

STN	Zdokonalený systém navádzania a riadenia pohybu na prevádzkových plochách (A-SMGCS) Časť 6: Harmonizovaná norma pre prístup k rádiovému spektru pre využívané radarové snímače na prevádzkových plochách Oddiel 1: Snímače v pásme X využívajúce impulzné signály a prenášajúce výkon do 100 kW	STN EN 303 213-6-1 V3.1.1 87 3213
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Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 6: Harmonised Standard for access to radio spectrum for deployed surface movement radar sensors; Sub-part 1: X-band sensors using pulsed signals and transmitting power up to 100 kW

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. 12/19

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**Advanced Surface Movement Guidance
and Control System (A-SMGCS);
Part 6: Harmonised Standard for access to radio spectrum for
deployed surface movement radar sensors;
Sub-part 1: X-band sensors using pulsed signals and
transmitting power up to 100 kW**

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Contents

Intellectual Property Rights	5
Foreword.....	5
Modal verbs terminology.....	6
1 Scope	7
2 References	7
2.1 Normative references	7
2.2 Informative references.....	8
3 Definition of terms, symbols and abbreviations.....	8
3.1 Terms.....	8
3.2 Symbols.....	9
3.3 Abbreviations	10
4 Technical requirements specifications	10
4.1 Environmental profile.....	10
4.2 Conformance requirements	10
4.2.1 Transmitter requirements.....	10
4.2.1.1 Frequency Tolerance.....	10
4.2.1.1.1 Definition.....	10
4.2.1.1.2 Limits	10
4.2.1.1.3 Conformance	10
4.2.1.2 Transmitter power.....	11
4.2.1.2.1 Definition.....	11
4.2.1.2.2 Limits	11
4.2.1.2.3 Conformance	11
4.2.1.3 Measured Bandwidth	11
4.2.1.3.1 Definition.....	11
4.2.1.3.2 Limits	11
4.2.1.3.3 Conformance	11
4.2.1.4 Out-of-band emissions	11
4.2.1.4.1 Definition.....	11
4.2.1.4.2 Limits	12
4.2.1.4.3 Conformance	13
4.2.1.5 Spurious emissions.....	13
4.2.1.5.1 Definition.....	13
4.2.1.5.2 Limits	14
4.2.1.5.3 Conformance	14
4.2.1.6 Stand-by Mode Emissions.....	14
4.2.1.6.1 Definition.....	14
4.2.1.6.2 Limits	15
4.2.1.6.3 Conformance	15
4.2.2 Receiver requirements	15
4.2.2.1 System Noise Figure	15
4.2.2.1.1 Definition.....	15
4.2.2.1.2 Limits	15
4.2.2.1.3 Conformance	15
4.2.2.2 Receiver Selectivity	15
4.2.2.2.1 Definition.....	15
4.2.2.2.2 Limit	15
4.2.2.2.3 Conformance	15
4.2.2.3 Receiver Compression Level	15
4.2.2.3.1 Definition.....	15
4.2.2.3.2 Limit	16
4.2.2.3.3 Conformance	16
5 Testing for compliance with technical requirements.....	16
5.0 General requirements	16

5.1	Environmental conditions for testing	16
5.1.1	Test Conditions	16
5.1.2	Normal temperature and humidity	16
5.1.3	Normal test power supply	16
5.2	Interpretation of the measurements results	16
5.3	Radio test suites	17
5.3.1	Transmitter test specification	17
5.3.1.1	Frequency Tolerance	17
5.3.1.2	Transmitter power	17
5.3.1.3	Measured Bandwidth	17
5.3.1.4	Out-of-Band-emissions	17
5.3.1.5	Spurious emissions	19
5.3.1.6	Stand-by Mode Emissions	19
5.3.2	Receiver test specification	20
5.3.2.1	System Noise Figure	20
5.3.2.1.0	General	20
5.3.2.2	Receiver Selectivity	20
5.3.2.2.0	General	20
5.3.2.2.1	Receiver Out-of-Band selectivity	21
5.3.2.3	Receiver Compression Level	22
5.3.2.3.0	General	22
5.3.2.3.1	Receiver Compression Level	22
Annex A (informative):	Relationship between the present document and the essential requirements of Directive 2014/53/EU	23
Annex B (normative):	Transmission power and unwanted emissions of radar systems with indirect methods	24
Annex C (normative):	Calculation of the -40 dB Bandwidth	25
Annex D (informative):	Maximum Measurement Uncertainty	27
Annex E (informative):	Bibliography	28
Annex F (informative):	Change history	29
History		30

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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.6] 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.1].

