SLOVENSKI STANDARD
SIST ETS 300 580-4 E1:2003

01-december-2003

Evropski digitalni celiļ ni telekomunikacijski sistem (faza 2) ï Vidik znosnega ġuma za prometne kanale s polno hitrostjo govora (GSM 06.12)

European digital cellular telecommunications system (Phase 2); Comfort noise aspects for full rate speech traffic channels (GSM 06.12)

Ta slovenski standard je istoveten z: ETS 300 580-4 Edition 1

ICS:

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

SIST ETS 300 580-4 E1:2003 **en**

EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 580-4

September 1994

Source: ETSI TC-SMG

Reference: GSM 06.12

ICS: 33.060.30

Key words: European digital cellular communications system, Global System for Mobile communications (GSM)

European digital cellular telecommunications system (Phase 2); Comfort noise aspect for full rate speech traffic channels (GSM 06.12)

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

Contents

Blank page

Foreword

This European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) Technical Committee (TC) of the European Telecommunications Standards Institute (ETSI).

This ETS specifies the comfort noise aspect for full rate speech traffic channels for the European digital cellular telecommunications system (Phase 2).

This ETS correspond to GSM technical specification, GSM 06.12 version 4.0.4.

The specification from which this ETS has been derived was originally based on CEPT documentation, hence the presentation of this ETS may not be entirely in accordance with the ETSI/PNE rules.

Reference is made within this ETS to GSM Technical Specifications (GSM-TSs) (NOTE).

NOTE: TC-SMG has produced documents which give the technical specifications for the implementation of the European digital cellular telecommunications system. Historically, these documents have been identified as GSM Technical Specifications (GSM-TS). These TSs may have subsequently become I-ETSs (Phase 1), or ETSs (Phase 2), whilst others may become ETSI Technical Reports (ETRs). GSM-TSs are, for editorial reasons, still referred to in GSM ETSs.

Blank page

0.1 Scope

This technical specification gives the detailed requirements for the correct operation of the background acoustic noise evaluation, noise parameter encoding/decoding and comfort noise generation in GSM Mobile Stations and Base Station Systems during Discontinuous Transmission (DTX) on full rate speech traffic channels.

The requirements described in this technical specification are mandatory for implementation in all GSM Mobile Stations. The receiver requirements are mandatory for implementation in all GSM Base Station Systems, the transmitter requirements only for those where downlink DTX will be used.

0.2 Normative references

This ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

[1] GSM 01.04 (ETR 100): "European digital cellular telecommunication system (Phase 2); Definitions, abbreviations and acronyms".

[2] GSM 05.03 (ETS 300 575): "European digital cellular telecommunication system (Phase 2); Channel coding".

[3] GSM 06.10 (ETS 300 580-2): "European digital cellular telecommunication system (Phase 2); Full rate speech transcoding".

[4] GSM 06.31 (ETS 300 580-5): "European digital cellular telecommunication system (Phase 2); Discontinuous Transmission (DTX) for full rate speech traffic channel".

0.3 Definitions and abbreviations

Definitions and abbreviations used in this specification are listed in GSM 01.04.

1 General

The definitions of terms used in this technical specification can be found in GSM 06.31.

The overall operation of Discontinuous Transmission is described in GSM 06.31.

A basic problem when using DTX is that the background acoustic noise, which is transmitted together with the speech, would disappear when the radio transmission is cut, resulting in a modulation of the background noise. Since the DTX switching can take place rapidly, it has been found that this effect can be very annoying for the listener - especially in a car environment with high background noise levels. In bad cases the speech may be hardly intelligible.

This technical specification specifies the way to overcome this problem by generating on the receive side synthetic noise similar to the transmit side background noise. The parameters of this so called comfort noise are estimated on the transmit side and transmitted to the receive side before the radio transmission is cut and at a regular low rate afterwards. This allows the comfort noise to adapt to the changes of the noise on the transmit side.