE ASSIGNMENT (GSM 04.08, 9.1.18) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Page Mode	Normal
Channel Description	
Channel Type	SDCCH/SACCH 1(4)
Time slot number	zero
Training seq. code	same as BCCH
Hopping	No
ARFCN	ARFCN of the BCCH
Random Reference	
Random access info	As in CHAN REQ
N51, N32, N26	As applicable
Timing Advance	0
Mobile allocation	length 0 due to hopping
IA rest octets	Spare octets

AUTHENTICATION REQUEST (GSM 04.08, 9.2.2) to the MS

Information Element	Value/remark
Protocol Discriminator	MM
Skip Indicator	0000
Message Type	
Ciphering key seq. number	Arbitrary
Authent. parameter RAND	Arbitrarily selected

CIPHERING MODE COMMAND (GSM 04.08, 9.1.9) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Ciphering mode setting	Start ciphering
Algorithm Identifier	Supported by the MS
Cipher Response	IMEISV shall not be included

SETUP (GSM 04.08, 9.3.23) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	SS orig.
Message Type	
Bearer Capability	
Radio Channel Requirement	
Connection Element	T or NT and declared as supported by the MS (Not "Both ...")
NIRR	No meaning
Other parameters	Declared as supported by the MS
Signal	any non-reserved value

ASSIGNMENT COMMAND (GSM 04.08, 9.1.2) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Channel Description	
Channel type	Bm + ACCHs
Time slot number	Arbitrary
Training seq. code	Default
Hopping	No
ARFCN	Default
Power level	Power control level 7
Channel mode	Proper data rate, according to BC-IE included in the Set-Up and to the following table

Table 10-1: Correspondence between User rate (UR) and Channel Mode (CM) for transparent (T) and non transparent (NT) connections

UR	9,6kbit/s	4,8kbit/s	2,4kbit/s	1,2kbit/s	1,2/0,075kbit/s	0,3kbit/s
CM T FR	12 FR	6 FR	3,6 FR	3,6 FR	3,6 FR	3,6 FR
CM T HR	n.a	6 HR	3,6 HR	3,6 HR	3,6 HR	3,6 HR
CM NT FR	12 FR	12 FR	12 FR	12 FR	12 FR	12 FR
CM NT HR	n.a	6 HR	6 HR	6 HR	6 HR	6 HR

CONNECT ACKNOWLEDGE (GSM 04.08, 9.3.6) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	SS orig.
Message Type	

10.4 Generic call set-up procedure for mobile originating data calls

In the test procedures described in this ETS, unless otherwise stated in the test description, the Mobile Originating Data call set-up procedure shall be as described in this clause.

NOTE: In test cases where a fading profile is required, a different and appropriate ARFCN may be selected, for instance if the fading simulator bandwidth does not allow use of the default ARFCN.

10.4.1 Initial conditions

System Simulator:
1 cell, default parameters.

Mobile Station:
- The MS shall be operated under normal test conditions (see [Annex 1 TC.2.1])

- The special Test-SIM (see annex 4) shall be inserted.

- The MS is "idle, updated", with a TMSI assigned and listening to the BCCH/CCCH of the active cell.

10.4.2 Definition of system information messages

See clause 10.1.2.

10.4.3 Procedure

An MS originating call on a TCH shall be established under ideal radio conditions and with Timing advance set to 0, as follows:

Step	Direction	Message	Comments
1	MS		"called number" entered
2	MS -> SS	CHANNEL REQUEST	Establishment cause indicates "originating call, NECI <> 1".
3	SS -> MS	IMMEDIATE ASSIGNMENT	
4	MS -> SS	CM SERVICE REQUEST	Message is contained in SABM.
5	SS -> MS	AUTHENTICATION REQUEST	
6	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value.
7	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message.
8	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered.
9	SS		SS starts ciphering.
10	MS -> SS	SETUP	
11	SS -> MS	CALL PROCEEDING	
12	SS -> MS	ALERTING	
13	MS		An alerting indication as defined in an PICS/PIXIT statement is given by the MS.
14	SS -> MS	ASSIGNMENT COMMAND	
15	MS -> SS	ASSIGNMENT COMPLETE	
16	SS -> MS	CONNECT	
17	MS -> SS	CONNECT ACKNOWLEDGE	
18	MS		The TCH is through connected in both directions

