



SLOVENSKI STANDARD
SIST EN 300 607-1 V6.3.1:2005

01-februar-2005

8][JhUb]WW] b] hYY_ca i b] UWg] g]ghYa fUhU&žL! GdYw]_UWUg_`UXbcgh]
a cV]bYdcgHUYfA GŁ! %XY. GdYw]_UWUg_`UXbcgh]f, GA %%%\$!%żfUh]]WU* " "ż
]nXUU% - +Ł

Digital cellular telecommunications system (Phase 2+) (GSM); Mobile Station (MS) conformance specification; Part 1: Conformance specification (GSM 11.10-1 version 6.3.1 Release 1997)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 607-1 V6.3.1:2005](#)

<https://standards.iteh.ai/catalog/standards/sist/e150ba6f-c0a5-458f-9f14-0428d727191e/sist-en-300-607-1-v6-3-1-2005>

Ta slovenski standard je istoveten z: EN 300 607-1 Version 6.3.1

ICS:

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

SIST EN 300 607-1 V6.3.1:2005

en

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

SIST EN 300 607-1 V6.3.1:2005

<https://standards.iteh.ai/catalog/standards/sist/e150ba6f-c0a5-458f-9f14-0428d727191e/sist-en-300-607-1-v6-3-1-2005>

ETSI EN 300 607-1 V6.3.1 (2000-08)

European Standard (Telecommunications series)

Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (GSM 11.10-1 version 6.3.1 Release 1997)

iTeh STANDARD PREVIEW
(standards.iteh.ai)



SIST EN 300 607-1 V6.3.1:2005

<https://standards.iteh.ai/catalog/standards/sist/e150ba6f-c0a5-458f-9f14-0428d727191e/sist-en-300-607-1-v6-3-1-2005>



Reference

REN/SMG-071110Q6R3-1

KeywordsDigital cellular telecommunications system,
Global System for Mobile communications (GSM)***ETSI***

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

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

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse 06 N° 7303/88**iTeh STANDARD PREVIEW**
(standards.iteh.ai)[SIST EN 300 607-1 V6.3.1:2005](#)<https://standards.iteh.ai/catalog/standards/sist/e150ba6f-c0a5-458f-9f14-0428d727191e/sist-en-300-607-1-v6-3-1-2005>

Important notice

Individual copies of the present document can be downloaded from:
<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.
Information on the current status of this and other ETSI documents is available at <http://www.etsi.org/tb/status/>

If you find errors in the present document, send your comment to:
editor@etsi.fr

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.

© European Telecommunications Standards Institute 2000.
All rights reserved.

Contents

Intellectual Property Rights	34
Foreword.....	34
1 Scope	35
2 References	35
3 Definitions, conventions, and applicability	41
3.1 Mobile station definition and configurations.....	41
3.2 Applicability.....	41
3.2.1 Applicability of this specification	41
3.2.2 Applicability of the individual tests	42
3.2.3 Applicability to terminal equipment	68
3.3 Definitions	69
3.4 Conventions for mathematical notations	69
3.4.1 Mathematical signs	69
3.4.2 Powers to the base 10.....	69
3.5 Conventions on electrical terms	70
3.5.1 Radio Frequency (RF) input signal level	70
3.5.2 Reference sensitivity level	70
3.5.3 Power level of fading signal	70
3.6 Terms on test conditions.....	70
3.6.1 Radio test conditions.....	70
4 Test Equipment	72
4.1 Terms used to describe test equipment in this EN.....	72
4.2 Functional requirements of test equipment	72
5 Testing methodology in general (layers 1, 2, and 3) <small>SIST EN 300 607-1 V6.3.1:2005 https://standards.iteh.ai/catalog/standards/sist/e150ba6f-c0a5-458f-9f14-0428d727191e/sist-en-300-607-1-v6-3-1-2005</small>	72
5.1 Testing of optional functions and procedures.....	72
5.2 Test interfaces and facilities	72
5.3 Different protocol layers	73
5.4 Information to be provided by the apparatus supplier	73
5.5 Definitions of transmit and receive times.....	73
6 Reference test methods.....	73
6.1 General	73
6.2 Choice of frequencies in the frequency hopping mode	74
6.3 "Ideal" radio conditions.....	74
6.4 Standard test signals	74
6.5 Power (control) levels	75
7 Implicit testing.....	75
8 Measurement uncertainty	75
9 Format of tests	75
10 Generic call set up procedures.....	76
10.1 Generic call set-up procedure for mobile terminating speech calls	76
10.2 Generic call set-up procedure for mobile originating speech calls	81
10.3 Generic call set-up procedure for mobile terminating data calls	84
10.4 Generic call set-up procedure for mobile originating data calls	86
10.5 Generic call set-up procedure for mobile terminating multislot configuration, minimum number of timeslots allocated	90
10.6 Generic call set-up procedure for mobile originating multislot configuration, minimum number of timeslots allocated	93
11 General tests	97
11.1 Verification of support and non-support of services (multiple numbering scheme or ISDN)	97
11.1.1 Mobile Terminated (MT) calls.....	97

