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8 [[]HJb]`WV] b]`hY`_ca i b]_UW`g_]`g]ghYa `fZuU&ŽŁ!`Df]_`1]hj YbY`nU hYj Y`nU
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Digital cellular telecommunications system (Phase 2+); Attachment requirements for Global System for Mobile communications (GSM); High Speed Circuit Switched Data (HSCSD) Multislot Mobile Stations; Access (GSM 13.34 version 5.1.1 Release 1996)

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European Standard (Telecommunications series)

**Digital cellular telecommunications system (Phase 2+);
Attachment requirements for Global System for Mobile
communications (GSM);
High Speed Circuit Switched Data (HSCSD) Multislot
Mobile Stations;
Access
(GSM 13.34 version 5.1.1 Release 1996)**

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Foreword

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

The present document covers the High Speed Circuit Switched Data Multislot (HSCSD) requirements for terminal equipment for the Global System for Mobile communications (GSM) mobile services.

The present document contains the procedures and requirements for the approval testing of GSM terminal equipment implementing the HSCSD optional feature for access.

The requirements of TBR 19 [3] and/or TBR-31 [5], apply in addition to the present document, for HSCSD terminal equipment, Access.

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].

The present document is based on EN 300 607-1 (GSM 11.10-1 Version 5.0) [2].

The contents of the present document may be subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of the present document 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 5.x.y

where:

- 5 GSM Phase 2+ Release 1996.
- x the second digit is incremented for changes of substance, 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:	31 March 2000
Date of latest announcement of this EN (doa):	30 June 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2000
Date of withdrawal of any conflicting National Standard (dow):	31 December 2000

1 Scope

The present document specifies the technical requirements to be met by terminal equipment capable of connecting to a public telecommunications network and that support the GSM High Speed Circuit Switched Data Multislot (HSCSD) feature. These requirements apply to terminals for Phase 2+ of the public land mobile radio service, operating in the 900 MHz and 1800 MHz bands with a channel separation of 200 kHz, utilising constant envelope modulation and carrying traffic channels according to the Time Division Multiple Access (TDMA) principle.

The present document specifies the terminal equipment HSCSD requirements for the GSM 900 and the DCS 1800 versions of the Global System for Mobile communications (GSM).

The present document applies in addition to any regulatory requirements, eg. CTR 19/CTR 31, for HSCSD terminal equipment, Access.

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].

The present document covers the essential requirements of the Terminal Directive 98/13/EC [1] Articles 5d, 5e, 5f.

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

In the present document, there are no Electromagnetic Compatibility technical requirements in terms of the Terminal Directive 98/18/EC [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.

The present document specifies the HSCSD Terminal equipment additional requirements, Access.

EN 300 607-1 (GSM 11.10-1) [2] constitutes the conformance test suite for GSM. The verification of the conformance requirements in the present document 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 the present document need not be identical.

All the requirements in the present document are specific to mobile stations supporting HSCSD.

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

NOTE 2: Only active devices are subject to the present document. 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.
- For this Release 1996 document, references to GSM documents are for Release 1996 versions (version 5.x.y).

- [1] Directive 98/13/EC 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.
- [2] EN 300 607-1 (GSM 11.10-1 version 5.5.0): "Digital cellular telecommunications system (Phase 2+); Mobile station conformity specifications".
- [3] TBR 19: "European digital cellular telecommunications system; Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Access".
- [4] GSM 01.04 (ETR 350): "Digital cellular telecommunication system (Phase 2+); Abbreviations and acronyms"
- [5] TBR 31: "European digital cellular telecommunications system (Phase2); Attachment requirements for mobile stations in the DCS 1800 band and additional GSM 900 band; Access".
- [6] TBR 20: "European digital cellular telecommunications system (Phase 20; Attachment requirements for Global System for Mobile communications (GSM) mobile stations; Telephony".
- [7] TBR 32: "European digital cellular telecommunications system (Phase2); Attachment requirements for mobile stations in the DCS 1800 band and additional GSM 900 band; Telephony".

3 Abbreviations

For the purposes of the present document, the following additional abbreviations apply:

HSCSD	High Speed Circuit Switched Data
MO	Mobile Originated
MT	Mobile Terminated
T	Transparent
NT	Non Transparent
AIUR	Air Interface User Rate
FNUR	Fixed Network User Rate

Additional GSM related abbreviations can be found in GSM 01.04 (ETR 350) [4].

