

# ETSI TS 144 057 V14.0.0 (2017-04)



**Digital cellular telecommunications system (Phase 2+) (GSM);  
GSM Cordless Telephony System (CTS), Phase 1;  
CTS supervising system layer 3 specification  
(3GPP TS 44.057 version 14.0.0 Release 14)**



---

Reference

RTS/TSGC-0144057ve00

---

Keywords

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

---

**Important notice**

The present document can be downloaded from:  
<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the print of the Portable Document Format (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  
<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:  
<https://portal.etsi.org/People/CommiteeSupportStaff.aspx>

---

**Copyright Notification**

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.  
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2017.  
All rights reserved.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.  
**3GPP™** and **LTE™** are Trade Marks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.  
**GSM®** and the GSM logo are Trade Marks registered and owned by the GSM Association.

---

## 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 (<https://ipr.etsi.org>).

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 Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

---

## Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Modal verbs terminology.....	2
Foreword.....	6
1 Scope .....	7
1.1 Scope of the Technical Specification .....	7
1.2 Application to the interface structures.....	7
1.3 Structure of layer 3 procedures.....	7
1.4 Test procedures .....	7
1.5 Transmission layer .....	7
1.6 Overview of control procedures .....	7
1.6.1 List of procedures .....	7
1.7 Applicability of implementations .....	8
2 References .....	8
3 Definitions, abbreviations and Random values .....	12
3.1 Definitions.....	12
3.2 Abbreviations .....	12
3.3 Random values .....	12
4 CTS supervising management procedures .....	12
4.1 General .....	12
4.2 CTS-SPM procedures.....	13
4.3 CTS-SPM states .....	13
4.3.1 CTS-SPM states at the Fixed Part.....	13
4.3.2 CTS-SPM states at the Service Node.....	13
4.4 CTS-SPM common procedures .....	14
4.4.1 CTS-FP initialisation procedure .....	14
4.4.1.1 CTS-FP initialisation initiation .....	14
4.4.1.2 CTS-FP initialisation completion.....	14
4.4.2 CTS enrolment procedure.....	14
4.4.2.1 CTS-SPM enrolment initiation.....	15
4.4.2.2 CTS enrolment completion .....	15
4.4.3 CTS operation data update procedure .....	15
4.4.3.1 CTS operation data update initiation.....	15
4.4.3.2 CTS operation data update completion .....	15
4.4.4 CTS Information data request procedure .....	15
4.4.4.1 CTS Information data request .....	16
4.4.4.2 CTS Information data response.....	16
4.4.5 CTS-FP de-initialisation procedure .....	16
4.4.5.1 CTS-FP de-initialisation initiation .....	16
4.4.5.2 CTS de-initialisation completion .....	16
4.4.6 CTS-SPM de-enrolment procedure.....	16
4.4.6.1 CTS-SPM de-enrolment initiated by the fixed part.....	16
4.4.6.2 CTS-SPM de-enrolment initiated by the service node .....	16
4.4.7 CTS FP authentication procedure .....	16
4.4.7.1 CTS FP authentication request.....	17
4.4.7.2 CTS FP authentication response .....	17
4.4.8 CTS MS authentication procedure.....	17
4.4.8.1 CTS MS authentication request.....	17
4.4.8.2 CTS MS authentication response .....	17
5 Examples of structured procedures .....	17
5.1 CTS-FP Initialisation.....	17
5.2 CTS-SPM Enrolment .....	18
5.3 Operation data update.....	19