11.1.2	Mobile Originated (MO) calls	98
11.2	Verification of support of the single numbering scheme.....	99
11.3	Verification of non-support of services (Advice of Charge Charging (AoCC)).....	100
11.4	Verification of non-support of services (call hold).....	102
11.5	Verification of non-support of services (multiparty).....	103
11.6	Verification of non-support of feature (Fixed Dialling Number (FDN))	103
11.7	IMEI Security	105
11.8	Coding of the Bearer Capability information element.....	105
11.8.1	Network to MS Direction	106
11.8.1.1	BS 21 to 26 - Asynchronous Service	106
11.8.1.1.1	BS 21	106
11.8.1.1.2	BS 22	110
11.8.1.1.3	BS 24	110
11.8.1.1.4	BS 25	110
11.8.1.1.5	BS 26	110
11.8.1.1.6	BS 23	110
11.8.1.2	BS 31 to 34 - Synchronous Service.....	111
11.8.1.2.1	BS 32	111
11.8.1.2.2	BS 31	115
11.8.1.2.3	BS 33	116
11.8.1.2.4	BS 34	116
11.8.1.3	BS 61 - Alternate Speech / Data.....	116
11.8.1.3.1	Speech/Asynchronous Data, Transparent	117
11.8.1.3.2	Speech/Asynchronous Data, Non Transparent	119
11.8.1.3.3	Speech/Synchronous Data	121
11.8.1.4	BS 81 - Speech followed by Data	122
11.8.1.4.1	Speech followed by Asynchronous Data	122
11.8.1.4.2	Speech followed by Synchronous Data	122
11.8.1.5	TS 61 - Alternate Speech / Facsimile group 3	122
11.8.1.5.1	TS 61 - Alternate Speech / Facsimile group 3, Transparent	123
11.8.1.5.2	TS 61 - Alternate Speech / Facsimile group 3, Non-Transparent	124
11.8.1.6	TS 62 - Automatic Facsimile group 3.....	125
11.8.2	MS to SS direction.....	125
11.8.2.1	BS 21 to 26 - Asynchronous Services.....	125
11.8.2.1.1	BS 21	126
11.8.2.1.2	BS 22	130
11.8.2.1.3	BS 24	130
11.8.2.1.4	BS 25	130
11.8.2.1.5	BS 26	130
11.8.2.1.6	BS 23	130
11.8.2.2	BS 31 to 34 - Synchronous Service.....	131
11.8.2.2.1	BS 32	131
11.8.2.2.2	BS 31	135
11.8.2.2.3	BS 33	136
11.8.2.2.4	BS 34	136
11.8.2.3	BS 41 to 46 - PAD Access Asynchronous	137
11.8.2.3.1	²⁾ BS 41	137
11.8.2.3.2	BS 42	139
11.8.2.3.3	BS 44	139
11.8.2.3.4	BS 45	139
11.8.2.3.5	BS 46	139
11.8.2.3.6	BS 43	139
11.8.2.4	BS 51 to 53 - Packet Service Synchronous	140
11.8.2.4.1	²⁾ BS 51	140
11.8.2.4.2	BS 52	140
11.8.2.4.3	BS 53	140
11.8.2.5	BS 61 - Alternate Speech / Data.....	141
11.8.2.5.1	Speech/Asynchronous Data, Transparent	141
11.8.2.5.2	Speech/Asynchronous Data, Non Transparent	144
11.8.2.5.3	Speech/Synchronous Data	146
11.8.2.6	BS 81 - Speech followed by Data	147
11.8.2.6.1	Speech followed by Asynchronous Data	147

11.8.2.6.2	Speech followed by Synchronous Data	147
11.8.2.7	TS 61 - Alternate Speech / Facsimile group 3.....	147
11.8.2.7.1	TS 61 - Alternate Speech / Facsimile group 3, Transparent	148
11.8.2.7.2	TS 61 - Alternate Speech / Facsimile group 3, Non Transparent	149
11.8.2.8	TS 62 - Automatic Facsimile group 3	150
11.8.2.9	TS 11 and TS 12- Speech.....	150
11.8.2.9.1	Support of only full/half rate speech version 1.....	150
11.8.2.9.2	Support of speech full rate version 2 (Enhanced Full Rate)	150
12	Transceiver	152
12.1	Conducted spurious emissions	152
12.1.1	MS allocated a channel.....	152
12.1.2	MS in idle mode.....	154
12.2	Radiated spurious emissions.....	155
12.2.1	MS allocated a channel.....	156
12.2.2	MS in idle mode.....	157
12.3	Conducted spurious emissions for MS supporting the R-GSM frequency band	159
12.3.1	MS allocated a channel.....	159
12.3.2	MS in idle mode.....	162
12.4	Radiated spurious emissions for MS supporting the R-GSM frequency band	163
12.4.1	MS allocated a channel.....	163
12.4.2	MS in idle mode.....	165
13	Transmitter	168
13.1	Frequency error and phase error.....	168
13.2	Frequency error under multipath and interference conditions.....	171
13.3	Transmitter output power and burst timing	173
13.4	Output RF spectrum.....	181
13.5	Intermodulation attenuation.....	186
13.6	Frequency error and phase error in HSCSD multislot configurations.....	187
13.7	Transmitter output power and burst timing in HSCSD configurations	190
13.8	Output RF spectrum in HSCSD multislot configuration.....	199
13.9	Output RF spectrum for MS supporting the R-GSM band	204
13.10	[Reserved for future GSM test]	210
13.11	[Reserved for future GSM test]	210
13.12	[Reserved for future GSM test]	210
13.13	[Reserved for future GSM test]	210
13.14	[Reserved for future GSM test]	210
13.15	[Reserved for future GSM test]	210
13.16	GPRS transmitter tests.....	210
13.16.1	Frequency error and phase error in GPRS multislot configuration.....	210
13.16.2	Transmitter output power in GPRS multislot configuration	213
13.16.3	Output RF spectrum in GPRS multislot configuration	221
14	Receiver.....	227
14.1	Bad frame indication	233
14.1.1	Bad frame indication - TCH/FS	233
14.1.1.1	Bad frame indication - TCH/FS - Random RF input	233
14.1.1.2	Bad frame indication - TCH/FS - Frequency hopping and downlink DTX	235
14.1.2	Bad frame indication - TCH/HS	236
14.1.2.1	Bad frame indication - TCH/HS - Random RF input	236
14.1.2.2	Bad frame indication - TCH/HS - Frequency hopping and downlink DTX	237
14.1.3	Bad frame indication - TCH/FS - Frequency hopping and downlink DTX - Phase 2 MS in a phase 1 network	238
14.1.4	Bad frame indication - TCH/HS - Frequency hopping and downlink DTX - Phase 2 MS in a phase 1 network	240
14.2	Reference sensitivity	242
14.2.1	Reference sensitivity - TCH/FS	242
14.2.2	Reference sensitivity - TCH/HS (Speech frames)	244
14.2.3	Reference sensitivity - FACCH/F	246
14.2.4	Reference sensitivity - FACCH/H	247
14.2.5	Reference sensitivity - full rate data channels.....	248
14.2.6	Reference sensitivity - half rate data channels.....	249

