



SLOVENSKI STANDARD
SIST EN 300 944 V8.0.1:2003
01-december-2003

8 [[]HJb]`W] b]`hY`ca i b]_UW]`g_]`g]ghYa `fZuU&ŽL`Ě`NU hYj YnU`na c[`]j cgh]`
a cV]`bY[UfUX]`g_Y[Uj a Ygb]_Uf] GA `\$("% žfUn`]]WJ, "\$`%ž]nXUU% -- Ł

Digital cellular telecommunications system (Phase 2+) (GSM); Performance requirements on the mobile radio interface (GSM 04.13 version 8.0.1 Release 1999)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: **EN 300 944 Version 8.0.1**
<https://standards.iteh.ai/catalog/standards/sist/cb9946e8-4c70-4d27-913c-c3a340699d2f/sist-en-300-944-v8-0-1-2003>

ICS:

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

SIST EN 300 944 V8.0.1:2003 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN 300 944 V8.0.1:2003](https://standards.iteh.ai/catalog/standards/sist/eb9946e8-4c70-4d27-915c-c3a340699d2f/sist-en-300-944-v8-0-1-2003)

<https://standards.iteh.ai/catalog/standards/sist/eb9946e8-4c70-4d27-915c-c3a340699d2f/sist-en-300-944-v8-0-1-2003>

ETSI EN 300 944 V8.0.1 (2000-08)

European Standard (Telecommunications series)

**Digital cellular telecommunications system (Phase 2+);
Performance requirements on the mobile radio interface
(GSM 04.13 version 8.0.1 Release 1999)**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

GSM®

GLOBAL SYSTEM FOR
MOBILE COMMUNICATIONS

[SIST EN 300 944 V8.0.1:2003](https://standards.iteh.ai/catalog/standards/sist/eb9946e8-4c70-4d27-915c-c3a340699d2f/sist-en-300-944-v8-0-1-2003)

<https://standards.iteh.ai/catalog/standards/sist/eb9946e8-4c70-4d27-915c-c3a340699d2f/sist-en-300-944-v8-0-1-2003>



Reference

REN/SMG-030413Q8

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° 7803/88**iTeh STANDARD PREVIEW**
(standards.iteh.ai)SIST EN 300 944 V8.0.1:2003<https://standards.iteh.ai/catalog/standards/sist/eb9946e8-4c70-4d27-915c-c3a340699d2f/sist-en-300-944-v8-0-1-2003>

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	4
Foreword.....	4
1 Scope	5
2 References	5
3 Abbreviations and definitions	6
3.1 Abbreviations	6
3.2 Definitions	6
4 Default conditions	6
5 Requirements.....	6
5.1 General requirements	6
5.1.1 Response to layer 3 message.....	6
5.1.2 Response to an erroneous layer 3 message	7
5.2 Layer 3 Radio Resource signalling.....	7
5.2.0 Paging	7
5.2.1 Paging and cell reselection after channel release.....	7
5.2.2 Paging commands and immediate assignment rejection (Timer T3122)	7
5.2.3 Immediate assignment (Timer T3101).....	7
5.2.4 Channel assignment	7
5.2.5 Channel mode modify	7
5.2.6 Handover access	8
5.2.6.1 Finely, pseudo and pre synchronized cases	8
5.2.6.2 Non synchronized case	8
5.2.7 Encryption.....	9
5.2.8 Classmark change	9
5.2.9 Classmark interrogation	9
5.2.10 Release (Timer T3110)	9
5.2.11 Early sending of the CLASSMARK CHANGE message	9
5.3 Layer 3 Mobility Management signalling	9
5.3.1 Periodic location updating timer	9
5.3.2 Identification	9
5.3.3 Authentication.....	10
5.3.4 T3240 expiry.....	10
5.3.5 TMSI reallocation.....	10
5.3.6 IMSI detach	10
5.3.7 Location updating with random access failure.....	10
5.3.8 Follow on call	10
5.4 Layer 3 Call Control signalling	10
5.4.1 Time to send SETUP message.....	10
5.4.2 Response times to CC messages	11
5.4.3 User alerting.....	11
5.4.4 Call establishment.....	11
5.4.5 Call reestablishment.....	12
5.4.6 In call modification	12
5.4.7 DTMF	12
5.5 Supplementary service signalling.....	12
5.5.1 Advice of Charge Charging (AoCC)	12
5.6 Short Message Services Point-to-Point	12
5.6.1 CP-DATA	12
5.6.2 RP-DATA	12
Annex A (informative): Change Request History.....	14
History	15

