

ETSI TS 100 392-17 V1.1.1 (2001-05)

Technical Specification

Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 17: TETRA V + D and DMO Release 1.1 specifications



Reference

DTS/TETRA-00067

Keywords

DMO, TETRA, radio, data, V+D

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://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 2001.
All rights reserved.

Contents

Intellectual Property Rights	4
Foreword	4
Introduction	4
1 Scope	5
2 References	5
3 Abbreviations	5
4 Specifications of TETRA Release 1.1	5
4.1 Voice plus Data (V+D)	5
4.2 Conformance testing	9
4.3 Speech codec	10
4.4 Direct Mode Operation (DMO)	11
4.5 Subscriber Identity Module (SIM)	11
4.6 Type approval	11
4.7 Other specifications	12
History	13

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 Technical Specification (TS) has been produced by ETSI Project Terrestrial Trunked Radio (TETRA).

The present document is part 17 of a multi-part deliverable covering the Voice plus Data (V+D), as identified below:

Part 1: "General network design";

Part 2: "Air Interface (AI)";

Part 3: "Interworking at the Inter-System Interface (ISI)";

Part 4: "Gateways basic operation";

Part 5: "Peripheral Equipment Interface (PEI)";

Part 6: "Line connected Station (LS)";

Part 7: "Security";

Part 8: "Network management services";

Part 9: "General requirements for supplementary services";

Part 10: "Supplementary services stage 1";

Part 11: "Supplementary services stage 2";

Part 12: "Supplementary services stage 3";

Part 13: "SDL model of the Air Interface (AI)";

Part 14: "Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 15: "TETRA frequency bands, duplex spacings and channel numbering";

Part 16: "Network Performance Metrics";

Part 17: "TETRA V+D and DMO Release 1.1 specifications".

Introduction

The TETRA standard was developed to satisfy the unique user requirements of PMR/PAMR which, when combined, cannot be met by any other existing or planned ETSI standard. TETRA is a technology that offers a unique range of services and features that are not available from other systems.

TETRA Releases 1.x are defined in the original Terms of Reference of ETSI Project TETRA [1]. The work continues according to the revised Terms of Reference for TETRA Releases 2.x [1].

1 Scope

The present document identifies ETSI specifications for TETRA V+D and DMO Release 1.1.

Release 1.1 specifications were functionally frozen after the 14th EP TETRA meeting in March 2001.

NOTE 1: Functionally frozen means that no further functionality/features may be incorporated into the set of specifications, and that only corrective Change Requests (CRs) are to be accepted and agreed.

NOTE 2: It can be expected that corrective CRs will be introduced into the Release 1.1 specifications throughout year 2001.

NOTE 3: Some of the CRs that will be produced during 2001 will be for the next release as they add new functionalities/features.

NOTE 4: Only published documents are included into this release 1.1.

2 References

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

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

[1] Terms of Reference of ETSI Project TETRA: http://www.etsi.org/TETRA/TETRA_ToR.htm.

3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CR	Change Request
DMO	Direct Mode Operation
PAMR	Public Access Mobile Radio
PMR	Private Mobile Radio
TETRA	Terrestrial Trunked Radio
V+D	Voice plus Data

4 Specifications of TETRA Release 1.1

The following clauses contain ETSI deliverables included in TETRA V+D and DMO Release 1.1.

4.1 Voice plus Data (V+D)

ETS 300 392-1 (1996): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 1: General network design".

NOTE: Only those clauses, which are referred to in other standards, will be maintained.

EN 300 392-2 (V2.3.2): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".

ETS 300 392-3-1 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 1: General design".

EN 300 392-3-2 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 2: Additional Network Feature Individual Call (ANF-ISIIC)".

TS 100 392-3-2 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 2: Additional Network Feature Individual Call (ANF-ISIIC)".

ETS 300 392-3-3 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 3: Additional Network Feature Group Call (ANF-ISIGC)".

EN 300 392-3-4 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 4: Additional Network Feature Short Data Service (ANF-ISISDS)".

ETS 300 392-3-5 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 3: Interworking at the Inter-System Interface (ISI); Sub-part 5: Additional Network Feature for Mobility Management (ANF-ISIMM)".

ETS 300 392-4-1 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 4: Gateways basic operation; Sub-part 1: Public Switched Telephone Network (PSTN)".