14.2.7	Reference sensitivity - TCH/EFS.....	250
14.2.8	Reference sensitivity - full rate data channels in multislot configuration	252
14.2.9	Reference sensitivity - TCH/FS for MS supporting the R-GSM band.....	254
14.3	Usable receiver input level range	255
14.4	Co-channel rejection.....	257
14.4.1	Co-channel rejection - TCH/FS	257
14.4.2	Co-channel rejection - TCH/HS.....	258
14.4.3	Co-channel rejection - TCH/HS (SID frames).....	260
14.4.4	Co-channel rejection - FACCH/F.....	262
14.4.5	Co-channel rejection - FACCH/H	263
14.4.6	Co-channel rejection - TCH/EFS.....	264
14.4.7	Receiver performance in the case of frequency hopping and co-channel interference on one carrier	266
14.5	Adjacent channel rejection	267
14.5.1	Adjacent channel rejection - speech channels.....	267
14.5.2	Adjacent channel rejection - control channels	269
14.6	Intermodulation rejection	271
14.6.1	Intermodulation rejection - speech channels.....	271
14.6.2	Intermodulation rejection - control channels	273
14.7	Blocking and spurious response	274
14.7.1	Blocking and spurious response - speech channels.....	274
14.7.2	Blocking and spurious response - control channels	278
14.7.3	Blocking and spurious response - speech channels for MS supporting the R-GSM band	281
14.7.4	Blocking and spurious response - control channels for MS supporting the R-GSM band.....	284
14.8	AM suppression.....	287
14.8.1	AM suppression - speech channels.....	287
14.8.2	AM suppression - control channels.....	288
14.9	Paging performance at high input levels	290
14.10	[Reserved for future GSM test]	291
14.11	[Reserved for future GSM test]	291
14.12	[Reserved for future GSM test]	291
14.13	[Reserved for future GSM test]	291
14.14	[Reserved for future GSM test]	291
14.15	[Reserved for future GSM test]	291
14.16	GPRS receiver tests	291
14.16.1	Minimum Input level for Reference Performance	293
14.16.2	Co-channel rejection	297
14.16.2.1	Co-channel rejection for packet channels	297
15	Timing advance and absolute delay	300
15.6	GPRS Timing advance and absolute delay.....	301
16	Reception time tracking speed	306
17	Access times during handover.....	308
17.1	Intra cell channel change	308
17.2	Inter cell handover.....	310
18	Temporary reception gaps	313
18.1	Temporary reception gaps, single slot	313
18.2	Temporary reception gaps in HSCSD multislot configurations	314
19	Channel release after unrecoverable errors	316
19.1	Channel release after unrecoverable errors - 1	316
19.2	Channel release after unrecoverable errors - 2	317
19.3	Channel release after unrecoverable errors - 3	318
20	Cell selection and reselection	320
20.1	Cell selection	322
20.2	Cell selection with varying signal strength values	323
20.3	Basic cell reselection	325
20.4	Cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters.....	327
20.5	Cell reselection using parameters transmitted in the System Information type 2bis, type 2ter, type 7 and type 8 messages	329

