



**SLOVENSKI STANDARD**  
**SIST EN 300 607-1 V5.6.1:2005**  
**01-februar-2005**

---

8 [[ ]HJb]`WV] b]`hY`Y\_ca i b]\_UW`g\_]`g]ghYa `fZuU&ZL!`GdYWZ]\_UW`Ug\_`UXbcghj  
a cV]`bY`dcgHUY`fA GL!`%`rXY.`GdYWZ]\_UW`Ug\_`UXbcghj`f] GA`%%`\$!`%žfUn`] ]WU) `\*`%&

Digital cellular telecommunications system (Phase 2+) (GSM); Mobile Station (MS) conformance specification; Part 1: Conformance specification (GSM 11.10-1 version 5.6.1)

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 300 607-1 V5.6.1:2005](https://standards.iteh.ai/catalog/standards/sist/eaea0d7a-039a-406f-a105-7455695c24a3/sist-en-300-607-1-v5-6-1-2005)

Ta slovenski standard je istoveten z: **EN 300 607-1 Version 5.6.1**

---

**ICS:**

33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)
-----------	---	--

**SIST EN 300 607-1 V5.6.1:2005** en

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 300 607-1 V5.6.1:2005](https://standards.iteh.ai/catalog/standards/sist/eaca0d7a-039a-406f-a105-7433095e24a3/sist-en-300-607-1-v5-6-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/eaca0d7a-039a-406f-a105-7433095e24a3/sist-en-300-607-1-v5-6-1-2005>

# EN 300 607-1 V5.6.1 (1998-12)

*European Standard (Telecommunications series)*

**Digital cellular telecommunications system (Phase 2+);  
Mobile Station (MS) conformance specification;  
Part 1: Conformance specification  
(GSM 11.10-1 version 5.6.1)**

iTeh STANDARD PREVIEW  
(standards.iteh.ai)

**GSM**®  
GLOBAL SYSTEM FOR  
MOBILE COMMUNICATIONS

[SIST EN 300 607-1 V5.6.1:2005](https://standards.iteh.ai/catalog/standards/sist/eaea0d7a-039a-406f-a105-7433095e24a3/sist-en-300-607-1-v5-6-1-2005)

<https://standards.iteh.ai/catalog/standards/sist/eaea0d7a-039a-406f-a105-7433095e24a3/sist-en-300-607-1-v5-6-1-2005>



**European Telecommunications Standards Institute**

---

**Reference**

REN/SMG-071110QR3-1 (5mc92k0o.PDF)

---

**Keywords**

Digital cellular telecommunications system,  
Global System for Mobile Communication (GSM)

**ETSI Secretariat**

---

**Postal address**

F-06921, Sophia Antipolis Cedex - FRANCE

---

**Office address**

650 Route des Lucioles - Sophia Antipolis  
Valbonne - FRANCE

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

Siret N° 348 623 562 00017 - NAF 742 C 039a-406f-a105-

Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**Internet**

secretariat@etsi.fr

<http://www.etsi.fr>

<http://www.etsi.org>

---

**Copyright Notification**

No part may be reproduced except as authorized by written permission.  
The copyright and the foregoing restriction extend to reproduction in all media.

# Contents

Intellectual Property Rights.....	28
Foreword .....	28
1 Scope.....	29
2 Normative references .....	29
3 Definitions, conventions, and applicability .....	36
3.1 Mobile station definition and configurations .....	36
3.2 Applicability .....	36
3.2.1 Applicability of this specification.....	36
3.2.2 Applicability of the individual tests.....	36
3.2.3 Applicability to terminal equipment.....	61
3.3 Definitions .....	62
3.4 Conventions for mathematical notations .....	62
3.4.1 Mathematical signs.....	62
3.4.2 Powers to the base 10.....	62
3.5 Conventions on electrical terms .....	62
3.5.1 Radio Frequency (RF) input signal level.....	62
3.5.2 Reference sensitivity level.....	63
3.5.3 Power level of fading signal .....	63
3.6 Terms on test conditions .....	63
3.6.1 Radio test conditions .....	63
4 Test Equipment .....	65
4.1 Terms used to describe test equipment in this EN.....	65
4.2 Functional requirements of test equipment .....	65
5 Testing methodology in general (layers 1, 2, and 3).....	65
5.1 Testing of optional functions and procedures.....	65
5.2 Test interfaces and facilities.....	65
5.3 Different protocol layers .....	66
5.4 Information to be provided by the apparatus supplier.....	66
5.5 Definitions of transmit and receive times.....	66
6 Reference test methods .....	66
6.1 General.....	66
6.2 Choice of frequencies in the frequency hopping mode .....	67
6.3 "Ideal" radio conditions .....	67
6.4 Standard test signals.....	67
6.5 Power (control) levels.....	67
7 Implicit testing .....	67
8 Measurement uncertainty .....	68
9 Format of tests.....	68
10 Generic call set up procedures .....	68
10.1 Generic call set-up procedure for mobile terminating speech calls.....	68
10.2 Generic call set-up procedure for mobile originating speech calls .....	73
10.3 Generic call set-up procedure for mobile terminating data calls.....	76
10.4 Generic call set-up procedure for mobile originating data calls.....	79
10.5 Generic call set-up procedure for mobile terminating multislot configuration, minimum number of timeslots allocated.....	82