ETS 300 392-4-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 4: Gateways basic operation; Sub-part 2: Integrated Services Digital Network (ISDN) gateway".

ETS 300 392-4-3 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 4: Gateways basic operation; Sub-part 3: Data networks gateway".

TS 100 392-7 (V2.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 7: Security".

EN 300 392-7 (V2.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 7: Security".

ETS 300 392-10-1 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 1: Call identification".

ETS 300 392-10-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 2: Call report".

ETS 300 392-10-3 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 3: Talking Party Identification (TPID)".

ETS 300 392-10-5 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 5: List Search Call (LSC)".

ETS 300 392-10-6 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 6: Call Authorized by Dispatcher (CAD)".

ETS 300 392-10-7 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 7: Short number addressing".

ETS 300 392-10-8 (1996): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 8: Area selection".

ETS 300 392-10-9 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 9: Access priority".

ETS 300 392-10-10 (1996): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 10: Priority Call (PC)".

ETS 300 392-10-11 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 11: Call Waiting (CW)".

ETS 300 392-10-12 (Ed.2, 2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 12: Call Hold (CH)".

ETS 300 392-10-13 (Ed.2, 1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 13: Call completion to busy subscriber".

ETS 300 392-10-16 (1996): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 16: Pre-emptive priority call".

ETS 300 392-10-20 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 20: Discreet Listening (DL)".

ETS 300 392-10-22 (1996): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 22: Dynamic group number assignment".

ETS 300 392-10-23 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 23: Call completion on no reply".

ETS 300 392-10-24 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 24: Call Retention (CRT)".

ETS 300 392-11-1 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 1: Call Identification (CI)".

ETS 300 392-11-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 2: Call Report (CR)".

ETS 300 392-11-3 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 3: Talking Party Identification (TPID)".

ETS 300 392-11-5 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 5: List Search Call (LSC)".

ETS 300 392-11-6 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 6: Call Authorized by Dispatcher (CAD)".

ETS 300 392-11-7 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 7: Short Number Addressing (SNA)".

EN 300 392-11-8 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 8: Area Selection (AS)".

TS 100 392-11-8 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 8: Area Selection (AS)".

ETS 300 392-11-9 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 9: Access Priority (AP)".

EN 300 392-11-10 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 10: Priority Call (PC)".

ETS 300 392-11-11 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 11: Call Waiting (CW)".

EN 300 392-11-12 (2001): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 12: Call Hold (CH)".

ETS 300 392-11-13 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 13: Call Completion to Busy Subscriber (CCBS)".

ETS 300 392-11-16 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 16: Pre-emptive Priority Call (PPC)".

ETS 300 392-11-20 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 20: Discreet Listening (DL)".

ETS 300 392-11-22 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 22: Dynamic Group Number Assignment (DGNA)".

ETS 300 392-11-23 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 23: Call Completion on No Reply (CCNR)".

ETS 300 392-11-24 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 11: Supplementary services stage 2; Sub-part 24: Call Retention (CRT)".

- ETS 300 392-12-1 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 1: Call Identification (CI)".
- ETS 300 392-12-2 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 2: Call Report (CR)".
- ETS 300 392-12-3 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 3: Talking Party Identification (TPI)".
- ETS 300 392-12-5 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 5: List Search Call (LSC)".
- ETS 300 392-12-6 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 6: Call Authorized by Dispatcher (CAD)".
- ETS 300 392-12-7 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 7: Short Number Addressing (SNA)".
- EN 300 392-12-8 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 8: Area Selection (AS)".
- TS 100 392-12-8 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 8: Area Selection (AS)".
- ETS 300 392-12-9 (1998): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 9: Access Priority (AP)".
- EN 300 392-12-10 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 10: Priority Call (PC)".
- ETS 300 392-12-11 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 11: Call Waiting (CW)".
- EN 300 392-12-12 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 12: Call Hold (CH)".
- ETS 300 392-12-13 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 13: Call Completion to Busy Subscriber (CCBS)".
- ETS 300 392-12-16 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 16: Pre-emptive Priority Call (PPC)".
- ETS 300 392-12-20 (1999): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 20: Discreet Listening (DL)".
- ETS 300 392-12-22 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 22: Dynamic Group Number Assignment (DGNA)".
- ETS 300 392-12-23 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 23: Call Completion on No Reply (CCNR)".
- ETS 300 392-12-24 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 12: Supplementary services stage 3; Sub-part 24: Call Retention (CRT)".
- TS 100 392-15 (V1.1.1): "Terrestrial Trunked Radio (TETRA) Voice plus DATA (V+D) Part 15: TETRA frequency bands, duplex spacings and channel numbering".