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://www.etsi.org/ipr>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

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

The present document provides a mechanism giving reliable transfer of signalling messages within the digital cellular telecommunications system (Phase 2+).

The contents of the present document is subject to continuing work within SMG and may change following formal SMG approval. Should SMG modify the contents of the present document, it will be re-released with an identifying change of release date and an increase in version number as follows:

Version 8.x.y

where:

- 8 indicates Release 1999 of GSM Phase 2+.
- x the second digit is incremented for all 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.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 300 944 V8.0.1:2003

<https://standards.iteh.ai/catalog/standards/sist/en-300-944-v8-0-1-2003>

c3a340699d2f/sist-en-300-944-v8-0-1-2003

National transposition dates

Date of adoption of this EN:	14 July 2000
Date of latest announcement of this EN (doa):	31 October 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 April 2001
Date of withdrawal of any conflicting National Standard (dow):	30 April 2001

1 Scope

The present document specifies measurable performance requirements for signalling aspects of Mobile Stations (MS)s. To allow implementation flexibility it has been chosen to specify requirements on the whole Mobile Station rather than to specify requirements on each "OSI layer". As a consequence the performance requirements do not fit conveniently in specifications such as GSM 04.08 [4] (layer 3 only) or GSM 04.06 [3] (layer 2 only).

The main aim of the present document is to provide the justification for testing of requirements that are not included in other GSM specifications. Where specific requirements are included in other GSM specifications they are not duplicated here.

MSs have to perform a wide variety of functions. As a consequence most performance measurements have to be made under a set of defined conditions: where necessary, these are included in the present document.

Where necessary certain assumptions are made about the interaction times between the mobile equipment and the SIM. If the (test) SIM does not respond within the assumed time then appropriate allowances shall be made.

Additionally, it is intended that the present document should contain sufficient requirements to enable some undefined network timers in GSM 04.08 [4] to be calculated.

2 References

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

- iTeh STANDARD PREVIEW**
(standards.iteh.ai)
- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
 - For a specific reference, subsequent revisions do not apply.
 - For a non-specific reference, the latest version applies.
 - A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.
 - For this Release 1999 document, references to GSM documents are for Release 1999 versions (version 8.x.y).

- [1] GSM 01.04: "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 03.22: "Digital cellular telecommunications system (Phase 2+); Functions related to Mobile Station (MS) in idle mode and group receive mode".
- [3] GSM 04.06: "Digital cellular telecommunications system (Phase 2+); Mobile Station - Base Station System (MS - BSS) interface Data Link (DL) layer specification".
- [4] GSM 04.08: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".
- [5] GSM 04.86: "Digital cellular telecommunications system (Phase 2+); Advice of Charge (AoC) supplementary services - Stage 3".
- [6] GSM 05.02: "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path".
- [7] GSM 05.08: "Digital cellular telecommunications system (Phase 2+); Radio subsystem link control".

3 Abbreviations and definitions

3.1 Abbreviations

Abbreviations used in the present document are listed in GSM 01.04 [1].

3.2 Definitions

For the purposes of the present document, the following definition applies:

ready to transmit: in the present document the phrase "ready to transmit the message before time x" is defined to mean that the MS shall transmit part of that message no later than the first burst of the first TCH or control channel block that occurs after time x.

