ICS 33.160.50 SLOVENSKÁ TECHNICKÁ NORMA Jún 2022

STN	**Bezdrôtové mikrofóny Audio PMSE až do 3 GHz Časť 1: Audio PMSE vybavenie do 3 GHz Harmonizovaná norma pre prístup k rádiovému spektru**	**STN EN 300 422-1 V2.2.1** 87 0422

Wireless Microphones; Audio PMSE up to 3 GHz; Part 1: Audio PMSE Equipment up to 3 GHz; Harmonised Standard for access to radio spectrum

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. 05/22

Obsahuje: EN 300 422-1 V2.2.1:2021

obsahuje farebné strany

134787

ETSI EN 300 422-1 V2.2.1 (2021-11)

Wireless Microphones;
Audio PMSE up to 3 GHz;
Part 1: Audio PMSE Equipment up to 3 GHz;
Harmonised Standard for access to radio spectrum

Reference
REN/ERM-TG17-157

Keywords
audio, audio-PMSE, C-PMSE, harmonised standard, radio, testing, wireless microphone, wireless microphone system

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Contents

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Foreword

This Harmonised European Standard (EN) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

The present document has been prepared under the Commission's standardisation request C(2015) 5376 final [i.18] to provide one voluntary means of conforming to the essential requirements of Directive 2014/53/EU on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC [i.10].

Once the present document is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of the present document given in table A.1 confers, within the limits of the scope of the present document, a presumption of conformity with the corresponding essential requirements of that Directive and associated EFTA regulations.

The present document is part 1 of a multi-part deliverable covering Wireless Microphones, Audio PMSE Equipment up to 3 GHz, as identified below:

Part 1: "Audio PMSE Equipment up to 3 GHz";

Part 2: "Class B Receivers" (see note);

Part 3: "Class C Receivers"(see note);

Part 4: "Assistive Listening Devices including personal sound amplifiers and inductive systems up to 3 GHz".

NOTE: Since the present document now covers Class A, B, and C receivers for audio PMSE, ETSI EN 300 422-2 and ETSI EN 300 422-3 will no longer be maintained.

National transposition dates	
Date of adoption of this EN:	18 November 2021
Date of latest announcement of this EN (doa):	28 February 2022
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 August 2022
Date of withdrawal of any conflicting National Standard (dow):	31 August 2023

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

Executive summary

This update includes changes requested by the EC for terminology in Harmonised Standards in addition to changes of the technical requirements.

Introduction

Audio Programme Making and Special Events (Audio PMSE) equipment up to 3 GHz are used in wireless applications for audio transmission purposes.

Following publication by ETSI of version 2.1.2 of ETSI EN 300 422-1 and its subsequent publication in the Official Journal, the present document has been revised with information gained from those using that version. The previous four-parts deliverable has been reformatted into two parts to accommodate the different types of equipment represented. The present document (Part 1) now covers Class A, B, and C receivers for audio PMSE. To avoid confusion, the numbering for ETSI EN 300 422-4 [i.4] (ALDs) has been retained.

Spectrum, power limits, and technical requirements for audio PMSE are shown in the latest version of:

- EC Decision on Short Range Devices [i.14];
- CEPT/ERC Recommendation 70-03 [i.12], annex 10;
- National Interface regulations; and
- compatibility studies.

Further information is given in CEPT/ERC Recommendation 25-10 [i.13], annexes 2 and 4. Further information is available via the ECO website:

https://cept.org/ecc/topics/programme-making-and-special-events-applications-pmse

and the EFIS database:

https://efis.cept.org/.

Unless otherwise stated in the EC SRD Decision [i.14], EC Decision 2014/641/EU [i.11] or national regulations, the use of audio PMSE equipment can be subject to an individual licensing regime.

Although the present document covers a spectrum up to 3 GHz, it should be emphasized that multi-channel audio PMSE systems used in professional productions are best suited to a spectrum under 2 GHz for reasons of propagation and body interaction. Further information on audio PMSE is available in ECC Report 204 [i.16].

Additional standards or specifications may be required for equipment:

1) intended to interface to Public Networks, e.g. PSTN. This facility may be subjected to regulatory conditions; or

2) other relevant radio standards.

