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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Special Mobile Group (SMG), and is now submitted for the ETSI standards One-step Approval Procedure.

The present document describes the technical characteristics and methods of test for Mobile Stations (MSs), operating in the 400 MHz, 900 MHz and/or 1 800 MHz frequency band (GSM 400, GSM 900 and/or DCS 1 800) within the digital cellular telecommunications system.

The present document is part 1 of a multi-part EN covering the Digital cellular telecommunications system (Phase 2 and Phase 2+ Releases 96, 97, 98, 99, 00); Mobile Station (MS) conformance specification, as identified below:

Part 1: **Conformance specification**
Reference: GSM 11.10-1.

Part 2: Protocol Implementation Conformance Statement (PICS) proforma specification.
Reference: GSM 11.10-2.

Part 3: Layer 3 (L3) Abstract Test Suite (ATS).
Reference: GSM 11.10-3.

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

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

1 Scope

The present document 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 400 MHz, 900 MHz and 1 800 MHz band (GSM 400, GSM 900 and DCS 1 800), standardized by ETSI Special Mobile Group (SMG).

This EN is valid for MS implemented according Phase2 or Phase2+ R96, or R97, or R98, or R99 or R00.

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 EN 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 400, GSM 900 and DCS 1 800 systems, using constant envelope modulation and operating on radio frequencies in the 400, 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 EN is part of the GSM-series of technical specifications. This EN neither replaces any of the other GSM technical specifications or GSM related ETSs or ENs, nor is it created to provide full understanding of (or parts of) the GSM 400, GSM 900 and DCS 1 800 systems. This EN 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 or ENs. Clause 2 provides a complete list of the GSM technical specifications, GSM related ETSs, ENs, and ETRs, on which this conformance test specifications is based.

This EN 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 EN, and any other GSM technical specification or GSM related ETS or EN, then the other GSM technical specification or GSM related ETS or EN shall prevail.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- For this Release 1999 document, references to GSM documents are for Release 1999 versions (version 8.x.y).

- For a Phase2+ Release 2000 MS, references to GSM documents are to version 9.x.y, when available.

- For a Phase2+ Release 1999 MS, references to GSM documents are to version 8.x.y, when available.

- For a Phase2+ Release 1998 MS, references to GSM documents are to version 7.x.y, when available.

- For a Phase2+ Release 1997 MS, references to GSM documents are to version 6.x.y, when available.

- For a Phase2+ Release 1996 MS, references to GSM documents are to version 5.x.y,. when available.

- For a Phase2 MS, references to GSM documents are to version 4.x.y.

[1] GSM 01.04 (ETR 350): "Digital cellular telecommunications system (See note 1; Abbreviations and acronyms".

[2] GSM 02.02: "Digital cellular telecommunications system (See note 1; Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".

[2a] 3G TS 22.002: "Circuit Bearer Services (BS) supported by a Public Land Mobile Network (PLMN) (see Note 2) ".

[3] GSM 02.03: "Digital cellular telecommunications system (See note 1; Teleservices supported by a GSM Public Land Mobile Network (PLMN)".

[3a] 3G TS 22.003: "Circuit Teleservices supported by a Public Land Mobile Network (PLMN) (see Note 2)".

[4] GSM 02.04: "Digital cellular telecommunications system (See note 1; General on supplementary services".

[4a] 3G TS 22.004: "General on Supplementary Services (see Note 2)".

[5] GSM 02.06: "Digital cellular telecommunications system (See note 1; Types of Mobile Stations (MS)".

[6] GSM 02.07: "Digital cellular telecommunications system (See note 1; Mobile Station (MS) features".

[7] GSM 02.09: "Digital cellular telecommunications system (See note 1; Security aspects".

[8] GSM 02.11: "Digital cellular telecommunications system; Service accessibility".

[8a] 3G TS 22.011: "Service accessibility (see Note 2)".

[9] GSM 02.17: "Digital cellular telecommunications system; Subscriber Identity Modules (SIM) Functional characteristics".

[10] GSM 02.24: "Digital cellular telecommunications system; Description of Charge Advice Information (CAI)".

[10a] 3G TS 22.024: "Description of Charge Advice Information (CAI) (see Note 2)".

[11] GSM 02.30: "Digital cellular telecommunications system (See note 1; Man-Machine Interface (MMI) of the Mobile Station (MS)".

[11a] 3G TS 22.030: "Man-Machine Interface (MMI) of the User Equipment (UE) (see Note 2)".

[12] GSM TS 02.81: "Digital cellular telecommunications system (See note 1; Line identification supplementary services - Stage 1".

[12a] 3G TS 22.081: "Line Identification Supplementary Services; Stage 1 (see Note 2)".

[13] GSM TS 02.83: "Digital cellular telecommunications system (See note 1; Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 1".

[13a] 3G TS 22.083: "Call Waiting (CW) and Call Hold (HOLD) Supplementary Services; Stage 1 (see Note 2)".

[14] GSM TS 02.84: "Digital cellular telecommunications system (See note 1; MultiParty (MPTY) supplementary services - Stage 1".

[14a]   3G TS 22.084: "MultiParty (MPTY) Supplementary Services; Stage 1 (see Note 2)".

[15]   GSM TS 02.86: "Digital cellular telecommunications system (See note 1); Advice of Charge (AoC) supplementary services - Stage 1".

[15a]   3G TS 22.086: "Advice of Charge (AoC) Supplementary Services; Stage 1 (see Note 2)".

[16]   GSM TS 02.88: "Digital cellular telecommunications system (See note 1); Call Barring (CB) supplementary services - Stage 1".

[16a]   3G TS 22.088:" Call Barring (CB) supplementary services; Stage 1 (see Note 2)".

[17]   GSM TS 02.90: "Digital cellular telecommunications system (See note 1); Unstructured Supplementary Service Data (USSD) - Stage 1".

[17a]   3G TS 22.090: "Unstructured Supplementary Service Data (USSD); Stage 1 (see Note 2)".

[18]   GSM 03.03: "Digital cellular telecommunications system (See note 1); Numbering, addressing and identification".

[18a]   3G TS 23.003: "Numbering, Addressing and Identification (see Note 2)".

[19]   GSM 03.11: "Digital cellular telecommunications system; Technical realization of supplementary services".

[19a]   3G TS 23.011: "Technical realization of Supplementary Services – General Aspects (see Note 2)".

[20]   GSM 03.20: "Digital cellular telecommunications system (See note 1); Security related network functions".

[21]   GSM 03.22: "Digital cellular telecommunications system; Functions related to Mobile Station (MS) in idle mode and group receive mode".

[22]   GSM 03.38: "Digital cellular telecommunications system (See note 1); Alphabets and language-specific information".

[22a]   3G TS 23.038: "Alphabets and Language (see Note 2)".

[23]   GSM 03.40: "Digital cellular telecommunications system (See note 1); Technical realization of the Short Message Service (SMS); Point-to-Point (PP)".

[23a]   3G TS 23.040: "Technical realization of the Short Message Service (see Note 2)".

[24]   GSM 03.41: "Digital cellular telecommunications system (See note 1); Technical realization of Short Message Service Cell Broadcast (SMSCB)".

[24a]   3G TS 23.041: "Technical Realization of Cell Broadcast Service (see Note 2)".

[25]   GSM 03.45: "Digital cellular telecommunications system (See note 1); Technical realization of facsimile group 3 transparent".

[26]   GSM 03.50: "Digital cellular telecommunications system (See note 1); Transmission planning aspects of the speech service in the GSM Public Land Mobile Network (PLMN) system".

[27]   GSM 03.86: "Digital cellular telecommunications system (See note 1); Advice of Charge (AoC) supplementary services - Stage 2".

[27a]   3G TS 23.086: "Advice of Charge (AoC) Supplementary Service - Stage 2 (see Note 2)".

[28]   GSM 04.04: "Digital cellular telecommunications system (See note 1); Layer 1 General requirements".

[29]   GSM 04.05: "Digital cellular telecommunications system (See note 1); Data Link (DL) layer General aspects".

[30]   GSM 04.06: "Digital cellular telecommunications system (See note 1); Mobile Station - Base Station System (MS - BSS) interface Data Link (DL) layer specification".

[31]   GSM 04.07: "Digital cellular telecommunications system (See note 1); Mobile radio interface signalling layer 3; General aspects".

[31a]   3G TS 24.007: "Mobile Radio Interface Signalling Layer 3; General Aspects (see Note 2)".

[32]   GSM 04.08: "Digital cellular telecommunications system (See note 1); Mobile radio interface layer 3 specification".

[32a]   3G TS 24.008: "Mobile radio interface Layer 3 specification; Core network Protocols – Stage 3 (see Note 2)".

[33]   GSM 04.10: "Digital cellular telecommunications system (See note 1); Mobile radio interface layer 3 Supplementary services specification; General aspects".

[33a]   3G TS 24.010: "Mobile radio Interface Layer 3 – Supplementary Services Specification – General Aspects (see Note 2)".

[34]   GSM 04.11: "Digital cellular telecommunications system (See note 1); Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[34a]   3G TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) Support on Mobile Radio Interface (see Note 2)".

[35]   GSM 04.12: "Digital cellular telecommunications system (See note 1); Short Message Service Cell Broadcast (SMSCB) support on the mobile radio interface".

[35a]   3G TS 24.012: "Short Message Service Cell Broadcast (SMSCB) Support on the Mobile Radio interface (see Note 2)".

[36]   GSM 04.13: "Digital cellular telecommunications system (See note 1); Performance requirements on the mobile radio interface".

[37]   GSM 04.21: "Digital cellular telecommunications system (See note 1); Rate adaption on the Mobile Station - Base Station System (MS - BSS) Interface".

[38]   GSM 04.22: "Digital cellular telecommunications system (See note 1); 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".

[38a]   3G TS 24.022: "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 (see Note 2)".

[39]   GSM 04.80: "Digital cellular telecommunications system (See note 1; Mobile radio interface layer 3 supplementary services specification; Formats and coding".

[39a]   3G TS 24.080: "Mobile Radio Layer 3 Supplementary Service specification – Formats and coding (see Note 2)".

[40]   GSM 04.81: "Digital cellular telecommunications system (See note 1); Line identification supplementary services - Stage 3".

[40a]   3G TS 24.081: "Line identification Supplementary Service – Stage 3 (see Note 2)".

[41]   GSM 04.82: "Digital cellular telecommunications system (See note 1); Call Forwarding (CF) supplementary services - Stage 3".

[41a]   3G TS 24.082: "Call Forwrding Supplementary Service – Stage 3 (see Note 2)".

[42]   GSM 04.83: "Digital cellular telecommunications system (See note 1); Call Waiting (CW) and Call Hold (HOLD) supplementary services - Stage 3".

[42a]   3G TS 24.083: "Call Waiting (CW) and Call Hold (HOLD) Supplementary Service – Stage 3 (see Note 2)".

[43]   GSM 04.84: "Digital cellular telecommunications system (See note 1); MultiParty (MPTY) supplementary services - Stage 3".

[43a]   3G TS 24.084: "Multiparty (MPTY) Supplementary Service – stage 3 (see Note 2)".

[44]   GSM 04.86: "Digital cellular telecommunications system (See note 1); Advice of Charge (AoC) supplementary services - Stage 3".

[44a]   3G TS 24.086: "Advice of Charge (AoC) Supplementary Service – Stage 3 (see Note 2)".

[45]   GSM 04.88: "Digital cellular telecommunications system (See note 1); Call Barring (CB) supplementary services - Stage 3".

[45a]   3G TS 24.088: "Call Barring (CB) Supplementary Service – Stage 3 (see Note 2)".

[46]   GSM 04.90: "Digital cellular telecommunications system (See note 1); Unstructured Supplementary Service Data (USSD) - Stage 3".

[46a]   3G TS 24.090: "Unstructured Supplementary Service Data (USSD) – Stage 3 (see Note 2)".

[47]   GSM 05.02: "Digital cellular telecommunications system (See note 1); Multiplexing and multiple access on the radio path".

[48]   GSM 05.03: "Digital cellular telecommunications system (See note 1); Channel coding".

[49]   GSM 05.04: "Digital cellular telecommunications system (See note 1); Modulation".

[50]   GSM 05.05: "Digital cellular telecommunications system (See note 1); Radio transmission and reception".

[51]   GSM 05.08: "Digital cellular telecommunications system (See note 1); Radio subsystem link control".

[52]   GSM 05.09: "Digital cellular telecommunications system (See note 1); Link Adaptation".

[53]   GSM 05.10: "Digital cellular telecommunications system (See note 1); Radio subsystem synchronization".

[54]   GSM 06.01: "Digital cellular telecommunications system (See note 1); Full rate speech; Processing functions".

[55]   GSM 06.02: "Digital cellular telecommunications system (See note 1); Half rate speech; Half rate speech processing functions".

[56]   GSM 06.07: Digital cellular telecommunications system (See note 1); Half rate speech; Test sequences for the GSM half rate speech codec".

[57]   GSM 06.10: "Digital cellular telecommunication system (See note 1); Full rate speech transcoding".

[58]   GSM 06.11: "Digital cellular telecommunications system (See note 1); Full rate speech; Substitution and muting of lost frames for full rate speech channels".

[59]   GSM 06.12: "Digital cellular telecommunications system (See note 1); Comfort noise aspect for full rate speech traffic channels".

[60]   GSM 06.20: "Digital cellular telecommunications system (See note 1); Half rate speech; Half rate speech transcoding".

[61]   GSM 06.21: "Digital cellular telecommunications system (See note 1); Half rate speech; Substitution and muting of lost frames for half rate speech traffic channels".

[62]   GSM 06.22: "Digital cellular telecommunications system (See note 1); Half rate speech; Comfort noise aspects for half rate speech traffic channels".

[63]   GSM 06.31: "Digital cellular telecommunications system (See note 1); Full rate speech; Discontinuous Transmission (DTX) for full rate speech traffic channels".

[64]   GSM 06.32: "Digital cellular telecommunications system (See note 1); Voice Activity Detector (VAD)".

[65]   GSM 06.41: "Digital cellular telecommunications system (See note 1); Discontinuous Transmission (DTX) for half rate speech traffic channels".

[66]   GSM 06.42: "Digital cellular telecommunications system (See note 1); Half rate speech; Voice Activity Detector (VAD) for half rate speech traffic channels".

[66a]   3G TS 27.001: "General on Terminal Adaptation Functions (TAF) for Mobile stations (MS) (see Note 2)".

[67]   GSM 07.01: "Digital cellular telecommunications system (See note 1); General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".

[67a]   3G TS 27.002: "Terminal Adaptation Functions (TAF) for services using Asynchronous bearer capabilities (see Note 2)".

[68]   GSM 07.02: "Digital cellular telecommunications system (See note 1); Terminal Adaptation Functions (TAF) for services using asynchronous bearer capabilities".

[68a]   3G TS 27.003: "Terminal Adaptation Functions (TAF) for services using Synchronous bearer capabilities (see Note 2)".

[69]   GSM 07.03: "Digital cellular telecommunications system (See note 1); Terminal Adaptation Functions (TAF) for services using synchronous bearer capabilities".

[69a]   3G TS 29.002: "Mobile Application Part (MAP) (see Note 2)".

[70]   GSM 09.02: "Digital cellular telecommunications system (See note 1); Mobile Application Part (MAP) specification".

[71]   GSM 09.06: "Digital cellular telecommunications system (See note 1); 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".

[71a]   3G TS 29.007: "General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN) (see Note 2)".

[72]   GSM 09.07: "Digital cellular telecommunication system (See note 1); General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".

[73]   GSM 11.11: "Digital cellular telecommunication system (See note 1); Specification of the Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

[74]   GSM 11.12: "Digital cellular telecommunications system (See note 1); Specification of the 3 Volt Subscriber Identity Module - Mobile Equipment (SIM - ME) interface".

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[107]   ETR 028: "Uncertainties in the Measurement of Mobile Radio Equipment Characteristics

[108]   ITU-T Recommendation P.57 (1993), "Artificial ears."

[109]   GSM 02.43: "Digital cellular telecommunications system (See note 1); Support of Localised Service Area (SoLSA), Service description, Stage 1".

[110]   GSM 03.73: "Digital cellular telecommunications system (See note 1); Support of Localised Service Area (SoLSA), Stage 2".

[111]   GSM 04.18: "Digital cellular telecommunications system (Phase 2+); Radio Resource Control Protocol".

[112]   TR 21.905: "3rd Generation Partnership Progamme"; "Technical Specification Group Services and System Aspects"; "Vocabulary for 3GPP Specifications (see note 2)"

[113]   TS 24.008: "3rd Generation Partnership Progamme"; "Universal Mobile Telecommunications System"; "Mobile radio interface layer 3 specification (see note 2)"

[114]   GSM 02.67: "Digital cellular telecommunications system (Phase 2+); enhanced Multi-Level Precedence and Pre-emption service (eMLPP) – stage 1"

[115]   GSM 02.68: "Digital cellular telecommunications system (Phase 2+); Voice Group Call Service – stage 1"

[116]   GSM 02.69: "Digital cellular telecommunications system (Phase 2+); Voice Broadcast Service – stage 1"

[117a]   3G TS 22.087: "Digital cellular telecommunications system (Phase 2+); User-to-User Signalling (UUS); Service description, Stage 1 ".