4 General requirements

HSCSD terminals shall conform to:

- a) the requirements of TBR 19/TBR 31 according to the frequency band(s) implemented in the terminal; and
- b) the requirements of clause 5 of this standard; and
- c) the requirements in Annex A of this standard; and
- d) if the terminal implements speech services, the requirements of TBR 20/TBR 32 according to the frequency band(s) implemented in the terminal.

5 Requirements

The following table contains all requirements that are needed to meet the essential requirements as defined in the Terminal Directive [1]. A justification according to article 5 of the Terminal Directive is given by stating the relevant categories (c 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 Terminal Directive [1].
- "TD Cat" defines the category according to article 5 of the Terminal Directive [1].
- "Test Cat" defines whether the requirement is covered by a "special test situation" (e.g. a manufacturer's declaration of some form). An "X" indicates a special test situation, whilst, a blank entry indicates conformity is by the test referred to by this standard.

Table 1: Requirements and Justifications

EN 300 607-1 Item	Description	Justification	TD Cat	Test Cat
13.6	Transmitter - Frequency error and phase error in HSCSD multislot configuration	Non compliance in this area may cause interference to other spectrum users.	e	
13.7	Transmitter output power and burst timing in HSCSD multislot configurations	Non compliance in this area may cause interference to other spectrum users.	e	
13.8	Transmitter - Output RF spectrum in HSCSD multislot configuration	Non compliance in this area may cause interference to other spectrum users.	e	

Table 1 (continued): Requirements and Justifications

EN 300 607-1 Item	Description	Justification	TD Cat	Test Cat
14.2.8	Receiver / Reference sensitivity - full rate data channels in multislot configuration	Non Compliance in this area may impair establishment and the maintaining of the call.	f	X

Table 1 (continued): Requirements and Justifications

EN 300 607-1 Item	Description	Justification	TD Cat	Test Cat
18.2	Temporary reception gaps in HSCSD multislot configurations	Non Compliance in this area may impair the holding of the connection.	f	

Table 1 (continued): Requirements and Justifications

EN 300 607-1 Item	Description	Justification	TD Cat	Test Cat
21.5	Received signal measurements in HSCSD multislot configuration	Non compliance in this area may lead to ignore excessive values of RXLEV, under normal or extreme conditions.	e, f	

Table 1 (continued): Requirements and Justifications

EN 300 607-1 Item	Description	Justification	TD Cat	Test Cat
22.2	Transmit power control timing and confirmation in HSCSD mutlislot configurations.	Spectrum efficiency.	E	

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Table 1 (continued): Requirements and Justifications

EN 300 607-1 Item	Description	Justification	TD Cat	Test Cat
26.13.1.1.1	Multislot signalling / RR / Measurement / symmetric	This test case verifies that the MS does not report about cells which are suitable from a radio propagation point of view but which could not accommodate the MS for other reasons. The measurement reports that are sent by the MS are used by the network to determine whether a handover procedure should be performed and towards which cell it can be performed (Article 5f). For its measurements, the MS has to follow the indications broadcasted by the network in the SYSTEM INFORMATION messages.	f	
26.13.1.1.2	Multislot signalling / RR / Measurement / asymmetric	This test case verifies that the MS does not report about cells which are suitable from a radio propagation point of view but which could not accommodate the MS for other reasons. The measurement reports that are sent by the MS are used by the network to determine whether a handover procedure should be performed and towards which cell it can be performed (Article 5f). For its measurements, the MS has to follow the indications broadcasted by the network in the SYSTEM INFORMATION messages.	f	
26.13.1.1.3	Multislot signalling / RR / Measurement / asymmetric / Change of the reported subchannel	This test guarantees the reliability of measurement reports	e, f	
26.13.1.2.1	Multislot signalling / RR / Dedicated assignment / successful case	If the assignment procedure is not correctly implemented by the MS, connections can not be established (Article 5f). If the correct power level is not applied this harms the network (Article 5d).	d, f	
26.13.1.2.2	Multislot signalling / RR / Dedicated assignment / failure / general case	If the assignment failure procedure is not correctly implemented by the MS, that MS can not be able to re-establish the old link.	f	
26.13.1.3.1	Multislot signalling / RR / Handover / successful / active call / non-synchronized	If the handover procedure is not correctly implemented by the MS, it is impossible to switch a call in progress from one cell to another cell.	f	
26.13.1.3.2	Multislot signalling / RR / Handover / successful / call under establishment / non synchronized / resource upgrading	If the handover procedure is not correctly implemented by the MS, it is impossible to switch a call in progress from one cell to another cell.	f	
		(continued)		