20.6	Cell reselection timings	331
20.7	Priority of cells	332
20.8	Cell reselection when C1 (serving cell) < 0 for 5 seconds	334
20.9	Running average of the surrounding cell BCCH carrier signal levels	335
20.10	Running average of the serving cell BCCH carrier signal level	336
20.11	Updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list.....	337
20.12	Decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers	338
20.13	Decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers	339
20.14	Emergency calls	340
20.15	Cell reselection due to MS rejection "LA not allowed"	341
20.16	Downlink signalling failure	343
20.17	Cell selection if no suitable cell found in 10 s.....	344
20.18	Cell reselection due to MS rejection "Roaming not allowed in this LA"	345
20.19	Cell selection on release of SDCCH and TCH.....	347
20.20	Multiband cell selection and reselection	348
20.20.1	Multiband cell selection and reselection / Cell Selection	348
20.20.2	Multiband cell selection and reselection / Cell reselection	350
20.21	R-GSM cell selection and reselection	352
20.21.1	R-GSM cell selection.....	353
20.21.2	R-GMS cell selection with varying signal strength values	355
20.21.3	R-GSM basic cell reselection.....	356
20.21.4	R-GSM cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET, POWER_OFFSET and PENALTY_TIME parameters	359
20.21.5	R-GSM cell reselection using parameters transmitted in the System Information type 2bis, type 2ter, type 7 and type 8 messages	360
20.21.6	R-GSM cell reselection timings	362
20.21.7	R-GSM priority of cells	364
20.21.8	R-GSM cell reselection when C1 (serving cell) < 0 for 5 seconds	365
20.21.9	R-GSM running average of the surrounding cell BCCH carrier signal levels	366
20.21.10	R-GSM running average of the serving cell BCCH carrier signal level	367
20.21.11	Updating the list of six strongest neighbour carriers and decoding the BCCH information of a new carrier on the list SIST EN 300 607-1 V6.3.1:2005	368
20.21.12	R-GSM decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers	369
20.21.13	R-GSM decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers	370
20.21.14	R-GSM emergency calls	371
20.21.15	R-GSM cell reselection due to MS rejection "LA not allowed"	372
20.21.16	R-GSM downlink signalling failure	374
20.21.17	R-GSM cell selection if no suitable cell found in 10 s.....	375
20.21.18	R-GSM cell reselection due to MS rejection "Roaming not allowed in this LA"	376
20.21.19	R-GSM cell selection on release of SDCCH and TCH.....	378
20.22	GPRS Cell Selection and Reselection	379
20.22.1	Cell selection	380
20.22.2	Cell reselection in Packet Idle mode	382
20.22.3	Priority of cells	384
20.22.4	Cell re-selection with cells in different routing area	385
20.22.5	Network controlled Cell re-selection in Transfer Mode	387
20.22.6	Cell reselection timings	388
20.22.7	Downlink signalling failure	389
21	Received signal measurements.....	391
21.1	Signal strength.....	391
21.2	Signal strength selectivity	394
21.3	Signal quality under static conditions.....	395
21.3.1	Signal quality under static conditions - TCH/FS	395
21.3.2	Signal quality under static conditions - TCH/HS	397
21.4	Signal quality under TU50 propagation conditions	399
21.5	Received signal measurements in HSCSD multislot configuration	401
21.5.1	Signal strength	401

22	Transmit power control timing and confirmation	406
22.1	Transmit power control timing and confirmation, single slot	406
22.2	Transmit power control timing and confirmation in HSCSD multislot configurations.....	407
22.3	GPRS Uplink Power Control - Use of α and Γ_{CH} parameters	409
22.4	GPRS Uplink Power Control - Independence of TS Power Control.....	412
23	Single frequency reference	414
24	Tests of the layer 1 signalling functions.....	414
25	Tests of the layer 2 signalling functions.....	415
25.1	Introduction, objective and scope.....	415
25.1.1	General.....	415
25.1.2	Test configurations	415
25.1.3	Pre-conditions	415
25.1.4	Layer 2 test frames.....	416
25.1.5	Establishment of the dedicated physical resource.....	417
25.1.6	Release of the dedicated physical resource.....	417
25.2	Test sequences	417
25.2.1	Initialization.....	418
25.2.1.1	Initialization when contention resolution required.....	418
25.2.1.1.1	Normal initialization.....	418
25.2.1.1.2	Initialization failure	419
25.2.1.1.3	Initialization denial	422
25.2.1.1.4	Total initialization failure	423
25.2.1.2	Initialization, contention resolution not required	424
25.2.1.2.1	Normal initialization without contention resolution.....	424
25.2.1.2.2	Initialization failure	425
25.2.1.2.3	Initialization denial	426
25.2.1.2.4	Total initialization failure	427
25.2.2	Normal information transfer	428
25.2.2.1	Sequence counting and I frame acknowledgements.....	428
25.2.2.2	Receipt of an I frame in the timer recovery state.....	431
25.2.2.3	Segmentation and concatenation.....	433
25.2.3	Normal layer 2 disconnection.....	436
25.2.4	Test of link failure	436
25.2.4.1	I frame loss (MS to SS)	436
25.2.4.2	RR response frame loss (SS to MS)	438
25.2.4.3	RR response frame loss (MS to SS)	438
25.2.5	Test of frame transmission with incorrect C/R values	439
25.2.5.1	I frame with C bit set to zero.....	439
25.2.5.2	SABM frame with C bit set to zero.....	440
25.2.6	Test of errors in the control field	441
25.2.6.1	N(S) sequence error.....	441
25.2.6.2	N(R) sequence error	443
25.2.6.3	Improper F bit	443
25.2.7	Test on receipt of invalid frames	444
26	Testing of layer 3 functions.....	449
26.1	Default conditions and structured sequence of tests.....	449
26.1.1	Default test conditions during layer 3 tests	449
26.1.2	Structured sequence of the tests	450
26.1.3	General rules for message parameters	451
26.1.4	General rules for layer 3 testing.....	451
26.1.5	Format of layer 3 test descriptions	451
26.2	Initial tests	453
26.2.1	Channel request	453
26.2.1.1	Channel request / initial time	453
26.2.1.2	Channel request / repetition time	454
26.2.1.3	Channel request / random reference	456
26.2.2	IMSI detach and IMSI attach.....	457
26.2.3	Sequenced MM / CM message transfer	461
26.2.4	Establishment cause	462

