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Digitalni celiļ ni telekomunikacijski sistem (faza 2) - Priključļ itvene zahteve za globalni sistem mobilnih komunikacij (GSM) - 1. del: Mobilne postaje v pasovih za GSM 900 in DCS 1 800 - Dostop (GSM 13.01, razliļ ica 4.0.1)

Digital cellular telecommunications system (Phase 2) - Attachment requirements for Global System for Mobile communications (GSM) - Part 1: Mobile stations in the GSM 900 and DCS 1 800 bands - Access (GSM 13.01 version 4.0.1)

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Candidate Harmonized European Standard (Telecommunications series)

Digital cellular telecommunications system (Phase 2); Attachment requirements for Global System for Mobile communications (GSM); Part 1: Mobile stations in the GSM 900 and DCS 1 800 bands; Access (GSM 13.01 version 4.0.1)

GLOBAL SYSTEM FOR MOBILE COMMUNICATIONS

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Foreword

This Candidate Harmonized European Standard (Telecommunications series) has been produced by Special Mobile Group (SMG).

The present document is part 1 of a multi-part EN covering the attachment requirements for Global System for Mobile communications (GSM), as identified below:

Part 1: "Mobile stations in the GSM 900 and DCS 1 800 bands; Access";

Part 2: "High Speed Circuit Switched Data (HSCSD) multislot mobile stations; Access";

Part 3: "Advanced Speech Call Items (ASCI); Mobile Stations; Access";

Part 4: "General Packet Radio Service (GPRS); Mobile stations; Access";

Part 5: "Cordless Telephony System Mobile Stations (CTS-MS); Access";

Part 6: "Cordless Telephony System Fixed Part (CTS-FP); Access";

Part 7: "Railways Band (R-GSM); Mobile Stations; Access";

Part 8: "Enhanced Data rates for GSM Evolution (EDGE) Mobile Stations; Access";

Part 9: "Adaptive Multi-Rate Codec (AMR) mobile stations; Access".

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC (as amended) laying down a procedure for the provision of information in the field of technical standards and regulations.

The present document is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the Directive 98/13/EC of the European Parliamant and of the Council relating to telecommunications terminal equipment and satellite earth station equipment, including the mutual recognition of their conformity ("Directive 98/13/EC").

This standard covers the general access requirements for terminal equipment for Phase 2 of the public land mobile radio service, operating in:

- the GSM 900 band; or
- the DCS 1 800 band; or
- both in the DCS 1 800 band and the GSM 900 MHz band.

The present document contains the procedures and requirements for the approval testing of DCS 1 800 and Multiband terminal equipment for access.

The requirements of other standards may apply in addition to this standard.

For each test, supplementary information is provided, giving a justification why this item has been selected for regulatory testing, and a reference to the relevant article of the Terminal Directive [1].

This document is based on EN 300 607-1 (GSM 11.10-1) [2].

The contents of this EN may be subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of this EN it will then be re-submitted for formal approval procedures by ETSI with an identifying change of release date and an increase in version number as follows:

Version 4.x.y

where:

4 GSM Phase 2

x the second digit is incremented for all other types of changes, i.e. technical enhancements, corrections, updates, etc.;

y the third digit is incremented when editorial only changes have been incorporated in the specification.

National transposition dates	
Date of adoption of this EN:	3 December 1999
Date of latest announcement of this EN (doa):	31 March 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2000
Date of withdrawal of any conflicting National Standard (dow):	30 September 2000

1 Scope

The present document specifies the technical requirements to be met by terminal equipment capable of connecting to a public telecommunications network. These requirements apply to terminals for Phase 2 of the public land mobile radio service, operating in:

- the GSM 900 band; or
- the DCS 1 800 band; or
- both in the DCS 1 800 band and the GSM 900 MHz band.

With a channel separation of 200 kHz, utilising constant envelope modulation and carrying traffic channels according to the Time Division Multiple Access (TDMA) principle.

This standard specifies the access requirements for terminals as stated above implementing the GSM standard.

