ICS 33.060.20, 33.060.30, 33.120.40

SLOVENSKÁ TECHNICKÁ NORMA

December 2014

STN	**Pevné rádiové systémy. Charakteristiky a požiadavky na zariadenia a antény bod-bod. Časť 3: Zariadenia pracujúce vo frekvenčných pásmach, kde sa môže požadovať frekvenčne koordinované alebo nekoordinované rozmiestnenie. Harmonizovaná EN vzťahujúca sa na základné požiadavky podľa článku 3.2 smernice R&TTE.**	**STN EN 302 217-3 V2.2.1** 87 2217

Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 3: Equipment operating in frequency bands where both frequency coordinated or uncoordinated deployment might be applied; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 11/14

Obsahuje: EN 302 217-3 V2.2.1:2014

119827

ETSI EN 302 217-3 V2.2.1 (2014-04)

Fixed Radio Systems;
Characteristics and requirements for
point-to-point equipment and antennas;
Part 3: Equipment operating in frequency bands where
both frequency coordinated or
uncoordinated deployment might be applied;
Harmonized EN covering the essential requirements
of article 3.2 of the R&TTE Directive

Reference
REN/ATTM-04026

Keywords
DFRS, digital, DRRS, FWA, point-to-point, radio, regulation, transmission

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

Contents

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://ipr.etsi.org).

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 Harmonized European Standard (EN) has been produced by ETSI Technical Committee Access, Terminals, Transmission and Multiplexing (ATTM).

The present document has been produced by ETSI in response to mandate M/284 issued from the European Commission under Directive 98/34/EC [i.19] as amended by Directive 98/48/EC [i.20].

The title and reference to the present document are intended to be included in the publication in the Official Journal of the European Union of titles and references of Harmonized Standard under the Directive 1999/5/EC [1].

See article 5.1 of Directive 1999/5/EC [1] for information on presumption of conformity and Harmonized Standards or parts thereof the references of which have been published in the Official Journal of the European Union.

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

The present document is part 3 of a multi-part deliverable covering Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas. Full details of the entire series can be found in part 1 [8].

National transposition dates	
Date of adoption of this EN:	26 March 2014
Date of latest announcement of this EN (doa):	30 June 2014
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 December 2014
Date of withdrawal of any conflicting National Standard (dow):	31 December 2015

Introduction

The EN 302 217 series has been produced in order to rationalize a large number of previous ETSI ENs dealing with equipment and antennas for Point-to-Point (P-P) Fixed Service applications. For more details, see Foreword in the EN 302 217-1 [8].

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.2].

Figure 1: Void

1 Scope

The present document specifies the essential requirements for point-to-point Digital Fixed Radio Systems (DFRS) operating in higher frequency bands, which propagation characteristics might be suitable for different simplified frequency planning (see example) rather than conventional link-by-link coordinated deployment.

This would imply that administrations may apply either no co-ordination at all (i.e. the band usage is free and the user is responsible for detecting a suitable interference-free operating frequency) or simplified co-ordination procedures based on the knowledge of existing links (e.g. through a public national data base) so that the impact of a possible new link could be evaluated on the basis of budgetary considerations of typical equipment receiver performances (which will not be considered related to essential requirements of article 3.2 of R&TTE Directive [1]).

The bands in the scope of the present document, to which these frequency assignment procedures apply, are specifically referred in annexes UA through UC where the applicable equipment requirements are reported.

EXAMPLE: The frequency band 58 GHz is proposed to be used by various technologies for uncoordinated use of the band. Besides the RF-channel selection procedure, specified in clause 4.2 to avoid unacceptable interference situations, this band, and those above up to ~63 GHz, also benefits from the high and stable atmospheric attenuation which suppresses efficiently distant interferers (about 10 dB/km to 15 dB/km at sea level), refer to Recommendation ITU-R P.676 [i.13].

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

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] will 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/.

In order to technically cover different market and network requirements, with an appropriate balance of performance to cost and effective and appropriate use of the radio spectrum, the present document, together with EN 302 217-4-2 [10], offers system types and antennas alternatives, for selection by administrations, operators and manufacturers dependent on the desired use of the radio spectrum and network/market requirements, those options include:

- channel separation alternatives (as provided by the relevant CEPT Recommendation);
- implemented procedure for free radio channel selection;
- antenna directivity class alternatives (for different network density requirement).

The present document is mainly intended to cover fixed radio equipment without integral antennas. However, it also applies to fixed radio systems products with integral antennas, for which all the technical requirements included in the present document and in EN 302 217-4-2 [10] apply. For more background information on the equipment and antenna parameters here identified as relevant to article 3.2 of R&TTE Directive [1] see EG 201 399 [i.2] and TR 101 506 [i.7].

For the purposes of the present document two equipment Types are specified, when appropriate, depending on specific network requirements:

- Type A: Digital equipment which apply the standardized automatic RF-channel selection procedure (see clause 4.2) for interference avoidance and error performance enhancement.
- Type B: Equipment not required to have automatic RF-channel selection procedure.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents, which are not found to be publicly available in the expected location, might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

[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] CEPT/ERC/Recommendation 74-01 (01-2011): "Unwanted emissions in the spurious domain".

