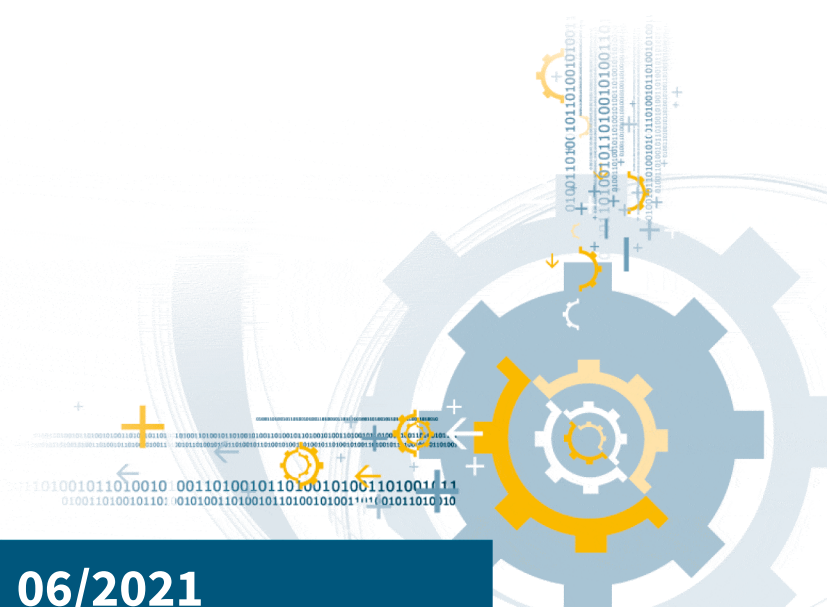


ILNAS

Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

**ILNAS-EN 303 347-3 V2.1.1
(2021-06)**

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



National Foreword

This European Standard EN 303 347-3 V2.1.1 (2021-06) was adopted as Luxembourgish Standard ILNAS-EN 303 347-3 V2.1.1 (2021-06).

Every interested party, which is member of an organization based in Luxembourg, can participate for FREE in the development of Luxembourgish (ILNAS), European (CEN, CENELEC) and International (ISO, IEC) standards:

- Participate in the design of standards
- Foresee future developments
- Participate in technical committee meetings

<https://portail-qualite.public.lu/fr/normes-normalisation/participer-normalisation.html>

THIS PUBLICATION IS COPYRIGHT PROTECTED

Nothing from this publication may be reproduced or utilized in any form or by any mean - electronic, mechanical, photocopying or any other data carries without prior permission!

ETSI EN 303 347-3 V2.1.1 (2021-06)



ILNAS-EN 303 347-3 V2.1.1 (2021-06) - Preview only Copy via ILNAS e-Shop

**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)**

ReferenceDEN/ERM-TGAERO-42-3

Keywordsharmonised standard, radar, radio

ETSI650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - APE 7112B
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° w061004871

Important notice

The present document can be downloaded from:

<http://www.etsi.org/standards-search>

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any existing or perceived difference in contents between such versions and/or in print, the prevailing version of an ETSI deliverable is the one made publicly available in PDF format at www.etsi.org/deliver.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

<https://portal.etsi.org/TB/ETSIDeliverableStatus.aspx>

If you find errors in the present document, please send your comment to one of the following services:

<https://portal.etsi.org/People/CommitteeSupportStaff.aspx>

Notice of disclaimer & limitation of liability

The information provided in the present deliverable is directed solely to professionals who have the appropriate degree of experience to understand and interpret its content in accordance with generally accepted engineering or other professional standard and applicable regulations.

No recommendation as to products and services or vendors is made or should be implied.

In no event shall ETSI be held liable for loss of profits or any other incidental or consequential damages.

Any software contained in this deliverable is provided "AS IS" with no warranties, express or implied, including but not limited to, the warranties of merchantability, fitness for a particular purpose and non-infringement of intellectual property rights and ETSI shall not be held liable in any event for any damages whatsoever (including, without limitation, damages for loss of profits, business interruption, loss of information, or any other pecuniary loss) arising out of or related to the use of or inability to use the software.