For each test purpose and its corresponding conformance requirement, a reference is given to the test method in EN 300 607-1 (GSM 11.10-1) [2]. The requirements apply at the air interface and the Subscriber Identity Module - Mobile Equipment interface for the access requirements, which may be stimulated to perform the tests by additional equipment if necessary.

The measurement uncertainty is described in EN 300 607-1 (GSM 11.10-1) [2].

This standard covers the essential requirements of the Terminal Directive 98/13/EC [1] Articles 5d, 5e, 5f. Non access related aspects of speech telephony, where Article 5g has been applied, are covered by EN 301 420.

The Terminal Directive 98/13/EC [1] Articles 5a and 5b are covered by other directives, and, therefore, not by this standard.

In this standard, there are no Electromagnetic Compatibility technical requirements in terms of the Terminal Directive 98/13/EEC [1], Article 5c.

NOTE 1: Technical Requirements for EMC performance and testing of the equipment are covered by the relevant standards applicable to the EMC Directive 89/336/EEC, annex A.

Terminal equipment may be subject to additional requirements in other Common Technical Regulations (CTR) or Harmonized standards depending on the equipment functionality.

EN 300 607-1 (GSM 11.10-1) [2] constitutes the conformance test suite for GSM. The verification of the conformance requirements in this standard is based on the tests described in this reference. The set of requirements in EN 300 607-1 (GSM 11.10-1) [2] and the set of requirements in this standard need not be identical.

Some requirements only apply to specific types of mobile station (e.g. data tests only apply to mobile stations with a data facility, tests that only apply to GSM900 or only to DCS1 800 or to both). The following standard indicates the specific test which should be carried out for each mobile station type.

An active accessory is covered by this standard if it modifies the terminal performance in an aspect which affects conformance to essential requirements.

NOTE 2: Only active devices are subject to this standard. Accessories may be tested with specific terminals, and either approved for use with those terminals only, or may possibly be approved for use with a wider range of terminals, depending on the nature and effect of the accessory.

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.

[1] 98/13/EC: "Directive of the European Parliament and of the Council of 12 February 1998 relating to telecommunications terminal equipment and satellite earth station equipment, including the mutual recognition of their conformity ("The Directive")".

[2] EN 300 607-1 (GSM 11.10-1): "Digital cellular telecommunications system (phase 2); Mobile station conformity specifications".

[3] EN 301 420-1 (GSM 13.02): "European digital cellular telecommunications system; Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Telephony".

[4] ETS 300 500 (GSM 02.01): "Digital cellular telecommunication system (Phase 2); Principles of telecommunications services supported by a GSM Public Land Mobile Network (PLMN)".

[5] ETS 300 501 (GSM 02.02): "Digital cellular telecommunications system (Phase 2); Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".

[6] ETS 300 502 (GSM 02.03): "Digital cellular telecommunications system (Phase 2); Teleservices supported by a GSM Public Land Mobile Network (PLMN)".

[7] ETS 300 503 (GSM 02.04): "Digital cellular telecommunications system (Phase 2); General on supplementary services".

[8] ETS 300 504 (GSM 02.06): "Digital cellular telecommunications system (Phase 2); Types of Mobile Stations (MS)".

[9] ETS 300 505 (GSM 02.07): "Digital cellular telecommunications system (Phase 2); Mobile Station (MS) features".

[10] ETS 300 507 (GSM 02.11): "Digital cellular telecommunications system (Phase 2); Service accessibility".

[11] ETS 300 508 (GSM 02.16): "Digital cellular telecommunications system (Phase 2); International Mobile station Equipment Identities (IMEI)".

[12] ETS 300 511 (GSM 02.30): "Digital cellular telecommunications system (Phase 2); Man-Machine Interface (MMI) of the Mobile Station (MS)".

[13] ETS 300 536 (GSM 03.40): "Digital cellular telecommunications system (Phase 2); Technical realization of the Short Message Service (SMS) Point-to-Point (PP)".

[14] ETS 300 537 (GSM 03.41): "Digital cellular telecommunications system (Phase 2); Technical realization of Short Message Service Cell Broadcast (SMSCB)".

[15] ETS 300 538 (GSM 03.45): "Digital cellular telecommunications system (Phase 2); Technical realization of facsimile group 3 transparent".

