



NSAI
Standards

Irish Standard
I.S. EN 62634:2015

Radio data system (RDS) - Receiver products and characteristics - Methods of Measurement

I.S. EN 62634:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 62634:2015

Published:

2015-05-15

*This document was published
under the authority of the NSAI
and comes into effect on:*

2015-06-02

ICS number:

33.060.20

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 62634

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2015

ICS 33.060.20

Supersedes EN 62634:2011

English Version

**Radio data system (RDS) - Receiver products and
characteristics - Methods of Measurement
(IEC 62634:2015)**

Système de radiodiffusion de données (RDS) - Récepteurs
et caractéristiques - Méthodes de mesure
(IEC 62634:2015)

RDS-Empfänger-Produkte und -Eigenschaften -
Messverfahren
(IEC 62634:2015)

This European Standard was approved by CENELEC on 2015-05-04. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 100/2121/CDV, future edition 2 of IEC 62634, prepared by Technical Area 1 "Terminals for audio, video and data services and contents" of IEC/TC 100 "Audio, video and multimedia systems and equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62634:2015.

The following dates are fixed:

- latest date by which the document has to be (dop) 2016-02-04
implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2018-05-04
standards conflicting with the
document have to be withdrawn

This document supersedes EN 62634:2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 62634:2015 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

ISO 14819 Series NOTE Harmonized as EN ISO 14819 Series.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62106	-	Specification of the Radio Data System (RDS) for VHF/FM sound broadcasting in the frequency range from 87,5 to 108,0 MHz	EN 62106	-

This page is intentionally left blank



IEC 62634

Edition 2.0 2015-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Radio data system (RDS) – Receiver products and characteristics – Methods of measurement

Système de radiodiffusion de données (RDS) – Récepteurs et caractéristiques – Méthodes de mesure



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2015 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

IEC Catalogue - webstore.iec.ch/catalogue

The stand-alone application for consulting the entire bibliographical information on IEC International Standards, Technical Specifications, Technical Reports and other documents. Available for PC, Mac OS, Android Tablets and iPad.

IEC publications search - www.iec.ch/searchpub

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and also once a month by email.

Electropedia - www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 30 000 terms and definitions in English and French, with equivalent terms in 15 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

IEC Glossary - std.iec.ch/glossary

More than 60 000 electrotechnical terminology entries in English and French extracted from the Terms and Definitions clause of IEC publications issued since 2002. Some entries have been collected from earlier publications of IEC TC 37, 77, 86 and CISPR.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: csc@iec.ch.

A propos de l'IEC

La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC

Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Catalogue IEC - webstore.iec.ch/catalogue

Application autonome pour consulter tous les renseignements bibliographiques sur les Normes internationales, Spécifications techniques, Rapports techniques et autres documents de l'IEC. Disponible pour PC, Mac OS, tablettes Android et iPad.

Recherche de publications IEC - www.iec.ch/searchpub

La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études,...). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished

Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et aussi une fois par mois par email.

Electropedia - www.electropedia.org

Le premier dictionnaire en ligne de termes électroniques et électriques. Il contient plus de 30 000 termes et définitions en anglais et en français, ainsi que les termes équivalents dans 15 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

Glossaire IEC - std.iec.ch/glossary

Plus de 60 000 entrées terminologiques électrotechniques, en anglais et en français, extraites des articles Termes et Définitions des publications IEC parues depuis 2002. Plus certaines entrées antérieures extraites des publications des CE 37, 77, 86 et CISPR de l'IEC.

Service Clients - webstore.iec.ch/csc

Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: csc@iec.ch.