[118a]   3G TS 22.094: "Digital cellular telecommunications system (Phase 2+); Follow Me Service description; Stage 1 ".

[119]   GSM 03.67: " Digital cellular telecommunications system (Phase 2+); enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 2 ".

[120]   GSM 03.68: " Digital cellular telecommunications system (Phase 2+); Voice Group Call Service (VGCS); Stage 2 ".

[121]   GSM 03.69: " Digital cellular telecommunications system (Phase 2+); Voice Broadcast Service (VBS); Stage 2 ".[116a]   3G TS: 23.087 " Digital cellular telecommunications system (Phase 2+); User-to-User Signalling (UUS) Supplementary Service; Stage 2 ".

[122a]   3G TS 23.094: " Digital cellular telecommunications system (Phase 2+); Follow-Me (FM) - Stage 2 ".

[123]   GSM 04.67: " Digital cellular telecommunications system (Phase 2+); enhanced Multi-Level Precedence and Pre-emption service (eMLPP); Stage 3 ".

[124]   GSM 04.68: " Digital cellular telecommunications system (Phase 2+); Group Call Control (GCC) protocol ".

[125]   GSM 04.69: " Digital cellular telecommunications system (Phase 2+); Broadcast Call Control (BCC) protocol ".

[126a]   3G TS 24.087 " Digital cellular telecommunications system (Phase 2+); User-to-User Signalling (UUS) Supplementary Service; Stage 3 ".

[127]   GSM 04.18: "Radio Resource Control Protocol (see Note 1)"

Note 1:   Read Phase 2 or Phase 2+ as necessary.

Note 2:   Read Release 1999 or further as necessary

3 Definitions, conventions, and applicability

For abbreviations and acronyms, see GSM 01.04.

3.1 Mobile station definition and configurations

In this EN, 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 EN, the expression MS is used for any form of MS hardware as it is offered to the test house.

Mobile Termination	Interfaces, reference points: S, R, etc..	Terminal Equipment
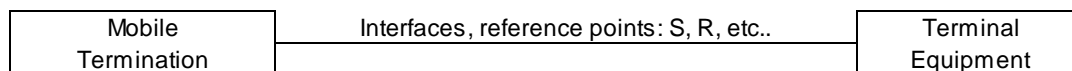
Figure 3-1

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

3.2.1.1 MS equipped with a connector

If a MS is equipped with a connector, to connect terminal equipment on an S or R reference point as defined in GSM 04.02, then testing of the MS may include testing of appropriate functioning to and from this connector.

This EN does not apply to TE which is to be connected to that connector, even if it is delivered with the MS.

3.2.1.1 GPRS

Several important tests are missing in this EN for the following types of GPRS MS:

- Type 2 MS. [GSM 05.02]

- MS with 3 or more TX-slots. (Included in the test cases are multislot classes 1, 2, 3, 4, 5, 6, 8, 9, 10, 19 and 24) [GSM 05.02]

- GPRS only MS

- Mobiles that can operate in class A. [GSM 03.60]

- Mobiles that can operate in class B in Network mode III. [GSM 03.60]

- Optional GPRS features

3.2.2 Applicability of the individual tests

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

The earliest Release from which each testcase is applicable, is indicated in the "Release" column.

Table 3.1: Applicability of tests

Clause	Title	Applicability	Release
11.1.1	Mobile Terminated (MT) calls	Each MT Bearer Service and MT Teleservice supported by the MS	Phase2
11.1.2	Mobile Originated (MO) calls	Each MO Bearer Service and MO Teleservice supported by the MS	Phase2
11.2	Verification of support of the single numbering scheme	All MS	Phase2
11.3	Verification of non-support of services (Advice of Charge Charging (AOCC))	MS which do not support AOCC	Phase2
11.4	Verification of non-support of services (call hold)	MS which support AOCC and do not support the Call Hold supplementary service	Phase2
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	Phase2
11.6	Verification of non-support of feature (Fixed Dialling Number (FDN))	MS which do not support FDN	Phase2
11.7	IMEI Security	All MS	Phase2
12.1.1	Conducted spurious emissions, MS allocated a channel	All MS with a permanent antenna connector	Phase2
12.1.2	Conducted spurious emissions, MS in idle mode	All MS with a permanent antenna connector	Phase2
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	Phase2
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	Phase2
12.3.1	Conducted spurious emissions, MS allocated a channel for MS supporting the R-GSM band	R-GSM MS with a permanent antenna connector	R96
12.3.2	Conducted spurious emissions, MS in idle mode for MS supporting the R-GSM band	R-GSM MS with a permanent antenna connector	R96
12.4.1	Radiated spurious emissions, MS allocated a channel for MS supporting the R-GSM band	R-GSM MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible	R96
12.4.2	Radiated spurious emissions, MS in idle mode for MS supporting the R-GSM band	R-GSM MS. The test at extreme voltages does not apply to MS where a practical connection to an external power supply is not possible	R96
13.1	Frequency error and phase error	All MS	Phase2
13.2	Frequency error under multipath and interference conditions	All MS	Phase2
13.3	Transmitter output power and burst timing	All MS	Phase2
13.4	Output RF spectrum	All MS	Phase2
13.5	Intermodulation attenuation	DCS 1 800 MS	Phase2
13.6	Frequency error and phase error in HSCSD multislot configuration	Multislot MS	R96
13.7	Reserved for future use		
13.8	Output RF spectrum in HSCSD multislot configuration	Multislot MS	R96

13.9	Output RF spectrum for MS supporting the R-GSM band	R-GSM MS	R96
13.10	Reserved for future use		
13.11	Reserved for future use		
13.12	Reserved for future use		
13.13	Reserved for future use		
13.14	Reserved for future use		
13.15	Reserved for future use		
13.16.1	Frequency error and phase error in GPRS multislot configuration	GPRS MS supporting multislot operation	R97
13.16.2	Transmitter output power in GPRS multislot configuration	GPRS MS supporting multislot operation	R97
13.16.3	Output RF spectrum in GPRS multislot configuration	GPRS MS supporting multislot operation	R97
14.1.1	Bad frame indication - TCH/FS	MS supporting speech	Phase2
14.1.2	Bad frame indication - TCH/HS	MS supporting half-rate speech	Phase2
14.2.1	Reference sensitivity - TCH/FS	MS supporting speech	Phase2
14.2.2	Reference sensitivity - TCH/HS (Speech frames)	MS supporting half-rate speech	Phase2
14.2.3	Reference sensitivity - FACCH/F	All MS	Phase2
14.2.4	Reference sensitivity - FACCH/H	MS supporting half rate channels	Phase2
14.2.5	Reference sensitivity - full rate data channels	MS supporting data	Phase2
14.2.6	Reference sensitivity - half rate data channels	MS supporting half-rate data	Phase2
14.2.7	Reference sensitivity - TCH/EFS	MS supporting TCH/EFS	Phase2
14.2.9	Reference sensitivity - TCH/FS for MS supporting the R-GSM band	R-GSM MS supporting speech	R96
14.3	Usable receiver input level range	MS supporting speech	Phase2
14.4.1	Co-channel rejection - TCH/FS	MS supporting speech	Phase2
14.4.2	Co-channel rejection - TCH/HS	MS supporting half-rate speech	Phase2
14.4.3	Co-channel rejection - TCH/HS (SID frames)	MS supporting half-rate speech	Phase2
14.4.4	Co-channel rejection - FACCH/F	All MS	Phase2
14.4.5	Reference sensitivity - half rate data channels	MS supporting half rate data	Phase2
14.4.6	Co-channel rejection - speech channels	MS supporting speech	Phase2
14.4.7	Receiver performance in the case of frequency hopping and co-channel interference on one carrier	All MS	R97
14.5.1	Adjacent channel rejection - speech channels	MS supporting speech	Phase2
14.5.2	Adjacent channel rejection - control channels	MS not supporting speech	Phase2
14.6.1	Intermodulation rejection - speech channels	MS supporting speech	Phase2
14.6.2	Intermodulation rejection - control channels	MS not supporting speech	Phase2
14.7.1	Blocking and spurious response - speech channels	MS supporting speech	Phase2
14.7.2	Blocking and spurious response - control channels	MS not supporting speech	Phase2
14.7.3	Blocking and spurious response - speech channels for MS supporting the R-GSM band	R-GSM MS supporting speech	R96
14.7.4	Blocking and spurious response - control channels for MS supporting the R-GSM band	R-GSM MS not supporting speech	R96
14.8.1	AM suppression - speech channels	MS supporting speech	Phase2
14.8.2	AM suppression - control channels	MS not supporting speech	Phase2
14.9	Paging performance at high input levels	All MS	Phase2
14.10	Reserved for future use		
14.11	Reserved for future use		
14.12	Reserved for future use		
14.13	Reserved for future use		
14.14	Reserved for future use		
14.15	Reserved for future use		
14.16.1	Minimum Input level for Reference Performance	All GPRS MS	R97
14.16.2.1	Co-channel rejection for packet channels	All GPRS MS	R97

15.1-15.5	Timing advance and absolute delay	All MS	Phase2
15.6	GPRS Timing advance and absolute delay	All GPRS MS	R97
16	Reception time tracking speed	All MS	Phase2
17.1	Intra cell channel change	All MS	Phase2
17.2	Inter cell handover	All MS	Phase2
18	Temporary reception gaps, single slot	MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic	Phase2
18.2	Temporary reception gaps in HSCSD multislot configurations	Multislot MS which do not have an application layer always running which performs a normal release of the call due to loss of traffic	R96
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	Phase2
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	Phase2
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	Phase2
20.1	Cell selection	All MS	Phase2
20.2	Cell selection with varying signal strength values	All MS	Phase2
20.3	Basic cell reselection	All MS	Phase2
20.4	Cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters	All MS	Phase2
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 DCS 1 800 MS	Phase2
20.6	Cell reselection timings	All MS	Phase2
20.7	Priority of cells	All MS	Phase2
20.8	Cell reselection when C1 (serving cell) < 0 for 5 seconds	All MS	Phase2
20.9	Running average of the surrounding cell BCCH carrier signal levels	All MS	Phase2
20.10	Running average of the serving cell BCCH carrier signal level	All MS	Phase2
20.11	Updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list	All MS	Phase2
20.12	Decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers	All MS	Phase2
20.13	Decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers	All MS	Phase2
20.14	Emergency calls	MS supporting speech	Phase2
20.15	Cell reselection due to MS rejection "LA not allowed"	All MS	Phase2
20.16	Downlink signalling failure	All MS	Phase2
20.17	Cell selection if no suitable cell found in 10 s	All MS	Phase2
20.18	Cell reselection due to MS rejection "Roaming not allowed in this LA"	All MS	Phase2
20.19	Cell selection on release of SDCCH and TCH	All MS	Phase2

20.20.1	Multiband cell selection and reselection / Cell selection	MS supporting simultaneous multiband operation	Phase2
20.20.2	Multiband cell selection and reselection / Cell reselection	MS supporting simultaneous multiband operation	Phase2
20.21.1	R-GSM cell selection	R-GSM MS	R96
20.21.2	R-GSM cell selection with varying signal strength values	R-GSM MS	R96
20.21.3	R-GSM basic cell reselection	R-GSM MS	R96
20.21.4	R-GSM cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters	R-GSM MS	R96
20.21.5	R-GSM cell reselection using parameters transmitted in the System Information type 2bis, type 7 and type 8 messages	R-GSM MS	R96
20.21.6	R-GSM cell reselection timing	R-GSM MS	R96
20.21.7	R-GSM priority of cells	R-GSM MS	R96
20.21.8	R-GSM cell reselection when C1 (serving cell) < 0 for 5 seconds	R-GSM MS	R96
20.21.9	R-GSM running average of the surrounding cell BCCH carrier signal levels	R-GSM MS	R96
20.21.10	R-GSM running average of the serving cell BCCH carrier signal level	R-GSM MS	R96
20.21.11	R-GSM updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list	R-GSM MS	R96
20.21.12	R-GSM decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers	R-GSM MS	R96
20.21.13	R-GSM decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers	R-GSM MS	R96
20.21.14	R-GSM emergency calls	R-GSM MS supporting speech	R96
20.21.15	R-GSM cell reselection due to MS rejection "LA not allowed"	R-GSM MS	R96
20.21.16	R-GSM downlink signalling failure	R-GSM MS	R96
20.21.17	R-GSM cell selection if no suitable cell found in 10 s	R-GSM MS	R96
20.21.18	R-GSM cell reselection due to MS rejection "Roaming not allowed in this LA"	R-GSM MS	R96
20.21.19	R-GSM cell selection on release of SDCCH and TCH	R-GSM MS	R96
20.22.1	Cell selection	All GPRS MS	R97
20.22.2	Cell reselection in Packet Idle mode	All GPRS MS	R97
20.22.3	Priority of cells	All GPRS MS	R97
20.22.4	Cell re-selection with cells in different routing area	All GPRS MS	R97
20.22.5	Network controlled Cell re-selection in Transfer Mode	All GPRS MS	R97
20.22.6	Cell reselection timings	All GPRS MS	R97
20.22.7	Downlink signalling failure	All GPRS MS	R97
20.23	SoLSA Cell Selection and Reselection	All SoLSA MS	R99
21.1	Signal strength	All MS	Phase2
21.2	Signal strength selectivity	All MS	Phase2
21.3	Signal quality under static conditions	MS supporting speech	Phase2
21.4	Signal quality under TU50 propagation conditions	All MS	Phase2
21.5	Received signal measurements in HSCSD multislot configuration	Multislot MS	R96

22.1	Transmit power control timing and confirmation, single slot	All MS	Phase2
22.2	Transmit power control timing and confirmation in HSCSD multi slot configuration	Multislot MS	R96
22.3	GPRS Uplink Power Control – Use of α and Γ_{CH} parameters	All GPRS MS	R97
22.4	GPRS Uplink Power Control – Independence of TS Power Control	All GPRS MS	R97
23	Single frequency reference	All MS	Phase2
25.2.1.1.1	Initialization when contention resolution required, Normal initialization	All MS	Phase2
25.2.1.1.2.1	Initialization failure, Loss of UA frame	All MS	Phase2
25.2.1.1.2.2	Initialization failure, UA frame with different information field	All MS	Phase2
25.2.1.1.2.3	Initialization failure, Information frame and supervisory frames in response to an SABM frame	All MS	Phase2
25.2.1.1.3	Initialization denial	All MS	Phase2
25.2.1.1.4	Total initialization failure	All MS	Phase2
25.2.1.2.1	Normal initialization without contention resolution	All MS	Phase2
25.2.1.2.2	Initialization failure	All MS	Phase2
25.2.1.2.3	Initialization denial	All MS	Phase2
25.2.1.2.4	Total initialization failure	All MS	Phase2
25.2.2.1	Sequence counting and I frame acknowledgements	All MS	Phase2
25.2.2.2	Receipt of an I frame in the timer recovery state	All MS	Phase2
25.2.2.3	Segmentation and concatenation	All MS	Phase2
25.2.3	Normal layer 2 disconnection	All MS	Phase2
25.2.4.1	I frame loss (MS to SS)	All MS	Phase2
25.2.4.2	RR response frame loss (SS to MS)	All MS	Phase2
25.2.4.3	RR response frame loss (MS to SS)	All MS	Phase2
25.2.5.1	I frame with C bit set to zero	All MS	Phase2
25.2.5.2	SABM frame with C bit set to zero	All MS	Phase2
25.2.6.1	N(S) sequence error	All MS	Phase2
25.2.6.2	N(R) sequence error	All MS	Phase2
25.2.6.3	Improper F bit	All MS	Phase2
25.2.7	Test on receipt of invalid frames	All MS	Phase2
26.2.1.1	Channel request / initial time	All MS	Phase2
26.2.1.2	Channel request / repetition time	All MS	Phase2
26.2.1.3	Channel request / random reference	All MS	Phase2
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	Phase2
26.2.3	Sequenced MM / CC message transfer	All MS	Phase2
26.2.4	Establishment cause, Procedure 1	MS supporting a service on a traffic channel	Phase2
26.2.4	Establishment cause, Procedure 2	MS supporting a service on a half-rate channel	Phase2
26.2.4	Establishment cause, Procedure 3	MS supporting speech	Phase2
26.2.4	Establishment cause, Procedure 4	MS supporting a data service	Phase2
26.2.4	Establishment cause, Procedure 5	All MS	Phase2
26.2.4	Establishment cause, Procedure 6	All MS	Phase2
26.2.4	Establishment cause, Procedure 7	MS supporting a non call related supplementary service operation	Phase2
26.2.4	Establishment cause, Procedure 8	MS supporting SMS/PP MO	Phase2
26.3.2	MS indication of available PLMNs	All MS	Phase2

