

ETSI EN 301 442 V1.2.1 (2010-08)

Harmonized European Standard (Telecommunications series)

**Satellite Earth Stations and Systems (SES);
Harmonized EN for Mobile Earth Stations (MESS),
including handheld earth stations, for Satellite
Personal Communications Networks (S-PCN)
in the 2,0 GHz bands under the Mobile Satellite
Service (MSS) covering essential requirements
under article 3.2 of the R&TTE directive**

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

ETSI EN 301 442 V1.2.1 (2010-08)

<https://standards.iteh.ai/catalog/standards/etsi/18056e22-b985-4dd6-96ba-8bea014f510a/etsi-en-301-442-v1-2-1-2010-08>



ReferenceREN/SES-00308

Keywordssatellite, earth station, MES, S-PCN, MSS,
regulation

ETSI650 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

iteh Standards
(<https://standards.iteh.ai>)
Document Preview

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 2010.
All rights reserved.

DECTTM, **PLUGTESTS**TM, **UMTS**TM, **TIPHON**TM, the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered 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.

LTETM is a Trade Mark of ETSI currently being 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.

Contents

Intellectual Property Rights	6
Foreword.....	6
Introduction	6
1 Scope	7
2 References	7
2.1 Normative references	7
2.2 Informative references	8
3 Definitions and abbreviations.....	8
3.1 Definitions	8
3.2 Abbreviations	10
4 Technical requirements specifications	10
4.1 Environmental profile.....	10
4.1.1 General.....	10
4.1.2 Temperature.....	10
4.1.3 Voltage.....	10
4.1.4 Vibration.....	10
4.2 Conformance requirements	11
4.2.1 Unwanted emissions outside the band 1 980,1 MHz to 2 009,9 MHz (carrier-on).....	11
4.2.1.1 Justification	11
4.2.1.2 Technical Requirement	11
4.2.1.3 Conformance Test	11
4.2.2 Unwanted emissions within the bands 1 980,1 MHz to 2 009,9 MHz, 1 978,1 MHz to 1 980,1 MHz and 2 009,9 MHz to 2 011,9 MHz (carrier-on).....	12
4.2.2.1 Justification	12
4.2.2.2 Technical Requirement	12
4.2.2.3 Conformance Test	12
4.2.3 Unwanted emissions in carrier-off state.....	12
4.2.3.1 Justification	12
4.2.3.2 Technical Requirement	13
4.2.3.3 Conformance Test	13
4.2.4 MES Control and Monitoring Functions (CMF)	13
4.2.4.1 Self-monitoring functions / Processor monitoring	13
4.2.4.1.1 Justification	13
4.2.4.1.2 Technical Requirement.....	13
4.2.4.1.3 Conformance Test	13
4.2.4.2 Self-monitoring functions / Transmit frequency generation sub-system monitoring.....	13
4.2.4.2.1 Justification	13
4.2.4.2.2 Technical Requirement.....	14
4.2.4.2.3 Conformance Test	14
4.2.4.3 Network control authorization	14
4.2.4.3.1 Justification	14
4.2.4.3.2 Technical Requirement.....	14
4.2.4.3.3 Conformance Test	14
4.2.4.4 Network control reception.....	14
4.2.4.4.1 Transmit frequency control	14
4.2.4.5 Fellow radio stations in a dual-mode or multi-mode terminal	15
4.2.4.5.1 Justification	15
4.2.4.5.2 Technical Requirement.....	15
4.2.4.5.3 Conformance Test	15
4.2.5 Equipment identity.....	15
4.2.5.1 Justification	15
4.2.5.2 Technical Requirement	15
4.2.5.3 Conformance Test	15

