

**Primary Surveillance Radar (PSR);  
Harmonised Standard for access to radio spectrum;  
Part 1: Air Traffic Control (ATC) PSR sensors operating  
in the frequency band 1 215 MHz to 1 400 MHz (L band);  
Sub-part 1: radar systems using reflector antennas  
(ETSI EN 303 364-1-1 V1.0.0 (2025-03))**

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# ETSI EN 303 364-1-1 V1.1.1 (2025-06)



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Sub-part 1: radar systems using reflector antennas**

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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.2] 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 1, sub-part 1, of a multi-part deliverable covering Primary Surveillance Radar (PSR), as identified below:

**Part 1: "Air Traffic Control (ATC) PSR sensors operating in the frequency band 1 215 MHz to 1 400 MHz (L band)";**

**Sub-part 1: "radar systems using reflector antennas";**

Sub-part 2: "radar systems using phased array antennas".

Part 2: "Air Traffic Control (ATC) PSR sensors operating in the frequency band 2 700 MHz to 3 100 MHz (S band)";

Part 3: "Air Traffic Control (ATC) PSR sensors operating in the frequency band 8 500 MHz to 10 000 MHz (X band)".

| National transposition dates                                                           |                   |
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| Date of withdrawal of any conflicting National Standard (dow):                         | 31 March 2027     |

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# 1 Scope

The present document specifies technical characteristics and methods of measurements for ground based monostatic ATC solid state primary surveillance radars that are intended to work with a waveguide-based rotating passive antenna and have the following characteristics:

- operation in the 1 215 MHz to 1 400 MHz frequency range;
- transmitter output peak power up to 100 kW;
- the transceiver output uses an RF circulator;
- a piece of waveguide of at least 66 cm is integral to the transceiver.

NOTE 1: Phased array ATC primary surveillance radars are not covered by the present document.

NOTE 2: 66 cm equals 2 times the cut-off wavelength of a WR650/WG6/R14 waveguide which is typically used in the 1 215 MHz to 1 400 MHz frequency range.

NOTE 3: 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.

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# 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.

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

- [1] [ETSI EN 300 019-1-3 \(V2.4.1\) \(04-2014\)](#): "Environmental Engineering (EE); Environmental conditions and environmental tests for telecommunications equipment; Part 1-3: Classification of environmental conditions; Stationary use at weather protected locations".

## 2.2 Informative references

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- [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.