



# SLOVENSKI STANDARD

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X]fY\_hj`YF/`HH9

Electromagnetic Compatibility and Radio spectrum Matters (ERM); Harmonized Standard for the Terrestrial Flight Telecommunications System under article 3.2 of the R&TTE Directive

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**ICS:**

33.100.99      Drugi vidiki v zvezi z EMC      Other aspects related to EMC

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# ETSI EN 301 423 V1.1.1 (2000-12)

*Candidate Harmonized European Standard (Telecommunications series)*

## **Electromagnetic Compatibility and Radio spectrum Matters (ERM); Harmonized Standard for the Terrestrial Flight Telecommunications System under article 3.2 of the R&TTE Directive**

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## Foreword

This Candidate Harmonized European Standard (Telecommunications series) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document has been produced by ETSI in response to a mandate from the European Commission issued under Council Directive 98/34/EC [9] (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").

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

### National transposition dates

Date of adoption of this EN:	1 December 2000
Date of latest announcement of this EN (doa):	31 March 2001
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2001
Date of withdrawal of any conflicting National Standard (dow):	30 September 2002

## Introduction

The present document is part of a set of standards designed to fit in a modular structure to cover all radio and telecommunications terminal equipment under the R&TTE Directive [1]. Each standard is a module in the structure. The modular structure is shown in figure 1.

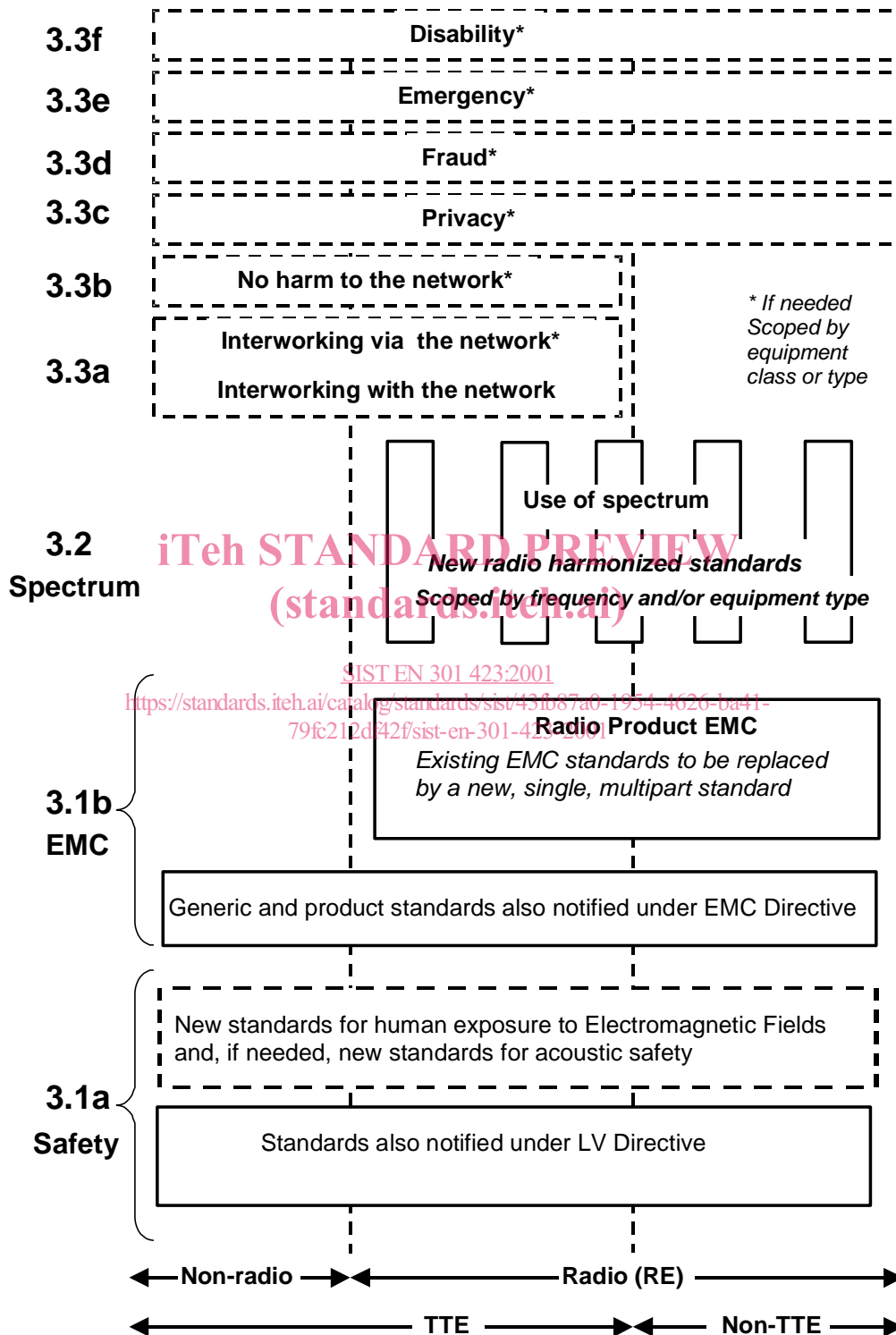


Figure 1: Modular structure for the various standards used under the R&TTE Directive



The left hand edge of the figure 1 shows the different subclauses of article 3 of the R&TTE Directive [1].