5	Testing for compliance with technical requirements.....	15
5.1	Environmental conditions for testing	15
5.1.1	Specification of the environmental test conditions	15
5.1.2	Tests under extreme voltage conditions.....	16
5.2	Essential radio test suites.....	16
5.2.1	General.....	16
5.2.1.1	Presentation of equipment for testing purposes.....	16
5.2.1.2	Description of equipment.....	16
5.2.1.3	Testing of host-connected equipment and plug-in modules.....	17
5.2.1.3.1	Alternative approaches	17
5.2.1.3.2	Alternative A: combined equipment.....	17
5.2.1.3.3	Alternative B: use of a test jig	17
5.2.1.4	CMF / Special Test Equipment (STE)	17
5.2.1.5	General test requirements.....	18
5.2.1.5.1	MES test modes	18
5.2.1.5.2	Special Test Equipment	18
5.2.1.5.3	Laboratory Test Equipment (LTE)	19
5.2.1.5.4	Method of test for MES RF emissions according to equipment type	20
5.2.1.5.5	Procedures for measurement of MES RF radiated emissions.....	20
5.2.1.5.6	Procedures for measurement of MES RF conducted emissions	24
5.2.1.5.7	Interpretation of the measurement results.....	26
5.2.1.5.8	Test report.....	26
5.2.2	Unwanted emissions outside the band 1 980,1 MHz to 2 009,9 MHz (carrier-on).....	26
5.2.2.1	Method of test	26
5.2.2.2	Peak measurement.....	26
5.2.2.3	Average measurement.....	27
5.2.2.4	Test requirements.....	27
5.2.3	Unwanted emissions within the bands 1 980,1 MHz to 2 009,9 MHz, 1 978,1 MHz to 1 980,1 MHz and 2 009,9 MHz to 2 011,9 MHz (carrier-on)	27
5.2.3.1	Method of test	27
5.2.3.2	Measurement method	28
5.2.3.3	Test requirements.....	28
5.2.4	Unwanted emissions in carrier-off state.....	28
5.2.4.1	Method of test	28
5.2.4.2	Measurement method	29
5.2.4.3	Test requirements.....	29
5.2.5	MES Control and Monitoring Functions (CMF)	29
5.2.5.1	Self-monitoring functions / Processor Monitoring.....	29
5.2.5.2	Self-monitoring functions / Transmit frequency generation sub-system monitoring	29
5.2.5.3	Network control authorization	29
5.2.5.3.1	Method of test.....	29
5.2.5.3.2	Test procedure	30
5.2.5.3.3	Test requirement	30
5.2.5.4	Network control reception.....	30
5.2.5.4.1	Transmit frequency control	30
5.2.5.5	Fellow radio stations in a dual-mode or multi-mode terminal	31
5.2.5.5.1	Method of test.....	31
5.2.5.5.2	Test procedure	31
5.2.5.5.3	Test requirements	31
5.2.6	Equipment identity.....	31
5.2.6.1	Method of test	31
5.2.6.2	Test procedure.....	31
5.2.6.3	Test requirements.....	31

Annex A (normative):	HS Requirements and conformance Test specifications Table (HS-RTT).....	32
-----------------------------	--	-----------

Annex B (informative):	Explanation of nominated bandwidth.....	34
-------------------------------	--	-----------

B.1	Introduction	34
-----	--------------------	----

B.2	Interpretation of Parameters $[B_n, f_c, a, b]$	34
-----	---	----

B.3	Choice of nominated bandwidth.....	34
B.4	Maximum value for nominated bandwidth	36
Annex C (informative):	The EN title in the official languages	38
Annex D (informative):	Bibliography.....	39
History		40

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ETSI EN 301 442 V1.2.1 \(2010-08\)](#)

<https://standards.iteh.ai/catalog/standards/etsi/18056e22-b985-4dd6-96ba-8bea014f510a/etsi-en-301-442-v1-2-1-2010-08>

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://webapp.etsi.org/IPR/home.asp>).

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 Harmonized European Standard (Telecommunications series) has been produced by ETSI Technical Committee Satellite Earth Stations and Systems (SES).

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC [6] (as amended) laying down a procedure for the provision of information in the field of technical standards and regulations.

The present document is intended to become a Harmonized Standard, the reference of which will be published in the Official Journal of the European Communities referencing the Directive 1999/5/EC [1] of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity ("the R&TTE Directive").

The requirements relevant to Directive 1999/5/EC [1] are summarised in annex A.

National transposition dates

Date of adoption of this EN:	2 August 2010
Date of latest announcement of this EN (doa):	30 November 2010
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 May 2011
Date of withdrawal of any conflicting National Standard (dow):	31 May 2012

Introduction

The present document is part of a set of standards developed by ETSI and is designed to fit in a modular structure to cover all radio and telecommunications terminal equipment within the scope of the R&TTE Directive [1]. The modular structure is shown in EG 201 399 [i.1].