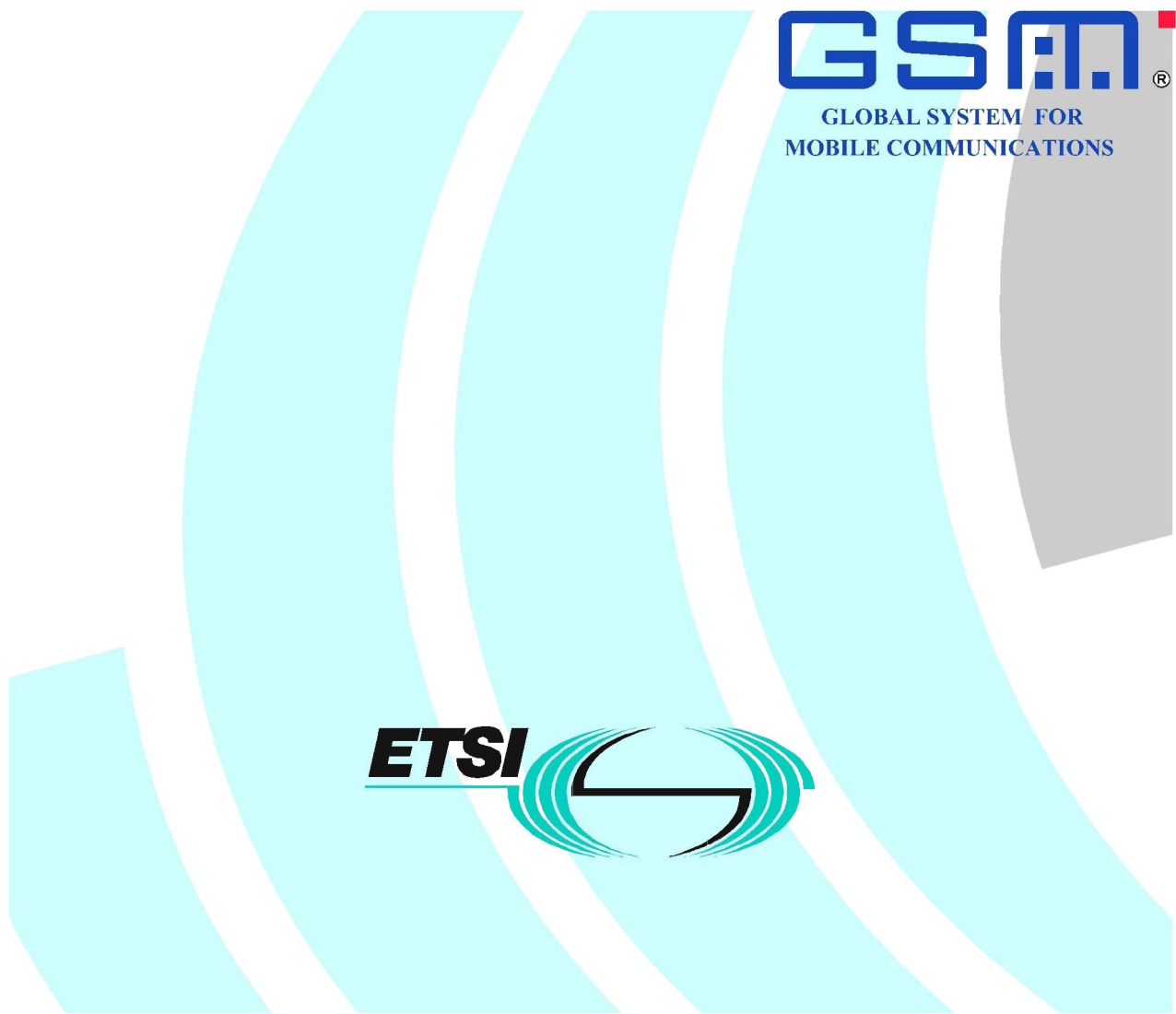


**Digital cellular telecommunications system (Phase 2+);
Physical layer on the radio path;
General description
(GSM 05.01 version 6.1.1 Release 1997)**



Reference

DTS/SMG-020501Q6 (5b0030cr.PDF)

Keywords

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

ETSI

Postal address

F-06921 Sophia Antipolis Cedex - FRANCE

Office address

650 Route des Lucioles - Sophia Antipolis
Valbonne - FRANCE
Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16
Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Internet

secretariat@etsi.fr
<http://www.etsi.fr>
<http://www.etsi.org>

Copyright Notification

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

© European Telecommunications Standards Institute 1998.
All rights reserved.