26.3.3	MS will send only if BSS is "on air", steps a - c	All MS	Phase2
26.3.3	MS will send only if BSS is "on air", step d	MS supporting speech	Phase2
26.3.4	Manual mode of PLMN selection	All MS	Phase2
26.5.1	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unknown protocol discriminator	All MS	Phase2
26.5.2.1.1	TI and skip indicator / RR / Idle Mode	All MS	Phase2
26.5.2.1.2	TI and skip indicator / RR / RR-Connection established	All MS	Phase2
26.5.2.2	TI and skip indicator / MM	All MS	Phase2
26.5.2.3	TI and skip indicator / CC	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.5.3.1	Undefined or unexpected message type / undefined message type / CC	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.5.3.2	Undefined or unexpected message type / undefined message type / MM	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.5.3.3	Undefined or unexpected message type / undefined message type / RR	All MS	Phase2
26.5.3.4	Undefined or unexpected message type / unexpected message type / CC	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.5.4.1	Unforeseen information elements in the non-imperative message part / duplicated information elements	All MS	Phase2
26.5.5.1.1.1	Non-semantical mandatory IE errors / RR / missing mandatory IE error / special case	All MS	Phase2
26.5.5.1.1.2	Non-semantical mandatory IE errors / RR / missing mandatory IE error / general case	All MS	Phase2
26.5.5.1.2	Non-semantical mandatory IE errors / RR / comprehension required	All MS	Phase2
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	Phase2
26.5.5.2.2	Non-semantical mandatory IE errors / MM / syntactically incorrect mandatory IE	All MS	Phase2
26.5.5.2.3	Non-semantical mandatory IE errors / MM / comprehension required	All MS	Phase2
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	Phase2
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	Phase2
26.5.5.3.2	Non-semantical mandatory IE errors / CC / comprehension required	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.5.6.1.1	Unknown IE, comprehension not required / MM / IE unknown in the protocol	All MS	Phase2
26.5.6.1.2	Unknown IE, comprehension not required / MM / IE unknown in the message	All MS	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
26.5.6.3	Unknown IE in the non-imperative message part, comprehension not required / RR	All MS	Phase2
26.5.7.1.1	Spare bits / RR / paging channel	All MS	Phase2
26.5.7.1.2	Spare bits / RR / BCCH	All MS	Phase2

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26.5.7.1.3	Spare bits / RR / AGCH	All MS	Phase2
26.5.7.1.4	Spare bits / RR / Connected Mode	All MS	Phase2
26.5.7.2	Spare bits / MM	All MS	Phase2
26.5.7.3	Spare bits / CC	All MS	Phase2
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	Phase2
26.6.1.2	Immediate assignment / extended assignment	All MS	Phase2
26.6.1.3	Immediate assignment / assignment rejection	All MS	Phase2
26.6.1.4	Immediate assignment / ignore assignment	All MS	Phase2
26.6.1.5	Immediate assignment after immediate assignment reject	All MS	Phase2
26.6.2.1.1	Paging / normal / type 1	All MS	Phase2
26.6.2.1.2	Paging / normal / type 2	All MS	Phase2
26.6.2.1.3	Paging / normal / type 3	All MS	Phase2
26.6.2.2	Paging / extended	All MS	Phase2
26.6.2.3.1	Paging / reorganization / procedure 1	All MS	Phase2
26.6.2.3.2	Paging / reorganization / procedure 2	All MS	Phase2
26.6.2.4	Paging / same as before	All MS	Phase2
26.6.2.5	Paging / multislot CCCH	All MS	Phase2
26.6.3.1	Measurement / no neighbours	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.6.3.2	Measurement / all neighbours present	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.6.3.3	Measurement / barred cells and non-permitted NCCs	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.6.3.4	Measurement / DTX	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.6.3.5	Measurement / Frequency Formats	MS supporting CC protocol for at least one Bearer Capability	Phase2
26.6.3.6	Measurement / Multiband environment	MS supporting CC protocol for at least one bearer capability	Phase2
26.6.3.7	Measurement / New Cell Reporting	MS supporting CC protocol for at least one bearer capability	R96
26.6.4.1	Dedicated assignment / successful case	MS supporting a TCH	Phase2
26.6.4.2.1	Dedicated assignment / failure / failure during active state, k = 1	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.4.2.1	Dedicated assignment / failure / failure during active state, k = 2	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.4.2.2	Dedicated assignment / failure / general case	MS supporting TCH	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 2	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 3	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 4	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 5	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 6	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 7	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.1	Handover / successful / active call / non-synchronized, M = 8	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10	Phase2

26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 2	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 3	MS supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 4	MS supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 5	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 6	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 7	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 8	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 9	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.2	Handover / successful / call under establishment / non-synchronized, M = 10	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.3	Handover / successful / active call / finely synchronized, M = 1	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.3	Handover / successful / active call / finely synchronized, M = 2	MS supporting TCH/H and supporting CC-state U10	Phase2
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 1	MS supporting CC-state U10	Phase2
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 2	MS supporting CC-state U10	Phase2
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 3	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.4	Handover / successful / call under establishment / finely synchronized, M = 4	MS supporting TCH/H and supporting CC-state U10	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
26.6.5.8	Handover / layer 3 failure	MS supporting TCH/F and supporting CC-state U10	Phase2
26.6.5.9	Handover / layer 1 failure	MS supporting CC-state U10	Phase2
26.6.6.1	Frequency redefinition, R = 1	All MS	Phase2
26.6.6.1	Frequency redefinition, R = 2	MS supporting TCH/F	Phase2
26.6.6.1	Frequency redefinition, R = 3	MS supporting TCH/H	Phase2
26.6.7.1	Test of the channel mode modify procedure / full rate	MS supporting TCH/H	Phase2
26.6.7.2	Test of the channel mode modify procedure / half rate	MS supporting TCH/F	Phase2
26.6.8.1	Ciphering mode / start ciphering, k = 1	MS supporting CC state U10 and supporting encryption algorithm A5/1	Phase2
26.6.8.1	Ciphering mode / start ciphering, k = 2	MS supporting CC state U10 and supporting encryption algorithm A5/2	Phase2
26.6.8.2	Ciphering mode / no ciphering	MS supporting CC state U10	Phase2

26.6.8.3	Ciphering mode / old cipher key	MS supporting CC state U10 and supporting encryption algorithm A5/1 and/or A5/2	Phase2
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	Phase2
26.6.8.5	Ciphering mode / IMEISV request	All MS	Phase2
26.6.11.1	Classmark change	MS supporting CC-state U10 and supporting more than one power class	Phase2
26.6.11.2	Classmark interrogation	All MS	Phase2
26.6.12.1	Channel release / SDCCH	All MS	Phase2
26.6.12.2	Channel release / SDCCH - no L2 ACK	All MS	Phase2
26.6.12.3	Channel release / TCH-F	MS supporting TCH/F	Phase2
26.6.12.4	Channel release / TCH-F - no L2 ACK	MS supporting TCH/F	Phase2
26.6.13.1	Dedicated assignment with starting time / successful case / time not elapsed	All MS	Phase2
26.6.13.2	Dedicated assignment with starting time / successful case / time elapsed	All MS	Phase2
26.6.13.3	Dedicated assignment with starting time and frequency redefinition / failure case / time not elapsed	All MS	Phase2
26.6.13.4	Dedicated assignment with starting time and frequency redefinition / failure case / time elapsed	All MS	Phase2
26.6.13.5	Handover with starting time / successful case / time not elapsed	All MS	Phase2
26.6.13.6	Handover with starting time / successful case / time elapsed	All MS	Phase2
26.6.13.7	Handover with starting time and frequency redefinition / failure case / time not elapsed	All MS	Phase2
26.6.13.8	Handover with starting time and frequency redefinition / failure case / time elapsed	All MS	Phase2
26.6.13.9	Immediate assignment with starting time / successful case / time not elapsed	All MS	Phase2
26.6.13.10	Immediate assignment with starting time / successful case / time elapsed	All MS	Phase2
26.7.1	TMSI reallocation	All MS	Phase2
26.7.2.1	Authentication accepted	All MS	Phase2
26.7.2.2	Authentication rejected	All MS	Phase2
26.7.3.1	General Identification	All MS	Phase2
26.7.3.2	Handling of IMSI shorter than the maximum length	All MS	Phase2
26.7.4.1	Location updating / accepted	All MS	Phase2
26.7.4.2.1	Location updating / rejected / IMSI invalid	All MS	Phase2
26.7.4.2.2	Location updating / rejected / PLMN not allowed, test 1	MS supporting speech	Phase2
26.7.4.2.2	Location updating / rejected / PLMN not allowed, test 2	All MS	Phase2
26.7.4.2.3	Location updating / rejected / location area not allowed	All MS	Phase2
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 1	All MS	Phase2
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 2	MS supporting speech	Phase2
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 3	All MS	Phase2
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 4	All MS	Phase2
26.7.4.2.4	Location updating / rejected / national roaming, Procedure 5	MS supporting SIM removal without powering down	Phase2

26.7.4.3.1	Location updating / abnormal cases / random access fails	All MS	Phase2
26.7.4.3.2	Location updating / abnormal cases / attempt counter less or equal to 4, LAI different	All MS	Phase2
26.7.4.3.3	Location updating / abnormal cases / attempt counter equal to 4	All MS	Phase2
26.7.4.3.4	Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI	All MS	Phase2
26.7.4.4	Location updating / release / expiry of T3240	All MS	Phase2
26.7.4.5.1	Location updating / periodic spread	All MS	Phase2
26.7.4.5.2	Location updating / periodic normal / test 1	All MS	Phase2
26.7.4.5.3	Location updating / periodic normal / test 2	All MS	Phase2
26.7.4.5.4.1	Location updating / periodic HPLMN search / MS waits time T	All MS	Phase2
26.7.4.5.4.2	Location updating / periodic HPLMN search / MS in manual mode	All MS	Phase2
26.7.4.5.4.3	Location updating / periodic HPLMN search / MS waits at least two minutes and at most T minutes	All MS	Phase2
26.7.4.6	Location updating / interworking of attach and periodic	All MS	Phase2
26.7.5.2	MM connection / establishment with cipher	All MS	Phase2
26.7.5.3	MM connection / establishment without cipher	All MS	Phase2
26.7.5.4	MM connection / establishment rejected	All MS	Phase2
26.7.5.5	MM connection / establishment rejected cause 4	All MS	Phase2
26.7.5.6	MM connection / expiry T3230	All MS	Phase2
26.7.5.7.1	MM connection / abortion by the network / cause #6	All MS	Phase2
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	Phase2
26.7.5.8.1	MM connection / follow-on request pending / test 1	All MS	Phase2
26.7.5.8.2	MM connection / follow-on request pending / test 2	MS supporting the follow on request procedure	Phase2
26.7.5.8.3	MM connection / follow-on request pending / test 3	All MS	Phase2
26.8.1.2.1.1	Outgoing call / U0 null state / MM connection requested	MS supporting at least one MO circuit switched basic service	Phase2
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	Phase2
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	Phase2
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	Phase2
26.8.1.2.3.1	Outgoing call / U1 call initiated / receiving CALL PROCEEDING	MS supporting at least one MO circuit switched basic service	Phase2
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	Phase2
26.8.1.2.3.3	Outgoing call / U1 call initiated / T303 expiry	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.3.4	Outgoing call / U1 call initiated / lower layer failure	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.3.5	Outgoing call / U1 call initiated / receiving ALERTING	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.3.6	Outgoing call / U1 call initiated / entering state U10	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.3.7	Outgoing call / U1 call initiated / unknown message received	MS supporting at least one MO circuit switched basic service	Phase2

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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
26.8.1.2.5.1	Outgoing call / U4 call delivered / CONNECT received	MS supporting at least one MO circuit switched basic service	Phase2
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	Phase2
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	Phase2
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	Phase2
26.8.1.2.5.5	Outgoing call / U4 call delivered / RELEASE received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.5.6	Outgoing call / U4 call delivered / lower layer failure	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.5.7	Outgoing call / U4 call delivered / traffic channel allocation	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.5.8	Outgoing call / U4 call delivered / unknown message received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.6.1	U10 call active / termination requested by the user	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.6.2	U10 call active / RELEASE received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.6.3	U10 call active / DISCONNECT with in band tones	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.6.4	U10 call active / DISCONNECT without in band tones	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.6.5	U10 call active / RELEASE COMPLETE received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.6.6	U10 call active / SETUP received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.7.1	U11 disconnect request / clear collision	MS supporting at least one MO circuit switched basic service	Phase2

26.8.1.2.7.2	U11 disconnect request / RELEASE received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.7.3	U11 disconnect request / timer T305 time-out	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.7.4	U11 disconnect request / lower layer failure	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.7.5	U11 disconnect request / unknown message received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.8.1	U12 disconnect indication / call releasing requested by the user	MS supporting bearer capability for speech	Phase2
26.8.1.2.8.2	U12 disconnect indication / RELEASE received	MS supporting bearer capability for speech	Phase2
26.8.1.2.8.3	U12 disconnect indication / lower layer failure	MS supporting bearer capability for speech	Phase2
26.8.1.2.8.4	U12 disconnect indication / unknown message received	MS supporting bearer capability for speech	Phase2
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	Phase2
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	Phase2
26.8.1.2.9.3	Outgoing call / U19 release request / RELEASE received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.9.4	Outgoing call / U19 release request / RELEASE COMPLETE received	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.2.9.5	Outgoing call / U19 release request / lower layer failure	MS supporting at least one MO circuit switched basic service	Phase2
26.8.1.3.1.1	Incoming call / U0 null state / SETUP received with a non supported bearer capability	All MS	Phase2
26.8.1.3.2.1	Incoming call / U6 call present / automatic call rejection	MS supporting at least one MT circuit switched basic service	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2

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	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
26.8.1.3.5.1	Incoming call / U8 connect request / CONNECT acknowledged	MS supporting at least one MT circuit switched basic service	Phase2
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	Phase2
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	Phase2
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	Phase2
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	Phase2
26.8.1.3.5.6	Incoming call / U8 connect request / RELEASE received	MS supporting at least one MT circuit switched basic service	Phase2
26.8.1.3.5.7	Incoming call / U8 connect request / lower layer failure	MS supporting at least one MT circuit switched basic service	Phase2
26.8.1.3.5.8	Incoming call / U8 connect request / TCH assignment	MS supporting at least one MT circuit switched basic service	Phase2
26.8.1.3.5.9	Incoming call / U8 connect request / unknown message received	MS supporting at least one MT circuit switched basic service	Phase2
26.8.1.4.1.1	In-call functions / DTMF information transfer / basic procedures	MS supporting MO DTMF protocol control procedure	Phase2
26.8.1.4.2.1	In-call functions / User notification / MS terminated	MS supporting at least one circuit switched basic service	Phase2
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	Phase2
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	Phase2
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	Phase2
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)	Phase2
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)	Phase2
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)	Phase2
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)	Phase2

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)	Phase2
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)	Phase2
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)	Phase2
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)	Phase2
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)	Phase2
26.8.2.1	Call Re-establishment/call present, re-establishment allowed	MS supporting at least one bearer capability	Phase2
26.8.2.2	Call Re-establishment/call present, re-establishment not allowed	MS supporting at least one MO circuit switched basic service	Phase2
26.8.2.3	Call Re-establishment/call under establishment, transmission stopped	MS supporting at least one MO circuit switched basic service	Phase2
26.8.3	User to user signalling	MS supporting at least one MT circuit switched basic service	Phase2
26.9.2	Structured procedures / MS originated call / early assignment	MS supporting at least one MO teleservice	Phase2
26.9.3	Structured procedures / MS originated call / late assignment	MS supporting at least one MO teleservice	Phase2
26.9.4	Structured procedures / MS terminated call / early assignment	MS supporting at least one MT basic service	Phase2
26.9.5	Structured procedures / MS terminated call / late assignment	MS supporting at least one MT teleservice	Phase2
26.9.6.1.1	Structured procedures / emergency call / idle updated / preferred channel rate	MS supporting speech	Phase2
26.9.6.1.2	Structured procedures / emergency call / idle updated, non-preferred channel rate	MS supporting half-rate speech	Phase2
26.9.6.2.1	Structured procedures / emergency call / idle, no IMSI / accept case	MS supporting speech	Phase2
26.9.6.2.2	Structured procedures / emergency call / idle, no IMSI / reject case	MS supporting speech	Phase2
26.9.7	Directed Retry / Mobile Originated Call	MS supporting at least one MO circuit switched basic service	Phase2
26.9.8	Directed Retry / Mobile Terminated Call	MS supporting at least one MT circuit switched basic service	Phase2
26.10.2.1	E-GSM or R-GSM signalling / RR / Measurement	MS supporting E-GSM or R-GSM and supporting CC-state U10	E-GSM Phase2 R-GSM R96
26.10.2.2	E-GSM or R-GSM signalling / RR / Immediate assignment	MS supporting E-GSM or R-GSM	E-GSM Phase2 R-GSM R96
26.10.2.3	E-GSM or R-GSM signalling / RR / channel assignment procedure	MS supporting E-GSM or R-GSM	E-GSM Phase2 R-GSM R96
26.10.2.4.1	E-GSM or R-GSM signalling / RR / Handover / Successful handover	MS supporting E-GSM or R-GSM and supporting CC-state U10	E-GSM Phase2 R-GSM R96
26.10.2.4.2	E-GSM or R-GSM signalling / RR / Handover / layer 1 failure	MS supporting E-GSM or R-GSM and supporting CC-state U10	E-GSM Phase2 R-GSM R96
26.10.2.5	E-GSM or R-GSM signalling / RR / Frequency Redefinition	MS supporting E-GSM or R-GSM	E-GSM Phase2 R-GSM R96
26.10.3.1	E-GSM or R-GSM signalling / Structured procedure / Mobile originated call	MS supporting E-GSM or R-GSM and supporting at least one MO teleservice	E-GSM Phase2 R-GSM R96
26.10.3.2	E-GSM or R-GSM signalling / Structured procedures / emergency call	MS supporting E-GSM or R-GSM and supporting speech	E-GSM Phase2 R-GSM R96
26.11.2.1	Multiband signalling / RR / Immediate assignment procedure	MS supporting simultaneous multiband operation	Phase2

