SLOVENSKI STANDARD
SIST EN 301 426:2002

01-november-2002

Satelitske zemeljske postaje in sistemi (SES) - Harmonizirani EN za kopenske mobilne zemeljske postaje (LMES) z nizkim podatkovnim tokom in pomorske satelitske zemeljske postaje (MMES), ki niso namenjene zasilnim in varnostnim telekomunikacijam, delujoļ e v frekvenļ nih pasovih 1,5 GHz in 1,6 GHz, in zajema bistvene zahteve ļ lena 3.2 direktive R&TTE

Satellite Earth Stations and Systems (SES); Harmonized EN for Low data rate Land Mobile satellite Earth Stations (LMES) and Maritime Mobile satellite Earth Stations (MMES) not intended for distress and safety communications operating in the 1,5/1,6 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE Directive

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

Ta slovenski standard je istoveten z: **EN 301 426 Version 1.2.1**

ICS:

33.060.30	Radiorelejni in fiksni satelitski komunikacijski sistemi	Radio relay and fixed satellite communications systems

SIST EN 301 426:2002 **en**

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

SIST EN 301 426:2002

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

SIST EN 301 426:2002

ETSI EN 301 426 V1.2.1 (2001-10)

Candidate Harmonized European Standard (Telecommunications series)

**Satellite Earth Stations and Systems (SES);
Harmonized EN for Low data rate
Land Mobile satellite Earth Stations (LMES)
and Maritime Mobile satellite Earth Stations (MMES)
not intended for distress and safety communications
operating in the 1,5/1,6 GHz frequency bands
covering essential requirements under
article 3.2 of the R&TTE Directive**

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

SIST EN 301 426:2002

Reference
REN/SES-00061

Keywords
earth station, LMES, regulation, satellite

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

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

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, 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.

SIST EN 301 426:2002

Contents

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

SIST EN 301 426:2002

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

SIST EN 301 426:2002

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/legal/home.htm).

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 Candidate 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 [3] (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").

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Technical specifications relevant to Directive 1999/5/EC [1] are given in annex A.

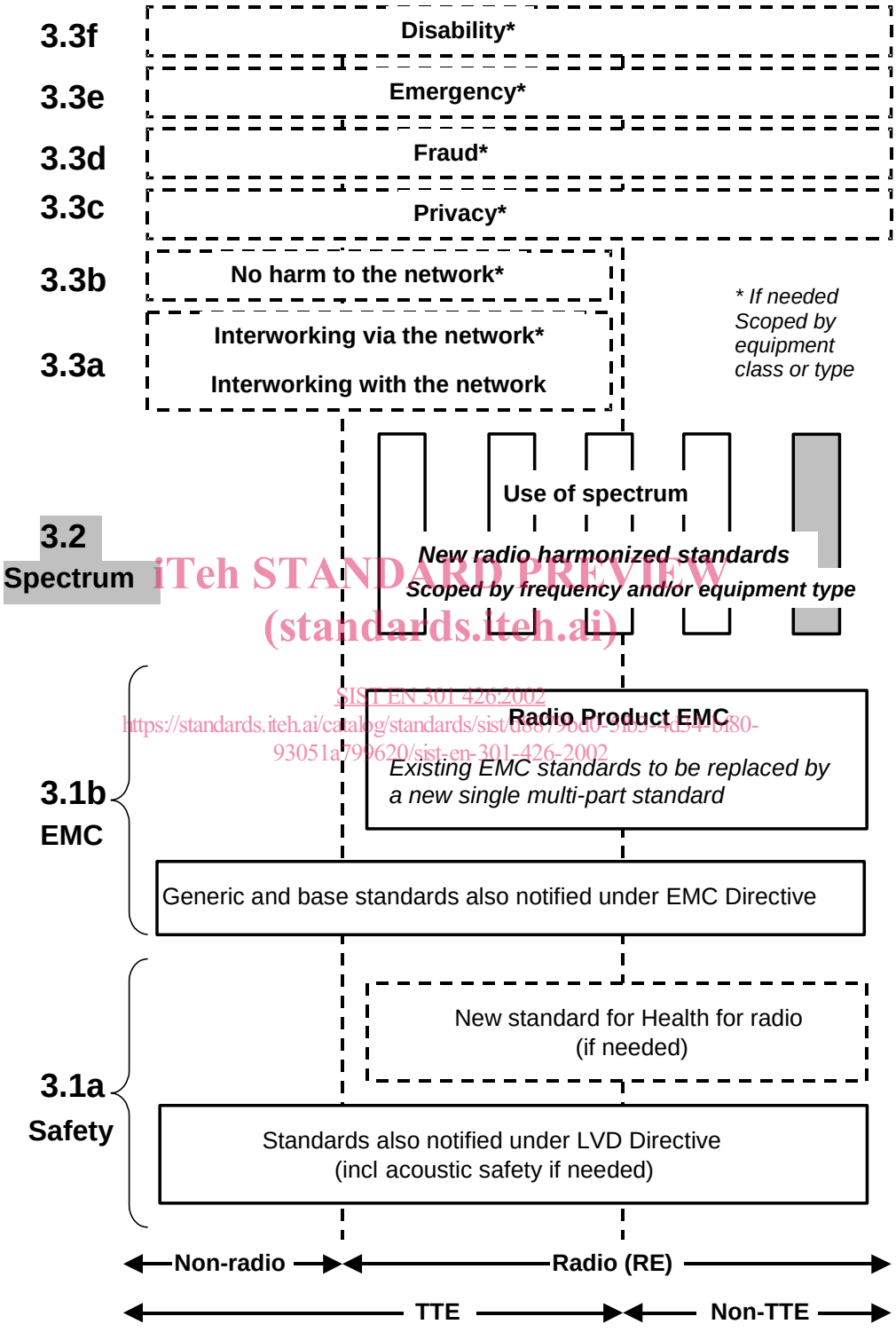
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8878bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