Copyright Notification

No part may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm except as authorized by written permission of ETSI.

The content of the PDF version shall not be modified without the written authorization of ETSI.

The copyright and the foregoing restriction extend to reproduction in all media.

© ETSI 2021.

All rights reserved.

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.....	10
3.3 Abbreviations	10
4 Technical requirements specifications	11
4.1 Environmental profile.....	11
4.2 Conformance requirements	11
4.2.1 Transmitter requirements.....	11
4.2.1.1 Frequency Tolerance.....	11
4.2.1.1.1 Definition.....	11
4.2.1.1.2 Limits	11
4.2.1.1.3 Conformance	11
4.2.1.2 Transmitter output power.....	11
4.2.1.2.1 Definition.....	11
4.2.1.2.2 Limits	12
4.2.1.2.3 Conformance	12
4.2.1.3 Measured B ₄₀ Bandwidth	12
4.2.1.3.1 Definition.....	12
4.2.1.3.2 Limits	12
4.2.1.3.3 Conformance	12
4.2.1.4 Out-of-Band emissions.....	12
4.2.1.4.1 Definition.....	12
4.2.1.4.2 Limits	13
4.2.1.4.3 Conformance	14
4.2.1.5 Spurious emissions.....	14
4.2.1.5.1 Definition.....	14
4.2.1.5.2 Limits	15
4.2.1.5.3 Conformance	15
4.2.1.6 Stand-by Mode emissions	16
4.2.1.6.1 Definition.....	16
4.2.1.6.2 Limits	16
4.2.1.6.3 Conformance	16
4.2.2 Receiver Requirements.....	16
4.2.2.1 Noise Figure.....	16
4.2.2.1.1 Definition.....	16
4.2.2.1.2 Limits	16
4.2.2.1.3 Conformance	16
4.2.2.2 Receiver Selectivity	16
4.2.2.2.1 Definition.....	16
4.2.2.2.2 Limits	16
4.2.2.2.3 Conformance	18
4.2.2.3 Receiver Compression Level	18
4.2.2.3.1 Definition.....	18
4.2.2.3.2 Limits	19
4.2.2.3.3 Conformance	19
5 Testing for compliance with technical requirements.....	19
5.1 General requirements	19

5.2	Environmental conditions for testing	20
5.2.1	Test Conditions	20
5.2.2	Normal temperature and humidity	20
5.2.3	Normal test power supply	20
5.3	Radio test suites.....	20
5.3.1	Transmitter test specification.....	20
5.3.1.1	Frequency Tolerance.....	20
5.3.1.2	Transmitter Power.....	21
5.3.1.3	Measured B ₋₄₀ Bandwidth	21
5.3.1.4	Out-of-Band emissions.....	21
5.3.1.5	Spurious emissions.....	23
5.3.1.6	Stand-by Mode Emissions.....	25
5.3.2	Receiver Test specification	25
5.3.2.1	Noise Figure.....	25
5.3.2.2	Receiver Selectivity	26
5.3.2.2.1	General	26
5.3.2.2.2	Receiver unwanted Signal Selectivity	26
5.3.2.3	Receiver Compression Level	27
5.3.2.3.1	General	27
5.3.2.3.2	Receiver Compression Level.....	27
Annex A (informative):	Relationship between the present document and the essential requirements of Directive 2014/53/EU	28
Annex B (normative):	Calculation of the -40 dB Bandwidth.....	29
Annex C (normative):	Operating frequency and transmitter power measurement setup	31
Annex D (normative):	Spurious and OoB emission measurement setup	32
Annex E (normative):	Receiver selectivity and compression level measurement setup	33
Annex F (informative):	Maximum Measurement Uncertainty.....	34
Annex G (informative):	WR90/WG16 waveguide characteristics.....	35
Annex H (informative):	Checklist	37
History		39