[16] ETS 300 539 (GSM 03.46): "Digital cellular telecommunications system (Phase 2); Technical realization of facsimile group 3 non-transparent".

[17] ETS 300 551 (GSM 04.02): "Digital cellular telecommunications system (Phase 2); GSM Public Land Mobile Network (PLMN) access reference configuration".

[18] ETS 300 557 (GSM 04.08): "Digital cellular telecommunications system (Phase 2); Mobile radio interface layer 3 specification".

[19] ETS 300 577 (GSM 05.05): "Digital cellular telecommunications system (Phase 2); Radio transmission and reception".

[20] ETS 300 582 (GSM 07.01): "Digital cellular telecommunications system (Phase 2); General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".

3 Abbreviations

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

ACK	ACKnowledgement
BA	BCCH Allocation
BC	Bearer Capability
BCCH	Broadcast Control Channel
CC	Call Control
CCCH	Common Control Channel
CFB	Call Forwarding mobile subscriber Busy
CFNRc	Call Forwarding MS Not Reachable
CFU	Call Forwarding Unconditional
CM	Connection management
CTR	Common Technical Regulations
DRX	Discontinuous Reception (mechanism)
DTE	Data Terminal Equipment
DTMF	Dual Tone Multi Frequency
DTX	Discontinuous Transmission (mechanism)
FACCH	Fast Associated Control Channel
I	Information (frame)
IMEI	International Mobile station Equipment Identity
IMSI	International Mobile Subscriber Identity
LA	Location Area
LAI	Location Area Identification
ME	Mobile Equipment
MM	Mobility Management
MMI	Man Machine Interface
MO	Mobile Originated
MOC	Mobile Originated Call
MS	GSM Mobile Station
MT	Mobile Terminated
MTC	Mobile Terminated Call
N®	Receive sequence Number
N(S)	Send sequence Number
OACSU	Off Air Call Set Up
PLMN	Public Land Mobile Network
RACH	Random Access Channel
REJ	REJect (frame)
RF	Radio Frequency
RR	Radio Resource (management entity / connection)
RR	Receive Ready (frame) (in L2)
RST	Reset
S	S counter
SABM	Set Asynchronous Balanced Mode (frame)
SAPI	Service Access Point Identifier
SDCCH	Stand-alone Dedicated Control Channel

SIM	Subscriber Identity Module
SMS	Short Message Service
SS	System Simulator
TCH	Traffic Channel
TCH/FS	Full rate Traffic Channel for Speech
TCH/HS	Half rate Traffic Channel for Speech
TDMA	Time Division Multiple Access
TI	Transaction Identifier
TMSI	Temporary Mobile Subscriber Identity
UA	Unnumbered Acknowledge (frame)
UI	Unnumbered Information (frame)

4 General requirements

The requirements of this standard apply to the following classes of terminal.

- Terminals operating only in the GSM 900 band. These terminals shall conform to the requirements of clause 5, except where specifically indicated.

- Terminals operating only in the DCS 1 800 band. These terminals shall conform to the requirements of clause 5, except where specifically indicated.

  a) Terminals operating in the DCS 1 800 band and in the GSM 900 band (including terminals operating in the Extended GSM 900 band), where operation is possible in only one band at a time. These terminals shall conform to the requirements of clause 5 of this standard.

  b) Terminals operating simultaneously in the DCS 1 800 band and in the GSM 900 band (including terminals operating in the Extended GSM 900 band). These terminals shall conform tothe requirements of clause 6 and clause 7 of this standard.

5 Requirements for terminals

Table 1 contains all requirements that are needed for terminals to meet the essential requirements as defined in the Directive [1]. A justification according to article 5 of the Directive is given by stating the relevant categories (d to f) together with a text supporting the justification.

The entries are defined as follows:

- "EN 300 607-1 Item" defines the item number of the conformance requirement and also the reference to EN 300 607-1 (GSM 11.10-1) [2]. This reference is a normative reference to a subclause of EN 300 607-1 (GSM 11.10-1) [2] containing the conformance requirement text, and references to the base standard.

- "Description" contains a short description of the requirement.