10.6	Generic call set-up procedure for mobile originating multislot configuration, minimum number of timeslots allocated.....	85
11	General tests.....	89
11.1	Verification of support and non-support of services (multiple numbering scheme or ISDN).....	89
11.1.1	Mobile Terminated (MT) calls.....	89
11.1.2	Mobile Originated (MO) calls.....	90
11.2	Verification of support of the single numbering scheme.....	91
11.3	Verification of non-support of services (Advice of Charge Charging (AoCC)).....	92
11.4	Verification of non-support of services (call hold).....	94
11.5	Verification of non-support of services (multiparty).....	95
11.6	Verification of non-support of feature (Fixed Dialling Number (FDN)).....	95
11.7	IMEI Security.....	97
11.8	Coding of the Bearer Capability information element.....	97
11.8.1	Network to MS Direction.....	98
11.8.1.1	BS 21 to 26 - Asynchronous Service.....	98
11.8.1.1.1	BS 21.....	98
11.8.1.1.2	BS 22.....	102
11.8.1.1.3	BS 24.....	102
11.8.1.1.4	BS 25.....	102
11.8.1.1.5	BS 26.....	102
11.8.1.1.6	BS 23.....	102
11.8.1.2	BS 31 to 34 - Synchronous Service.....	103
11.8.1.2.1	BS 32.....	103
11.8.1.2.2	BS 31.....	107
11.8.1.2.3	BS 33.....	108
11.8.1.2.4	BS 34.....	108
11.8.1.3	BS 61 - Alternate Speech / Data.....	108
11.8.1.3.1	Speech/Asynchronous Data, Transparent.....	109
11.8.1.3.2	Speech/Asynchronous Data, Non Transparent.....	111
11.8.1.3.3	Speech/Synchronous Data.....	113
11.8.1.4	BS 81 - Speech followed by Data.....	114
11.8.1.4.1	Speech followed by Asynchronous Data.....	114
11.8.1.4.2	Speech followed by Synchronous Data.....	114
11.8.1.5	TS 61 - Alternate Speech / Facsimile group 3.....	114
11.8.1.5.1	TS 61 - Alternate Speech / Facsimile group 3, Transparent.....	115
11.8.1.5.2	TS 61 - Alternate Speech / Facsimile group 3, Non-Transparent.....	116
11.8.1.6	TS 62 - Automatic Facsimile group 3.....	117
11.8.2	MS to SS direction.....	117
11.8.2.1	BS 21 to 26 - Asynchronous Service.....	117
11.8.2.1.1	BS 21.....	118
11.8.2.1.2	BS 22.....	122
11.8.2.1.3	BS 24.....	122
11.8.2.1.4	BS 25.....	122
11.8.2.1.5	BS 26.....	122
11.8.2.1.6	BS 23.....	122
11.8.2.2	BS 31 to 34 - Synchronous Service.....	123
11.8.2.2.1	BS 32.....	123
11.8.2.2.2	BS 31.....	127
11.8.2.2.3	BS 33.....	128
11.8.2.2.4	BS 34.....	128
11.8.2.3	BS 41 to 46 - PAD Access Asynchronous.....	129
11.8.2.3.1	<sup>2)</sup> BS 41.....	129
11.8.2.3.2	BS 42.....	130
11.8.2.3.3	BS 44.....	131
11.8.2.3.4	BS 45.....	131