4.2 Conformance testing

EN 300 394-1 (V2.3.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 1: Radio".

TS 100 394-1 (V2.3.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 1: Radio".

ETS 300 394-2-1 (1998): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 2: Protocol testing specification for Voice plus Data (V+D); Sub-part 1: Test suite structure and test purposes".

ETS 300 394-2-2 (1998): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 2: Protocol testing specification for Voice plus Data (V+D); Sub-part 2: Abstract Test Suite (ATS) for Network (NWK) layer".

ETS 300 394-2-3 (1998): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 2: Protocol testing specification for Voice plus Data (V+D); Sub-part 3: Abstract Test Suite (ATS) for Logical Link Control (LLC)".

ETS 300 394-2-4 (1998): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 2: Protocol testing specification for Voice plus Data (V+D); Sub-part 4: Abstract Test Suite (ATS) for Medium Access Control (MAC)".

ETS 300 394-4-1 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 1: Test Suite Structure and Test Purposes (TSS&TP) for Mobile Station to Mobile Station (MS-MS) Air Interface (AI)".

ETS 300 394-4-2 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 2: Abstract Test Suite (ATS) for Mobile Station to Mobile Station (MS-MS) Air Interface (AI)".

EN 300 394-4-3 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 3: Test Suite Structure and Test Purposes (TSS&TP) for Mobile Station (MS) Repeater type 1".

TS 100 394-4-3 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 3: Test Suite Structure and Test Purposes (TSS&TP) for Mobile Station (MS) Repeater type 1".

EN 300 394-4-4 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 4: Test Suite Structure and Test Purposes (TSS&TP) for Direct Mode Repeater (DM-REP) type 1".

TS 100 394-4-4 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 4: Test Suite Structure and Test Purposes (TSS&TP) for Direct Mode Repeater (DM-REP) type 1".

EN 300 394-4-5 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 5: Abstract Test Suite (ATS) for Mobile Station (MS) Repeater type 1".

TS 100 394-4-5 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 5: Abstract Test Suite (ATS) for Mobile Station (MS) Repeater type 1".

EN 300 394-4-6 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 6: Abstract Test Suite (ATS) for Direct Mode Repeater (DM-REP) type 1".

TS 100 394-4-6 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 6: Abstract Test Suite (ATS) for Direct Mode Repeater (DM-REP) type 1".

ETS 300 394-4-7 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 7: Test Suite Structure and Test Purposes (TSS&TP) for Mobile Station to GateWay (MS-GW) Air Interface (AI)".

ETS 300 394-4-8 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 8: Test Suite Structure and Test Purposes (TSS&TP) for Direct Mode Gateway (DM-GATE)".

ETS 300 394-4-9 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 9: Abstract Test Suite (ATS) for Mobile Station (MS) Gateway".

ETS 300 394-4-10 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 10: Abstract Test Suite (ATS) for Direct Mode Gateway (DM-GATE)".

EN 300 394-4-11 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 11: Test Suite Structure and Test Purposes (TSS&TP) for Mobile Station Repeater type 2".

TS 100 394-4-11 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 11: Test Suite Structure and Test Purposes (TSS&TP) for Mobile Station Repeater type 2".

EN 300 394-4-12 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 12: Test Suite Structure and Test Purposes (TSS&TP) for Repeater type 2".

TS 100 394-4-12 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 12: Test Suite Structure and Test Purposes (TSS&TP) for Repeater type 2".

EN 300 394-4-13 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 13: Abstract Test Suite (ATS) for Mobile station Repeater type 2".

TS 100 394-4-13 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 13: Abstract Test Suite (ATS) for Mobile station Repeater type 2".

EN 300 394-4-14 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 14: Abstract Test Suite (ATS) for Repeater type 2".

TS 100 394-4-14 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 4: Protocol testing specification for Direct Mode Operation (DMO); Sub-part 14: Abstract Test Suite (ATS) for Repeater type 2".