26.3	Test of MS functions in idle mode	471
26.3.1	Initial conditions	471
26.3.2	MS indication of available PLMNs	474
26.3.3	MS will send only if BSS is "on air"	474
26.3.4	Manual mode of PLMN selection	475
26.4	Lower layer failures in layer 3 testing	477
26.4.1	Introduction.....	477
26.4.2	Layer 1 reception failures	477
26.4.3	Data link layer failures.....	477
26.4.4	Lower layer failures, used for the tests in clause 25	477
26.5	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions	478
26.5.1	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unknown protocol discriminator	478
26.5.2	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / TI and skip indicator	479
26.5.2.1	TI and skip indicator / RR	479
26.5.2.1.1	TI and skip indicator / RR / Idle Mode.....	479
26.5.2.1.2	TI and skip indicator / RR / RR-Connection established.....	480
26.5.2.2	TI and skip indicator / MM	482
26.5.2.3	TI and skip indicator / CC	483
26.5.3	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / undefined or unexpected message type.....	485
26.5.3.1	Undefined or unexpected message type / undefined message type / CC.....	485
26.5.3.2	Undefined or unexpected message type / undefined message type / MM.....	486
26.5.3.3	Undefined or unexpected message type / undefined message type / RR.....	488
26.5.3.4	Undefined or unexpected message type / unexpected message type / CC	489
26.5.4	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unforeseen information elements in the non-imperative message part	490
26.5.4.1	Unforeseen information elements in the non-imperative message part / duplicated information elements	490
26.5.5	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / non-semantical mandatory IE errors	492
26.5.5.1	Non-semantical mandatory IE errors / RR.....	492
26.5.5.1.1	Non-semantical mandatory IE errors / RR-6 missing mandatory IE error.....	492
26.5.5.1.2	Non-semantical mandatory IE errors / RR / comprehension required.....	494
26.5.5.2	Non-semantical mandatory IE errors / MM	495
26.5.5.2.1	Non-semantical mandatory IE errors / MM / syntactically incorrect mandatory IE	496
26.5.5.2.2	Non-semantical mandatory IE errors / MM / syntactically incorrect mandatory IE	497
26.5.5.2.3	Non-semantical mandatory IE errors / MM / comprehension required	498
26.5.5.3	Non-semantical mandatory IE errors / CC	500
26.5.5.3.1	Non-semantical mandatory IE errors / CC / missing mandatory IE	500
26.5.5.3.2	Non-semantical mandatory IE errors / CC / comprehension required	502
26.5.6	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / unknown IE, comprehension not required	503
26.5.6.1	Unknown information elements in the non-imperative message part / MM	503
26.5.6.1.1	Unknown IE, comprehension not required / MM / IE unknown in the protocol	503
26.5.6.1.2	Unknown IE, comprehension not required / MM / IE unknown in the message	505
26.5.6.2	Unknown information elements in the non-imperative message part / CC	506
26.5.6.2.1	Unknown information elements in the non-imperative message part / CC / Call establishment	506
26.5.6.2.2	Unknown information elements in the non-imperative message part / CC / disconnect	507
26.5.6.2.3	Unknown information elements in the non-imperative message part / CC / release	508
26.5.6.2.4	Unknown information elements in the non-imperative message part / CC / release complete	510
26.5.6.3	Unknown IE in the non-imperative message part, comprehension not required / RR	511
26.5.7	Handling of unknown, unforeseen, and erroneous protocol data, and of parallel transactions / spare bits	513
26.5.7.1	Spare bits / RR	513
26.5.7.1.1	Spare bits / RR / paging channel.....	513
26.5.7.1.2	Spare bits / RR / BCCH.....	514
26.5.7.1.3	Spare bits / RR / AGCH	515
26.5.7.1.4	Spare bits / RR / Connected Mode	517
26.5.7.2	Spare bits / MM.....	519
26.5.7.3	Spare bits / CC	520