4 Default conditions

Unless otherwise stated, throughout the present document the following conditions are associated with the requirements:

- ideal radio link with an insignificant bit error rate;
- no other signalling is in progress on the main DCCH;
- messages sent by the network are correctly formed;
- the only established data link (or the only data link to be established) is on SAPI 0;
- any Starting Time IE that is included in a message sent by the network does not require the action to be delayed;
- cells are not barred and all access classes are allowed;
- the layer 2 performance of the network shall satisfy the "System Performance Requirements" of subclause 5.9 of GSM 04.06 [3];
- messages sent by the network may contain any set of optional IEs, and any permitted set of conditional IEs;
- the mobile has a valid SIM inserted, is powered on, and the SIM's update status is "updated"; and
- on the CCCH, the Page Mode IE is not set to "paging reorganization" or "same as before".

5 Requirements

5.1 General requirements

5.1.1 Response to layer 3 message

The requirements of subclause 5.1.1 apply if there are no specific requirements for a layer 3 message in other parts of clause 5.

If the last timeslot of the message block containing a network command occurs at time T, then the MS shall be ready to transmit the response before time T + 500 ms.

5.1.2 Response to an erroneous layer 3 message

If the last timeslot of the message block containing an erroneous RR, MM or CC message occurs at time T and if GSM 04.08 [4] requires a status message to be returned to the network then the MS shall be ready to transmit the RR-STATUS or MM-STATUS or STATUS message before $T + 500$ ms.

5.2 Layer 3 Radio Resource signalling

5.2.0 Paging

If access to the network is allowed and the MS has been camped on a suitable cell for at least 2 seconds and if the last timeslot of the message block containing a PAGING REQUEST message addressing the MS occurs at time T, then the MS shall be ready to transmit the CHANNEL REQUEST message before $T + 0,7$ seconds.

5.2.1 Paging and cell reselection after channel release

If the last timeslot of the message block containing a CHANNEL RELEASE message occurs at time T the MS shall respond to PAGING REQUEST messages sent later than $T + 1,0$ seconds.

5.2.2 Paging commands and immediate assignment rejection (Timer T3122)

If the last timeslot of the message block containing an IMMEDIATE ASSIGNMENT REJECT message is sent at time T and contains a Wait Indication of W seconds then the MS shall at least respond to PAGING REQUEST messages sent later than $T + (W + 1)$ seconds.

5.2.3 Immediate assignment (Timer T3101)

If the last timeslot of the message block containing an IMMEDIATE ASSIGNMENT (or IMMEDIATE ASSIGNMENT EXTENDED) message is transmitted at time T then, the MS shall be ready to transmit the SABM frame with its information field before $T + 25$ ms. This requirement shall apply for assignment to TCH/F, TCH/H and SDCCH.

5.2.4 Channel assignment

If the last timeslot of the message block containing an ASSIGNMENT COMMAND occurs at time T, then the MS shall be ready to transmit the ASSIGNMENT COMPLETE message before $T + 600$ ms.

If the last timeslot of the message block containing an ASSIGNMENT COMMAND occurs at time T and this ASSIGNMENT COMMAND is such that the MS tries but fails to establish a layer 2 link on the new channel and thus reverts to the old channel, then the MS shall be ready to transmit the ASSIGNMENT FAILURE message on the old channel before $T + 2$ seconds.

If the last timeslot of the message block containing an ASSIGNMENT COMMAND occurs at time T and this ASSIGNMENT COMMAND is such that the MS shall not attempt to establish a layer 2 link on the new channel, then the MS shall be ready to transmit any ASSIGNMENT FAILURE message on the old channel before $T + 500$ ms.

5.2.5 Channel mode modify

If the last timeslot of the message block containing a CHANNEL MODE MODIFY message occurs at time T, then the MS shall be ready to transmit the CHANNEL MODE MODIFY ACKNOWLEDGE message before $T + 300$ ms. In the case that the call is a voice group or voice broadcast call the MS shall be ready to transmit the CHANNEL MODE ACKNOWLEDGE message before $T + 50$ ms.