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	Phase2
26.11.2.2.2	Multiband signalling / RR / Handover / layer 1 failure	MS supporting simultaneous multiband operation and supporting CC-state U10	Phase2
26.11.2.3	Multiband signalling / RR / Measurement reporting	MS supporting simultaneous multiband operation and supporting CC protocol for at least one Bearer Capability	Phase2
26.11.3.1.1	Multiband signalling / MM / Location updating / accepted	MS supporting simultaneous multiband operation	Phase2
26.11.3.1.2	Multiband signalling / MM / Location updating / periodic	MS supporting simultaneous multiband operation	Phase2
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	Phase2
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	Phase2
26.12.1	EFR signalling / test of the channel mode modify procedure	MS supporting EFR speech	Phase2
26.12.2.1	EFR signalling / Handover / active call / successful case	MS supporting EFR speech	Phase2
26.12.3	EFR signalling / Structured procedures / MS originated call / late assignment	MS supporting EFR speech	Phase2
26.12.4	EFR signalling / Structured procedures / MS terminated call / early assignment	MS supporting EFR speech	Phase2
26.12.5	EFR signalling / Structured procedures / emergency call	MS supporting EFR speech	Phase2
26.12.6	EFR Signalling / Directed Retry / Mobile Originated Call	MS supporting EFR speech	Phase2
26.12.7	EFR Signalling / Directed Retry / Mobile Terminated Call	MS supporting EFR speech	Phase2
26.13.1.1.1	Multislot signalling / RR / Measurement symmetric	MS supporting Multislot class and state of multislot connection	R96
26.13.1.1.2	Multislot signalling / RR / Measurement asymmetric	MS supporting Multislot class and state of multislot connection	R96
26.13.1.1.3	Multislot signalling / RR / Measurement asymmetric/Change of the reported subchannel	MS supporting Multislot class and state of multislot connection	R96
26.13.1.2.1	Multislot signalling / RR / Dedicated assignment / successful case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.	R96
26.13.1.2.2	Multislot signalling / RR / Dedicated assignment / failure / general case	MS supporting Multislot Class and radio interface rates: 12kbps, 6kbps.	R96
26.13.1.3.1	Multislot signalling / RR / Handover / successful / active call / non-synchronized	MS supporting Multislot class, state U10 of the Call Control protocol and radio interface rates: 12kbps, 6kbps.	R96
26.13.1.3.2	Multislot signalling / RR / Handover / successful / call under establishment / non-synchronized / resource upgrading	MS supporting Multislot class and state U10 of the Call Control protocol	R96
26.13.1.3.3	Multislot signalling / RR / Handover / successful / active call / finely synchronized / resource downgrading	MS supporting Multislot class and state U10 of the Call Control protocol	R96
26.13.1.3.4	Multislot signalling / RR / Handover / successful / call under establishment / finely synchronized / relocation of channels	MS supporting Multislot class and state U10 of the Call Control protocol	R96
26.13.1.3.5	Multislot signalling / RR / Handover / successful / call under establishment / pre-synchronized / resource upgrading	MS supporting Multislot class and state U10 of the Call Control protocol	R96

26.13.1.4	Multislot signalling / RR / Test of the channel mode modify procedure	MS supporting Multislot class and radio interface rates: 12kbps, 6kbps	R96
26.13.1.5	Multislot signalling / RR / Early classmark sending	MS supporting Multislot class	R96
26.13.2.1.1	Multislot signalling / CC / In-call functions / User initiated service level upgrade / successful	MS supporting Multislot class	R96
26.13.2.1.2	Multislot signalling / CC / In-call functions / User initiated service level downgrade / successful	MS supporting Multislot class	R96
26.13.2.1.3	Multislot signalling / CC / In-call functions / User initiated service level upgrade / Time-out of T323	MS supporting Multislot class	R96
26.13.2.1.4	Multislot signalling / CC / In-call functions / User initiated service level upgrade / modify reject	MS supporting Multislot class	R96
26.13.3.1	Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / non-transparent	MS supporting Multislot class	R96
26.13.3.2	Multislot signalling / Structured procedures / MS originated call / late assignment / HSCSD / non-transparent	MS supporting Multislot class	R96
26.13.3.3	Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / transparent	MS supporting Multislot class	R96
26.13.3.4	Multislot signalling / Structured procedures / MS terminated call / early assignment / HSCSD / non-transparent	MS supporting Multislot class and immediate connection	R96
26.13.3.5	Multislot signalling / Structured procedures / MS originated call / early assignment / HSCSD / transparent	MS supporting Multislot class and immediate connection	R96
26.14.1.1	Notification / notification indication	MS supporting VGCS/VBS listening	R96
26.14.1.2	Notification / NCH position	MS supporting VGCS/VBS listening	R96
26.14.1.3	Notification / Reduced NCH monitoring	MS supporting VGCS/VBS listening	R96
26.14.1.4	Notification / limited service	MS supporting VGCS/VBS listening	R96
26.14.2.1	Paging / Paging indication	MS supporting VGCS/VBS listening	R96
26.14.2.2	Paging / Notification	MS supporting VGCS/VBS listening	R96
26.14.3.1	RR Procedures / frequency redefinition	MS supporting VGCS talking or VBS originating	R96
26.14.3.2	RR Procedures / assignment	MS supporting VGCS talking or VBS originating	R96
26.14.3.3	RR Procedures / handover / successful in group transmit mode	MS supporting VGCS talking or VBS originating	R96
26.14.3.4	RR Procedures / handover / successful at group call establishment	MS supporting VGCS/VBS originating	R96
26.14.3.5	RR Procedures / handover / failure	MS supporting VGCS talking or VBS originating	R96
26.14.3.6	RR Procedures / Measurement / all neighbours present	MS supporting VGCS talking or VBS originating	R96
26.14.4.1	Uplink Access / uplink investigation	MS supporting VGCS talking	R96
26.14.4.2	Uplink Access / uplink access	MS supporting VGCS talking	R96
26.14.4.3	Uplink Reply in VGCS receive mode	MS supporting VGCS talking	R96
26.14.5.1	Leaving group receive mode	MS supporting VGCS/VBS listening	R96
26.14.5.2	Leaving group transmit mode	MS supporting VGCS talking	R96
26.14.6.1	GCC/BCC Procedures / MO call establishment	MS supporting VGCS/VBS originating	R96
26.14.6.2	GCC/BCC Procedures / Transaction Identifier	MS supporting VGCS talking or VBS originating	R96
26.14.6.3	GCC/BCC Procedures / Call Termination / originator / group transmit mode	MS supporting VGCS/VBS originating	R96

26.14.6.4	GCC/BCC Procedures / Call Termination / originator/ group receive mode	MS supporting VGCS orginating	R96
26.14.6.5	GCC/BCC Procedures / Call Termination / not originator	MS supporting VGCS listening	R96
26.14.6.6	GCC/BCC Procedures / GCC states	MS supporting VGCS listening	R96
26.14.6.7	GCC/BCC Procedures / BCC states	MS supporting VBS originating	R96
26.14.7.1	Error Handling / short message length, unknown message type and TI	MS supporting VGCS or VBS originating	R96
26.14.7.2	Error Handling / incorrect information elements	MS supporting VGCS or VBS listening	R96
26.14.7.3	Error Handling / Message not addressing VGCS receive mode	MS supporting VGCS or VBS listening	R96
26.14.8.1	Structured procedures / very early and early assingments	MS supporting VGCS or VBS originating	R96
26.14.9.1	Cell change / same LA	MS supporting VGCS or VBS listening	R96
26.14.9.2	Cell change / different LA	MS supporting VGCS or VBS listening	R96
26.14.9.3	Cell change / different PLMN	MS supporting VGCS or VBS listening	R96
26.14.11.1	User-to-Dispatcher information / BCC MO call	MS supporting User-to-Dispatcher information and VBS originating	R00
26.14.11.2	User-to-Dispatcher information / GCC MO call	MS supporting User-to-Dispatcher information and VGCS originating	R00
26.14.11.3	User-to-Dispatcher information / Compressed user information in VBS fast call set-up	MS supporting Compressed User-to-Dispatcher information and VBS fast call originating	R00
26.14.11.4	User-to-Dispatcher information / Compressed User-to-Dispatcher information in VGCS fast call set-up	MS supporting Compressed User-to-Dispatcher information and VBS fast call originating	R00
26.15.2.1.1	SoLSA Signalling / MM / Location updating / accepted	All SoLSA-MS	R99
26.15.3.1	SoLSA Signalling / Structured procedures / MS originated call / early assignment	All SoLSA-MS supporting at least one MO teleservice	R99
26.15.3.2	SoLSA Signalling / Structured procedures / MS originated call / late assignment	All SoLSA-MS supporting at least one MO teleservice	R99
26.15.3.3	SoLSA Signalling / Structured procedures / MS terminated call / early assignment	All SoLSA-MS supporting at least one MT basic service	R99
26.15.3.4	SoLSA Signalling / Structured procedures / MS terminated call / late assignment	All SoLSA-MS supporting at least one MT teleservice	R99
26.16.1	Codec Mode Quality Indication	MS supporting AMR speech codec	R98
26.16.2	Structured procedures / MS terminated call / early assignment / no initial codec mode	MS supporting AMR speech codec	R98
26.16.3	Structured procedures / MS originated call / late assignment / specified initial codec mode	MS supporting AMR speech codec	R98
26.16.4	Not used	-	-
26.16.5	AMR signalling / Handover /active call / successful case	MS supporting AMR speech codec. This test applies only to MS supporting the R-GSM, E-GSM, P-GSM 900 or the GSM 1800 frequency band	R98
26.16.6	Structured Procedures / emergency call	MS supporting AMR speech codec	R98
26.16.7	AMR Signalling / Directed Retry / Mobile Originated Call	MS supporting AMR speech codec. This test applies only to MS supporting the R-GSM, E-GSM, P-GSM 900 or the GSM 1800 frequency band	R98
26.16.8	AMR Signalling / Directed Retry / Mobile Terminated Call	MS supporting AMR speech codec. This test applies only to MS supporting the R-GSM, E-GSM, P-GSM 900 or the GSM 1800 frequency band	R98
27.1.1	MS identification by short IMSI - Normal case	ME supporting either ID-1 or Plug-in SIM	Phase2
27.1.2	MS identification by short IMSI - Phase 1 DCS SIM	DCS ME supporting either ID-1 or Plug-in SIM	Phase2

27.2	MS identification by short TMSI	ME supporting either ID-1 or Plug-in SIM	Phase2
27.3	MS identification by long TMSI	ME supporting either ID-1 or Plug-in SIM	Phase2
27.4	MS identification by long IMSI, TMSI updating and cipher key sequence number assignment	ME supporting either ID-1 or Plug-in SIM	Phase2
27.5	Forbidden PLMNs, location updating and undefined cipher key	ME supporting either ID-1 or Plug-in SIM	Phase2
27.6	MS updating forbidden PLMNs	ME supporting either ID-1 or Plug-in SIM	Phase2
27.7	MS deleting forbidden PLMNs	ME supporting either ID-1 or Plug-in SIM	Phase2
27.8	MS updating the PLMN selector list	ME supporting either ID-1 or Plug-in SIM	Phase2
27.9	MS recognizing the priority order of the PLMN selector list	ME supporting either ID-1 or Plug-in SIM	Phase2
27.10	MS access control management	ME supporting either ID-1 or Plug-in SIM	Phase2
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	Phase2
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	Phase2
27.11.1.3	Inter-character delay	ME supporting either ID-1 or Plug-in SIM	Phase2
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	Phase2
27.11.1.5	Error handling during transmission from the SIM simulator to the ME	ME supporting either ID-1 or Plug-in SIM	Phase2
27.11.2.1	Acceptance of SIMs with internal RST	ME supporting either ID-1 or Plug-in SIM	Phase2
27.11.2.2	Acceptance of SIMs with active low RST	ME supporting either ID-1 or Plug-in SIM	Phase2
27.11.2.3	Characters of the answer to reset	ME supporting either ID-1 or Plug-in SIM	Phase2
27.11.2.4	PTS procedure	ME supporting either ID-1 or Plug-in SIM	Phase2
27.11.2.5	Reset repetition	ME supporting either ID-1 or Plug-in SIM	Phase2
27.11.3	Command processing, procedure bytes	ME supporting either ID-1 or Plug-in SIM	Phase2
27.12.1	Operating speed in authentication procedure	ME supporting either ID-1 or Plug-in SIM	Phase2
27.12.2	Clock stop	ME supporting either ID-1 or Plug-in SIM	Phase2
27.13.1	Contact pressure	ME supporting either ID-1 or Plug-in SIM	Phase2
27.13.2	Shape of contacts for IC card SIM card reader	ME supporting either ID-1 or Plug-in SIM	Phase2
27.14.1	Entry of PIN	All ME	Phase2
27.14.2	Change of PIN	All ME	Phase2
27.14.3	Disabling the PIN	ME supporting either ID-1 or Plug-in SIM and supporting a feature to disable the PIN	Phase2
27.14.4	PUK entry	ME supporting either ID-1 or Plug-in SIM	Phase2
27.14.5	Entry of PIN2	ME supporting a feature requiring entry of PIN2 (e.g. AoC or FDN)	Phase2
27.14.6	Change of PIN2	ME supporting PIN2	Phase2
27.14.7	PUK2 entry	ME supporting either ID-1 or Plug-in SIM and supporting PIN2	Phase2

27.15	Abbreviated Dialling Numbers (ADN)	ME supporting either ID-1 or Plug-in SIM and supporting ADN	Phase2
27.16	MMI reaction to SIM status encoding	ME supporting either ID-1 or Plug-in SIM	Phase2
27.17.1.1	Phase preceding ME power on	All ME	Phase2
27.17.1.2	Phase during SIM power on	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface	Phase2
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	Phase2
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	Phase2
27.17.1.5.1	Reaction of 3V only MEs on SIM type recognition failure	ME with a 3V SIM interface	Phase2
27.17.1.5.2	Reaction of 3V only MEs on type recognition of 5V only SIMs	ME with a 3V SIM interface	Phase2
27.17.1.5.3	Reaction of 3V technology MEs on type recognition of 5V only SIMs	ME with a 5V/3V SIM interface	Phase2
27.17.1.5.4	Reaction of 3V technology MEs on type recognition of 3V technology SIMs	ME with a 5V/3V SIM interface	Phase2
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	Phase2
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	Phase2
27.17.2.2	Electrical tests on contact C2	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface	Phase2
27.17.2.3	Electrical tests on contact C3	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface	Phase2
27.17.2.5	Electrical tests on contact C7	ME with either 5V SIM interface, 3V SIM interface or 5V/3V SIM interface	Phase2
27.18.1	ME and SIM with FND activated	ME supporting either ID-1 or Plug-in SIM and supporting FDN	Phase2
27.18.2	ME and SIM with FND deactivated	ME supporting either ID-1 or Plug-in SIM and supporting FDN	Phase2
27.18.3	Enabling, disabling and updating of FND	ME supporting either ID-1 or Plug-in SIM and supporting FDN	Phase2
27.19	Phase identification	ME supporting either ID-1 or Plug-in SIM	Phase2
27.20	SIM presence detection	All ME	Phase2
27.21.1	AoC not supported by SIM	ME supporting AoCC	Phase2
27.21.2	Maximum frequency of ACM updating	ME supporting AoC	Phase2
27.21.3	Call terminated when ACM greater than ACMmax	ME supporting AoCC	Phase2
27.21.4	Response codes of increase command	ME supporting AoC	Phase2
28.2	Constraining the access to a single number (GSM 02.07 category 3)	MS supporting autocalling	Phase2
28.3	Constraining the access to a single number (GSM 02.07 categories 1 and 2)	MS supporting autocalling	Phase2
28.4	Behaviour of the MS when its list of blacklisted numbers is full	MS supporting autocalling	Phase2
29.2.1	Verification of synchronization	MS supporting data services in transparent mode	Phase2
29.2.2	Filtering of channel control information for transparent BCs	MS supporting the MT2 configuration	Phase2
29.2.3.1	Negotiation of Radio Channel Requirement (RCR)	MS with an external data interface	Phase2
29.2.3.2	Negotiation of Connection Element (CE)	MS with an external data interface	Phase2
29.2.3.3	Negotiation of Number of Stop Bits, Number of Data bits, and Parity	MS supporting asynchronous data services	Phase2
29.2.3.4	Negotiation of Modem Type	MS supporting non-transparent data services	Phase2