26.5.8	Default contents of messages.....	522
26.6	Test of the elementary procedures for radio resource management	525
26.6.1	Immediate assignment	525
26.6.1.1	Immediate assignment / SDCCH or TCH assignment	525
26.6.1.2	Immediate assignment / extended assignment	526
26.6.1.3	Immediate assignment / assignment rejection.....	528
26.6.1.4	Immediate assignment / ignore assignment.....	530
26.6.1.5	Immediate assignment after immediate assignment reject.....	532
26.6.2	Test of paging	533
26.6.2.1	Normal paging.....	533
26.6.2.1.1	Paging / normal / type 1.....	533
26.6.2.1.2	Paging / normal / type 2.....	536
26.6.2.1.3	Paging / normal / type 3.....	538
26.6.2.2	Paging / extended	539
26.6.2.3	Paging / reorganization	542
26.6.2.3.1	Paging / reorganization / procedure 1.....	542
26.6.2.3.2	Paging / reorganization / procedure 2.....	545
26.6.2.4	Paging / same as before.....	546
26.6.2.5	Paging / multislot CCCH	547
26.6.3	Test of measurement report	548
26.6.3.1	Measurement / no neighbours	548
26.6.3.2	Measurement / all neighbours present.....	552
26.6.3.3	Measurement / barred cells and non-permitted NCCs.....	556
26.6.3.4	Measurement / DTX.....	560
26.6.3.5	Measurement / Frequency Formats	565
26.6.3.6	Measurement / multiband environment.....	568
26.6.3.7	Measurement / new cell reporting	573
26.6.4	Test of the channel assignment procedure	579
26.6.4.1	Dedicated assignment / successful case	579
26.6.4.2	Dedicated assignment / failure	589
26.6.4.2.1	Dedicated assignment / failure / failure during active state	589
26.6.4.2.2	Dedicated assignment / failure general case.....	591
26.6.5	Test of handover.....	592
26.6.5.1	Handover / successful / active call / non-synchronized.....	593
26.6.5.2	Handover / successful / call under establishment / non-synchronized	606
26.6.5.3	Handover / successful / active call / finely synchronized.....	623
26.6.5.4	Handover / successful / call under establishment / finely synchronized	628
26.6.5.5	Pre-synchronized handovers	638
26.6.5.5.1	Handover / successful / active call / pre-synchronized / Timing Advance IE not included.....	638
26.6.5.5.2	Handover / successful / call being established / pre-synchronized / timing advance IE is included / reporting of observed time difference requested.....	640
26.6.5.6	Handover / successful / active call / pseudo synchronized.....	642
26.6.5.7	Handover / successful / active call / non-synchronized / reporting of observed time difference requested	644
26.6.5.8	Handover / layer 3 failure	646
26.6.5.9	Handover / layer 1 failure	647
26.6.6	Test of frequency redefinition.....	648
26.6.6.1	Frequency redefinition	648
26.6.7	Test of the channel mode modify procedure.....	654
26.6.7.1	Test of the channel mode modify procedure / full rate.....	654
26.6.7.2	Test of the channel mode modify procedure / half rate	656
26.6.8	Test of ciphering mode setting.....	658
26.6.8.1	Ciphering mode / start ciphering.....	659
26.6.8.2	Ciphering mode / no ciphering.....	660
26.6.8.3	Ciphering mode / old cipher key	661
26.6.8.4	Ciphering mode / change of mode, algorithm and key.....	663
26.6.8.5	Ciphering mode / IMEISV request.....	670
26.6.9	Test of additional assignment	672
26.6.10	Test of partial release.....	672
26.6.11	Test of classmark	672
26.6.11.1	Classmark change	672
26.6.11.2	Classmark interrogation	674

26.6.12	Test of channel release.....	675
26.6.12.1	Channel release / SDCCH.....	675
26.6.12.2	Channel release / SDCCH - no L2 ACK.....	677
26.6.12.3	Channel release / TCH-F.....	678
26.6.12.4	Channel release / TCH-F - no L2 ACK.....	679
26.6.13	Test of starting time	681
26.6.13.1	Dedicated assignment with starting time / successful case / time not elapsed	682
26.6.13.2	Dedicated assignment with starting time / successful case / time elapsed	684
26.6.13.3	Dedicated assignment with starting time and frequency redefinition / failure case / time not elapsed.....	686
26.6.13.4	Dedicated assignment with starting time and frequency redefinition / failure case / time elapsed	688
26.6.13.5	Handover with starting time / successful case / time not elapsed.....	691
26.6.13.6	Handover with starting time / successful case / time elapsed.....	693
26.6.13.7	Handover with starting time and frequency redefinition / failure case / time not elapsed	695
26.6.13.8	Handover with starting time and frequency redefinition / failure case / time elapsed	697
26.6.13.9	Immediate assignment with starting time / successful case / time not elapsed	699
26.6.13.10	Immediate assignment with starting time / successful case / time elapsed	701
26.6.14	Default contents of GSM 900 layer 3 messages for RR tests	703
26.6.15	Default contents of DCS 1 800 layer 3 messages for RR tests	712
26.7	Elementary procedures of mobility management.....	724
26.7.1	TMSI reallocation.....	724
26.7.2	Authentication.....	726
26.7.2.1	Authentication accepted	727
26.7.2.2	Authentication rejected	728
26.7.3	Identification.....	731
26.7.3.1	General Identification.....	731
26.7.3.2	Handling of IMSI shorter than the maximum length.....	733
26.7.4	Location updating	736
26.7.4.1	Location updating / accepted	736
26.7.4.2	Location updating / rejected	741
26.7.4.2.1	Location updating / rejected / IMSI invalid.....	741
26.7.4.2.2	Location updating / rejected / PLMN not allowed.....	744
26.7.4.2.3	Location updating / rejected / location area not allowed.....	748
26.7.4.2.4	Location updating / rejected / roaming not allowed in this location area	751
26.7.4.3	Location updating / abnormal cases	758
26.7.4.3.1	Location updating / abnormal cases / random access fails	758
26.7.4.3.2	Location updating / abnormal cases / attempt counter less or equal to 4, LAI different	760
26.7.4.3.3	Location updating / abnormal cases / attempt counter equal to 4	766
26.7.4.3.4	Location updating / abnormal cases / attempt counter less or equal to 4, stored LAI equal to broadcast LAI	773
26.7.4.4	Location updating / release / expiry of T3240	779
26.7.4.5	Location updating / periodic	780
26.7.4.5.1	Location updating / periodic spread	780
26.7.4.5.2	Location updating / periodic normal / test 1	782
26.7.4.5.3	Location updating / periodic normal / test 2	784
26.7.4.5.4	Location updating / periodic HPLMN search.....	787
26.7.4.6	Location updating / interworking of attach and periodic	791
26.7.5	MM connection.....	792
26.7.5.1	Introduction.....	792
26.7.5.2	MM connection / establishment with cipher	793
26.7.5.3	MM connection / establishment without cipher	794
26.7.5.4	MM connection / establishment rejected.....	795
26.7.5.5	MM connection / establishment rejected cause 4.....	796
26.7.5.6	MM connection / expiry T3230	798
26.7.5.7	MM connection / abortion by the network.....	799
26.7.5.7.1	MM connection / abortion by the network / cause #6	799
26.7.5.7.2	MM connection / abortion by the network / cause not equal to #6.....	802
26.7.5.8	MM connection / follow-on request pending	803
26.7.5.8.1	MM connection / follow-on request pending / test 1	803
26.7.5.8.2	MM connection / follow-on request pending / test 2	804
26.7.5.8.3	MM connection / follow-on request pending / test 3	805
26.7.6	Default contents of messages.....	807