[3] CEPT/ECC/Recommendation (05)02 (02-2009): "Use of the 64 - 66 GHz frequency band for Fixed Service".

[4] CEPT/ECC/Recommendation (09)01 (02-2009): "Use of the 57 - 64 GHz frequency band for point-to-point Fixed Wireless Systems".

[5] CEPT/ECC/Recommendation (05)07 (05-2013): "Radio frequency channel arrangements for Fixed Service Systems operating in the bands 71 - 76 GHz and 81 - 86 GHz".

[6] ETSI EN 301 126-1 (V1.1.2) (09-1999): "Fixed Radio Systems; Conformance testing; Part 1: Point-to-Point equipment - Definitions, general requirements and test procedures".

[7] ETSI EN 301 126-3-1 (V1.1.1) (04-2000): "Fixed Radio Systems; Conformance testing; Part 3-1: Point-to-Point antennas; Definitions, general requirements and test procedures".

[8] ETSI EN 302 217-1 (V2.1.1) (07-2013): "Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 1: Overview and system-independent common characteristics".

[9] ETSI EN 302 217-2-2 (V2.2.1) (04-2014): "Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 2-2: Digital systems operating in frequency bands where frequency co-ordination is applied; Harmonized EN covering essential requirements of Article 3.2 of R&TTE Directive for digital systems operating in frequency bands where frequency co-ordination is applied".

[10] ETSI EN 302 217-4-2 (V1.5.1) (08-2010): "Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 4-2: Antennas; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".

[11] IEEE 1802.3-2001: "IEEE Conformance Test Methodology for IEEE Standards for Local and Metropolitan Area Networks - Specific Requirements - Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications".

[12] IEEE 802.3-2008: "IEEE Standard for Information technology--Telecommunications and information exchange between systems--Local and metropolitan area networks--Specific requirements Part 3: Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications".

[13] Recommendation ITU-R SM.1539-1 (11-2002): "Variation of the boundary between the out-of-band and spurious domains required for the application of Recommendations ITU-R SM.1541 and ITU-R SM.329".

[14] Recommendation ITU-T O.151 (10-1992) and Corrigendum 1 (05-2002): "Error performance measuring equipment operating at the primary rate and above".

[15] Recommendation ITU-T O.181 (05-2002): "Equipment to assess error performance on STM-N interfaces".

[16] Recommendation ITU-T O.191 (02-2000): "Equipment to measure the cell transfer performance of ATM connections".

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] Void.

[i.2] ETSI EG 201 399: "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of Harmonized Standards for application under the R&TTE Directive".

[i.3] ETSI EN 301 390 (V1.2.1): "Fixed Radio Systems; Point-to-point and Multipoint Systems; Spurious emissions and receiver immunity limits at equipment/antenna port of Digital Fixed Radio Systems".

[i.4] Void.

[i.5] Void.

[i.6] ETSI EN 302 217-2-1: "Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas; Part 2-1: System-dependent requirements for digital systems operating in frequency bands where frequency co-ordination is applied".

[i.7] ETSI TR 101 506: "Fixed Radio Systems; Generic definitions, terminology and applicability of essential requirements under the article 3.2 of 1999/05/EC Directive to Fixed Radio Systems".

[i.8] ETSI TR 103 103: "Fixed Radio Systems; Point-to-point systems; ATPC, RTPC, Adaptive Modulation (mixed-mode) and Bandwidth Adaptive functionalities; Technical background and impact on deployment, link design and coordination".

[i.9] Recommendation ITU-R F.1101: "Characteristics of digital fixed wireless systems below about 17 GHz".

[i.10] Recommendation ITU-R F.1191: "Necessary and occupied bandwidths and unwanted emissions of digital fixed service systems".

[i.11] Recommendation ITU-R F.1497: "Radio-frequency channel arrangements for fixed wireless systems operating in the band 55.78-59 GHz".

[i.12] Recommendation ITU-R F.2006: "Radio-frequency channel and block arrangements for fixed wireless systems operating in the 71-76 and 81-86 GHz bands".

[i.13] Recommendation ITU-R P.676: "Attenuation by atmospheric gases".

[i.14] Recommendation ITU-R SM.329-12: "Unwanted emissions in the spurious domain".

[i.15] Recommendation ITU-R SM.1541-4: "Unwanted emissions in the out-of-band domain".

[i.16] ITU Radio Regulations (2012).

[i.17] CEPT/ERC/Recommendation 12-09 (2004), withdrawn (2009): "Radio frequency channel arrangement for Fixed Service systems operating in the band 57,0 - 59,0 GHz which do not require frequency planning".

[i.18] ETSI TR 100 028: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".

[i.19] 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.

[i.20] Directive 98/48/EC of the European Parliament and of the Council of 20 July 1998 amending Directive 98/34/EC laying down a procedure for the provision of information in the field of technical standards and regulations.