For article 3.3 various horizontal boxes are shown. Dotted lines indicate that at the time of publication of the present document essential requirements in these areas have to be adopted by the Commission. If such essential requirements are adopted, and as far and as long as they are applicable, they will justify 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 by radio equipment. 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 3.1b the diagram shows the new single multipart product EMC standard for radio, and the existing collection of generic and product standards currently used under the EMC Directive [2]. The parts of this new standard will become available in the second half of 2000, and the existing separate product EMC standards will be used until it is available.

For article 3.1a the diagram shows the existing safety standards currently used under the LV Directive [3] and new standards covering human exposure to electromagnetic fields. New standards covering acoustic safety may also be required.

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. A radio spectrum standard will apply if it is radio equipment. An article 3.3 standard will apply as well only if the relevant essential requirement under the R&TTE Directive [1] is adopted by the Commission and if the equipment in question is covered by the scope of the corresponding standard. Thus, depending on the nature of the equipment, the essential requirements under the R&TTE Directive [1] may be covered in a set of standards.

The modularity principle has been taken because:

- it minimizes the number of standards needed. Because equipment may, in fact, 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;
- it clarifies, simplifies and promotes the usage of Harmonized Standards as the relevant means of conformity assessment.

# 1 Scope

The present document applies to Terrestrial Flight Telecommunication System (TFTS) radio equipment.

This radio equipment is capable of operating in all or any part of the frequency bands given in table 1.

**Table 1: Terrestrial Flight transmission service frequency bands**

Direction of transmission	TFTS frequency bands
Transmit ground-to-air	1 670 MHz to 1675 MHz
Transmit air-to-ground	1 800 MHz to 1805 MHz

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 is intended to cover both the AS (Aircraft Station) and the GS (Ground Station). As far as the AS is concerned, the present document is derived from TBR 23 [4].

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: A list of such ENs is included on the web site <http://www.newapproach.org>.

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## 2 References (standards.iteh.ai)

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 terminal equipment and the mutual recognition of their conformity (R&TTE Directive).
- [2] Council Directive of 3 May 1989 on the approximation of the laws of the Member States relating to electromagnetic compatibility (89/336/EEC) (EMC Directive).
- [3] Council Directive of 19 February 1973 on the harmonization of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (73/23/EEC) (LV Directive).
- [4] ETSI TBR 23 (March 1998): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Terrestrial Flight Telecommunications System (TFTS); Technical requirements for TFTS".
- [5] ETSI ETS 300 326-2 (1998): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Terrestrial Flight Telecommunications System (TFTS); Part 2: Speech services, radio interface".
- [6] ETSI ETR 028 (1994): "Radio Equipment and Systems (RES); Uncertainties in the measurement of mobile radio equipment characteristics".

- [7] ARINC Characteristic 752 (1993): "Terrestrial Flight Telephone System (TFTS) Airborne Radio Subsystem".
- [8] EUROCAE ED-14C: "Environmental Conditions and Test Procedures for Airborne Equipment".
- [9] 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

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

**continuous modulation mode:** see subclause 6.6.3 of TBR 23 [4].

**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

**necessary bandwidth:** for a given class of emission, the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions

**out-of-band emission:** emission on a frequency or frequencies immediately outside the necessary bandwidth which results from the modulation process, but excluding spurious emissions

**radio equipment:** as defined in R&TTE Directive [1] article 2(c), subject to general exclusions referred to in the scope and aim of the Directive - article 1

**supplier:** manufacturer or his authorized representative established within the Community or the person responsible for placing the apparatus on the market

**spurious emission:** emission on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions

**suppressed modulation mode:** see subclause 6.6.4 of TBR 23 [4].

**unwanted emissions:** consist of spurious emissions and out-of-band emissions

### 3.2 Abbreviations

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

AS	Aircraft Station
AT	Avionics Termination
BCCH	Broadcast Control CHannel
CHS	Candidate Harmonized Standard
EIRP	Equivalent Isotropic Radiated Power
EN-R	EN Requirement
EN-RT	EN Requirements Table
GS	Ground Station (of the TFTS system)
LVD	Low Voltage Directive
PRBS	Pseudo Random Bit Sequence
R&TTE	Radio and Telecommunications Terminal Equipment
RE	Radio Equipment
RF	Radio Frequency
RT	Requirement Table
TFTS	Terrestrial Flight Telecommunications System