ETSI

Contents

Intellectual Property Rights.....	4
Foreword	4
1 Scope.....	5
1.1 Normative references	5
1.2 Abbreviations.....	6
2 Set of channels	6
3 Reference configuration.....	8
4 The block structures	8
5 Multiple access and timeslot structure.....	10
5.1 Hyperframes, superframes and multiframes.....	10
5.2 Time slots and bursts	10
5.3 Channel organization	12
6 Frequency hopping capability.....	12
7 Coding and interleaving	15
7.1 General.....	15
7.2 Packet Traffic and Control Channels	15
7.2.1 Channel coding for PDTCH.....	16
7.2.2 Channel coding for PACCH, PBCCH, PAGCH, PPCH and PNCH	16
7.2.3 Channel Coding for the PRACH	16
8 Modulation.....	16
9 Transmission and reception	17
10 Other layer 1 functions.....	18
11 Performance	18
Annex A (informative): Reference configuration.....	19
Annex B (informative): Relations between specification.....	20
Annex C (informative): Change control history.....	21
History	22

ETSI

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 SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available **free of charge** from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://www.etsi.fr/ipr> or <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 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 ETSI Technical Specification (TS) has been produced by the Special Mobile Group (SMG) of the European Telecommunications Standards Institute (ETSI).

This TS is an introduction to the 05 series of the digital mobile cellular and personal communication systems operating in the 900 MHz (P-GSM, E-GSM, R-GSM) and 1 800 MHz band (GSM 900 and DCS 1 800).

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

Version 6.x.y

where:

- 6 indicates release 1997 of GSM Phase 2+
- y the third digit is incremented when editorial only changes have been incorporated in the specification;
- x the second digit is incremented for all other types of changes, i.e. technical enhancements, corrections, updates, etc.

ETSI

1 Scope

This ETSI Technical Specification (TS) is an introduction to the 05 series of the GSM technical specifications for GSM and DCS 1 800. It is not of a mandatory nature, but consists of a general description of the organization of the physical layer with reference to the technical specifications where each part is specified in detail. It introduces furthermore, the reference configuration that will be used throughout this series of technical specifications.

1.1 Normative references

References may be made to:

- a) specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply; or
- b) all versions up to and including the identified version (identified by "up to and including" before the version identity); or
- c) all versions subsequent to and including the identified version (identified by "onwards" following the version identity); or
- d) publications without mention of a specific version, in which case 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] GSM 01.04: "Digital cellular telecommunications system (Phase 2+); Abbreviations and acronyms".
- [2] GSM 03.03: "Digital cellular telecommunications system (Phase 2+); Numbering, addressing and identification".
- [3] GSM 03.20: "Digital cellular telecommunications system (Phase 2+); Security related network functions".
- [4] GSM 03.22: "Digital cellular telecommunications system (Phase 2+); Functions related to Mobile Station (MS) in idle mode and group receive mode".
- [5] GSM 04.03: "Digital cellular telecommunications system (Phase 2+); Mobile Station - Base Station System (MS - BSS) interface; Channel structures and access capabilities".
- [6] GSM 04.08: "Digital cellular telecommunications system (Phase 2+); Mobile radio interface layer 3 specification".
- [7] GSM 04.21: "Digital cellular telecommunications system (Phase 2+); Rate adaption on the Mobile Station - Base Station System (MS-BSS) Interface".
- [8] GSM 05.02: "Digital cellular telecommunications system (Phase 2+); Multiplexing and multiple access on the radio path".
- [9] GSM 05.03: "Digital cellular telecommunications system (Phase 2+); Channel coding".
- [10] GSM 05.04: "Digital cellular telecommunications system (Phase 2+); Modulation".
- [11] GSM 05.05: "Digital cellular telecommunications system (Phase 2+); Radio transmission and reception".
- [12] GSM 05.08: "Digital cellular telecommunications system (Phase 2+); Radio subsystem link control".
- [13] GSM 05.10: "Digital cellular telecommunications system (Phase 2+); Radio subsystem synchronization".
- [14] GSM 03.30: "Digital cellular telecommunications system; Radio network planning aspects".

ETSI

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.