11.8.2.3.5	BS 46 .....	131
11.8.2.3.6	BS 43 .....	131
11.8.2.4	BS 51 to 53 - Packet Service Synchronous.....	132
11.8.2.4.1	<sup>2)</sup> BS 51.....	132
11.8.2.4.2	BS 52 .....	132
11.8.2.4.3	BS 53 .....	132
11.8.2.5	BS 61 - Alternate Speech / Data .....	133
11.8.2.5.1	Speech/Asynchronous Data, Transparent.....	133
11.8.2.5.2	Speech/Asynchronous Data, Non Transparent.....	135
11.8.2.5.3	Speech/Synchronous Data.....	137
11.8.2.6	BS 81 - Speech followed by Data.....	138
11.8.2.6.1	Speech followed by Asynchronous Data.....	138
11.8.2.6.2	Speech followed by Synchronous Data.....	138
11.8.2.7	TS 61 - Alternate Speech / Facsimile group 3 .....	138
11.8.2.7.1	TS 61 - Alternate Speech / Facsimile group 3, Transparent.....	139
11.8.2.7.2	TS 61 - Alternate Speech / Facsimile group 3, Non Transparent.....	140
11.8.2.8	TS 62 - Automatic Facsimile group 3.....	141
11.8.2.9	TS 11 and TS 12- Speech .....	141
11.8.2.9.1	Support of only full/half rate speech version 1 .....	141
11.8.2.9.2	Support of speech full rate version 2 (Enhanced Full Rate).....	141
12	Transceiver.....	143
12.1	Conducted spurious emissions .....	143
12.1.1	MS allocated a channel .....	143
12.1.2	MS in idle mode.....	145
12.2	Radiated spurious emissions .....	146
12.2.1	MS allocated a channel .....	147
12.2.2	MS in idle mode.....	149
12.3	Conducted spurious emissions for MS supporting the R-GSM frequency band .....	150
12.3.1	MS allocated a channel .....	150
12.3.2	MS in idle mode.....	153
12.4	Radiated spurious emissions for MS supporting the R-GSM frequency band .....	154
12.4.1	MS allocated a channel .....	155
12.4.2	MS in idle mode.....	157
13	Transmitter.....	159
13.1	Frequency error and phase error .....	159
13.2	Frequency error under multipath and interference conditions.....	162
13.3	Transmitter output power and burst timing.....	164
13.4	Output RF spectrum.....	172
13.5	Intermodulation attenuation .....	178
13.6	Frequency error and phase error in HSCSD multislot configurations.....	179
13.7	Transmitter output power and burst timing in HSCSD configurations .....	183
13.8	Output RF spectrum in HSCSD multislot configuration .....	190
13.9	Output RF spectrum for MS supporting the R-GSM band.....	197
14	Receiver .....	203
14.1	Bad frame indication.....	209
14.1.1	Bad frame indication - TCH/FS .....	209
14.1.1.1	Bad frame indication - TCH/FS - Random RF input .....	209
14.1.1.2	Bad frame indication - TCH/FS - Frequency hopping and downlink DTX .....	211
14.1.2	Bad frame indication - TCH/HS.....	212
14.1.2.1	Bad frame indication - TCH/HS - Random RF input.....	212
14.1.2.2	Bad frame indication - TCH/HS - Frequency hopping and downlink DTX.....	213
14.1.3	Bad frame indication - TCH/FS - Frequency hopping and downlink DTX - Phase 2 MS in a phase 1 network.....	214

14.1.4	Bad frame indication - TCH/HS - Frequency hopping and downlink DTX - Phase 2 MS in a phase 1 network.....	216
14.2	Reference sensitivity .....	219
14.2.1	Reference sensitivity - TCH/FS.....	219
14.2.2	Reference sensitivity - TCH/HS (Speech frames) .....	221
14.2.3	Reference sensitivity - FACCH/F.....	224
14.2.4	Reference sensitivity - FACCH/H.....	225
14.2.5	Reference sensitivity - full rate data channels .....	226
14.2.6	Reference sensitivity - half rate data channels.....	227
14.2.7	Reference sensitivity - TCH/EFS .....	228
14.2.8	Reference sensitivity - full rate data channels in multislot configuration .....	230
14.2.9	Reference sensitivity - TCH/FS for MS supporting the R-GSM band .....	231
14.3	Usable receiver input level range.....	233
14.4	Co-channel rejection .....	235
14.4.1	Co-channel rejection - TCH/FS.....	235
14.4.2	Co-channel rejection - TCH/HS .....	236
14.4.3	Co-channel rejection - TCH/HS (SID frames) .....	238
14.4.4	Co-channel rejection - FACCH/F.....	240
14.4.5	Co-channel rejection - FACCH/H .....	241
14.4.6	Co-channel rejection - TCH/EFS .....	242
14.5	Adjacent channel rejection.....	244
14.5.1	Adjacent channel rejection - speech channels .....	244
14.5.2	Adjacent channel rejection - control channels.....	246
14.6	Intermodulation rejection.....	248
14.6.1	Intermodulation rejection - speech channels .....	248
14.6.2	Intermodulation rejection - control channels.....	250
14.7	Blocking and spurious response.....	252
14.7.1	Blocking and spurious response - speech channels.....	252
14.7.2	Blocking and spurious response - control channels.....	255
14.7.3	Blocking and spurious response - speech channels for MS supporting the R-GSM band.....	258
14.7.4	Blocking and spurious response - control channels for MS supporting the R-GSM band.....	261
14.8	AM suppression.....	264
14.8.1	AM suppression - speech channels.....	264
14.8.2	AM suppression - control channels .....	265
14.9	Paging performance at high input levels .....	266
15	Timing advance and absolute delay .....	268
16	Reception time tracking speed .....	270
17	Access times during handover .....	272
17.1	Intra cell channel change.....	272
17.2	Inter cell handover .....	274
18	Temporary reception gaps.....	277
18.1	Temporary reception gaps, single slot .....	277
18.2	Temporary reception gaps in HSCSD multislot configurations.....	278
19	Channel release after unrecoverable errors.....	281
19.1	Channel release after unrecoverable errors -1.....	281
19.2	Channel release after unrecoverable errors - 2.....	282
19.3	Channel release after unrecoverable errors - 3.....	283
20	Cell selection and reselection .....	285
20.1	Cell selection .....	286
20.2	Cell selection with varying signal strength values.....	288
20.3	Basic cell reselection .....	290