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	Phase2
29.2.3.6	Negotiation of User Information Layer 2 Protocol	MS supporting asynchronous bearer services in non-transparent mode	Phase2
29.2.3.7	Negotiation between TS 61 and TS 62: Mobile Originated call.	MS supporting TS 61	Phase2
29.2.3.8	Negotiation between TS 61 and TS 62: Mobile Terminated call.	MS supporting TS 62 and not supporting TS 61	Phase2
29.2.4	Data Rate Adaptation for Synchronous Transparent Bearer Capabilities	MS supporting data over the Um-interface	Phase2
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	Phase2
29.2.6.2	Passage of the Break Signal	MS supporting MT2 configuration	Phase2
29.2.6.3	Overspeed/Underspeed Handling (Local Terminal)	MS supporting MT2 configuration	Phase2
29.2.6.4	Overspeed/Underspeed Handling (Remote Terminal)	MS supporting MT2 configuration	Phase2
29.2.7	Interchange circuit mapping for transparent bearer capabilities	MS supporting MT2 configuration	Phase2
29.3.1.1	Normal initialization done by the MS	MS supporting at least one non-transparent bearer service	Phase2
29.3.1.2.1	Loss of UA frame	MS supporting at least one non-transparent bearer service	Phase2
29.3.1.2.2	Total loss of UA frame	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.2.1	N(S) sequence number	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.2.2	Transmission window	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.2.3	Busy condition	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.3.1	N(R) sequence number	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.3.2	Busy condition	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.4.1	REJ frame	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.4.2.	SREJ frame	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.4.3	I+S reject frame	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.5.1	Rejection with REJ or SREJ supervisory frames	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.5.2	Retransmission of REJ or SREJ frames	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.5.3	I+S reject frame	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.1	SS in checkpoint recovery mode	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.2	End of the window	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.3	End of a sequence	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.4	Time-out of one frame	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.5	No response to checkpointing	MS supporting at least one non-transparent bearer service	Phase2

29.3.2.6.6	Incorrect response to checkpointing	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.7	Total loss of response to checkpointing	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.8	Retransmission of a sequence	MS supporting at least one non-transparent bearer service	Phase2
29.3.2.6.9	N2 retransmission of a sequence	MS supporting at least one non-transparent bearer service	Phase2
29.3.3.1	Negotiation initiated by the SS	MS supporting at least one non-transparent bearer service	Phase2
29.3.3.2	Negotiation initiated by the MS	MS supporting at least one non-transparent bearer service MS supporting the use of non-default RLP parameters	Phase2
29.3.3.3	Collision of XID frames	MS supporting at least one non-transparent bearer service MS supporting the use of non-default RLP parameters	Phase2
29.3.3.4	Loss of XID frames	MS supporting at least one non-transparent bearer service	Phase2
29.3.3.5	Total loss of XID frames	MS supporting at least one non-transparent bearer service MS supporting the use of non-default RLP parameters	Phase2
29.4.2.1.1	Mobile originated call, Call establishment procedure, Alternate speech / facsimile	MS supporting TS61	Phase2
29.4.2.1.2	Mobile originated call, Call establishment procedure, Automatic facsimile	MS supporting TS62	Phase2
29.4.2.2	Pre-message procedure	MS supporting TS 61 and/or TS62	Phase2
29.4.2.3	Message procedure	MS supporting TS 61 and/or TS62	Phase2
29.4.2.4	Post-message procedure	MS supporting TS 61 and/or TS62	Phase2
29.4.2.5	Call release procedure	MS supporting TS 61 and/or TS62	Phase2
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	Phase2
29.4.2.7	Transition from Facsimile to Speech - Procedure interrupt generated by receiving station	MS supporting TS61	Phase2
29.4.2.8	Transition from Facsimile to Speech - Procedure interrupt generated by transmitting station	MS supporting TS61	Phase2
29.4.2.9	Quality check	MS supporting transparent facsimile group 3	Phase2
29.4.3.1.1.1	Mobile terminated call, Call Establishment Procedure, Alternate Speech/Facsimile, DCD Mobile Terminated	MS supporting TS61	Phase2
29.4.3.1.1.2	Mobile terminated call, Call Establishment Procedure, Alternate Speech/Facsimile, DCD mobile originated	MS supporting TS61	Phase2
29.4.3.1.2	Mobile terminated call, Call Establishment Procedure, Automatic facsimile	MS supporting TS62	Phase2
29.4.3.2	Pre-message procedure	MS supporting TS61 and/or TS62	Phase2
29.4.3.3	Message procedure	MS supporting TS61 and/or TS62	Phase2
29.4.3.4	Post-message procedure	MS supporting TS61 and/or TS62	Phase2
29.4.3.5	Call release procedure	MS supporting TS61 and/or TS62	Phase2
29.4.3.6	Speed conversion factor	MS supporting TS61 and/or TS62	Phase2
29.4.3.7	Quality Check	??	Phase2
29.4.3	Notes		Phase2
30.1	Sending sensitivity/frequency response	MS with handset and supporting speech	Phase2
30.2	Sending loudness rating	MS with handset and supporting speech	Phase2

30.3	Receiving sensitivity/frequency response	MS with handset and supporting speech	Phase2
30.4	Receiving loudness rating	MS with handset and supporting speech	Phase2
30.5.1	Side Tone Masking Rating (STMR)	MS with handset and supporting speech	Phase2
30.5.2	Listener Side Tone Rating (LSTR)	MS with handset and supporting speech	Phase2
30.6.1	Echo Loss (EL)	MS with handset and supporting speech	Phase2
30.6.2	Stability margin	MS supporting speech	Phase2
30.7.1	Distortion, Sending	MS with handset and supporting speech	Phase2
30.7.2	Distortion, Receiving	MS with handset and supporting speech	Phase2
30.8	Sidetone distortion	MS with handset and supporting speech	Phase2
30.9.1	Out-of-band signals, Sending	MS with handset and supporting speech	Phase2
30.9.2	Out-of-band signals, Receiving	MS with handset and supporting speech	Phase2
30.10.1	Idle channel noise, Sending	MS with handset and supporting speech	Phase2
30.10.2	Idle channel noise, Receiving	MS with handset and supporting speech	Phase2
30.11	Ambient Noise Rejection	All MS	R96
31.2.1.1.1	Call forwarding supplementary services, Registration accepted	All MS	Phase2
31.2.1.1.2	Call forwarding supplementary services, Registration rejected	All MS	Phase2
31.2.1.2.1	Call forwarding supplementary services, Erasure accepted	All MS	Phase2
31.2.1.2.2	Call forwarding supplementary services, Erasure rejected	All MS	Phase2
31.2.1.3	Call forwarding supplementary services, Activation	All MS	Phase2
31.2.1.4	Call forwarding supplementary services, Deactivation	All MS	Phase2
31.2.1.6.1	Call forwarding supplementary services, Interrogation accepted	All MS	Phase2
31.2.1.6.2	Call forwarding supplementary services, Interrogation rejected	All MS	Phase2
31.2.1.7.1.1	Call forwarding supplementary services, Notification during an incoming call	MS supporting CFB and/or CFNRy	Phase2
31.2.1.7.1.2	Call forwarding supplementary services, Notification during an outgoing call	All MS	Phase2
31.2.1.7.2	Call forwarding supplementary services, Forwarded-to mobile subscriber side	All MS	Phase2
31.6.1.1	AOC time related charging / MS originated call	MS supporting AOCC and CC-state U10	Phase2
31.6.1.2	AOC time related charging / MS terminated call	MS supporting AOCC and CC-state U10	Phase2
31.6.1.5	Change in charging information during a call	MS supporting AOCC and CC-state U10	Phase2
31.6.1.6	Different formats of charging information	MS supporting AOCC and CC-state U10	Phase2
31.6.1.7	AOC on a Call Hold call	MS supporting AOCC and CC-state U10	Phase2
31.6.1.8	AOC on a Multi-party call	MS supporting AOCC and CC-state U10	Phase2

31.6.2.1	Removal of SIM during an active call	MS supporting AOCC and CC-state U10	Phase2
31.6.2.2	Interruption of power supply during an active call	MS supporting AOCC and CC-state U10	Phase2
31.6.2.3	MS going out of coverage during an active AOCC call	MS supporting AOCC and CC-state U10	Phase2
31.6.2.4	ACMmax operation / Mobile Originating	MS supporting AOCC and CC-state U10	Phase2
31.6.2.5	ACMmax operation / Mobile Terminating	MS supporting AOCC and CC-state U10	Phase2
31.8.1	Registration of a password	All MS	Phase2
31.8.1.1	Registration accepted	All MS	Phase2
31.8.1.2.1	Rejection after invoke of the RegisterPassword operation	All MS	Phase2
31.8.1.2.2	Rejection after password check with negative result	All MS	Phase2
31.8.1.2.3	Rejection after new password mismatch	All MS	Phase2
31.8.3.1	Activation accepted	All MS	Phase2
31.8.3.2.1	Rejection after invoke of ActivateSS operation	All MS	Phase2
31.8.3.2.2	Rejection after use of password procedure	All MS	Phase2
31.8.4.1	Deactivation accepted	All MS	Phase2
31.8.4.2.1	Rejection after invoke of DeactivateSS operation	All MS	Phase2
31.8.4.2.2	Rejection after use of password procedure	All MS	Phase2
31.8.6.1	Interrogation accepted	All MS	Phase2
31.8.6.2	Interrogation rejected	All MS	Phase2
31.8.7	Normal operation	All MS	Phase2
31.9.1.1	ProcessUnstructuredSS-request/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10	Phase2
31.9.1.2	ProcessUnstructuredSS-request/cross phase compatibility and error handling	MS supporting USSD, supporting TCH/F and supporting CC-state U10	Phase2
31.9.2.1	UnstructuredSS-Notify/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10	Phase2
31.9.2.2	UnstructuredSS-Notify/rejected on user busy	MS supporting USSD, supporting TCH/F and supporting CC-state U10	Phase2
31.9.2.3	UnstructuredSS-Request/accepted	MS supporting USSD, supporting TCH/F and supporting CC-state U10	Phase2
31.9.2.4	UnstructuredSS-Request/rejected on user busy	MS supporting USSD, supporting TCH/F and supporting CC-state U10	Phase2
31.10	MMI input for USSD	All MS	Phase2
31.12.1	eMLPP Service / priority level of MO call	MS supporting eMLPP and MO call	R96
31.12.2	eMLPP Service / automatic answering point-to-point MT call	MS supporting eMLPP, HOLD and CW	R96
31.12.3	eMLPP Service / automatic answering MT VGCS or VBS call	MS supporting eMLPP and supporting VGCS or VBS listening	R96
31.12.4	eMLPP Service / registration	MS supporting eMLPP	R96
31.12.5	eMLPP Service / interrogation	MS supporting eMLPP	R96
31.13.1.1	Explicit Call Transfer invocation, successful case, both calls active, clearing using DISCONNECT	MS supporting ECT	R96
31.13.1.2	Explicit Call Transfer invocation, successful case, both calls active, clearing using RELEASE	MS supporting ECT	R96
31.13.1.3	Explicit Call Transfer invocation, successful case, both calls active, clearing using RELEASE COMPLETE	MS supporting ECT	R96
31.13.1.4	Explicit Call Transfer invocation, successful case, second call alerting	MS supporting ECT	R96
31.13.1.5	Explicit Call Transfer invocation, unsuccessful case	MS supporting ECT	R96

31.13.1.6	Explicit Call Transfer invocation, expiry of T(ECT)	MS supporting ECT	R96
31.14.1.1	UUS / Implicit UUS1 / CC MO call	MS supporting implicit UUS1 and MO telephony	R99
31.14.1.2	UUS / Implicit UUS1 / CC MT call	MS supporting implicit UUS1 and MT telephony	R99
31.14.1.3	UUS / Implicit UUS1 / interactions with call waiting and Call hold supplementary	MS supporting implicit UUS1 HOLD and CW	R99
31.15.1	Follow Me (FM) / Registration	MS supporting Follow Me	R99
31.15.2	Follow Me (FM) / Interrogation	MS supporting Follow Me	R99
31.15.3	Follow Me (FM) / Erasure	MS supporting Follow Me	R99
32.1	Full Rate Downlink speech transcoding	MS supporting TCH/FS	Phase2
32.2	Full Rate Downlink receiver DTX functions	MS supporting TCH/FS	Phase2
32.3	Full Rate Uplink speech transcoding	MS supporting TCH/FS	Phase2
32.4	Full Rate Uplink transmitter DTX functions	MS supporting TCH/FS	Phase2
32.5	Full Rate Speech channel transmission delay	MS supporting TCH/FS	Phase2
32.5.4	Downlink processing delay	MS supporting TCH/FS	Phase2
32.5.5	Downlink coding delay	MS supporting TCH/FS	Phase2
32.5.6	Uplink processing delay	MS supporting TCH/FS	Phase2
32.5.7	Uplink coding delay	MS supporting TCH/FS	Phase2
32.6	Half Rate Downlink speech transcoding	MS supporting TCH/HS	Phase2
32.7	Half Rate Downlink receiver DTX functions	MS supporting TCH/HS	Phase2
32.8	Half Rate Uplink speech transcoding	MS supporting TCH/HS	Phase2
32.9	Half Rate Uplink transmitter DTX functions	MS supporting TCH/HS	Phase2
32.10	Half Rate Speech channel transmission delay	MS supporting TCH/HS	Phase2
32.10.4	Downlink processing delay	MS supporting TCH/HS	Phase2
32.10.5	Downlink coding delay	MS supporting TCH/HS	Phase2
32.10.6	Uplink processing delay	MS supporting TCH/HS	Phase2
32.10.7	Uplink coding delay	MS supporting TCH/HS	Phase2
32.11	Intra cell channel change from a TCH/HS to a TCH/FS	MS supporting TCH/HS	Phase2
32.12	Intra cell channel change from a TCH/FS to a TCH/HS	MS supporting TCH/HS	Phase2
33.1	Entry and display of called number	All MS	Phase2
33.2.4	Ringing tone	All MS	Phase2
33.2.5	Busy tone	All MS	Phase2
33.2.6	Congestion tone	All MS	Phase2
33.2.7	Authentication failure tone	All MS	Phase2
33.2.8	Number unobtainable tone	All MS	Phase2
33.2.9	Call dropped tone	All MS	Phase2
33.3	Network selection / indication	All MS	Phase2
33.4	Invalid and blocked PIN indicators	All MS	Phase2
33.5	Service indicator	All MS	Phase2
33.6	Subscription identity management	All MS	Phase2
33.7	Barring of outgoing calls	MS supporting barring of outgoing calls	Phase2
33.8	Prevention of unauthorized calls	MS supporting prevention of unauthorized calls	Phase2
34.2.1	SMS mobile terminated	MS supporting SMS MT/PP and supporting CC-state U10	Phase2
34.2.2	SMS mobile originated	MS supporting SMS MO/PP and supporting CC-state U10	Phase2
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	Phase2
34.2.4	Test of the status report capabilities and of SMS-COMMAND:	MS supporting status report capabilities	Phase2
34.2.5.1	Short message class 0	MS supporting SMS MT/PP and display of received short messages	Phase2

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	Phase2
34.2.5.3	Test of class 2 short messages	MS supporting storing of received Class II Short Messages in the SIM	Phase2
34.2.7	Test of the replace mechanism for SM type 1-7	MS supporting Replace Short Messages and display of received Short Messages	Phase2
34.2.8	Test of the reply path scheme	MS supporting reply procedures, display of received Short Messages and submitting Short Messages	Phase2
34.2.9.1	Multiple SMS mobile originated / MS in idle mode	MS supporting the ability of sending multiple short messages on the same RR connection	Phase2
34.2.9.2	Multiple SMS mobile originated / MS in active mode	MS supporting the ability of sending multiple short messages when there is a call in progress	Phase2
34.3	Short message service cell broadcast	All MS	Phase2
35	Low battery voltage detection	All MS	Phase2
37	Reserved for future use		
38	Reserved for future use		
39	Reserved for future use		
40			
41.1.1.1	RR / Paging / on PCCCH for GPRS service / normal paging with P-TMSI successful.	All GPRS MS	R97
41.1.1.2	RR / Paging / on PCCCH for GPRS service / normal paging with IMSI successful	All GPRS MS	R97
41.1.1.3	RR / Paging / on PCCCH for GPRS service / extended paging with P-TMSI successful	All GPRS MS	R97
41.1.1.4	RR / Paging / on PCCCH for GPRS service / paging reorganisation successful	All GPRS MS	R97
41.1.2	RR / Paging / on PCCCH for circuit-switched services / paging successful	GPRS MS which can operate in mode B	R97
41.1.3	RR / Paging / on PCCCH / paging ignored	All GPRS MS	R97
41.1.4.1	RR / Paging / on PACCH for circuit-switched services/ paging successful	GPRS MS which can operate in mode B	R97
41.1.4.2	RR / Paging / on PACCH for circuit-switched services/ paging ignored	GPRS MS which can operate in mode B	R97
41.1.5.1.1	RR / Paging / on CCCH for GPRS service / normal paging with P-TMSI successful	All GPRS MS	R97
41.1.5.1.2	RR / Paging / on CCCH for GPRS service / normal paging with IMSI successful	All GPRS MS	R97
41.1.5.1.3	RR / Paging / on CCCH for GPRS service / normal paging with P-TMSI ignored	All GPRS MS	R97
41.1.5.2.1	RR / Paging / on CCCH for GPRS service / extended paging with P-TMSI successful	All GPRS MS	R97
41.1.5.3	RR / Paging / on CCCH for GPRS service / paging reorganisation	All GPRS MS	R97
41.1.5.4	RR / Paging / on CCCH for GPRS service / default message contents	All GPRS MS	R97
41.1.6	RR / Paging / Before T3172 expiry	All GPRS MS	R97
41.2.1.1	Permission to access the network / priority classes	All GPRS MS	R97
41.2.2.1	Initiation of the packet access procedure / establishment causes	All GPRS MS	R97
41.2.2.2	Random references for single block packet access	All GPRS MS	R97
41.2.2.3	Random references for one phase packet access	All GPRS MS	R97
41.2.2.4	Initiation of the packet access procedure / timer T3146	All GPRS MS	R97

