

**Access and Terminals (AT);
Specification of Dual-Tone Multi-Frequency (DTMF)
Transmitters and Receivers;
Part 4: Transmitters and Receivers for use in
Terminal Equipment for end-to-end signalling**



Reference

RES/AT-010128

Keywords

DTMF, PSTN, signalling

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

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://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

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 2006.
All rights reserved.

DECTTM, **PLUGTESTS**TM and **UMTS**TM are Trade Marks of ETSI registered for the benefit of its Members.
TIPHONTM and the **TIPHON logo** are Trade Marks currently being registered by ETSI for the benefit of its Members.
3GPPTM is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

Contents

Intellectual Property Rights	4
Foreword.....	4
1 Scope	5
2 References	5
3 Definitions, symbols and abbreviations	5
3.1 Definitions	5
3.2 Symbols.....	6
3.3 Abbreviations	6
4 The receiver.....	6
4.1 Area of application	6
4.2 Operate and non-operate requirements.....	7
4.2.1 Signal condition requirements	7
4.2.1.1 Valid signal for an analogue receiver.....	7
4.2.1.2 Invalid signal for an analogue receiver	7
4.2.1.3 Valid signal for a digital receiver	8
4.2.1.4 Invalid signal for a digital receiver	8
4.2.2 Digit Recognition Condition (DRC) requirements	9
4.3 Speech immunity performance.....	10
5 The transmitter	10
6 Electrical characteristics.....	10
Annex A (normative): Speech immunity test signal.....	11
Annex B (informative): Example test signal	13
Annex C (informative): Bibliography.....	14
History	15