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STN	**Pozemná pohyblivá služba Analógové a digitálne zariadenie PMR446 Harmonizovaná norma vzťahujúca sa na základné požiadavky článku 3.2 Smernice 2014/53/EU**	**STN EN 303 405 V1.1.1** 87 3405

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

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Land Mobile Service;
Analogue and Digital PMR446 Equipment;
Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

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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.8] 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.7].

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 C.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.

National transposition dates	
Date of adoption of this EN:	19 May 2017
Date of latest announcement of this EN (doa):	31 August 2017
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	28 February 2018
Date of withdrawal of any conflicting National Standard (dow):	28 February 2019

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.

1 Scope

The present document covers the minimum characteristics considered necessary in order to avoid harmful interference and to make acceptable use of the available frequencies for analogue and digital PMR446 equipment in the land mobile service.

PMR 446 equipment is hand portable (no base station or repeater use); short range peer to peer mode; uses integral antennas only; effective radiated power not exceeding 500 mW and angle modulated.

The band from 446,0 MHz to 446,2 MHz is designated for the use of analogue PMR 446 with a channel plan based on 12,5 kHz spacing where the lowest carrier frequency is 446,006 25 MHz.

The band from 446,1 MHz to 446,2 MHz is designated for the use of digital PMR 446 with a channel plan based on 6,25 kHz and 12,5 kHz spacing where the lowest carrier frequencies are 446,103 125 MHz and 446,106 25 MHz respectively.

The band from 446,0 MHz to 446,2 MHz is designated for the use of digital PMR 446 with a channel plan based on 6,25 kHz and 12,5 kHz spacing where the lowest carrier frequencies are 446,003 125 MHz and 446,006 25 MHz respectively as of 1 January 2018.

Analogue PMR446 equipment operating in the frequency range from 446,1 MHz to 446,2 MHz uses more robust receivers as specified in ETSI TS 103 236 [2].

As defined in ECC/DEC/(15)05 [i.6] Analogue PMR446 equipment operating in the frequency range from 446,0 MHz to 446,1 MHz should use more robust receivers as specified in ETSI TS 103 236 [2] or equivalent technical specifications when placed on the market as of 1 January 2017.

As defined in ECC/DEC/(15)05 [i.6] all analogue and digitial PMR 446 radio equipment should have reception capability and equipment having Push-To-Talk (PTT) functionality capable of being latched 'on' should apply a 180 seconds maximum transmitter time-out; equipment having no Push-To-Talk (PTT) functionality should apply a 180 seconds maximum transmitter time-out and VOX (Voice activation exchange) control.

The present document assumes that digital PMR446 equipment using 6,25 kHz channel spacing is compliant with ETSI TS 102 490 [4].

The present document assumes that digital PMR446 equipment using 12,5 kHz channel spacing is compliant with ETSI TS 102 361-1 [5].

The present document contains requirements to demonstrate that "*... Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio spectrum in order to avoid harmful interference*" and that *"....radio equipment supports certain features ensuring access to emergency services"* [i.7].

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 Radio Equipment Directive [i.7] may apply to equipment within the scope of the present document.

2 References

2.1 Normative references

References are specific, identified by date of publication and/or edition number or version number. Only the cited version applies.

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

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

[1] ANSI C63.5 (2006): "American National Standard for Calibration of Antennas Used for Radiated Emission Measurements in Electro Magnetic Interference".

[2] ETSI TS 103 236 (V1.1.1) (01-2014): "Electromagnetic compatibility and Radio spectrum Matters (ERM);Continuous Tone Controlled Signalling System (CTCSS) and Digitally Coded Squelch Signalling (DCSS) system".

[3] Recommendation ITU-T O.153 (10-1992): "Basic parameters for the measurement of error performance at bit rates below the primary rate".

[4] ETSI TS 102 490 (V1.9.1) (08-2016): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Peer-to-Peer Digital Private Mobile Radio using FDMA with a channel spacing of 6,25 kHz with e.r.p. of up to 500 mW".

[5] ETSI TS 102 361-1 (V2.4.1) (02-2016): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Digital Mobile Radio (DMR) Systems; Part 1: DMR Air Interface (AI) protocol".

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] CEPT/ERC/REC 74-01E: "Unwanted emissions in the spurious domain" (Siófok 1998, Nice 1999, Sesimbra 2002; Hradec Kralove 2005).

[i.2] ETSI EN 300 793 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land mobile service; Presentation of equipment for type testing".

[i.3] 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.4] IEC 60489-3 (1988): "Methods of measurement for radio equipment used in the mobile services; Part 3: Receivers for A3E or F3E emissions".

[i.5] Recommendation ITU-T O.41 (1994): "Psophometer for use on telephone-type circuits".

[i.6] ECC/DEC/(15)05: "The harmonised frequency range 446.0-446.2 MHz, technical characteristics, exemption from individual licensing and free carriage and use of analogue and digital PMR 446 applications".

[i.7] 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.8] 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.9] ETSI TR 100 028 (V1.4.1) (12-2001) (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics".

[i.10] ETSI TR 100 028-2 (V1.4.1) (12-2001): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2".