ETS 300 394-5-1 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 5: Security; Sub-part 1: Protocol Implementation Conformance Statement (PICS) proforma specification".

ETS 300 394-5-2 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 5: Security; Sub-part 2: Protocol testing specification for TETRA security".

ETS 300 394-5-3 (1999): "Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 5: Security; Sub-part 3: Abstract Test Suite (ATS)".

4.3 Speech codec

ETS 300 395-1 (1997): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel; Part 1: General description of speech functions".

ETS 300 395-2 (1998): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel; Part 2: TETRA codec".

ETS 300 395-3 (1997): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel; Part 3: Specific operating features".

ETS 300 395-4 (2000): "Terrestrial Trunked Radio (TETRA); Speech codec for full-rate traffic channel; Part 4: Codec conformance testing".

4.4 Direct Mode Operation (DMO)

ETS 300 396-1 (1998): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 1: General network design".

ETS 300 396-2 (1998): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 2: Radio aspects".

ETS 300 396-3: "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 3: Mobile Station to Mobile Station (MS-MS) Air Interface (AI) protocol". (1998)

EN 300 396-4 (V1.2.1, 2000): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 4: Type 1 repeater air interface".

TS 100 396-4 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 4: Type 1 repeater air interface".

ETS 300 396-5 (2000): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 5: Gateway air interface".

ETS 300 396-6 (1998): "Terrestrial Trunked Radio (TETRA); Direct Mode Operation (DMO); Part 6: Security".

EN 300 396-7 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 7: Type 2 repeater air interface".

TS 100 396-7 (V1.2.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 7: Type 2 repeater air interface".

ETS 300 396-8-1 (2000): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 8: Protocol Implementation Conformance Statement (PICS) proforma specification; Sub-part 1: Mobile Station to Mobile Station (MS-MS) Air Interface (AI)".

EN 300 396-8-2 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 8: Protocol Implementation Conformance Statement (PICS) proforma specification; Sub-part 2: Type 1 repeater Air Interface (AI)".

TS 100 396-8-2 (V1.1.1, 2000): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 8: Protocol Implementation Conformance Statement (PICS) proforma specification; Sub-part 2: Type 1 repeater Air Interface (AI)".

ETS 300 396-8-3 (1999): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 8: Protocol Implementation Conformance Statement (PICS) proforma specification; Sub-part 3: Gateway Air Interface (AI)".

EN 300 396-8-4 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 8: Protocol Implementation Conformance Statement (PICS) proforma specification; Sub-part 4: Type 2 repeater Air Interface (AI)".

TS 100 396-8-4 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 8: Protocol Implementation Conformance Statement (PICS) proforma specification; Sub-part 4: Type 2 repeater Air Interface (AI)".

TS 100 396-10 (V1.1.1): "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 10: Managed Direct Mode Operation (M-DMO)".

4.5 Subscriber Identity Module (SIM)

TR 101 494 (V1.1.1): "Terrestrial Trunked Radio (TETRA); SIM; Review".

4.6 Type approval

TBR 035 (Citation in the OJ 07/04/2000): "Terrestrial Trunked Radio (TETRA); Emergency access".

EN 301 435-1 (V1.2.4): "Terrestrial Trunked Radio (TETRA) Attachment requirements for TETRA terminal equipment; Part 1: Civil access".

EN 301 435-2 (V1.2.4): "Terrestrial Trunked Radio (TETRA); Attachment requirements for TETRA terminal equipment; Part 2: Emergency access".

4.7 Other specifications

TS 101 789-1 (V1.1.1): "Terrestrial Trunked Radio (TETRA); TMO Repeaters; Part 1: Requirements, test methods and limits".

EN 301 040 (V2.0.0): "Terrestrial Trunked Radio (TETRA); Security; Lawful Interception (LI) interface".

EN 301 489-18 (V1.1.1): "ElectroMagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 18: Specific conditions for Terrestrial Trunked Radio (TETRA) equipment".

ETR 300-1 (1997): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Designers' guide; Part 1: Overview, technical description and radio aspects".

ETR 300-2 (1997): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Designers' guide; Part 2: Radio channels, network protocols and service performance".

ETR 300-3 (2000): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Designers' guide; Part 3: Direct Mode Operation (DMO)".

ETR 300-4 (1997): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Designers' guide; Part 4: Network management".

History

Document history		
V1.1.1	May 2001	Publication