41.2.2.5	Initiation of the packet access procedure / Request Reference	All GPRS MS	R97
41.2.3.1	Two-message assignment / Successful case	All GPRS MS	R97
41.2.3.2	Two-message assignment / Failure cases	All GPRS MS	R97
41.2.3.3	Packet uplink assignment / Polling bit set	All GPRS MS	R97
41.2.3.4	One phase packet access / Contention resolution / Successful case	All GPRS MS	R97
41.2.3.5	One phase packet access / Contention resolution / TLLI mismatch	All GPRS MS	R97
41.2.3.6	One phase packet access / Contention resolution / Counter N3104	All GPRS MS	R97
41.2.3.7	One phase packet access / Contention resolution / Timer T3166	All GPRS MS	R97
41.2.3.8	One phase packet access / Contention resolution / 4 access repetition attempts	All GPRS MS	R97
41.2.3.9	One phase packet access / TBF starting time	All GPRS MS	R97
41.2.3.10	One phase packet access / Timing Advance Index present	All GPRS MS	R97
41.2.3.11	One phase packet access / Timing Advance Index not present	All GPRS MS	R97
41.2.4.1	Single block packet access / Packet Resource Request	All GPRS MS	R97
41.2.4.2	Single block packet access / Packet Measurement Report	All GPRS MS	R97
41.2.5.1	Packet access rejection / wait indication	All GPRS MS	R97
41.2.5.2	Packet access rejection / assignment before T3142 expires	All GPRS MS	R97
41.2.6	Packet downlink assignment procedure using CCCH	All GPRS MS	R97
41.2.6.1	Initiation of packet downlink assignment procedure / MS listens to correct CCCH block	All GPRS MS	R97
41.2.6.2	Initiation of packet downlink assignment procedure / timer T3190	All GPRS MS	R97
41.2.6.3	Initiation of packet downlink assignment procedure / TBF starting time	All GPRS MS	R97
41.2.6.4	Initiation of packet downlink assignment procedure / incorrect TFI	All GPRS MS	R97
41.2.7.1	Single block packet downlink assignment / TBF Starting Time	All GPRS MS	R97
41.2.7.2	Single block packet downlink assignment / MS returns to packet idle mode	All GPRS MS	R97
41.3.1.1	TBF Release / Uplink / Normal / MS initiated / Acknowledged mode	All GPRS MS	R97
41.3.1.2	TBF Release / Uplink / Normal / MS initiated / Unacknowledged mode	All GPRS MS	R97
41.3.1.3	TBF Release / Uplink / Normal / MS initiated / Channel coding change during countdown	All GPRS MS	R97
41.3.2.1	TBF Release / Uplink / Normal / Network initiated / Acknowledged mode	All GPRS MS	R97
41.3.2.2	TBF Release / Uplink / Normal / Network initiated / Unacknowledged mode	All GPRS MS	R97
41.3.3	TBF Release / Uplink / Network initiated / Abnormal release	All GPRS MS	R97
41.3.4.1	TBF Release / Downlink / Normal / Network initiated / Acknowledged mode	All GPRS MS	R97
41.3.4.2	TBF Release / Downlink / Normal / Network initiated / Unacknowledged mode	All GPRS MS	R97
41.3.5.1	PDCH Release / Without TIMESLOTS_AVAILABLE	All GPRS MS	R97
41.3.5.2	PDCH Release / With TIMESLOTS_AVAILABLE	All GPRS MS	R97

41.4.2.1	Immediate Assignment / Contention resolution failure	All GPRS MS	R97
41.4.2.2	Immediate Assignment / Use of DCCH for Uplink TBF Establishment	All GPRS MS	R97
41.4.2.3	Immediate Assignment / Use of DCCH for Downlink TBF Establishment	All GPRS MS	R97
41.4.3.1	Assignment Command	All GPRS MS	R97
41.4.3.2	Handover	All GPRS MS	R97
41.4.3.3.1	Successful case	All GPRS MS	R97
41.4.3.3.2	Failure / T3132 expires	All GPRS MS	R97
41.4.3.4.1	Successful case / Normal procedure	All GPRS MS	R97
41.4.3.4.2	Successful case / DCCH on the target cell	All GPRS MS	R97
41.4.3.4.3	Failure / Immediate Assignment Reject on CCCH of the target cell	All GPRS MS	R97
41.4.3.4.4	Failure / Packet Access Reject on PCCCH of the target cell	All GPRS MS	R97
41.4.3.4.5	Failure / T3134 expiry	All GPRS MS	R97
41.4.3.4.6	Contention resolution failure / GPRS supported using BCCH	All GPRS MS	R97
41.4.3.4.7	Contention resolution failure / GPRS supported using PBCCH / Timer or counter expiry	All GPRS MS	R97
41.4.3.4.8	Contention resolution failure / GPRS supported using PBCCH / TLLI mismatch	All GPRS MS	R97
41.4.3.5	Release	All GPRS MS	R97
41.4.3.6	Radio link failure	All GPRS MS	R97
42.1.1.1	Packet Channel Request / Message format	All GPRS MS	R97
42.1.1.2	Packet Channel Request / Response to Packet Paging	All GPRS MS	R97
42.1.1.3	Packet Channel Request / Access type	All GPRS MS	R97
42.1.1.4.1	Packet Channel Request / Access persistence control on PRACH / M+1 attempts	All GPRS MS	R97
42.1.1.4.2	Packet Channel Request / Access persistence control on PRACH / Persistence level	All GPRS MS	R97
42.1.1.4.3	Packet Channel Request / Access persistence control on PRACH / Successive Attempts	All GPRS MS	R97
42.1.2.1.1.1	Packet Uplink Assignment / Packet queuing notification / Stop sending Packet Channel Requests	All GPRS MS	R97
42.1.2.1.1.2	Packet Uplink Assignment / Packet queuing notification / Ignoring Packet Queuing Notification	All GPRS MS	R97
42.1.2.1.1.3	Packet Uplink Assignment / Packet queuing notification / Assigned PDCHs	All GPRS MS	R97
42.1.2.1.1.4	Packet Uplink Assignment / Packet queuing notification / Expiry of timer T3162	All GPRS MS	R97
42.1.2.1.2	Packet Uplink Assignment / Response to packet polling request	All GPRS MS	R97
42.1.2.1.3.1	Packet Uplink Assignment / Packet access reject / Action during Wait_Indication	All GPRS MS	R97
42.1.2.1.3.2	Packet Uplink Assignment / Packet access reject / No respond	All GPRS MS	R97
42.1.2.1.3.3	Packet Uplink Assignment / Packet access reject / PRACH Control Parameter decoding	All GPRS MS	R97
42.1.2.1.4	Packet Uplink Assignment / Packet Uplink Assignment handling	All GPRS MS	R97
42.1.2.1.5	Packet Uplink Assignment / One or two phase access	All GPRS MS	R97
42.1.2.1.6	Packet Uplink Assignment / Decoding of	All GPRS MS	R97

	frequency parameters		
42.1.2.1.7	Packet Uplink Assignment / Most recently received Packet Uplink Assignment	All GPRS MS	R97
42.1.2.1.8.1.1	Packet Uplink Assignment / One phase access / Contention resolution / Inclusion of TLLI in RLC data blocks	All GPRS MS	R97
42.1.2.1.8.1.2	Packet Uplink Assignment / One phase access / Contention resolution / Counter N3104	All GPRS MS	R97
42.1.2.1.8.1.3	Packet Uplink Assignment / One phase access / Contention resolution / Timer T3166	All GPRS MS	R97
42.1.2.1.8.1.4	Packet Uplink Assignment / One phase access / Contention resolution / TLLI mismatch	All GPRS MS	R97
42.1.2.1.8.1.5	Packet Uplink Assignment / One phase access / Contention resolution / 4 access repetition attempts	All GPRS MS	R97
42.1.2.1.8.2.1	Packet Uplink Assignment / One phase access / Timing Advance / TA Index present	All GPRS MS	R97
42.1.2.1.8.2.3	Packet Uplink Assignment / One phase access / Timing Advance / TA value field not provided	All GPRS MS	R97
42.1.2.1.9.1	Packet Uplink Assignment / Two phase access / Packet Resource Request / RLC Octet Count	All GPRS MS	R97
42.1.2.1.9.2.1	Packet Uplink Assignment / Two phase access / Contention resolution / Expiry of timer T3168	All GPRS MS	R97
42.1.2.1.9.2.2	Packet Uplink Assignment / Two phase access / Contention resolution / TLLI mismatch	All GPRS MS	R97
42.1.2.1.10.1	Packet Uplink Assignment / Abnormal cases / Incorrect PDCH assignment	All GPRS MS	R97
42.1.2.1.10.2	Packet Uplink Assignment / Abnormal cases / Expiry of timer T3164	All GPRS MS	R97
42.1.2.2.1	Packet Downlink Assignment / Response to poll bit	All GPRS MS	R97
42.1.2.2.2	Packet Downlink Assignment / PCCCH monitoring	All GPRS MS	R97
42.1.2.2.3	Packet Downlink Assignment / Frequency hopping	All GPRS MS	R97
42.1.2.2.4	Packet Downlink Assignment / Response to Packet Polling	All GPRS MS	R97
42.1.2.2.5.1	Packet Downlink Assignment / Abnormal cases / Incorrect PDCH assignment	All GPRS MS	R97
42.1.2.2.5.2	Packet Downlink Assignment / Abnormal cases / Expiry of timer T3190	All GPRS MS	R97
42.2.1.1	One phase access	All GPRS MS	R97
42.2.1.2	Two phase access	All GPRS MS	R97
42.2.2.1.1	Fixed Allocation / Uplink Transfer / Normal operation / Blocks	All GPRS MS	R97
42.2.2.1.2	Fixed Allocation / Uplink Transfer / Normal operation / Block Periods	Procedure 1: All GPRS MS Procedure 2: GPRS MS not operating in multislot classes 1,2,4 or 8	R97
42.2.2.2	Fixed Allocation / Uplink Transfer / Operation with TS_OVERRIDE for single-slot TX	All GPRS MS	R97
42.2.2.3	Fixed Allocation / Uplink Transfer / Operation with TS_OVERRIDE for multi-slot TX	GPRS MS not operating in multislot classes 1,2,4 or 8	R97
42.2.2.4	Fixed Allocation / Uplink Transfer / T3184 Expiry	All GPRS MS	R97
42.2.2.5.1	Fixed Allocation / Uplink Transfer /	All GPRS MS	R97

	T3188/Expiry		
42.2.2.5.2	Fixed Allocation / Uplink Transfer / T3188/Stop with Packet Uplink Assignment	All GPRS MS	R97
42.2.2.5.3	Fixed Allocation / Uplink Transfer / T3188/Stop with Packet Uplink Ack/Nack with REPEAT_ALLOCATION	All GPRS MS	R97
42.2.2.5	Fixed Allocation / Uplink Transfer / MS requests new resources/ T3168	All GPRS MS	R97
42.2.2.6.1	Fixed Allocation / Uplink Transfer / MS requests new resources/ T3168/Expiry	All GPRS MS	R97
42.2.2.6.2	Fixed Allocation / Uplink Transfer / MS requests new resources/ T3168/Stop with Packet Uplink Assignment	All GPRS MS	R97
42.2.2.6.3	Fixed Allocation / Uplink Transfer / MS requests new resources/ T3168/Stop with Packet Uplink Ack/Nack with REPEAT_ALLOCATION	All GPRS MS	R97
42.2.2.6.4	Fixed Allocation / Uplink Transfer / MS requests new resources/ T3168/Stop with Packet Access Reject	All GPRS MS	R97
42.2.2.6.5	Fixed Allocation / Uplink Transfer / MS requests new resources/ T3168/Continue with Packet Uplink Ack/Nack without REPEAT_ALLOCATION and without ALLOCATION_BITMAP	All GPRS MS	R97
42.2.2.7.1	Fixed Allocation / Uplink Transfer / MS requests new resources/ Successful/Packet Uplink Assignment with ALLOCATION_BITMAP	All GPRS MS	R97
42.2.2.7.2	Fixed Allocation / Uplink Transfer / MS requests new resources/ Successful/Multiple Packet Uplink Assignments	All GPRS MS	R97
42.2.2.7.3	Fixed Allocation / Uplink Transfer / MS requests new resources/ Successful/Packet Uplink Ack/Nack with ALLOCATION_BITMAP	All GPRS MS	R97
42.2.2.7.4	Fixed Allocation / Uplink Transfer / MS requests new resources/ Successful/Multiple Packet Uplink Ack/Nack with ALLOCATION_BITMAP	All GPRS MS	R97
42.2.2.7.5	Fixed Allocation / Uplink Transfer / MS requests new resources/ Successful/Multiple Packet Uplink Ack/Nack with REPEAT_ALLOCATION	All GPRS MS	R97
42.2.2.8.1	Fixed Allocation / Uplink Transfer / MS requests new resources/ Failure/Packet Access Reject	All GPRS MS	R97
42.2.2.8.2	Fixed Allocation / Uplink Transfer / MS requests new resources/ Failure/Packet Access Reject with WAIT_INDICATION during allocation in progress	All GPRS MS	R97
42.2.2.9	Fixed Allocation / Uplink Transfer / Network initiates new resources	All GPRS MS	R97
42.2.2.10.1	Fixed Allocation / Uplink Transfer / PACCH operation/ Normal Operation	GPRS MS supporting multislot class 3 and above	R97
42.2.2.10.2	Fixed Allocation / Uplink Transfer / PACCH operation/ PACCH message addressed to another MS	GPRS MS supporting multislot class 3 and above	R97
42.2.2.10.3	Fixed Allocation/ Uplink Transfer / Abnormal cases / PACCH timeslot removed	GPRS MS supporting multislot class 3 and above	R97
42.2.2.11.1	Fixed Allocation/ Uplink Transfer / Abnormal cases / Assignment without fixed allocation	All GPRS MS	R97

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42.2.2.11.2	Fixed Allocation/ Uplink Transfer / Abnormal cases / Frequency not supported	All GPRS MS	R97
42.2.2.11.3	Fixed Allocation/ Uplink Transfer / Abnormal cases / Invalid MA_NUMBER	All GPRS MS	R97
42.2.3.1.1	Fixed Allocation / Uplink Transfer with Downlink TBF Establishment/ T3190/Half-Duplex	GPRS MS supporting multislot class 19 and 24.	R97
42.2.3.1.2	Fixed Allocation / Uplink Transfer with Downlink TBF Establishment/ T3190/Non Half-Duplex	GPRS MS supporting multislot class 10 and above	R97
42.2.3.2.1	Fixed Allocation / Uplink Transfer with Downlink TBF Establishment/ Ending uplink TBF/ Half-Duplex	GPRS MS supporting multislot class 19 and 24	R97
42.2.3.2.2	Fixed Allocation / Uplink Transfer with Downlink TBF Establishment/ Ending uplink TBF/ Non Half-Duplex	GPRS MS supporting multislot class 10 and above	R97
42.2.3.3.1	Fixed Allocation/ Uplink Transfer with Downlink TBF Establishment/ Abnormal cases / Violation of multi-slot capabilities	All GPRS MS	R97
42.2.3.3.2	Fixed Allocation/ Uplink Transfer with Downlink TBF Establishment/ Abnormal cases / No defined PDCH	GPRS MS supporting multislot class 2	R97
42.2.4.1.1	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/ T3168/ Expiry	All GPRS MS	R97
42.2.4.1.2	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/ T3168/ Stop with Packet Uplink Assignment	All GPRS MS	R97
42.2.4.2.1	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/Packet Uplink Assignment/ Non half-duplex	All GPRS MS	R97
42.2.4.2.2	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/Packet Uplink Assignment/ Half-duplex	GPRS MS supporting multislot classes 19-29	R97
42.2.4.3.1	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/Packet Timeslot Reconfigure/Starting time with AFN encoding	All GPRS MS	R97
42.2.4.3.2	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/Packet Timeslot Reconfigure/Starting time with relative encoding	All GPRS MS	R97
42.2.4.4.1	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/Packet Access Reject/ With WAIT_INDICATION	All GPRS MS	R97
42.2.4.4.2	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/Packet Access Reject/No WAIT_INDICATION	All GPRS MS	R97
42.2.4.4.3	Fixed Allocation/ Downlink Transfer with Uplink TBF Establishment/Packet Access Reject/With Polling	All GPRS MS	R97
42.3.1.1.1	Dynamic Allocation / Uplink Transfer / Normal / Successful	All GPRS MS	R97
42.3.1.1.2	Dynamic Allocation / Uplink Transfer / Normal / Request new resources	All GPRS MS	R97
42.3.1.1.3	Dynamic Allocation / Uplink Transfer / Normal / Starting frame number encoding	All GPRS MS	R97
42.3.1.1.4	Dynamic Allocation / Uplink Transfer / Normal / Starting time	All GPRS MS	R97
42.3.1.1.5	Dynamic Allocation / Uplink Transfer / Normal / Close-ended TBF	All GPRS MS	R97
42.3.1.1.6	Dynamic Allocation / Uplink Transfer / Normal / T3180 expiry	All GPRS MS	R97

