

STN	Meteorologické radary Harmonizovaná norma pre prístup k rádiovému spektru Časť 3: Meteorologický radarový snímač pracujúci vo frekvenčnom pásme od 9 300 MHz do 9 500 MHz (pásmo X)	STN EN 303 347-3 V2.1.1 87 3347
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Meteorological Radars; Harmonised Standard for access to radio spectrum; Part 3: Meteorological Radar Sensor operating in the frequency band 9 300 MHz to 9 500 MHz (X band)

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. 09/21

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**Meteorological Radars;
Harmonised Standard for access to radio spectrum;
Part 3: Meteorological Radar Sensor operating
in the frequency band 9 300 MHz to 9 500 MHz (X band)**

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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.5] 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 3 of a multi-part deliverable covering meteorological radar systems for different frequency bands, as identified below:

- Part 1: "Meteorological Radar Sensor operating in the frequency band 2 700 MHz to 2 900 MHz (S band)";
- Part 2: "Meteorological Radar Sensor operating in the frequency band 5 250 MHz to 5 850 MHz (C band)";
- Part 3: "Meteorological Radar Sensor operating in the frequency band 9 300 MHz to 9 500 MHz (X band)".**

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

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1 Scope

The present document specifies technical characteristics and methods of measurements for X band meteorological radar systems intended for the surveillance and classification of hydrometeors with the following characteristics:

- Operating in the following frequency range:
 - 9 300 MHz to 9 500 MHz.
- Utilizing unmodulated pulses or phase/frequency modulated pulses also known as pulse compression.
- The maximum output power (PEP) is not greater than 250 kW (i.e. 84 dBm).
- The transceiver antenna connection and its feeding RF line use a hollow metallic rectangular waveguide.
- The antenna rotates and can be changed in elevation.
- The used waveguide is WR90/WG16 waveguide according to IEC 60153-2 [i.2] with a minimum length between the output of the transmitter and the input of the antenna of 915 mm (20 times the wavelength of the waveguide cut-off frequency).
- The antenna feed is waveguide based and the antenna is passive.
- The orientation of the transmitted field from the antenna can be vertical or horizontal polarized or it can be both simultaneously.
- At the transceiver output an RF circulator is used.

NOTE 1: Since at the transceiver output an RF circulator is used, it is assumed that the transceiver characteristics remain independent from the antenna.

NOTE 2: According to provision 5.475B of the ITU Radio Regulations [i.7], ground-based radars used for meteorological purposes in the band 9 300 MHz to 9 500 MHz have priority over other radiolocation uses.

NOTE 3: Further technical and operational characteristics of meteorological radar systems can be found in Recommendation ITU-R M.1849-1 [i.3].

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

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

- [1] ERC/Recommendation 74-01 (2019): "Unwanted emissions in the spurious domain".
- [2] ECC/Recommendation (02)05 (2012): "Unwanted emissions".

- [3] Recommendation ITU-R M.1177-4 (04/2011): "Techniques for measurement of unwanted emissions of radar systems".

2.2 Informative references

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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] IEC 60153-2 (Edition 3.0, 2016): "Hollow metallic waveguides. Part 2: Relevant specifications for ordinary rectangular waveguides".
- [i.3] Recommendation ITU-R M.1849-1 (09/2015): "Technical and operational aspects of ground-based meteorological radars".
- [i.4] Recommendation ITU-R SM.1541-6 (08/2015): "Unwanted emissions in the out-of-band domain".
- [i.5] 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.6] ETSI EG 203 336 (V1.2.1) (05-2020): "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.7] ITU Radio Regulations (2020).

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