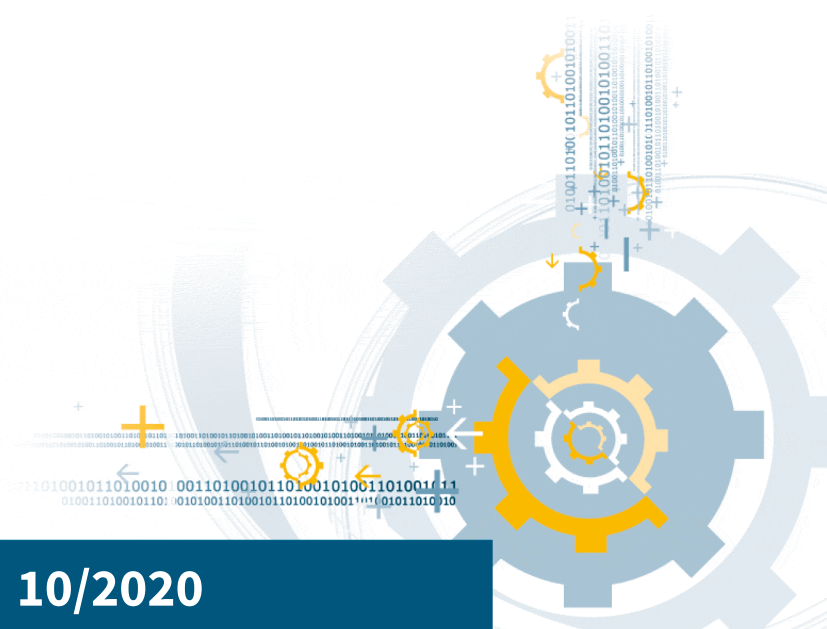


# ILNAS

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

**ILNAS-EN 302 609 V2.2.1 (2020-10)**

**Short Range Devices (SRD); Radio  
equipment for Euroloop  
communication systems; Harmonised  
Standard for access to radio spectrum**



## National Foreword

This European Standard EN 302 609 V2.2.1 (2020-10) was adopted as Luxembourgish Standard ILNAS-EN 302 609 V2.2.1 (2020-10).

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 302 609 V2.2.1 (2020-10)



ILNAS-EN 302 609 V2.2.1 (2020-10) - Preview only Copy via ILNAS e-Shop

**Short Range Devices (SRD);  
Radio equipment for Euroloop communication systems;  
Harmonised Standard for access to radio spectrum**

---

Reference

REN/ERM-TG28-550

---

Keywords

harmonised standard, radio, SRD, testing

**ETSI**

650 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 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**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](http://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/CommiteeSupportStaff.aspx>

---

**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 2020.

All rights reserved.

**DECT™**, **PLUGTESTS™**, **UMTS™** and the ETSI logo are trademarks of ETSI registered for the benefit of its Members.

**3GPP™** and **LTE™** are trademarks of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

**oneM2M™** logo is a trademark of ETSI registered for the benefit of its Members and of the oneM2M Partners.

**GSM®** and the GSM logo are trademarks registered and owned by the GSM Association.

# Contents

Intellectual Property Rights .....	6
Foreword.....	6
Modal verbs terminology.....	6
Introduction .....	7
1 Scope .....	8
2 References .....	8
2.1 Normative references .....	8
2.2 Informative references.....	9
3 Definition of terms, symbols and abbreviations.....	10
3.1 Terms.....	10
3.2 Symbols.....	10
3.3 Abbreviations .....	10
4 Technical requirements specifications .....	11
4.1 Environmental profile.....	11
4.2 Transmitter conformance requirements.....	11
4.2.1 OBE TX field strength and Transmitter mask .....	11
4.2.1.1 Applicability.....	11
4.2.1.2 Limits .....	11
4.2.1.3 Conformance.....	11
4.2.2 OBE unwanted emissions .....	12
4.2.2.1 Applicability.....	12
4.2.2.2 Limits .....	12
4.2.2.3 Conformance.....	12
4.2.3 Trackside Equipment transmitter field strength.....	12
4.2.3.1 Applicability.....	12
4.2.3.2 Limits .....	12
4.2.3.3 Conformance.....	12
4.2.4 Trackside Equipment transmitter mask.....	12
4.2.4.1 Applicability.....	12
4.2.4.2 Limit.....	13
4.2.4.3 Conformance.....	13
4.3 Receiver Conformance requirements .....	13
4.3.1 OBE Receiver sensitivity.....	13
4.3.1.1 Applicability.....	13
4.3.1.2 Limits .....	13
4.3.1.3 Conformance.....	13
4.3.2 OBE Receiver error behaviour at high wanted input signal level.....	13
4.3.2.1 Applicability.....	13
4.3.2.2 Limits .....	14
4.3.2.3 Conformance.....	14
4.3.3 OBE Receiver distortion immunity .....	14
4.3.3.1 Applicability.....	14
4.3.3.2 Limits .....	14
4.3.3.3 Conformance.....	14
4.3.4 OBE Receiver inter-modulation immunity.....	14
4.3.4.1 Applicability.....	14
4.3.4.2 Limits .....	14
4.3.4.3 Conformance.....	14
4.3.5 OBE Receiver co-channel rejection.....	14
4.3.5.1 Applicability.....	14
4.3.5.2 Limits .....	14
4.3.5.3 Conformance.....	14
4.3.6 OBE Receiver blocking .....	14
4.3.6.1 Applicability.....	14