42.3.1.1.7	Dynamic Allocation / Uplink Transfer / Normal / PACCH operation	All GPRS MS	R97
42.3.1.1.8	Dynamic Allocation / Uplink Transfer / Normal / Two uplink timeslots	All GPRS MS	R97
42.3.1.1.9	Dynamic Allocation / Uplink Transfer / Normal / Frequency parameters	All GPRS MS	R97
42.3.1.2.1	Dynamic Allocation / Uplink Transfer / Abnormal / with random access	All GPRS MS	R97
42.3.1.2.2	Dynamic Allocation / Uplink Transfer / Abnormal / with cell reselection in acknowledged mode	All GPRS MS	R97
42.3.1.2.3	Dynamic Allocation / Uplink Transfer / Abnormal / with cell reselection in unacknowledged mode	All GPRS MS	R97
42.3.2	Dynamic Allocation / Uplink Transfer with Downlink TBF establishment (concurrent)	All GPRS MS	R97
42.3.2.1.1	Dynamic Allocation / Uplink Transfer with Downlink TBF establishment / Normal / Successful	All GPRS MS	R97
42.3.2.1.2	Dynamic Allocation / Uplink Transfer with Downlink TBF establishment / Normal / Multislot capabilities	All GPRS MS	R97
42.3.2.2.1	Dynamic Allocation / Uplink Transfer with Downlink TBF establishment / Abnormal / with random access	All GPRS MS	R97
42.3.2.2.2	Dynamic Allocation / Uplink Transfer with Downlink TBF establishment / Abnormal / Continuation of normal operation	All GPRS MS	R97
42.3.3.1.1	Dynamic Allocation / Resource reallocation / Successful / Higher throughput class or higher radio priority	All GPRS MS	R97
42.3.3.1.2	Dynamic Allocation / Resource reallocation / Successful / Lower throughput class	All GPRS MS	R97
42.3.3.1.3	Dynamic Allocation / Resource reallocation / Successful / Different RLC mode and higher radio priority	All GPRS MS	R97
42.3.3.2.1	Dynamic Allocation / Resource reallocation / Abnormal / T3168 expiry	GPRS MS supporting two PDP contexts or supporting SMS over GPRS and at least one PDP context	R97
42.3.3.2.2	Dynamic Allocation / Resource reallocation / Abnormal / Invalid assignment	GPRS MS supporting two PDP contexts or supporting SMS over GPRS and at least one PDP context	R97
42.3.3.3	Dynamic Allocation / Resource reallocation / Reject	GPRS MS supporting two PDP contexts or supporting SMS over GPRS and at least one PDP context	R97
42.4.1.1	Network Control measurement reporting / Uplink / Normal case	All GPRS MS	R97
42.4.1.2	Network Control measurement reporting / Idle mode / New cell reselection	All GPRS MS	R97
42.4.1.3	Network Control measurement reporting / Downlink transfer/ Normal case	All GPRS MS	R97
42.4.2.1.1	Cell change order procedure / Uplink transfer / Normal case	All GPRS MS	R97
42.4.2.1.2	Cell change order procedure / Uplink transfer / Failure cases / T3174 expiry	All GPRS MS	R97
42.4.2.1.3	Cell change order procedure / Uplink transfer / Failure cases / REJECT from the new cell	All GPRS MS	R97
42.4.2.1.4	Cell change order procedure / Uplink transfer / Failure cases / Contention resolution failure	All GPRS MS	R97
42.4.2.1.5	Cell change order procedure / Uplink transfer / Failure cases / REJECT from the new cell	All GPRS MS	R97

	and T3176 expiry		
42.4.2.1.6	Cell change order procedure / Uplink transfer / Failure cases / Frequency not implemented	All GPRS MS	R97
42.4.2.2.1	Cell change order procedure / Downlink transfer / Normal case	All GPRS MS	R97
42.4.2.2.2	Cell change order procedure / Downlink transfer / Failure cases / REJECT from the new cell	All GPRS MS	R97
42.4.2.2.3	Cell change order procedure / Downlink transfer / Failure cases / Frequency not implemented	All GPRS MS	R97
42.4.2.3.1	Cell change order procedure / Simultaneous uplink and downlink transfer / Normal case	All GPRS MS	R97
42.4.2.3.2	Cell change order procedure / Simultaneous uplink and downlink transfer / Failure case / T3174 expiry	All GPRS MS	R97
42.4.3.1.1	Uplink packet transfer mode / Dynamic allocation	All GPRS MS	R97
42.4.3.1.2	Uplink packet transfer mode / Fixed allocation	All GPRS MS	R97
42.5.1.1	Downlink Transfer/ Normal Operation / Relative Encoding TBF starting time	All GPRS MS	R97
42.5.1.2	Downlink Transfer/ Normal Operation / Without TBF starting time	All GPRS MS	R97
42.5.2.1	Downlink Transfer/ Polling/ Normal operation/RLC data block	All GPRS MS	R97
42.5.2.2	Downlink Transfer/ Polling/ Packet Polling Request/ Access Burst format	All GPRS MS	R97
42.5.2.3	Downlink Transfer/ Polling/ Packet Polling Request/ Control block format	All GPRS MS	R97
42.5.3.1	Downlink Transfer/ T3190 Expiry / Initial allocation / Restart with valid RLC data block	All GPRS MS	R97
42.5.4.1	Downlink Transfer/ T3190 Expiry / Resource reallocation / Without TBF starting time	All GPRS MS	R97
42.5.4.2	Downlink Transfer/ T3190 Expiry / Resource reallocation / With TBF starting time	All GPRS MS	R97
42.5.4.3	Downlink Transfer/ T3190 Expiry / Resource reallocation / Restart with valid RLC data block	All GPRS MS	R97
42.5.5.1	Downlink Transfer/ Reestablishment/ T3192 Expiry	All GPRS MS	R97
42.5.5.2	Downlink Transfer/ Reestablishment/ Packet Downlink Assignment	All GPRS MS	R97
42.5.5.3	Downlink Transfer/ Reestablishment/ Invalid Frequency Parameters IE	All GPRS MS	R97
43.1.1.1	Acknowledged mode / Uplink TBF / Send state variable V(S)	All GPRS MS	R97
43.1.1.2	Acknowledged mode / Uplink TBF / Transmit window size	All GPRS MS	R97
43.1.1.3	Acknowledged mode / Uplink TBF / Acknowledge state variable V(A)	All GPRS MS	R97
43.1.1.4	Acknowledged mode / Uplink TBF / Negatively acknowledged RLC data blocks	All GPRS MS	R97
43.1.1.5	Acknowledged mode / Uplink TBF / Invalid Negative Acknowledgement	All GPRS MS	R97
43.1.1.6	Acknowledged mode / Uplink TBF / Decoding of Received Block Bitmap	All GPRS MS	R97
43.1.2.1	Acknowledged mode / Downlink TBF / Receive state variable V(R)	All GPRS MS	R97
43.1.2.2	Acknowledged mode / Downlink TBF / Receive window state variable V(Q)	All GPRS MS	R97
43.1.2.3	Acknowledged mode / Downlink TBF / Re-	All GPRS MS	R97

	assembly of RLC data blocks		
43.1.2.4	Acknowledged mode / Downlink TBF / Re-assembly / Length Indicator	All GPRS MS	R97
43.2.1	Control Blocks Re-assembly	All GPRS MS	R97
43.3.1.1	Packet Uplink Assignment	All GPRS MS	R97
44.2.1.1.1	GPRS attach / accepted	All GPRS MS	R97
44.2.1.1.2	GPRS attach / rejected / IMSI invalid / illegal MS	All GPRS MS	R97
44.2.1.1.3	GPRS attach / rejected / IMSI invalid / GPRS services not allowed	All GPRS MS	R97
44.2.1.1.4	GPRS attach / rejected / PLMN not allowed	All GPRS MS	R97
44.2.1.1.5	GPRS attach / rejected / roaming not allowed in this location area	All GPRS MS	R97
44.2.1.1.6	GPRS attach / abnormal cases / access barred due to access class control	All GPRS MS	R97
44.2.1.1.7	GPRS attach / abnormal cases / change of cell into new routing area	All GPRS MS	R97
44.2.1.1.8	GPRS attach / abnormal cases / power off	All GPRS MS	R97
44.2.1.1.9	GPRS attach / abnormal cases / GPRS detach procedure collision	All GPRS MS	R97
44.2.1.2.1	Combined GPRS attach / GPRS and non-GPRS attach accepted	All GPRS MS	R97
44.2.1.2.2	Combined GPRS attach / GPRS only attach accepted	All GPRS MS	R97
44.2.1.2.3	Combined GPRS attach / GPRS attach while IMSI attach	GPRS MS which can first operate in mode C and then switch to mode B.	R97
44.2.1.2.4	Combined GPRS attach / rejected / IMSI invalid / illegal ME	All GPRS MS	R97
44.2.1.2.5	Combined GPRS attach / rejected / GPRS services and non-GPRS services not allowed	All GPRS MS	R97
44.2.1.2.6	Combined GPRS attach / rejected / GPRS services not allowed	All GPRS MS	R97
44.2.1.2.7	Combined GPRS attach / rejected / location area not allowed	All GPRS MS	R97
44.2.1.2.8	Combined GPRS attach / abnormal cases / attempt counter check / miscellaneous reject causes	All GPRS MS	R97
44.2.1.2.9	Combined GPRS attach / abnormal cases / GPRS detach procedure collision	All GPRS MS	R97
44.2.2.1.1	GPRS detach / power off / accepted	All GPRS MS	R97
44.2.2.1.2	GPRS detach / accepted	All GPRS MS	R97
44.2.2.1.3	GPRS detach / abnormal cases / attempt counter check / procedure timeout	All GPRS MS	R97
44.2.2.1.4	GPRS detach / abnormal cases / GMM common procedure collision	All GPRS MS	R97
44.2.2.1.5	GPRS detach / power off / accepted	All GPRS MS	R97
44.2.2.1.6	GPRS detach / accepted / GPRS/IMSI detach	All GPRS MS	R97
44.2.2.1.7	GPRS detach / accepted / IMSI detach	All GPRS MS	R97
44.2.2.1.8	GPRS detach / abnormal cases / change of cell into new routing area	All GPRS MS	R97
44.2.2.1.9	GPRS detach / abnormal cases / GPRS detach procedure collision	All GPRS MS	R97
44.2.2.2.1	GPRS detach / re-attach not required / accepted	All GPRS MS	R97
44.2.2.2.2	GPRS detach / rejected / IMSI invalid / GPRS services not allowed	All GPRS MS	R97
44.2.2.2.3	GPRS detach / IMSI detach / accepted	All GPRS MS	R97
44.2.2.2.4	GPRS detach / re-attach requested / accepted	All GPRS MS	R97
44.2.2.2.5	GPRS detach / rejected / location area not allowed	All GPRS MS	R97

44.2.3.1.1	Routing area updating / accepted	All GPRS MS	R97
44.2.3.1.2	Routing area updating / rejected / IMSI invalid / illegal ME	All GPRS MS	R97
44.2.3.1.3	Routing area updating / rejected / MS identity cannot be derived by the network	All GPRS MS	R97
44.2.3.1.4	Routing area updating / rejected / location area not allowed	All GPRS MS	R97
44.2.3.1.5	Routing area updating / abnormal cases / attempt counter check / miscellaneous reject causes	All GPRS MS	R97
44.2.3.1.6	Routing area updating / abnormal cases / change of cell into new routing area	All GPRS MS	R97
44.2.3.1.7	Routing area updating / abnormal cases / change of cell during routing area updating procedure	All GPRS MS	R97
44.2.3.1.8	Routing area updating / abnormal cases / P-TMSI reallocation procedure collision	All GPRS MS	R97
44.2.3.2.1	Combined routing area updating / combined RA/LA accepted	All GPRS MS	R97
44.2.3.2.2	Combined routing area updating / MS in CS operation at change of RA	All GPRS MS	R97
44.2.3.2.3	Combined routing area updating / RA only accepted	All GPRS MS	R97
44.2.3.2.4	Combined routing area updating / rejected / PLMN not allowed	All GPRS MS	R97
44.2.3.2.5	Combined routing area updating / rejected / roaming not allowed in this location area	All GPRS MS	R97
44.2.3.2.6	Combined routing area updating / abnormal cases / access barred due to access class control	All GPRS MS	R97
44.2.3.2.7	Combined routing area updating / abnormal cases / attempt counter check / procedure timeout	All GPRS MS	R97
44.2.3.2.8	Combined routing area updating / abnormal cases / change of cell into new routing area	All GPRS MS	R97
44.2.3.2.9	Combined routing area updating / abnormal cases / change of cell during routing area updating procedure	All GPRS MS	R97
44.2.3.2.10	Combined routing area updating / abnormal cases / GPRS detach procedure collision	All GPRS MS	R97
44.2.3.3.1	Periodic routing area updating / accepted	All GPRS MS	R97
44.2.3.3.2	Periodic routing area updating / accepted / T3312 default value	All GPRS MS	R97
44.2.3.3.3	Periodic routing area updating / no cell available / network mode I	All GPRS MS	R97
44.2.3.3.4	Combined periodic routing area updating / no cell available	All GPRS MS	R97
44.2.4	P-TMSI reallocation	All GPRS MS	R97
44.2.5.1.1	Authentication accepted	All GPRS MS	R97
44.2.5.1.2	Authentication rejected	All GPRS MS	R97
44.2.5.2.1	Ciphering mode / start ciphering	All GPRS MS	R97
44.2.5.2.2	Ciphering mode / stop ciphering	All GPRS MS	R97
44.2.5.2.3	Ciphering mode / IMEISV request	All GPRS MS	R97
44.2.6.1	General Identification	All GPRS MS	R97
44.2.7	GMM READY timer handling	All GPRS MS	R97
45.2.1.1	Attach initiated by context activation/QoS Offered by Network is the QoS Requested	All GPRS MS	R97
45.2.1.2.1	QoS Accepted by MS	All GPRS MS	R97
45.2.1.2.2	QoS Rejected by MS	GPRS MS except MS which support all QoS and is not possible to configure to reject any QoS.	R97

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45.2.2	PDP context activation requested by the network, successful and unsuccessful	All GPRS MS	R97
45.2.3	Deleted test		R97
45.2.4.1	T3380 Expiry	All GPRS MS	R97
45.2.4.2	Collision of MS initiated and network requested PDP context activation	All GPRS MS	R97
45.3.1	PDP context modification	All GPRS MS	R97
45.4.1	PDP context deactivation initiated by the MS	All GPRS MS	R97
45.4.2	PDP context deactivation initiated by the network	All GPRS MS	R97
45.4.3.1	T3390 Expiry	All GPRS MS	R97
45.4.3.2	Collision of MS and network initiated PDP context deactivation requests	All GPRS MS	R97
45.5.1	Error cases	All GPRS MS	R97
46.1.2.1.1	Data transmission in protected mode	All GPRS MS	R97
46.1.2.1.2	Data transmission in unprotected mode	All GPRS MS	R97
46.1.2.1.3	Reception of I frame in ADM	All GPRS MS	R97
46.1.2.2.1.1	Link establishment from MS to SS	All GPRS MS	R97
46.1.2.2.1.2	Link establishment from SS to MS	All GPRS MS	R97
46.1.2.2.1.3	Loss of UA frame	All GPRS MS	R97
46.1.2.2.1.4	Total loss of UA frame	All GPRS MS	R97
46.1.2.2.1.5	DM response	All GPRS MS	R97
46.1.2.2.2.1	Checking N(S)	All GPRS MS	R97
46.1.2.2.2.2	Busy condition at the peer, with RR sent for resumption of transmission	All GPRS MS	R97
46.1.2.2.2.3	Busy condition at the peer, with ACK sent for resumption of transmission	All GPRS MS	R97
46.1.2.2.2.4	SACK frame	All GPRS MS	R97
46.1.2.2.3.1	Checking N(R)	All GPRS MS	R97
46.1.2.2.3.2	MS handling busy condition during bi-directional data transfer	All GPRS MS	R97
46.1.2.2.3.3	SACK frame	All GPRS MS	R97
46.1.2.2.3.4	ACK frame	All GPRS MS	R97
46.1.2.2.4.1	Reestablishment due to reception of SABM	All GPRS MS	R97
46.1.2.2.4.2	Reestablishment due to N200 failures	All GPRS MS	R97
46.1.2.2.4.3	Reestablishment due to reception of DM	All GPRS MS	R97
46.1.2.3.1	Collision of SABM	All GPRS MS	R97
46.1.2.3.2	Collision of SABM and DISC	All GPRS MS	R97
46.1.2.3.3	Collision of SABM and XID commands	All GPRS MS	R97
46.1.2.4.1	Unsolicited DM	All GPRS MS	R97
46.1.2.5.1	Sending FRMR due to undefined command control field	All GPRS MS	R97
46.1.2.5.2	Sending FRMR due to reception of an S frame with incorrect length	All GPRS MS	R97
46.1.2.5.3	Sending FRMR due to reception of an I frame information field exceeding the maximum length	All GPRS MS	R97
46.1.2.5.4	Frame reject condition during establishment of ABM	All GPRS MS	R97
46.1.2.6.1	Simultaneous acknowledged and unacknowledged data transfer on the same SAPI	GPRS MS supporting two or more PDP contexts	R97
46.1.2.6.2	Simultaneous acknowledged and unacknowledged data transfer on different SAPIs	GPRS MS supporting two or more PDP contexts	R97
46.1.2.7.1	Negotiation initiated by the SS during ABM, for T200 and N200	All GPRS MS	R97
46.1.2.7.2	Negotiation initiated by the SS during ADM, for N201-I	GPRS MS supporting network initiated PDP context activation	R97
46.1.2.7.3	Negotiation initiated by the SS (using SABM,	All GPRS MS	R97