National transposition dates	
Date of adoption of this EN:	28 September 2001
Date of latest announcement of this EN (doa):	31 December 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 June 2002
Date of withdrawal of any conflicting National Standard (dow):	30 June 2002

SIST EN 301 426:2002

Introduction

ETSI has designed a modular structure for the standards. Each standard is a module in the structure. The modular structure is shown in figure 1.



iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-9f85-4d54-8f80-93051a799620/sist-en-301-426-2002

Figure 1: Modular structure for the various standards used under the R&TTE Directive

SIST EN 301 426:2002

The left hand edge of the figure shows the different clauses of article 3 of the Directive.

For article 3.3 various horizontal boxes are shown. Their dotted lines indicate that no essential requirements in these areas have yet been adopted by the Commission. If such essential requirements are adopted, they will be elaborated in individual standards whose scope is likely to be specified by function or interface type.

The vertical boxes show the standards under article 3.2 for the use of the radio spectrum. The scopes of these standards are specified either by frequency (normally in the case where frequency bands are harmonized) or by radio equipment type.

For article 3.1(b), the diagram shows the new single multi-part product EMC standard for radio, and the existing collection of generic and base standards currently used under the EMC Directive. The parts of this new standard will become available in the second half of 2000, and the existing separate EMC standards will be used until it is available.

For article 3.1(a), the diagram shows the existing safety standards currently used under the LVD Directive and the possibility of a new standard on health relating to radio emissions.

The bottom of the figure shows the relationship of the standards to radio equipment and telecommunications terminal equipment. A particular equipment may be radio equipment, telecommunications terminal equipment or both.

The modular approach has been taken because:

- it minimizes the number of standards needed. Because equipment may have multiple interfaces and functions it is not practicable to produce a single standard for each possible combination of functions that may occur in an equipment;
- it provides scope for standards to be added:
  - under article 3.2 when new frequency bands are agreed; or
  - under article 3.3 should the Commission take the necessary decisions.

without requiring alteration of standards that are already published.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d88797b0-5fb3-4d34-b8f0-9305fa799620/sist-en-301-426-2002

The technical requirements in the present document are applied under article 3.2 of the R&TTE Directive [1], concerning the effective uses of the spectrum allocated to terrestrial/space radio communication and orbital resources so as to avoid harmful interference. These requirements are in two major categories:

- **emission limits:** to protect other radio services from harmful interference generated by the Mobile Earth Station (MES) in normal use;
- **MES Control and Monitoring Functions (CMF):** to protect other radio services from unwanted transmissions from the MES. The CMF in each MES is capable of answering to commands from the Network Control Facilities (NCF) for its MES.

The requirements have been selected to ensure an adequate level of compatibility with other radio services. The levels, however, do not cover extreme cases which may occur in any location but with a low probability of occurrence.

The present document may not cover those cases where a potential source of interference which is producing individually repeated transient phenomena or a continuous phenomenon is present, e.g. a radar or broadcast site in the near vicinity. In such a case it may be necessary to use special protection applied to either the source of interference, or the interfered part or both.

The present document does not contain any requirement, recommendation or information about the installation of the MESs.

The present document is based on TBR 026, which was based on ETS 300 254 (see annex B) which has been used for type approval purposes on a national basis for several years. For this reason, the following text was included in the TBR 026 (see annex B) on which the present document is based, and has therefore been transposed into the present document produced under the R&TTE Directive [1] for the purpose of explaining the applicability of the tables 2a and 2b.

SIST EN 301 426:2002

NOTE 1: Due to a new requirement for the protection of the Aeronautical Radio Navigation Service based on the Global Navigation Satellite System (GNSS), scheduled to offer approach and landing operational services likely not before the year 2005, new limits for unwanted emissions will be necessary. These new limits may not be completely met by existing or presently marketed equipment that was developed on the basis of ETS 300 254 and TBR 026 (see annex B). Consequently the following transitional arrangement is necessary.

NOTE 2: The present document incorporates two sets of limits. One set (table 2a) applicable up to 1 June 2002 and a more stringent set of limits (table 2b) applicable after this date for the protection of the Aeronautical Radio Navigation Service in the GNSS band.