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 6, sub-part 1 of a multi-part deliverable covering Advanced Surface Movement Guidance and Control System (A-SMGCS), as identified below:

- Part 1: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS surveillance service";
- Part 2: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS Level 2 including external interfaces";
- Part 3: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed cooperative sensor including its interfaces";
- Part 4: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for a deployed non-cooperative sensor including its interfaces";
- Part 5: "Harmonised Standard for access to the radio spectrum for Multilateration (MLAT) equipment";
- Part 6: "Harmonised Standard for access to radio spectrum for deployed surface movement radar sensors";**
 - Sub-part 1: "X-band sensors using pulsed signals and transmitting power up to 100 kW".**
- Part 7: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS routing service";

Part 8: "Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 for A-SMGCS guidance service";

National transposition dates	
Date of adoption of this EN:	17 June 2019
Date of latest announcement of this EN (doa):	30 September 2019
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	31 March 2020
Date of withdrawal of any conflicting National Standard (dow):	31 March 2021

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).

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1 Scope

The present document specifies technical characteristics and methods of measurements for monostatic X-band radar sensors intended for the surveillance of airport surface movement traffic with the following characteristics:

- Operating in one or both of the following frequency ranges:
 - 9 000 MHz to 9 200 MHz and 9 300 MHz to 9 500 MHz utilizing modulated or unmodulated pulses.
- Transmitter Peak Envelope Power up to 100 kW.
- The transceiver-antenna connection is using a hollow metallic rectangular waveguide.
- The antenna is rotating, waveguide-based and passive.
- At the transceiver output an RF-circulator is used.

NOTE 1: Since transceiver and antenna are hollow metallic rectangular waveguide based the frequency range for measurements that needs to be addressed covers 6,56 GHz to 26 GHz. The lower limit of this frequency range is obtained as cut-off frequency of the combination of WR112/R84 taper section and a WR90/R100 Waveguide IEC 60153-2 [i.3]. The upper limit corresponds to the upper limit stated in table 1 of ERC Recommendation 74-01 [2].

NOTE 2: Since at the transceiver output an RF circulator is used, it is assumed that the transceiver characteristics remain independent from the antenna.

NOTE 3: Aeronautical Surface Movement Radars covered by the present document are expected to use the bands 9 000 MHz to 9 200 MHz and/or 9 300 MHz to 9 500 MHz. According article 5 of the ITU Radio Regulations [3] the band 9 000 MHz to 9 200 MHz is allocated to the Aeronautical Radionavigation Service on a primary basis and the band 9 300 MHz to 9 500 MHz is allocated to the Radionavigation Service on a primary basis.

NOTE 4: The relationship between the present document and essential requirements of article 3.2 of Directive 2014/53/EU [i.1] is given in annex A.

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] ECC Recommendation (02)05 (2012): "Unwanted emissions".
- [2] ERC Recommendation 74-01 (2019): "Unwanted emissions in the spurious domain".
- [3] ITU Radio Regulations (2016).

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] 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.2] Merrill I. Skolnik: "Radar Handbook", 2nd Edition, McGraw Hill publications.
- [i.3] IEC 60153-2 (Edition 2.0, 1974): "Hollow metallic waveguides. Part 2: Relevant specifications for ordinary rectangular waveguides".
- [i.4] Void.
- [i.5] Recommendation ITU-R SM.1541-6 (08/2015): "Unwanted emissions in the out-of-band domain".
- [i.6] 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.

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