4.3.6.2	Limits .....	15
4.3.6.3	Conformance .....	15
4.3.7	OBE Receiver dynamic receiver performance.....	15
4.3.7.1	Applicability.....	15
4.3.7.2	Limits .....	15
4.3.7.3	Conformance.....	15
4.3.8	OBE Receiver multipath dynamic performance .....	15
4.3.8.1	Applicability.....	15
4.3.8.2	Limits .....	15
4.3.8.3	Conformance.....	15
4.3.9	OBE Receiver tolerable centre frequency error .....	15
4.3.9.1	Applicability.....	15
4.3.9.2	Limits .....	15
4.3.9.3	Conformance.....	15
4.3.10	OBE Receiver tolerable chip rate error.....	16
4.3.10.1	Applicability.....	16
4.3.10.2	Limits .....	16
4.3.10.3	Conformance.....	16
4.3.11	OBE Receiver tolerable MTIE of the chip rate.....	16
4.3.11.1	Applicability.....	16
4.3.11.2	Limits .....	16
4.3.11.3	Conformance.....	16
4.3.12	Trackside Equipment Receiver sensitivity.....	16
4.3.12.1	Applicability.....	16
4.3.12.2	Limits .....	16
4.3.12.3	Conformance.....	16
5	Testing for compliance with technical requirements.....	16
5.1	Environmental conditions for testing .....	16
5.2	General conditions for testing .....	17
5.2.1	Test conditions.....	17
5.2.2	Test power source .....	17
5.2.3	Normal test conditions .....	17
5.2.3.1	Normal temperature and humidity .....	17
5.2.3.2	Normal test power source.....	17
5.2.3.2.1	Mains voltage .....	17
5.2.3.2.2	Other power sources .....	17
5.2.4	Extreme test conditions.....	17
5.2.5	Choice of equipment for test suites.....	18
5.2.5.1	Choice of model .....	18
5.2.5.2	Measuring receiver.....	18
5.3	Void.....	18
6	Performance Test Suites.....	18
6.1	Conformance methods of measurement for transmitters.....	18
6.1.1	OBE Tx field strength and Transmitter Mask.....	18
6.1.2	OBE Unwanted Emission .....	19
6.1.3	Trackside Equipment field strength measurements .....	19
6.1.4	Trackside Equipment transmitter conducted measurements.....	20
6.2	Conformance Methods of Measurement for Receiver.....	20
6.2.1	OBE receiver sensitivity .....	20
6.2.2	OBE receiver error behaviour at high wanted input signal level .....	20
6.2.3	OBE receiver distortion immunity.....	20
6.2.4	OBE receiver inter-modulation immunity .....	20
6.2.5	OBE Receiver co-channel rejection.....	20
6.2.6	OBE Receiver blocking .....	21
6.2.7	OBE receiver dynamic receiver performance .....	21
6.2.8	OBE receiver multipath dynamic performance.....	21
6.2.9	OBE receiver tolerable centre frequency error .....	21
6.2.10	OBE Receiver tolerable chip rate error.....	21
6.2.11	OBE Receiver tolerable MTIE of the chip rate.....	21
6.2.12	Trackside Equipment receiver sensitivity .....	21