NOTE 3: The protection of the GNSS band from the year 2005 onwards from harmful interference from LMESs previously approved to TBR 026 (see annex B) or complying with the present document before 1 June 2002 or already in service before the CTR 26 entered into force may be obtained either by decisions of the national regulatory authorities to stop the operation of such equipment, or by operational restrictions agreed by the regulatory authority with satellite operators. It is recommended that such decisions should be harmonized at the European level. Such decisions are outside the scope of the present document.

The present document is also based on ETS 300 740 (see annex B) for Maritime Mobile Earth Stations (MMES) not intended for distress and safety communications.

The determination of the parameters of the user earth stations using a given geo-stationary satellite for the protection of the spectrum allocated to that satellite is considered to be under the responsibility of the satellite operator or the satellite network operators.

For MESs operating in satellite networks using satellites which also provide radio navigation service and/or other safety services should note that such satellite network operators or satellite operators may require testing in addition to the present document to prove correct interworking in order to avoid the MES causing harmful interference which endangers the functioning of these services. References to these requirements will be listed in annex B of the present document as they become known.

iTeh STANDARD PREVIEW
(standards.iteh.ai)
SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/d8879bd0-5fb3-4d34-bf80-93051a799620/sist-en-301-426-2002

SIST EN 301 426:2002

1 Scope

The present document applies to the following Mobile Earth Stations (MESs) radio equipment:

- Land Mobile Earth Stations (LMESs) radio equipment; and
- Maritime Mobile Earth Stations (MMESs) radio equipment not providing those distress and safety functions required by the International Maritime Organization (IMO)

which have the following characteristics:

- these LMESs could be either vehicle mounted or portable equipment;
- these MMESs are installable equipment on ships;
- these MESs operate with user bit-rates of up to 9,6 kbits/s;
- these MESs could consist of a number of modules including a keyboard interface to the user;
- these MESs are operating as part of a satellite network used for the distribution and/or exchange of information between users;
- this radio equipment is capable of operating in all or any part of the frequency bands given in table 1a.

Table 1a: Mobile Satellite Service frequency bands

Direction of transmission	MSS frequency bands
Transmit (earth to space)	1 626,5 MHz to 1 660,5 MHz
Receive (space to earth)	1 525,0 MHz to 1 559,0 MHz

iTeh STANDARD PREVIEW
(standards.iteh.ai)

The present document is intended to cover the provisions of Directive 1999/5/EC (R&TTE Directive) [1] article 3.2, which states that "… radio equipment shall be so constructed that it effectively uses the spectrum allocated to terrestrial/space radio communications and orbital resources so as to avoid harmful interference".

The present document applies to the MES with its ancillary equipment and its various ports, and operated within the boundary limits of the operational environmental profile declared by the applicant.

In addition to the present document, other ENs that specify technical requirements in respect of essential requirements under other parts of article 3 of the R&TTE Directive [1] may apply to equipment within the scope of the present document.

NOTE 1: A list of such ENs is included on the ETSI web site.

NOTE 2: These MES are controlled and monitored by a Network Control Facility (NCF). The NCF is outside the scope of the present document.

SIST EN 301 426:2002

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] Directive 1999/5/EC: "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".

[2] CISPR 16-1 (1999): "Specification for radio disturbance and immunity measuring apparatus and methods - Part 1: Radio disturbance and immunity measuring apparatus".

[3] Directive 98/34/EC: "of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations".

3 Definitions and abbreviations

3.1 Definitions

iTeh STANDARD PREVIEW
(standards.iteh.ai)

For the purposes of the present document, the terms and definitions given in the R&TTE Directive [1] and the following apply:

SIST EN 301 426:2002
https://standards.iteh.ai/catalog/standards/sist/0b857940-51b3-4d34-b180-93051a799620/sist-en-301-426-2002

environmental profile: range of environmental conditions under which equipment within the scope of the present document is required to comply with the provisions of the present document

applicant: manufacturer or his authorized representative within the European Community or the person responsible for placing the apparatus on the market

carrier-off state: MES is in this state when either it is authorized by the Network Control Facility (NCF) to transmit but when it does not transmit any signal, or when it is not authorized by the NCF to transmit

carrier-on state: MES is in this state when it is authorized by the NCF to transmit and when it transmits a signal

Control Channel (CC): channel or channels by which MESs receive control information from the NCF of their network

Externally Mounted Equipment (EME): consists of those of the modules of the IE which are intended to be mounted externally to the vehicle or the ship as stated by the applicant

Installable Equipment (IE): equipment which is intended to be fitted to a vehicle or a ship

NOTE 1: An IE may consist of one or several interconnected modules.

Internally Mounted Equipment (IME): modules of the IE which are not declared by the applicant as EME are defined as Internally Mounted Equipment (IME)

nominated bandwidth: bandwidth of the MES radio frequency transmission which is nominated by the applicant

NOTE 2: The nominated bandwidth is wide enough to encompass all spectral elements of the transmission which have a level greater than the specified unwanted emissions limits. The nominated bandwidth is wide enough to take account of the transmit carrier frequency stability. The nominated bandwidth is within the transmit frequency band within which the MES operates.