- "Justification" contains supplementary information to explain the justification of the requirement according to article 5 of the Directive [1].

- "TD Cat" defines the category according to article 5 of the Directive [1].

- "Test Cat" defines whether the requirement is covered by a "special test situation" (e.g. a manufacturer's declaration of some sort). An "X" indicates a special test situation, whilst a blank entry indicates conformity is by the test referred to by this standard, an asterisk "*" indicates that, where the terminal supports both the GSM 900 and DCS 1 800 bands either the test in the DCS 1 800 band or the equivalent test in the GSM 900 band is performed, and that a special test situation applies for the test which is not performed.

Table 1: Requirements and Justifications for terminals

EN 300 607-1 Item	DESCRIPTION	JUSTIFICATION	TD Cat	Test Cat
11.1.1	Verification of support and non-support of services (MT).	To ensure that the MS correctly accepts BC(s) from the network to ensure correct interworking with the network.	f	*
11.1.2	Verification of support and non-support of services (MO).	To ensure that the MS correctly reports BC(s) to the network to ensure correct interworking with the network.	f	*
11.2	Verification of support of the single numbering scheme.	To ensure correct interworking with a network supporting single numbering scheme.	f	*
11.3	Verification of non-support of services. (Advice of Charge Charging, AOCC)	If the MS incorrectly supports AoCC incorrect charging may result. If the MS incorrectly indicates support of AoCC the network may not correctly decide whether access is allowed.	d, f	*
11.4	Verification of non-support of services. (Call Hold)	If the MS supports AoCC incorrect charging may result If the MS incorrectly indicates non-support of call hold.	f	*
11.5	Verification of non-support of services. (MultiParty)	If the MS supports AoCC incorrect charging may result. If the MS incorrectly indicates non-support of multi-party.	f	*
11.6	Verification of non-support of feature. (Fixed dialling number)	If a fixed dialling number SIM is inserted into a MS not rejecting other call set-ups, calls may be made (and charged) to non-authorized numbers.	d, f	X
11.7	IMEI security.	If an IMEI could be changed without authorization security mechanisms based on the IMEI would not work.	d	X
12.1.1	Conducted spurious emissions - MS allocated a channel.	Non compliance in this area may cause interference to other spectrum users.	e	
12.1.2	Conducted spurious emissions - MS in idle mode.	Non compliance in this area may cause interference to other spectrum users.	e	
12.2.1	Radiated spurious emissions - MS allocated a channel.	Non compliance in this area may cause interference to other spectrum users.	e	
12.2.2	Radiated spurious emissions - MS in idle mode.	Non compliance in this area may cause interference to other spectrum users.	e	
13.1	Transmitter - Frequency error and phase error.	Non Compliance in this area may impair establishment and the maintaining of the call.	e	
13.2	Transmitter - Frequency error under multipath and interference conditions.	Non Compliance in this area may impair establishment and the maintaining of the call.	e	
13.3-1	Transmitter output power and burst timing - MS with permanent antenna connector.	Non Compliance in this area may impair establishment and the maintaining of the call or may cause interference to other spectrum users.	e	
13.3-2	Transmitter output power and burst timing - MS with integral antenna.	Non Compliance in this area may impair establishment and the maintaining of the call or may cause interference to other spectrum users.	e	X
13.4	Transmitter - Output RF spectrum.	Non compliance in this area may cause interference to other spectrum users.	e	
14.1.1.1	Receiver / Bad Frame Indication - TCH/FS - Random RF input.	Non compliance in this area may degrade speech quality.	e	X
14.1.1.2	Receiver / Bad Frame Indication - TCH/FS - Frequency hopping and downlink DTX.	Non compliance in this area may degrade speech quality.	e	
14.1.2.1	Receiver / Bad Frame Indication - TCH/HS - Random RF input.	Non compliance in this area may degrade speech quality.	e	X
14.1.2.2	Receiver / Bad Frame Indication - TCH/HS - Frequency hopping and downlink DTX.	Non compliance in this area may degrade speech quality.	e	
14.2.1	Receiver / Reference sensitivity - TCH/FS.	Non compliance in this area may degrade speech quality and may impair call maintenance.	f	