20.4	Cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters .....	292
20.5	Cell reselection using parameters transmitted in the System Information type 2bis, type 2ter, type 7 and type 8 messages.....	294
20.6	Cell reselection timings.....	296
20.7	Priority of cells .....	298
20.8	Cell reselection when C1 (serving cell) < 0 for 5 seconds .....	299
20.9	Running average of the surrounding cell BCCH carrier signal levels.....	300
20.10	Running average of the serving cell BCCH carrier signal level.....	302
20.11	Updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list .....	303
20.12	Decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers ...	304
20.13	Decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers.....	305
20.14	Emergency calls .....	306
20.15	Cell reselection due to MS rejection "LA not allowed" .....	307
20.16	Downlink signalling failure.....	309
20.17	Cell selection if no suitable cell found in 10 s .....	310
20.18	Cell reselection due to MS rejection "Roaming not allowed in this LA" .....	311
20.19	Cell selection on release of SDCCH and TCH .....	313
20.20	Multiband cell selection and reselection.....	314
20.20.1	Multiband cell selection and reselection / Cell Selection .....	314
20.20.2	Multiband cell selection and reselection / Cell reselection.....	316
20.21	R-GSM cell selection and reselection .....	318
20.21.1	R-GSM cell selection .....	319
20.21.2	R-GSM cell selection with varying signal strength values .....	321
20.21.3	R-GSM basic cell reselection .....	323
20.21.4	R-GSM cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters .....	325
20.21.5	R-GSM cell reselection using parameters transmitted in the System Information type 2bis, type 2ter, type 7 and type 8 messages .....	327
20.21.6	R-GSM cell reselection timings.....	328
20.21.7	R-GSM priority of cells.....	330
20.21.8	R-GSM cell reselection when C1 (serving cell) < 0 for 5 seconds.....	332
20.21.9	R-GSM running average of the surrounding cell BCCH carrier signal levels .....	333
20.21.10	R-GSM running average of the serving cell BCCH carrier signal level.....	334
20.21.11	Updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list.....	335
20.21.12	R-GSM decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers.....	336
20.21.13	R-GSM decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers .....	337
20.21.14	R-GSM emergency calls.....	338
20.21.15	R-GSM cell reselection due to MS rejection "LA not allowed" .....	340
20.21.16	R-GSM downlink signalling failure .....	341
20.21.17	R-GSM cell selection if no suitable cell found in 10 s .....	343
20.21.18	R-GSM cell reselection due to MS rejection "Roaming not allowed in this LA" .....	344
20.21.19	R-GSM cell selection on release of SDCCH and TCH .....	345
21	Received signal measurements .....	347
21.1	Signal strength .....	347
21.2	Signal strength selectivity .....	350
21.3	Signal quality under static conditions .....	351
21.3.1	Signal quality under static conditions - TCH/FS .....	351
21.3.2	Signal quality under static conditions - TCH/HS .....	353
21.4	Signal quality under TU50 propagation conditions .....	355
21.5	Received signal measurements in HSCSD multislot configuration.....	357

22	Transmit power control timing and confirmation .....	362
22.1	Transmit power control timing and confirmation, single slot .....	362
22.2	Transmit power control timing and confirmation in HSCSD multislot configurations .....	363
23	Single frequency reference.....	365
24	Tests of the layer 1 signalling functions .....	366
25	Tests of the layer 2 signalling functions .....	367
25.1	Introduction, objective and scope .....	367
25.1.1	General.....	367
25.1.2	Test configurations.....	367
25.1.3	Pre-conditions .....	367
25.1.4	Layer 2 test frames .....	368
25.1.5	Establishment of the dedicated physical resource .....	368
25.1.6	Release of the dedicated physical resource .....	369
25.2	Test sequences .....	369
25.2.1	Initialization .....	370
25.2.1.1	Initialization when contention resolution required.....	370
25.2.1.1.1	Normal initialization .....	370
25.2.1.1.2	Initialization failure.....	371
25.2.1.1.2.1	Loss of UA frame .....	371
25.2.1.1.2.2	UA frame with different information field.....	372
25.2.1.1.2.3	Information frame and supervisory frames in response to an SABM frame .....	373
25.2.1.1.3	Initialization denial .....	373
25.2.1.1.4	Total initialization failure.....	374
25.2.1.2	Initialization, contention resolution not required.....	375
25.2.1.2.1	Normal initialization without contention resolution.....	375
25.2.1.2.2	Initialization failure.....	376
25.2.1.2.3	Initialization denial .....	378
25.2.1.2.4	Total initialization failure.....	378
25.2.2	Normal information transfer.....	379
25.2.2.1	Sequence counting and I frame acknowledgements.....	379
25.2.2.2	Receipt of an I frame in the timer recovery state.....	382
25.2.2.3	Segmentation and concatenation.....	384
25.2.3	Normal layer 2 disconnection.....	387
25.2.4	Test of link failure .....	387
25.2.4.1	I frame loss (MS to SS) .....	387
25.2.4.2	RR response frame loss (SS to MS).....	389
25.2.4.3	RR response frame loss (MS to SS).....	389
25.2.5	Test of frame transmission with incorrect C/R values .....	390
25.2.5.1	I frame with C bit set to zero .....	390
25.2.5.2	SABM frame with C bit set to zero .....	391
25.2.6	Test of errors in the control field.....	392
25.2.6.1	N(S) sequence error.....	392
25.2.6.2	N(R) sequence error .....	394
25.2.6.3	Improper F bit.....	395
25.2.7	Test on receipt of invalid frames .....	395
26	Testing of layer 3 functions .....	400
26.1	Default conditions and structured sequence of tests.....	400
26.1.1	Default test conditions during layer 3 tests.....	400
26.1.2	Structured sequence of the tests .....	401
26.1.3	General rules for message parameters .....	402
26.1.4	General rules for layer 3 testing .....	402
26.1.5	Format of layer 3 test descriptions .....	402
26.2	Initial tests.....	404