1 Scope

The present document specifies technical characteristics and methods of measurements for audio PMSE equipment operating with up to 250 mW output power on radio frequencies up to 3 GHz (see note 1).

NOTE 1: For RF power levels above this, refer to ETSI EN 300 454-1 [i.3].

Audio Programme Making and Special Events (PMSE) equipment within the scope of the present document is used in wireless applications for audio transmission purposes including, but not limited to equipment such as wireless microphones, in-ear monitoring systems, conference systems, talkback systems, tour guide systems, Cognitive PMSE (C-PMSE), Wireless Multichannel Audio Systems (WMAS), and assistive listening devices.

Table 1: Radiocommunications service frequency bands

	Radiocommunications service frequency bands
Transmit	up to 3 000 MHz
Receive	up to 3 000 MHz

NOTE 2: The relationship between the present document and essential requirements of article 3.2 of Directive 2014/53/EU [i.10] is given in annex A.

2 References

2.1 Normative 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 https://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.

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

[1] IEC 60244-13:1991: "Methods of measurement for radio transmitters - Part 13: Performance characteristics for FM sound broadcasting".

[2] ERC Recommendation 74-01 (May 2019): "Unwanted emissions in the spurious domain".

2.2 Informative 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.

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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] ETSI EG 203 336: "Guide for the selection of technical parameters for the production of Harmonised Standards covering article 3.1(b) and article 3.2 of Directive 2014/53/EU".

[i.2] Void.

[i.3] ETSI EN 300 454-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Wide band audio links; Part 1: Technical characteristics and test methods".

[i.4] ETSI EN 300 422-4: "Wireless Microphones; Audio PMSE up to 3 GHz; Part 4: Assistive Listening Devices including personal sound amplifiers and inductive systems up to 3 GHz; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU".

[i.5] Void.

[i.6] ETSI EG 203 367 (V1.1.1): "Guide to the application of harmonised standards covering articles 3.1b and 3.2 of the Directive 2014/53/EU (RED) to multi-radio and combined radio and non-radio equipment".

[i.7] ETSI TR 102 273 (V1.2.1) (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Improvement on Radiated Methods of Measurement (using test site) and evaluation of the corresponding measurement uncertainties".

[i.8] ETSI EN 301 489-9: "ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 9: Specific conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio and in-ear monitoring devices; Harmonised Standard covering the essential requirements of article 3.1(b) of Directive 2014/53/EU".

[i.9] Void.

[i.10] Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC.

[i.11] Commission Implementing Decision 2014/641/EU of 01/09/2014 on harmonised technical conditions of radio spectrum use by wireless audio programme making and special events equipment in the Union (notified under document C(2014) 6011) (Text with EEA relevance).

[i.12] CEPT/ERC Recommendation 70-03: "Annex 10: Radio microphone applications including assistive listening devices (ALD), wireless audio and multimedia streaming systems".

[i.13] CEPT/ERC Recommendation 25-10: "Frequency Ranges for the Use of Terrestrial Audio and Video Programme Making and Special Events (PMSE) applications", Amended 18 October 2016.

[i.14] Commission Decision 2013/752/EC on harmonization of the radio spectrum for use by short-range devices as amended by subsequent Commission Decisions.

[i.15] Recommendation ITU-R BS.559-2: "Objective measurement of radio-frequency protection ratios in LF, MF, and HF broadcasting".

[i.16] ECC Report 204: "Spectrum Use and future requirements for PMSE".

NOTE: Available at https://docdb.cept.org/download/1f1d1819-5ca2/ECCREP204.PDF.

[i.17] Report Recommendation ITU-R SM.2152 (09/2009): "Definitions of Software Defined Radio (SDR) and Cognitive Radio System (CRS)".

[i.18] Commission Implementing Decision C(2015) 5376 final of 4.8.2015 on a standardisation request to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards radio equipment in support of Directive 2014/53/EU of the European Parliament and of the Council.

[i.19] ANSI C63.5: "American National Standard for Calibration of Antennas Used for Radiated Emission Measurements in Electro Magnetic Interference".