EN 300 607-1 Item	DESCRIPTION	JUSTIFICATION	TD Cat	Test Cat
14.2.2	Receiver / Reference sensitivity - TCH/HS.	Non compliance in this area may degrade speech quality and may impair call maintenance.	f	
14.2.3	Receiver / Reference sensitivity - FACCH/F.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	
14.2.4	Receiver / Reference sensitivity - FACCH/H.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	
14.2.5	Receiver / Reference sensitivity - full rate data channels.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	X
14.2.6	Receiver / Reference sensitivity - half rate data channels.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	X
14.3	Receiver / Usable receiver input level range.	Non compliance in this area may degrade speech quality and may impair call maintenance.	e	
14.4.1	Co-channel rejection - TCH/FS.	Non compliance in this area may degrade speech quality and may impair call maintenance.	e	
14.4.2	Co-channel rejection - TCH/HS (speech frames).	Non compliance in this area may degrade speech quality and may impair call maintenance.	f	
14.4.4	Co-channel rejection - FACCH/F.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	
14.4.5	Co-channel rejection - FACCH/H.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	
14.5.1	Adjacent channel rejection - speech channels.	Non compliance in this area may degrade speech quality and may impair call maintenance.	e	
14.5.2	Adjacent channel rejection - control channels.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	
14.6.1	Intermodulation rejection - speech channels.	Non compliance in this area may degrade speech quality and may impair call maintenance.	e	
14.6.2	Intermodulation rejection - control channels.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	
14.7.1	Blocking and spurious response - speech channels.	Non compliance in this area may degrade speech quality and may impair call maintenance.	e	
14.7.2	Blocking and spurious response - control channels.	Non Compliance in this area may impair establishment and the maintaining of the call.	f	X
14.8.1	AM suppression - speech channels.	Non compliance in this area may impair establishment and maintenance of the call.	f	
14.8.2	AM suppression - control channels.	Non compliance in this area may impair establishment and maintenance of the call.	f	
14.9	Paging Performance at high input level	Non compliance in this area may lead to not being able to setup a call in dense hierarchical networks.	f	
15	Timing advance and absolute delay.	If the timing advance is set or reported wrongly the establishment or maintenance of a connection may be disturbed. Calls on adjacent timeslots may be disturbed.	f	
16	Reception time tracking speed.	If the MS does not respond correctly to changes in timing, the call may drop or interference may be caused to other users.	f	

EN 300 607-1 Item	DESCRIPTION	JUSTIFICATION	TD Cat	Test Cat
17.1	Access times during handover - Intra cell channel change.	There may be an unacceptable audible break in the speech if this time is exceeded.	f	
17.2	Access times during handover - Inter cell handover.	Tp1/2: There may be an unacceptable audible break in the speech if this time is exceeded. Tp3/4: The call may drop if these requirements are not met.	f	
18.1	Temporary reception gaps, single slot.	Non Compliance in this area may impair the holding of the connection.	f	
19.1	Channel release after unrecoverable errors - 1.	Failure in these requirements will result in incorrect call holding and clearance performance in marginal RF signal conditions.	e, f	
19.2	Channel release after unrecoverable errors - 2.	Failure in these requirements will result in incorrect call holding and clearance performance in marginal RF signal conditions.	e, f	
19.3	Channel release after unrecoverable errors - 3.	Failure in these requirements will result in incorrect call holding and clearance performance in marginal RF signal conditions.	e, f	
20.1	Cell Selection.	An MS which does not select the correct cell at switch on, may not camp onto the optimum cell for establishing a connection with the network, or may not offer service at all.	e, f	
20.2	Cell selection with varying signal strength values.	An MS which incorrectly averages signal strength values during cell selection, may not camp onto the optimum cell for establishing a connection with the network.	e, f	
20.3	Basic Cell Reselection.	An MS which reselects cells incorrectly, may not camp onto the optimum cell for establishing a connection with the network.	d, e, f	
20.4	Cell reselection using TEMPORARY_OFFSET, CELL_RESELECT_OFFSET and PENALTY_TIME parameters.	An MS which reselects cells incorrectly, may not camp onto the optimum cell for establishing a connection with the network.	d, e, f	
20.5	Cell reselection using parameters transmitted in the SYSTEM INFORMATION TYPE 2bis, 7 and 8 messages.	An MS which reselects incorrectly, may not camp onto the optimum cell for establishing a connection with the network.	d, e, f	
20.6	Cell Reselection Timings.	An MS which reselects cells incorrectly, may not camp onto the optimum cell for establishing a connection with the network.	d, e, f	
20.7	Priority of Cells.	An MS which reselects cells incorrectly, may not camp onto the optimum cell for establishing a connection with the network. Too frequent reselections may cause increased network signalling load at LA boundaries, or missed paging messages.	d, e, f	
20.8	Cell Reselection when C1 (serving cell) < 0 for 5 sec.	An MS that selects a cell of incorrect priority or incorrectly uses the cell selection parameters, may not camp onto the optimum cell for establishing a connection with the network.	d, e, f	
20.9	Running average of surrounding cell BCCH carrier signal levels.	An MS which incorrectly calculates the C1 parameter may not camp onto the optimum cell for establishing a connection with the network, Too frequent reselections may cause increased network signalling load at LA boundaries, or missed paging messages.	d, e, f	