26.2.1	Channel request.....	404
26.2.1.1	Channel request / initial time.....	404
26.2.1.2	Channel request / repetition time.....	405
26.2.1.3	Channel request / random reference.....	407
26.2.2	IMSI detach and IMSI attach.....	408
26.2.3	Sequenced MM / CM message transfer.....	412
26.2.4	Establishment cause.....	413
26.3	Test of MS functions in idle mode.....	422
26.3.1	Initial conditions.....	422
26.3.2	MS indication of available PLMNs.....	424
26.3.3	MS will send only if BSS is "on air".....	425
26.3.4	Manual mode of PLMN selection.....	425
26.4	Lower layer failures in layer 3 testing.....	427
26.4.1	Introduction.....	427
26.4.2	Layer 1 reception failures.....	427
26.4.3	Data link layer failures.....	427
26.4.4	Lower layer failures, used for the tests in clause 25.....	427
26.5	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions.....	428
26.5.1	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unknown protocol discriminator.....	428
26.5.2	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / TI and skip indicator.....	429
26.5.2.1	TI and skip indicator / RR.....	429
26.5.2.1.1	TI and skip indicator / RR / Idle Mode.....	429
26.5.2.1.2	TI and skip indicator / RR / RR-Connection established.....	430
26.5.2.2	TI and skip indicator / MM.....	431
26.5.2.3	TI and skip indicator / CC.....	433
26.5.3	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / undefined or unexpected message type.....	435
26.5.3.1	Undefined or unexpected message type / undefined message type / CC.....	435
26.5.3.2	Undefined or unexpected message type / undefined message type / MM.....	436
26.5.3.3	Undefined or unexpected message type / undefined message type / RR.....	438
26.5.3.4	Undefined or unexpected message type / unexpected message type / CC.....	439
26.5.4	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unforeseen information elements in the non-imperative message part.....	440
26.5.4.1	Unforeseen information elements in the non-imperative message part / duplicated information elements.....	440
26.5.5	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / non-semantic mandatory IE errors.....	442
26.5.5.1	Non-semantic mandatory IE errors / RR.....	442
26.5.5.1.1	Non-semantic mandatory IE errors / RR / missing mandatory IE error.....	442
26.5.5.1.1.1	Non-semantic mandatory IE errors / RR / missing mandatory IE error / special case.....	442
26.5.5.1.1.2	Non-semantic mandatory IE errors / RR / missing mandatory IE error / general case.....	443
26.5.5.1.2	Non-semantic mandatory IE errors / RR / comprehension required.....	444
26.5.5.2	Non-semantic mandatory IE errors / MM.....	445
26.5.5.2.1	Non-semantic mandatory IE errors / MM / syntactically incorrect mandatory IE.....	445
26.5.5.2.2	Non-semantic mandatory IE errors / MM / syntactically incorrect mandatory IE.....	447
26.5.5.2.3	Non-semantic mandatory IE errors / MM / comprehension required.....	448
26.5.5.3	Non-semantic mandatory IE errors / CC.....	450
26.5.5.3.1	Non-semantic mandatory IE errors / CC / missing mandatory IE.....	450
26.5.5.3.1.1	Non-semantic mandatory IE errors / CC / missing mandatory IE / disconnect message.....	450
26.5.5.3.1.2	Non-semantic mandatory IE errors / CC / missing mandatory IE / general case.....	451
26.5.5.3.2	Non-semantic mandatory IE errors / CC / comprehension required.....	452
26.5.6	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unknown IE, comprehension not required.....	453
26.5.6.1	Unknown information elements in the non-imperative message part / MM.....	453