	for IOV-I)		
46.1.2.7.4	Negotiation initiated by the SS (during ADM, for N201-U)	All GPRS MS	R97
46.1.2.7.5	Negotiation initiated by the SS (during ADM, for IOV-UI)	All GPRS MS	R97
46.1.2.7.6	Negotiation initiated by the SS (during ABM, for Reset)	GPRS MS supporting two or more PDP contexts	R97
46.1.2.7.7	XID command with unrecognised type field	All GPRS MS	R97
46.1.2.7.8	XID Response with out of range values	All GPRS MS	R97
46.2.2.1.1	Mobile originated normal data transfer with LLC in acknowledged mode	All GPRS MS	R97
46.2.2.1.2	Mobile originated normal data transfer with LLC in unacknowledged mode	All GPRS MS	R97
46.2.2.1.3	Usage of acknowledged mode for data transmission before and after PDP Context modification, on different SAPIs	All GPRS MS	R97
46.2.2.1.4	Reset indication during unacknowledged mode	All GPRS MS	R97
46.2.2.1.5	Reset indication during acknowledged mode	All GPRS MS	R97
46.2.2.2.1	LLC link re-establishment on reception of SN-DATA PDU with F=0 in ack mode in the Receive First Segment state	All GPRS MS	R97
46.2.2.2.2	LLC link re-establishment on receiving second segment with F=1 and with different PCOMP and DCOMP values in the acknowledged mode data transfer	All GPRS MS	R97
46.2.2.2.3	Single segment N-PDU from MS	All GPRS MS	R97
46.2.2.3.1	LLC link release on receiving DM from the SS during acknowledged data transfer	All GPRS MS	R97
46.2.2.4.1	Response from MS on receiving XID request from the SS	All GPRS MS	
46.2.2.4.2	Response from MS on receiving an XID request from the SS with an unassigned entity number	All GPRS MS	
46.2.2.4.3	Response from MS on receiving an XID response from the SS with unrecognised type field	All GPRS MS	

3.2.3   Applicability to terminal equipment

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

This EN 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 EN:

> **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 EN mathematical terms used throughout this EN are given in this subclause.

3.4.1 Mathematical signs

The "plus or minus" sign is expressed by "$\pm$".

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 "$\geq$".

The sign "less than or equal to" is expressed by "$\leq$".

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 400: E (dBµV/m) = P (dBm) + 130.5 (calculated for a frequency of 460 MHz).

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:

$E_{in} = E_{req} + F$

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 EN 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 EN the following conventions are used:

Table 3.2

Term	for GSM 400 represents	for GSM 900 represents	for DCS 1 800 represents
RA	RA500	RA250	RA130
HT	HT200	HT100	HT100
TUhigh	TU100	TU50	TU50
TUlow	TU6	TU3	TU1,5
EQ	EQ100	EQ50	EQ50

For tests using ARFCN ranges the following tables (3.3, 3.4) shall be used.

Table 3.3

Term	P-GSM 900	DCS 1 800	E-GSM 900	R-GSM 900
Low ARFCN range	1 to 5	513 to 523	975 to 980	955 to 960 (R-GSM) and 975 to 980 (E-GSM)
Mid ARFCN range	60 to 65	690 to 710	60 to 65	60 to 65
High ARFCN range	120 to 124	874 to 884	120 to 124	120 to 124

Table 3.4

Term	GSM 450	GSM 480
Low ARFCN range	259 to 261	306 to 308
Mid ARFCN range	275 to 277	322 to 324
High ARFCN range	291 to 293	338 to 340

NOTE 1: For definitions of GSM 450, GSM 480, P-GSM 900, DCS 1 800, E-GSM 900 and R-GSM 900 refer to GSM 05.05.

NOTE 2: In this EN the term "GSM 900" is used to cover the primary GSM band, the extended GSM band and the railway-GSM band.

NOTE3: For R-GSM two low ARFCN ranges are defined. Unless specified otherwise for a specific test the ARFCN range defined for E-GSM900 MS is used for the testing of MS supporting the R-GSM 900 frequency range.

4 Test Equipment

4.1 Terms used to describe test equipment in this EN

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 EN 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 EN 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 EN. 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 EN , 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 EN 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 EN.

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 EN, 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
R-GSM 900:	a 23 MHz band
DCS 1 800:	a 75 MHz band

For the tests using frequency hopping, 14 frequencies are used over

GSM 450:   a 6.4 MHz band

GSM 480:   a 6.4 MHz band

Table 6.1: Hopping frequencies

	ARFCN
GSM 450	260, 262, 265, 267, 269, 272, 274, 278, 280, 282, 285, 287, 290, 292
GSM 480	307, 309, 312, 314, 316, 319, 321, 325, 327, 329, 332, 334, 337, 339
P-GSM 900	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-GSM 900	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
R-GSM 900	955, 963, 966, 967, 971, 974, 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, 36, 38, 42, 43, 45
DCS 1 800	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 EN the following conditions are referenced by the term "ideal" radio conditions:

No multipath conditions

MS power control level:

GSM 400:		7
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 EN, are defined in annex 5.

6.5   Power (control) levels

In this EN, 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 400, 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 400 or 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 EN. 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 EN, unless otherwise stated in the test description, the Mobile Terminating Speech call set-up procedure shall be as described in this subclause.

    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	None Barred
(0...9, 11...15)	
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 subclause 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	None Barred
(0...9, 11...15)	

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	None Barred
(0...9, 11...15)	
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	None Barred
(0...9, 11...15)	
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 BCCH Frequency list in SI 2

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

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

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 subclause 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

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 EN, unless otherwise stated in the test description, the Mobile Terminating Data call set-up procedure shall be as described in this subclause.

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 subclause 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 EN, unless otherwise stated in the test description, the Mobile Originating Data call set-up procedure shall be as described in this subclause.

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 subclause 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 (resp. HR) if first BC IE in the SETUP indicated speech FR (resp. HR);
	- Set according to the table below if first BC - IE in the SETUP indicates data or fax If negotiation took place;
	- Speech FR (resp. HR) if first BC-IE in the CALL PROCEEDING indicated speech FR (resp. HR);
	- 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

10.5   Generic call set-up procedure for mobile terminating multislot configuration, minimum number of timeslots allocated

In the test procedures described in this EN, unless otherwise stated in the test description, the Mobile Terminating multislot connection set-up procedure shall be as described in this subclause.

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.

10.5.1 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.

10.5.2 Definition of system information messages

See subclause 10.1.2.

10.5.3 Procedure

An MS terminating multislot connection 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	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	AUTHENTICATION REQUEST	
7	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value
8	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message
9	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered
10	SS		SS starts ciphering
11	SS -> MS	SETUP	A multislot connection is set up according to the required characteristics of the test procedure. Bearer Capability and Signal IEs included
12	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	
B13	MS -> SS	ALERTING	
B14	MS		An alerting indication as defined in a PICS/PIXIT statement given by the MS
B15	MS		The MS is made to accept the call in a way described in a PICS/PIXIT statement
B16	MS -> SS	CONNECT	
17	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation only one timeslot is allocated.
18	MS -> SS	ASSIGNMENT COMPLETE	Sent on the TCH/Sm channel
19	MS		The TCH(s) is through connected in both directions
20	SS -> MS	CONNECT ACKNOWLEDGE	

10.5.4 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 2	
Channel type	TCH/F + FACCH/F and SACCH/M
Time slot number	Arbitrary
Training seq. code	Default
Hopping	No
ARFCN	Default
Power level	Power control level 7
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.

CONNECT ACKNOWLEDGE (GSM 04.08, 9.3.6) to the MS

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

10.6 Generic call set-up procedure for mobile originating multislot configuration, minimum number of timeslots allocated

In the test procedures described in this EN, unless otherwise stated in the test description, the Mobile Originating multislot connection set-up procedure shall be as described in this subclause.

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.

10.6.1   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.

10.6.2 Definition of system information messages

See subclause 10.1.2.

10.6.3 Procedure

An MS originating multislot connection 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	MS -> SS	CLASSMARK CHANGE	Multislot class
6	SS -> MS	AUTHENTICATION REQUEST	
7	MS -> SS	AUTHENTICATION RESPONSE	SRES specifies correct value
8	SS -> MS	CIPHERING MODE COMMAND	SS starts deciphering after sending the message
9	MS -> SS	CIPHERING MODE COMPLETE	Shall be sent enciphered. All following messages shall be sent enciphered
10	SS		SS starts ciphering
11	MS -> SS	SETUP	A multislot connection is set up according to the required characteristics of the test procedure.
12	SS -> MS	CALL PROCEEDING	
13	SS -> MS	ALERTING	
14	MS		An alerting indication as defined in an PICS/PIXIT statement is given by the MS
15	SS -> MS	ASSIGNMENT COMMAND	In multislot allocation only one timeslot is allocated.
16	MS -> SS	ASSIGNMENT COMPLETE	Sent on TCH/Sm channel.
17	SS -> MS	CONNECT	
18	MS -> SS	CONNECT ACKNOWLEDGE	
19	MS		The TCH(s) is through connected in both directions

10.6.4 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 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
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 2	
Channel type	TCH/F + FACCH/F + SACCH/M
Time slot number	Arbitrary
Training seq. code	Default
Hopping	No
FB no	Band no 0
ARFCN	Default
Power level	Power control level 7
Multislot allocation	
- Downlink assignment	Only one timeslot is assigned in downlink direction.
- Uplink assignment	Only one timeslot is assigned in uplink direction.

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

10.7 Generic procedure for GPRS downlink data transfer

In the test procedures described in this EN, unless otherwise stated in the test description, the Mobile Terminating Data transfer procedure shall be as described in this subclause.

> 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.

10.7.1 Initial conditions

System Simulator:

- 1 cell, default parameters as specified in section 40.

- Ideal radio conditions and Timing advance set to 0.

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 GPRS attached with a P-TMSI allocated and the test PDP context 2 activated.

10.7.2 Definition of system information messages

See section 40.

10.7.3 Procedure

Step	Direction	Message	Comments
1			Start an application in the MS that continually reads all received data
2	SS -> MS	PACKET PAGING REQUEST	Contains P-TMSI of the MS. Sent on PPCH.
3	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = " Page Response ". Received on PRACH.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	Random Reference = pertaining to the message received in step 3. Sent on PAGCH. Single block assignment.
5	MS -> SS	UPLINK RLC DATA BLOCK	LLC PDU implicitly indicating paging response, containing TLLI in the RLC/MAC header. .
6	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge the received RLC data block. Sent on PACCH. Poll bit in the MAC header is set to indicate a valid RRBP.
7	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	As RLC/MAC control block. Received on PACCH.
8	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Poll bit in the MAC header is set to indicate a valid RRBP. Sent on PCCCH. TIMESLOT_ALLOCATION arbitrarily chosen but shall not exceed the multislot capabilities of the MS. Other parameters as specified in each test case.
9	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on PACCH.

Note. The MS is always granted a USF whenever the MS is expected to send.

10.7.4 Specific message contents

See section 40.

10.8 Generic procedure for GPRS uplink data transfer

In the test procedures described in this EN, unless otherwise stated in the test description, the Mobile Originated Data transfer procedure shall be as described in this subclause.

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.

10.8.1 Initial conditions

System Simulator:

- 1 cell, default parameters as specified in section 40.

- Ideal radio conditions and Timing advance set to 0.

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 GPRS attached with a P-TMSI allocated and the test PDP context3 activated.

10.8.2 Definition of system information messages

See section 40.

10.8.3 Procedure

Step	Direction	Message	Comments
1			Start an application in the MS that continually sends data
2	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Single block assignment, to order the MS to follow the two phase access procedure. Sent on PAGCH.
4	MS -> SS	PACKET RESOURCE REQUEST	Two phase access procedure. Received on the single block assigned in step 3.
5	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PACCH of the same PDCH assigned in step 2. TIMESLOT_ALLOCATION arbitrarily chosen but shall not exceed the multislot capabilities of the MS. Open ended assignment.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on PACCH containing USF assigned to the MS.

Note. The MS is always granted a USF whenever the MS is expected to send.

10.8.4 Specific message contents

PACKET UPLINK ACK/NACK message:

MESSAGE_TYPE	001001
PAGE_MODE	Normal Paging
UPLINK_TFI	00, same as the TFI value of the TBF which the message applies 0, message escape
CHANNEL_CODING_COMMAND	Same coding scheme as in the assigned TBF which the message applies to
Ack/Nack Description	
- FINAL_ACK_INDICATION	0 (not a final ACK)
- STARTING_SEQUENCE_NUMBER	V(R)
- RECEIVED_BLOCK_BITMAP	Acknowledge the all data blocks transmitted by the MS
{0|1<CONTENTION_RESOLUTION_TLLI>}	0 (no contention resolution TLLI)
{0|1<Packet Timing Advance>}	0 (no packet timing advance)
{0|1<Power Control Parameters>}	0 (no power control parameters)
{0|1<Extension bits>}	0 (no extension bits present)
{0|1<Fixed Allocation parameters>}	0 (no fixed allocation parameters present)
spare padding	Spare Padding

PACKET UPLINK ASSIGNMENT message (two-phase dynamic allocation assigning a TBF):

MESSAGE_TYPE	001010
PAGE_MODE	Normal Paging
{0|1<PERSISTENCE_LEVEL>}	0 (no persistence level present)
- Address information	10 (TLLI)
- TLLI	The value received from the MS
	0, message escape
CHANNEL_CODING_COMMAND	Arbitrarily chosen from the valid values (default CS-1)
TLLI_BLOCK_CHANNEL_CODING	'0'B, cs-1
Packet Timing Advance	
- {0|1<TIMING_ADVANCE_VALUE>}	1 (timing advance value)
- TIMING_ADVANCE_VALUE	0 bit periods
- {0|1<TIMING_ADVANCE_INDEX>	0 (no timing advance index)
<TIMING_ADVANCE_TIMESLOT_NUMBER >}	
{0|1<Frequency Parameters>}	1 (Frequency Parameters present)
- Frequency Parameters	
- TSC	Arbitrarily chosen (default 5)
-	01 (indirect encoding)
- MAIO	Value arbitrarily chosen
- MA_NUMBER	Value arbitrarily chosen from PSI2s defined (default 0001)
- {0|1<CHANGE_MARK_1>	00
{0|1<CHANGE_MARK_2>}}	
Dynamic allocation	01
- Extended Dynamic Allocation	0 (Dynamic allocation)
- {0|1<P0><PR_MODE>}	0
- USF_GRANULARITY	0, one block
- {0|1<UPLINK_TFI_ASSIGNMENT>}	1 (uplink TFI assignment)
- UPLINK_TFI_ASSIGNMENT	Arbitrarily chosen (default 00101)
- {0|1<RLC_DATA_BLOCKS_GRANTED>}	0 (no RLC_DATA_BLOCKS_GRANTED, open-ended TBF)
- {0|1<TBF_STARTING_TIME>}	0 (no starting time)
-	1 (Timeslot Allocation with Power Control Parameters) one slot arbitrarily chosen and the following USF_TNx and GAMMA_TNx shall be corresponding to the chosen value, default timeslot 2 assigned)
- ALPHA	0.5
- {0|1<USF_TN0><GAMMA_TN0>}	0 (timeslot 0 not assigned)
- {0|1<USF_TN1><GAMMA_TN1>}	0 (timeslot 1 not assigned)
- {0|1<USF_TN2><GAMMA_TN2>}	1 (timeslot 2 assigned)
- USF_TN2	Arbitrarily chosen (default 101)
- GAMMA_TN2	For GSM 900, +9 dBm
	For DCS 1800, +6 dBm
- {0|1<USF_TN3><GAMMA_TN3>}	0 (timeslot 3 not assigned)
- {0|1<USF_TN4><GAMMA_TN4>}	0 (timeslot 4 not assigned)
- {0|1<USF_TN5><GAMMA_TN5>}	0 (timeslot 5 not assigned)
- {0|1<USF_TN6><GAMMA_TN6>}	0 (timeslot 6 not assigned)
- {0|1<USF_TN7><GAMMA_TN7>}	0 (timeslot 7 not assigned)
spare padding	Spare Padding

See also section 40.