EN 300 607-1 Item	DESCRIPTION	JUSTIFICATION	TD Cat	Test Cat
20.10	Running average of serving cell BCCH carrier signal level.	An MS which incorrectly averages signal levels may not camp onto the optimum cell for establishing a connection with the network, Too frequent reselections may cause increased network signalling load at LA boundaries, or missed paging messages.	d, e, f	
20.11	Updating list of 6 strongest neighbour carriers and decoding BCCH info of a new carrier on the list.	An MS which incorrectly averages signal levels may not camp onto the optimum cell for establishing a connection with the network, Too frequent reselections may cause increased network signalling load at LA boundaries, or missed paging messages.	d, e, f	
20.12	Decoding the BCCH information of the neighbour carriers on the list of six strongest neighbour carriers.	An MS that fails to decode the BCCHs of surrounding cells correctly, may not reselect the optimum cell for establishing a connection with the network., This may cause increased network signalling load at LA boundaries.	d, e, f	
20.13	Decoding the BSIC of the neighbour carriers on the list of six strongest neighbour carriers.	An MS that fails to decode the BSICs of surrounding cells correctly, may not reselect the optimum cell for establishing a connection with the network. This may cause increased network signalling load at LA boundaries.	d, e, f	
20.14	Emergency call.	An MS that fails to work correctly in the limited service state may not be able to establish a connection for an emergency call. It may also attempt to establish a connection with a network that is not permitted.	d, f	X
20.15	Cell Reselection after receipt of "LA not allowed".	An MS which fails to reselect correctly when rejected with the cause "LA not allowed" may attempt to establish a connection on a cell which is not allowed, or not the optimum cell, causing increased interference in the network.	d, e, f	
20.16	Downlink Signalling Failure.	An MS which fails to reselect correctly in conjunction with the DSC counter, may not select the optimum cell for establishing a connection with the network, or may not offer service at all.	d, e, f	
20.17	Cell Selection if no suitable cell found in 10 sec.	An MS which is unable to reselect a suitable cell and does not perform a cell selection, may not offer service when cells suitable for establishing a connection with the network are available.	f	
20.18	Cell Reselection due to MS rejection "Roaming not allowed in this LA".	An MS which fails to reselect correctly when rejected with the cause "Roaming not allowed in this LA" may repeatedly attempt to establish a connection on a cell which is not allowed.	d, e, f	X
20.19	Cell selection on release of SDCCH and TCH.	If wrongly implemented, paging messages may be missed on release of the TCH or SDCCH.	f	
21.1	Received signal measurements - Signal strength.	Spectrum efficiency. Non Compliance in this area may impair the holding of the connection.	e, f	
21.2	Received signal measurements - Signal strength selectivity.	Spectrum efficiency. Non Compliance in this area may impair the holding of the connection.	e, f	
21.3.1	Received signal measurements - Signal quality under static conditions - TCH/FS.	Spectrum efficiency. Non Compliance in this area may impair the holding of the connection.	e, f	