26.5.6.1.1	Unknown IE, comprehension not required / MM / IE unknown in the protocol .....	453
26.5.6.1.2	Unknown IE, comprehension not required / MM / IE unknown in the message .....	455
26.5.6.2	Unknown information elements in the non-imperative message part / CC .....	456
26.5.6.2.1	Unknown information elements in the non-imperative message part / CC / Call establishment ...	456
26.5.6.2.2	Unknown information elements in the non-imperative message part / CC / disconnect .....	457
26.5.6.2.3	Unknown information elements in the non-imperative message part / CC / release .....	458
26.5.6.2.4	Unknown information elements in the non-imperative message part / CC / release complete .....	459
26.5.6.3	Unknown IE in the non-imperative message part, comprehension not required / RR .....	461
26.5.7	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / spare bits .....	463
26.5.7.1	Spare bits / RR .....	463
26.5.7.1.1	Spare bits / RR / paging channel .....	463
26.5.7.1.2	Spare bits / RR / BCCH .....	464
26.5.7.1.3	Spare bits / RR / AGCH .....	465
26.5.7.1.4	Spare bits / RR / Connected Mode .....	467
26.5.7.2	Spare bits / MM .....	469
26.5.7.3	Spare bits / CC .....	470
26.5.8	Default contents of messages .....	473
26.6	Test of the elementary procedures for radio resource management .....	475
26.6.1	Immediate assignment .....	475
26.6.1.1	Immediate assignment / SDCCH or TCH assignment .....	475
26.6.1.2	Immediate assignment / extended assignment .....	476
26.6.1.3	Immediate assignment / assignment rejection .....	479
26.6.1.4	Immediate assignment / ignore assignment .....	480
26.6.1.5	Immediate assignment after immediate assignment reject .....	482
26.6.2	Test of paging .....	483
26.6.2.1	Normal paging .....	483
26.6.2.1.1	Paging / normal / type 1 .....	483
26.6.2.1.2	Paging / normal / type 2 .....	486
26.6.2.1.3	Paging / normal / type 3 .....	488
26.6.2.2	Paging / extended .....	489
26.6.2.3	Paging / reorganization .....	493
26.6.2.3.1	Paging / reorganization / procedure 1 .....	493
26.6.2.3.2	Paging / reorganization / procedure 2 .....	496
26.6.2.4	Paging / same as before .....	497
26.6.2.5	Paging / multislot CCCH .....	498
26.6.3	Test of measurement report .....	499
26.6.3.1	Measurement / no neighbours .....	500
26.6.3.2	Measurement / all neighbours present .....	503
26.6.3.3	Measurement / barred cells and non-permitted NCCs .....	507
26.6.3.4	Measurement / DTX .....	512
26.6.3.5	Measurement / Frequency Formats .....	516
26.6.3.6	Measurement / multiband environment .....	519
26.6.4	Test of the channel assignment procedure .....	524
26.6.4.1	Dedicated assignment / successful case .....	524
26.6.4.2	Dedicated assignment / failure .....	535
26.6.4.2.1	Dedicated assignment / failure / failure during active state .....	535
26.6.4.2.2	Dedicated assignment / failure / general case .....	536
26.6.5	Test of handover .....	538
26.6.5.1	Handover / successful / active call / non-synchronized .....	539
26.6.5.2	Handover / successful / call under establishment / non-synchronized .....	554
26.6.5.3	Handover / successful / active call / finely synchronized .....	573
26.6.5.4	Handover / successful / call under establishment / finely synchronized .....	578
26.6.5.5	Pre-synchronized handovers .....	588
26.6.5.5.1	Handover / successful / active call / pre-synchronized / Timing Advance IE not included .....	588

26.6.5.5.2	Handover / successful / call being established / pre-synchronized / timing advance IE is included / reporting of observed time difference requested .....	590
26.6.5.6	Handover / successful / active call / pseudo synchronized .....	592
26.6.5.7	Handover / successful / active call / non-synchronized / reporting of observed time difference requested.....	594
26.6.5.8	Handover / layer 3 failure .....	596
26.6.5.9	Handover / layer 1 failure .....	597
26.6.6	Test of frequency redefinition .....	598
26.6.6.1	Frequency redefinition.....	598
26.6.7	Test of the channel mode modify procedure .....	604
26.6.7.1	Test of the channel mode modify procedure / full rate .....	604
26.6.7.2	Test of the channel mode modify procedure / half rate.....	606
26.6.8	Test of ciphering mode setting .....	608
26.6.8.1	Ciphering mode / start ciphering.....	609
26.6.8.2	Ciphering mode / no ciphering .....	610
26.6.8.3	Ciphering mode / old cipher key.....	612
26.6.8.4	Ciphering mode / change of mode, algorithm and key .....	613
26.6.8.5	Ciphering mode / IMEISV request .....	620
26.6.9	Test of additional assignment.....	622
26.6.10	Test of partial release .....	622
26.6.11	Test of classmark.....	622
26.6.11.1	Classmark change .....	622
26.6.11.2	Classmark interrogation.....	624
26.6.12	Test of channel release .....	626
26.6.12.1	Channel release / SDCCH.....	626
26.6.12.2	Channel release / SDCCH - no L2 ACK.....	628
26.6.12.3	Channel release / TCH-F .....	629
26.6.12.4	Channel release / TCH-F - no L2 ACK .....	630
26.6.13	Test of starting time.....	631
26.6.13.1	Dedicated assignment with starting time / successful case / time not elapsed .....	633
26.6.13.2	Dedicated assignment with starting time / successful case / time elapsed .....	635
26.6.13.3	Dedicated assignment with starting time and frequency redefinition / failure case / time not elapsed.....	636
26.6.13.4	Dedicated assignment with starting time and frequency redefinition / failure case / time elapsed .....	639
26.6.13.5	Handover with starting time / successful case / time not elapsed.....	641
26.6.13.6	Handover with starting time / successful case / time elapsed.....	644
26.6.13.7	Handover with starting time and frequency redefinition / failure case / time not elapsed.....	646
26.6.13.8	Handover with starting time and frequency redefinition / failure case / time elapsed.....	648
26.6.13.9	Immediate assignment with starting time / successful case / time not elapsed.....	651
26.6.13.10	Immediate assignment with starting time / successful case / time elapsed.....	653
26.6.14	Default contents of GSM 900 layer 3 messages for RR tests .....	655
26.6.15	Default contents of DCS 1 800 layer 3 messages for RR tests .....	666
26.7	Elementary procedures of mobility management .....	678
26.7.1	TMSI reallocation .....	678
26.7.2	Authentication .....	681
26.7.2.1	Authentication accepted.....	681
26.7.2.2	Authentication rejected.....	682
26.7.3	Identification .....	685
26.7.3.1	General Identification .....	685
26.7.3.2	Handling of IMSI shorter than the maximum length .....	687
26.7.4	Location updating.....	690
26.7.4.1	Location updating / accepted .....	690
26.7.4.2	Location updating / rejected .....	695
26.7.4.2.1	Location updating / rejected / IMSI invalid .....	695
26.7.4.2.2	Location updating / rejected / PLMN not allowed .....	698
26.7.4.2.3	Location updating / rejected / location area not allowed.....	702