10.4.4 Specific message contents

IMMEDIATE ASSIGNMENT (GSM 04.08, 9.1.18) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Page Mode	Normal
Channel Description	
Channel Type	SDCCH/SACCH 1(4)
Time slot number	zero
Training seq. code	same as BCCH
Hopping	No
ARFCN	ARFCN of the BCCH
Random Reference	
Random access info	As in CHAN REQ
N51, N32, N26	As applicable
Timing Advance	0
Mobile allocation	length 0 due to hopping
IA rest octets	Spare octets

AUTHENTICATION REQUEST (GSM 04.08, 9.2.2) to the MS

Information Element	Value/remark
Protocol Discriminator	MM
Skip Indicator	0000
Message Type	
Ciphering key seq. number	Arbitrary
Authent. parameter RAND	Arbitrarily selected.

CIPHERING MODE COMMAND (GSM 04.08, 9.1.9) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Skip Indicator	0000
Message Type	
Ciphering mode setting	Start ciphering
Algorithm Identifier	Supported by the MS
Cipher Response	IMEISV shall not be included

CALL PROCEEDING (GSM 04.08, 9.3.3) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	As derived from SETUP
Message Type	
Repeat Indicator	Present if and only if Bearer Capability 1 and Bearer Capability 2 are present in this message
Bearer Capability 1	Present if negotiation of BC 1 or BC 2 necessary (e.g. reception of "Both" for CE parameter in SETUP), else omitted
Radio Channel Requirement	spare
Connection element	T (in case of "Both T (NT) preferred" received)
NIRR	No meaning
Other parameters	Same as sent by the MS in the SETUP, where applicable
Bearer Capability 2	Present if dual BC-IE received and negotiation of either BC 1 or BC 2 necessary, else omitted
Radio Channel Requirement	spare
Connection element	T in case of "Both, T (NT) preferred" in the SETUP message else same as in the SETUP message
NIRR	No meaning
Other parameters	Same as sent by the MS in the SETUP, where applicable
NOTE: If both BC 1 and BC 2 are present, then one and only one of them shall indicate speech.	
Facility	Omitted
Progress Indicator	Omitted

ALERTING (GSM 04.08, 9.3.1) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	As derived from SETUP
Message Type	
Facility	Omitted
Progress Indicator	Omitted
User-user	Omitted

ASSIGNMENT COMMAND (GSM 04.08, 9.1.2) to the MS

Information Element	Value/remark
Protocol Discriminator	RR
Transaction Identifier	Not used
Message Type	
Channel Description	
Channel type	Bm + ACCHs
Time slot number	Arbitrary
Training seq. code	Default
Hopping	No
FB no	Band no 0
ARFCN	Default
Power level	Power control level 7
Channel mode	If no negotiation took place: - Speech FR version 1 or HR version 1 if first BC IE in the SETUP indicated speech, - Set according to the table below if first BC - IE in the SETUP indicates data or fax If negotiation took place - Speech FR version 1 or HR version 1 if first BC-IE in the CALL PROCEEDING indicated speech - Set according to the table below if first BC - IE in the CALL PROCEEDING indicates data or fax

Table 10-2: Correspondence between User rate (UR) and Channel Mode (CM) for transparent (T) and non transparent (NT) connections

UR	9,6kbit/s	4,8kbit/s	2,4kbit/s	1,2kbit/s	1,2/0,075kbit/s	0,3kbit/s
CM T FR	12FR	6 FR	3,6 FR	3,6 FR	3,6 FR	3,6 FR
CM T HR	n.a	6 HR	3,6 HR	3,6 HR	3,6 HR	3,6 HR
CM NT FR	12 FR	12 FR	12 FR	12 FR	12 FR	12 FR
CM NT HR	n.a	6 HR	6 HR	6 HR	6 HR	6 HR

CONNECT (GSM 04.08, 9.3.5) to the MS

Information Element	Value/remark
Protocol Discriminator	CC
Transaction Identifier	As derived from SETUP
Message Type	
Facility	Omitted
Progress Indicator	Omitted
Connected number	Omitted
Connected Subaddress	Omitted
User-user	Omitted