26.8	Tests related to circuit switched call control	811
26.8.1	Circuit switched Call Control (CC) state machine verification	811
26.8.1.1	General on CC state machine verification.....	811
26.8.1.2	Establishment of an outgoing call	812
26.8.1.2.1	Outgoing call / U0 null state	814
26.8.1.2.2	Outgoing call / U0.1 MM connection pending	815
26.8.1.2.3	Outgoing call / U1 call initiated	819
26.8.1.2.4	Outgoing call / U3 MS originating call proceeding	828
26.8.1.2.5	Outgoing call / U4 call delivered.....	844
26.8.1.2.6	U10 call active.....	854
26.8.1.2.7	U11 disconnect request.....	862
26.8.1.2.8	U12 disconnect indication	868
26.8.1.2.9	Outgoing call / U19 release request.....	873
26.8.1.3	Establishment of an incoming call / Initial conditions	880
26.8.1.3.1	Incoming call / U0 null state.....	882
26.8.1.3.2	Incoming call / U6 call present.....	883
26.8.1.3.3	Incoming call / U9 mobile terminating call confirmed.....	885
26.8.1.3.4	Incoming call / U7 call received.....	894
26.8.1.3.5	Incoming call / U8 connect request	904
26.8.1.4	In call functions.....	915
26.8.1.4.1	In-call functions / DTMF information transfer.....	915
26.8.1.4.2	In-call functions / user notification.....	917
26.8.1.4.3	In-call functions / channel changes.....	918
26.8.1.4.4	In-call functions / MS terminated in-call modification.....	922
26.8.1.4.5	In-call functions / MS originated in-call modification	923
26.8.2	Call Re-establishment	938
26.8.2.1	Call Re-establishment/call present, re-establishment allowed	938
26.8.2.2	Call Re-establishment/call present, re-establishment not allowed	940
26.8.2.3	Call Re-establishment/call under establishment, transmission stopped	941
26.8.3	User to user signalling	943
26.8.4	Default contents of message	945
26.9	Structured procedures.....	952
26.9.1	Structured procedures / general ai/catalog/standards/sist/e150ba6f-c0a5-458f-9f4- http://tinyurl.com/general_ai/catalog/standards/sist/e150ba6f-c0a5-458f-9f4-	952
26.9.2	Structured procedures / MS originated call / early assignment.....	953
26.9.3	Structured procedures / MS originated call / late assignment	955
26.9.4	Structured procedures / MS terminated call / early assignment	957
26.9.5	Structured procedures / MS terminated call / late assignment	960
26.9.6	Structured procedures / emergency call	963
26.9.6.1	Structured procedures / emergency call / idle updated.....	963
26.9.6.1.1	Structured procedures / emergency call / idle updated / preferred channel rate	963
26.9.6.1.2	Structured procedures / emergency call / idle updated, non-preferred channel rate	966
26.9.6.2	Structured procedures / emergency call / idle, no IMSI	966
26.9.6.2.1	Structured procedures / emergency call / idle, no IMSI / accept case	966
26.9.6.2.2	Structured procedures / emergency call / idle, no IMSI / reject case.....	968
26.9.7	Directed Retry / Mobile Originated Call.....	970
26.9.8	Directed Retry / Mobile Terminated Call	976
26.9.9	Default contents of messages.....	984
26.10	E-GSM or R-GSM signalling	990
26.10.1	E-GSM or R-GSM signalling / general considerations.....	990
26.10.2	E-GSM or R-GSM signalling / RR	992
26.10.2.1	E-GSM or R-GSM signalling / RR / Measurement.....	992
26.10.2.2	E-GSM or R-GSM signalling / RR / Immediate assignment	998
26.10.2.3	E-GSM or R-GSM signalling / RR / channel assignment procedure	1001
26.10.2.4	E-GSM or R-GSM signalling / RR / Handover	1005
26.10.2.4.1	E-GSM or R-GSM signalling / RR / Handover / Successful handover	1005
26.10.2.4.2	E-GSM or R-GSM signalling / RR / Handover / layer 1 failure.....	1011
26.10.2.5	E-GSM or R-GSM signalling / RR / Frequency Redefinition.....	1013
26.10.3	E-GSM or R-GSM signalling / Structured procedure	1016
26.10.3.1	E-GSM or R-GSM signalling / Structured procedure / Mobile originated call	1017
26.10.3.2	E-GSM or R-GSM signalling / Structured procedures / emergency call	1019
26.10.3.3	Default contents of messages	1021
26.10.4	E-GSM or R-GSM signalling / Default message contents.....	1022