26.7.4.2.4	Location updating / rejected / roaming not allowed in this location area.....	705
26.7.4.3	Location updating / abnormal cases.....	712
26.7.4.3.1	Location updating / abnormal cases / random access fails .....	712
26.7.4.3.2	Location updating / abnormal cases / attempt counter less or equal to 4, LAI different .....	714
26.7.4.3.3	Location updating / abnormal cases / attempt counter equal to 4.....	720
26.7.4.3.4	Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI .....	728
26.7.4.4	Location updating / release / expiry of T3240 .....	736
26.7.4.5	Location updating / periodic.....	737
26.7.4.5.1	Location updating / periodic spread.....	737
26.7.4.5.2	Location updating / periodic normal / test 1.....	739
26.7.4.5.3	Location updating / periodic normal / test 2.....	741
26.7.4.5.4	Location updating / periodic HPLMN search .....	744
26.7.4.5.4.1	Location updating / periodic HPLMN search / MS waits time T .....	744
26.7.4.5.4.2	Location updating / periodic HPLMN search / MS in manual mode.....	745
26.7.4.5.4.3	Location updating / periodic HPLMN search / MS waits at least two minutes and at most T minutes.....	747
26.7.4.6	Location updating / interworking of attach and periodic .....	748
26.7.5	MM connection .....	750
26.7.5.1	Introduction .....	750
26.7.5.2	MM connection / establishment with cipher.....	750
26.7.5.3	MM connection / establishment without cipher.....	752
26.7.5.4	MM connection / establishment rejected .....	753
26.7.5.5	MM connection / establishment rejected cause 4 .....	754
26.7.5.6	MM connection / expiry T3230.....	755
26.7.5.7	MM connection / abortion by the network.....	756
26.7.5.7.1	MM connection / abortion by the network / cause #6.....	756
26.7.5.7.2	MM connection / abortion by the network / cause not equal to #6 .....	759
26.7.5.8	MM connection / follow-on request pending.....	760
26.7.5.8.1	MM connection / follow-on request pending / test 1.....	760
26.7.5.8.2	MM connection / follow-on request pending / test 2.....	761
26.7.5.8.3	MM connection / follow-on request pending / test 3.....	763
26.7.6	Default contents of messages.....	764
26.8	Tests related to circuit switched call control.....	768
26.8.1	Circuit switched Call Control (CC) state machine verification .....	768
26.8.1.1	General on CC state machine verification .....	768
26.8.1.2	Establishment of an outgoing call.....	769
26.8.1.2.1	Outgoing call / U0 null state .....	771
26.8.1.2.1.1	Outgoing call / U0 null state / MM connection requested .....	771
26.8.1.2.2	Outgoing call / U0.1 MM connection pending.....	772
26.8.1.2.2.1	Outgoing call / U0.1 MM connection pending / CM service rejected.....	772
26.8.1.2.2.2	Outgoing call / U0.1 MM connection pending / CM service accepted.....	773
26.8.1.2.2.3	Outgoing call / U0.1 MM connection pending / lower layer failure.....	775
26.8.1.2.3	Outgoing call / U1 call initiated .....	776
26.8.1.2.3.1	Outgoing call / U1 call initiated / receiving CALL PROCEEDING .....	776
26.8.1.2.3.2	Outgoing call / U1 call initiated / rejecting with RELEASE COMPLETE .....	777
26.8.1.2.3.3	Outgoing call / U1 call initiated / T303 expiry.....	779
26.8.1.2.3.4	Outgoing call / U1 call initiated / lower layer failure .....	780
26.8.1.2.3.5	Outgoing call / U1 call initiated / receiving ALERTING.....	781
26.8.1.2.3.6	Outgoing call / U1 call initiated / entering state U10 .....	782
26.8.1.2.3.7	Outgoing call / U1 call initiated / unknown message received .....	783
26.8.1.2.4	Outgoing call / U3 MS originating call proceeding .....	784
26.8.1.2.4.1	Outgoing call / U3 MS originating call proceeding / ALERTING received .....	784
26.8.1.2.4.2	Outgoing call / U3 MS originating call proceeding / CONNECT received.....	785
26.8.1.2.4.3	Outgoing call / U3 MS originating call proceeding / PROGRESS received without in band information .....	787