5.4	Information request .....	19
5.5	CTS-FP De-initialisation .....	19
5.6	CTS-SPM De-enrolment .....	20
5.6.1	CTS-SPM De-enrolment initiated by the fixed part .....	20
5.6.2	CTS-SPM De-enrolment initiated by the service node .....	20
6	Handling of unknown, unforeseen, and erroneous protocol data .....	21
7	Message functional definitions and contents .....	21
7.1	Messages for CTS Supervising management .....	22
7.1.1	CTS-FP initialisation request .....	22
7.1.2	CTS-FP initialisation accept .....	23
7.1.3	CTS-FP initialisation complete .....	23
7.1.4	CTS-FP initialisation reject .....	24
7.1.5	CTS-FP de-initialisation request .....	24
7.1.6	CTS-FP de-initialisation complete .....	24
7.1.7	CTS-FP de-initialisation reject .....	25
7.1.8	CTS enrolment request .....	25
7.1.9	CTS-SPM enrolment accept .....	26
7.1.10	CTS-SPM enrolment reject .....	26
7.1.11	CTS-SPM de-enrolment indication .....	26
7.1.12	CTS-SPM de-enrolment request .....	27
7.1.13	CTS-SPM de-enrolment complete .....	27
7.1.14	CTS-SPM de-enrolment reject .....	28
7.1.15	CTS operation data request .....	28
7.1.16	CTS operation data deliver .....	28
7.1.17	CTS operation data accept .....	29
7.1.18	CTS operation data reject .....	29
7.1.19	CTS information data request .....	30
7.1.20	CTS information data response .....	30
7.1.21	CTS FP authentication request .....	31
7.1.22	CTS FP authentication response .....	31
7.1.23	CTS FP authentication reject .....	31
7.1.24	CTS MS authentication request .....	32
7.1.25	CTS MS authentication response .....	32
7.1.26	CTS MS authentication reject .....	33
7.1.27	CTS SN signing mode command .....	33
8	General message format and information elements coding .....	33
8.1	Overview .....	33
8.2	Protocol Discriminator .....	33
8.3	Skip indicator and transaction identifier .....	34
8.3.1	Skip indicator .....	34
8.3.2	Transaction identifier .....	34
8.4	Message Type .....	34
8.4.1	Supervising management information elements .....	35
8.4.1.1	Authentication parameter RAND1 .....	35
8.4.1.2	Authentication parameter RAND2 .....	35
8.4.1.3	Authentication parameter SRES .....	36
8.4.1.4	Fixed part Identity .....	36
8.4.1.5	Mobile station Identity .....	37
8.4.1.6	Fixed Part Classmark .....	38
8.4.1.7	Radio frequency control Parameters .....	38
8.4.1.8	Radio link control Parameters .....	41
8.4.1.9	Generic Frequency List .....	42
8.4.1.10	Cell Identity List .....	42
8.4.1.11	Application time .....	44
8.4.1.12	Enrolment time .....	44
8.4.1.13	Validity period .....	45
8.4.1.14	Recall period .....	45
9	List of system parameters .....	46
9.1	Timers and counters for radio resource management .....	46

9.1.1 Timers on the SN side.....46  
9.1.2 Timers on the CTS-FP side.....46  
**Annex A (informative): Change Request History.....47**  
History .....48

---

# Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

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

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

---

# 1 Scope

The present document specifies the procedures used at the CTS system interface with the supervision part i.e. the interface between the CTS-FP and the CTS-SN.

Only CTS regular supervising procedures are described; FMC management is not intended to be standardised.

The present document does not specify the transmission layer but only the layer 3.

When the notations for "further study" or "FS" or "FFS" are present in the present document they mean that the indicated text is not a normative portion of the present document.

The structured functions and procedures of this protocol and the relationship with other layers and entities are described in general terms in GSM 04.07.

## 1.1 Scope of the Technical Specification

The procedures currently described in the present document are for supervising management over the CTS-FP/CTS-SN interface.

## 1.2 Application to the interface structures

The layer 3 procedures apply to the interface structures defined in GSM 04.03. GSM 04.07 gives the general description of layer 3 including procedures, messages format and error handling.

## 1.3 Structure of layer 3 procedures

A building block method is used to describe the layer 3 procedures.

The basic building blocks are "elementary procedures" provided by the protocol control entities.

Complete layer 3 transactions consist of specific sequences of elementary procedures. The term "structured procedure" is used for these sequences.

## 1.4 Test procedures

Test procedures of the CTS / Fixed Network interface signalling are described in the GSM 11.56 series.

## 1.5 Transmission layer

The transmission layer is out of scope of the present document. One implementation could be a V.22bis modem with an HDLC based protocol.

## 1.6 Overview of control procedures

### 1.6.1 List of procedures

The following procedures are specified in the present document:

- Clause 4 specifies elementary procedures for CTS Supervising Management:
  - CTS-FP initialisation procedure (subclause 4.4.1);
  - CTS-FP de-initialisation procedure (subclause 4.4.5);
  - CTS enrolment procedure (subclause 4.4.2);