26.11	Multiband signalling.....	1028
26.11.1	General considerations.....	1028
26.11.2	Multiband signalling / RR.....	1028
26.11.2.1	Multiband signalling / RR / Immediate assignment procedure	1028
26.11.2.2	Multiband signalling / RR / Handover	1030
26.11.2.2.1	Multiband signalling / RR / Handover / successful / active call / non-synchronized	1031
26.11.2.2.2	Multiband signalling / RR / Handover / layer 1 failure	1035
26.11.2.2.3	Multiband signalling / RR / Handover / Multiband BCCH / successful / active call / non synchronized.....	1037
26.11.2.2.4	Multiband signalling / RR / Handover/ Multiband BCCH / Intracell Handover - Interband Assignment	1040
26.11.2.3	Multiband signalling / RR / Measurement reporting.....	1046
26.11.3	Multiband signalling / MM.....	1049
26.11.3.1	Multiband signalling / MM / Location updating	1049
26.11.3.1.1	Location updating / accepted.....	1049
26.11.3.1.2	Location updating / periodic.....	1052
26.11.4	Multiband signalling / CC.....	1055
26.11.5	Multiband signalling / Structured procedures	1055
26.11.5.1	Multiband signalling / Structured procedures / MS originated call / early assignment	1055
26.11.5.2	Structured procedures / MS terminated call / late assignment	1059
26.11.6	Multiband signalling / Default messages contents.....	1063
26.12	Enhanced Full Rate signalling.....	1068
26.12.1	EFR signalling/ test of the channel mode modify procedure	1068
26.12.2	EFR signalling/ tests of handover	1071
26.12.2.1	EFR signalling / Handover / active call / successful case	1072
26.12.3	EFR Signalling / Structured procedures / MS originated call / late assignment	1088
26.12.4	Structured procedures /MS terminated call / early assignment.....	1091
26.12.5	Structured procedures / emergency call	1094
26.12.6	EFR Signalling / Directed Retry / Mobile Originated Call	1097
26.12.7	EFR Signalling / Directed Retry / Mobile Terminated Call	1101
26.12.8	Default contents of layer 3 messages for Enhanced Full rate speech tests	1107
26.13	Multislot signalling.....	1110
26.13.1	Multislot signalling / RR / Measurement / symmetric	1110
26.13.1.1	Multislot signalling / RR / Measurement / asymmetric	1113
26.13.1.1.3	Multislot signaling / RR / Measurement / asymmetric / change of the reported subchannel.....	1117
26.13.1.2	Multislot signalling / RR / Dedicated assignment.....	1120
26.13.1.2.1	Multislot signalling / RR / Dedicated assignment / successful case	1120
26.13.1.2.2	Multislot signalling / RR / Dedicated assignment / failure / general case	1134
26.13.1.3	Test of handover.....	1148
26.13.1.3.1	Multislot signalling / RR / Handover / successful / active call / non-synchronized	1148
26.13.1.3.2	Multislot signalling / RR / Handover / successful / call under establishment / non synchronized / resource upgrading	1152
26.13.1.3.3	Multislot signalling / RR / Handover / successful / active call / finely synchronized / resource downgrading	1157
26.13.1.3.4	Multislot signalling / RR / Handover / successful / call under establishment / finely synchronized / relocation of channels.....	1160
26.13.1.3.5	Multislot signalling / RR /Handover / successful / call under establishment / pre-synchronized / resource upgrading	1166
26.13.1.4	Multislot signalling / RR / Test of the channel mode modify procedure	1170
26.13.1.5	Multislot signalling / RR / Early classmark sending	1172
26.13.1.6	Default contents of layer 3 messages for RR tests	1174
26.13.1.6.1	Default contents of GSM 900 layer 3 messages for RR tests	1174
26.13.1.6.2	Default contents of DCS 1 800 layer 3 messages for RR tests	1184
26.13.2	Multislot signalling / CC.....	1195
26.13.2.1	Multislot signalling / CC / In-call functions	1195
26.13.2.1.1	Multislot signalling / CC / In-call functions / User initiated service level upgrade / successful	1195
26.13.2.1.2	Multislot signalling / CC / In-call functions / User initiated service level downgrade / successful.....	1197
26.13.2.1.3	Multislot signalling / CC / In-call functions / User initiated service level upgrade / Time-out of timer T323.....	1199