26.8.1.2.4.4	Outgoing call / U3 MS originating call proceeding / PROGRESS with in band information .	788
26.8.1.2.4.5	Outgoing call / U3 MS originating call proceeding / DISCONNECT with in band tones.....	790
26.8.1.2.4.6	Outgoing call / U3 MS originating call proceeding / DISCONNECT without in band tones..	791
26.8.1.2.4.7	Outgoing call / U3 MS originating call proceeding / RELEASE received.....	792
26.8.1.2.4.8	Outgoing call / U3 MS originating call proceeding / termination requested by the user .....	793
26.8.1.2.4.9	Outgoing call / U3 MS originating call proceeding / traffic channel allocation .....	795
26.8.1.2.4.10	Outgoing call / U3 MS originating call proceeding / timer T310 time-out.....	796
26.8.1.2.4.11	Outgoing call / U3 MS originating call proceeding / lower layer failure.....	797
26.8.1.2.4.12	Outgoing call / U3 MS originating call proceeding / unknown message received .....	798
26.8.1.2.4.13	Outgoing call / U3 MS originating call proceeding / Internal alerting indication.....	799
26.8.1.2.5	Outgoing call / U4 call delivered .....	800
26.8.1.2.5.1	Outgoing call / U4 call delivered / CONNECT received .....	800
26.8.1.2.5.2	Outgoing call / U4 call delivered / termination requested by the user .....	802
26.8.1.2.5.3	Outgoing call / U4 call delivered / DISCONNECT with in band tones .....	803
26.8.1.2.5.4	Outgoing call / U4 call delivered / DISCONNECT without in band tones .....	804
26.8.1.2.5.5	Outgoing call / U4 call delivered / RELEASE received.....	805
26.8.1.2.5.6	Outgoing call / U4 call delivered / lower layer failure .....	806
26.8.1.2.5.7	Outgoing call / U4 call delivered / traffic channel allocation .....	808
26.8.1.2.5.8	Outgoing call / U4 call delivered / unknown message received .....	809
26.8.1.2.6	U10 call active .....	810
26.8.1.2.6.1	U10 call active / termination requested by the user.....	810
26.8.1.2.6.2	U10 call active / RELEASE received.....	811
26.8.1.2.6.3	U10 call active / DISCONNECT with in band tones .....	812
26.8.1.2.6.4	U10 call active / DISCONNECT without in band tones .....	814
26.8.1.2.6.5	U10 call active / RELEASE COMPLETE received.....	815
26.8.1.2.6.6	U10 call active / SETUP received.....	816
26.8.1.2.7	U11 disconnect request .....	818
26.8.1.2.7.1	U11 disconnect request / clear collision.....	818
26.8.1.2.7.2	U11 disconnect request / RELEASE received.....	819
26.8.1.2.7.3	U11 disconnect request / timer T305 time-out .....	820
26.8.1.2.7.4	U11 disconnect request / lower layer failure.....	822
26.8.1.2.7.5	U11 disconnect request / unknown message received.....	823
26.8.1.2.8	U12 disconnect indication .....	824
26.8.1.2.8.1	U12 disconnect indication / call releasing requested by the user.....	824
26.8.1.2.8.2	U12 disconnect indication / RELEASE received .....	825
26.8.1.2.8.3	U12 disconnect indication / lower layer failure.....	826
26.8.1.2.8.4	U12 disconnect indication / unknown message received.....	828
26.8.1.2.9	Outgoing call / U19 release request .....	829
26.8.1.2.9.1	Outgoing call / U19 release request / timer T308 time-out.....	829
26.8.1.2.9.2	Outgoing call / U19 release request / 2nd timer T308 time-out.....	830
26.8.1.2.9.3	Outgoing call / U19 release request / RELEASE received.....	832
26.8.1.2.9.4	Outgoing call / U19 release request / RELEASE COMPLETE received.....	833
26.8.1.2.9.5	Outgoing call / U19 release request / lower layer failure .....	834
26.8.1.3	Establishment of an incoming call / Initial conditions .....	835
26.8.1.3.1	Incoming call / U0 null state .....	838
26.8.1.3.1.1	Incoming call / U0 null state / SETUP received with a non supported bearer capability .....	838
26.8.1.3.2	Incoming call / U6 call present .....	839
26.8.1.3.2.1	Incoming call / U6 call present / automatic call rejection.....	839
26.8.1.3.3	Incoming call / U9 mobile terminating call confirmed.....	841
26.8.1.3.3.1	Incoming call / U9 mobile terminating call confirmed / alerting or immediate connecting.....	841
26.8.1.3.3.2	Incoming call / U9 mobile terminating call confirmed / TCH assignment .....	842
26.8.1.3.3.3	Incoming call / U9 mobile terminating call confirmed / termination requested by the user ....	843
26.8.1.3.3.4	Incoming call / U9 mobile terminating call confirmed / DISCONNECT received .....	844
26.8.1.3.3.5	Incoming call / U9 mobile terminating call confirmed / RELEASE received .....	846
26.8.1.3.3.6	Incoming call / U9 mobile terminating call confirmed / lower layer failure.....	847
26.8.1.3.3.7	Incoming call / U9 mobile terminating call confirmed / unknown message received.....	848