SLOVENSKI STANDARD
SIST EN 301 426:2001

01-september-2001

Satelitske zemeljske postaje in sistemi (SES) - Harmonizirani EN za kopenske mobilne zemeljske postaje (LMES), ki obratujejo v frekvenļ nih pasovih 1,5 GHz/1,6 GHz, ki 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) operating in the 1,5/1,6 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE directive

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Candidate Harmonized European Standard (Telecommunications series)

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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").

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National transposition dates	
Date of adoption of this EN:	28 April 2000
Date of latest announcement of this EN (doa):	31 July 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 January 2001
Date of withdrawal of any conflicting National Standard (dow):	31 January 2001

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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.

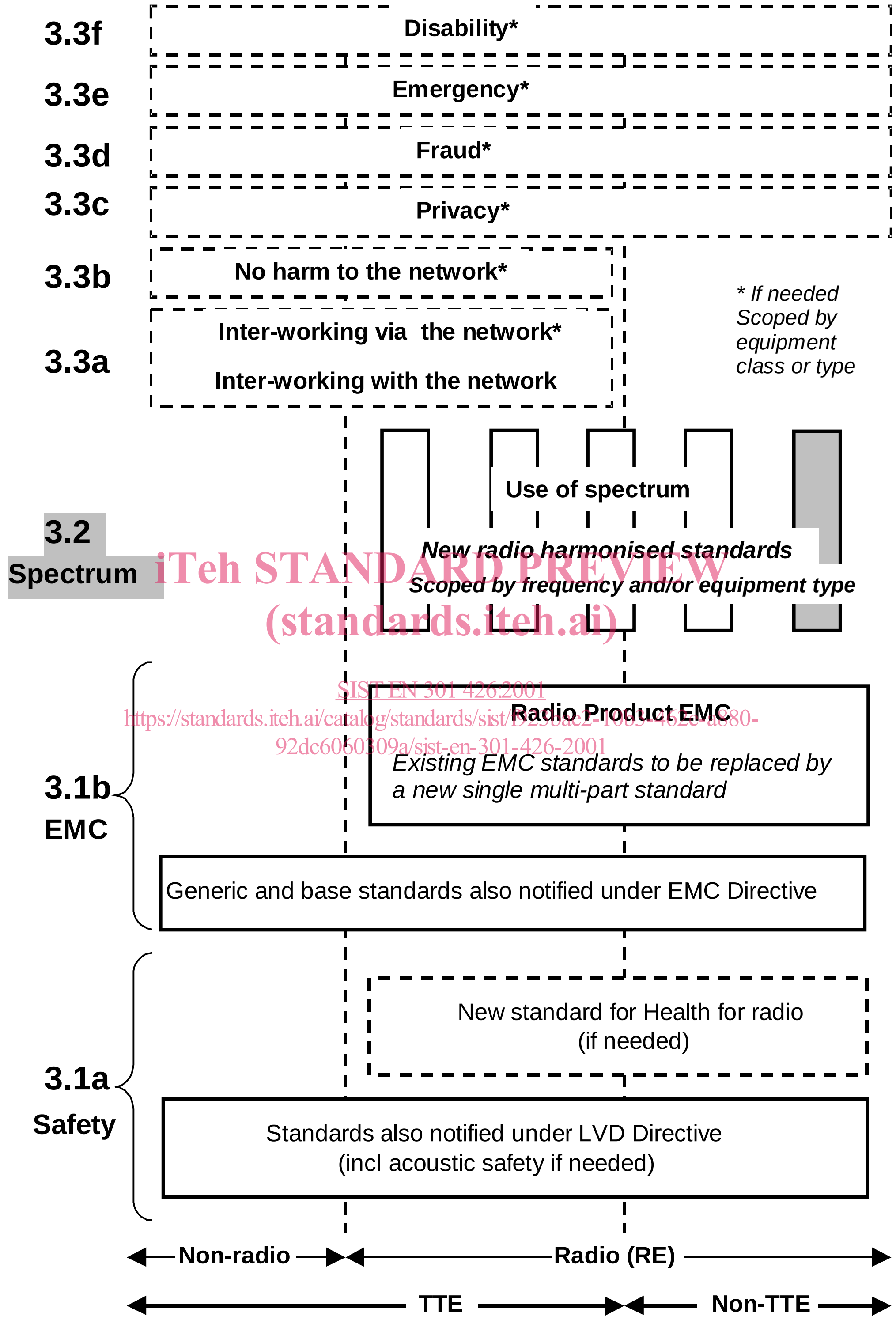

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Figure 1: Modular structure for the various standards used under the R&TTE Directive

The left hand edge of the figure shows the different subclauses of Article 3 of the Directive.

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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 2 000, 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.

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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:

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emission limits: to protect other radio services from harmful interference generated by the LMES in normal use;

LMES Control and Monitoring Functions (CMF): to protect other radio services from unwanted transmissions from the LMES. The CMF in each LMES is capable of answering to commands from the Network Control Facilities (NCF) for its LMES.

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 LMESs.

The present document is based on TBR 26 [4], which was based on ETS 300 254 [5] 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 26 [4] 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.

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NOTE: 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 [5] and TBR 26 [4]. Consequently the following transitional arrangement is necessary.

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.

The protection of the GNSS band from the year 2005 onwards from harmful interference from LMESs previously approved to TBR 26 [4] 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 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. Applicants for LMESs operating in satellite networks which provide radio navigation service and/or other safety services should note that such satellite network operators may require testing in addition to the present document to prove correct interworking in order to avoid the LMES causing harmful interference which endangers the functioning of these services. References to these requirements will be listed in the Bibliography of the present document as they become known.

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1 Scope

The present document applies to Land Mobile Earth Stations (LMESs) radio equipment which have the following characteristics:

- these LMESs could be either vehicle mounted or portable equipment;
- these LMESs could consist of a number of modules including a keyboard interface to the user;
- these LMESs 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: Land Mobile Satellite Service frequency bands

Direction of transmission	LMSS frequency bands
Transmit 1 (earth to space)	1 626,5 MHz to 1 645,5 MHz
Transmit 2 (earth to space)	1 656,5 MHz to 1 660,5 MHz
Receive 1 (space to earth)	1 525,0 MHz to 1 544,0 MHz
Receive 2 (space to earth)	1 555,0 MHz to 1 559,0 MHz

The present document is intended to cover the provisions of Directive 1999/5/EC [1] (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".

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

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.

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

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

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, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications equipment and the mutual recognition of their conformity.

[2] CISPR 16-1: "Specification for radio disturbance and immunity measuring apparatus and methods - Part 1: Radio disturbance and immunity measuring apparatus" (annex G: Validation of the open area test site for the frequency range of 30 MHz to 1 000 MHz).