IEC 62634

Edition 2.0 2015-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Radio data system (RDS) – Receiver products and characteristics – Methods of measurement

Système de radiodiffusion de données (RDS) – Récepteurs et caractéristiques – Méthodes de mesure

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.060.20

ISBN 978-2-8322-2267-6

<p>Warning! Make sure that you obtained this publication from an authorized distributor.</p> <p>Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.</p>
--

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references.....	7
3 Terms, definitions and abbreviations	7
3.1 Terms and definitions	7
3.2 Abbreviations	8
4 Measuring method	8
4.1 Standard measuring signal	8
4.2 RDS data conditions.....	9
4.2.1 General	9
4.2.2 Matching circuit.....	9
5 Measurement of the RDS sensitivity	10
5.1 General.....	10
5.2 Method of measurement	10
5.3 Presentation of the results.....	10
6 Measurement of the RDS data acquisition	10
6.1 General.....	10
6.2 Time to synchronise	10
6.3 Time to detect a first PI	11
6.4 Method of measurement.....	11
7 Measurement of the large signal capabilities	11
7.1 General.....	11
7.2 Resistance to high wanted signal levels.....	11
7.2.1 Method of measurement.....	11
7.2.2 Large wanted signal requirement.....	11
7.3 RDS performance at large unwanted signal	11
7.3.1 Method of measurement.....	11
7.3.2 Large unwanted signal requirements	12
8 Measurement of the RDS selectivity	12
8.1 General.....	12
8.2 Method of measurement.....	12
9 Considerations and guidelines for evaluation of the dynamic RDS performance	13
9.1 General.....	13
9.2 RDS dynamic behaviour	13
9.3 Traffic announcements TA/TP	14
9.3.1 TA message.....	14
9.3.2 End of TA message.....	14
9.3.3 TP search	14
9.3.4 TA announcement skip.....	14
9.4 Regionalisation	14
9.4.1 Implementations.....	14
9.4.2 Requirement	15
Bibliography	16

Figure 1 – Coupling circuit	9
Figure 2 – Matching circuits for RDS product devices with three different input impedances	9
Table 1 – Presentation of the measurement result	12
Table 2 – AF example	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

RADIO DATA SYSTEM (RDS) – RECEIVER PRODUCTS AND CHARACTERISTICS – METHODS OF MEASUREMENT

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62634 has been prepared by technical area 1: Terminals for audio, video and data services and contents, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- the ± 100 kHz test measurement case from Clause 8 of IEC 62634:2011 was deleted as it did not permit to achieve stable and reproducible measurement results;
- an error has been corrected. The term "de-emphasis" shall read correctly "pre-emphasis".

The text of this standard is based on the following documents:

CDV	Report on voting
100/2121/CCDV	100/2419/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

This International Standard gives commonly agreed measuring methods to complement the RDS standard IEC 62106 and the RBDS standard (NRSC-4-A) in the USA.

The RDS measuring methods presented here are directed at all manufacturers of RDS receiver products, and in particular tuner modules with embedded RDS functionality, including TMC (see ISO 14819 series of standards).

RADIO DATA SYSTEM (RDS) – RECEIVER PRODUCTS AND CHARACTERISTICS – METHODS OF MEASUREMENT

1 Scope

This International Standard describes how to measure minimum RDS receiver performance requirements which concern three RDS receiver product categories. However, it should be noted that there are also RDS receiver products on the market that significantly out-perform the minimum RDS receiver performance requirements quoted.

Methods and algorithms to achieve automatic programme service-following by means of AF lists are, however, very customer- and manufacturer-specific, and are therefore not covered in this standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 62106, *Specification of the Radio Data System (RDS) for VHF/FM sound broadcasting in the frequency range from 87,5 MHz to 108,0 MHz*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply. Terms and definitions of the RDS features used shall be found in IEC 62106.

3.1.1

RDS product category 1

RDS receiver product with high-ohmic input impedance

EXAMPLE For portable devices.

3.1.2

RDS product category 2

RDS receiver product with 50 Ω input impedance

EXAMPLE Car radio optimized for active antenna.

3.1.3

RDS product category 3

RDS receiver product with 75 Ω input impedance

EXAMPLE Car radio optimized for rod antenna or home receiver.

3.1.4

RDS reception

the signal at which the RDS signal is received with 50 % non-corrected error-free blocks

Note 1 to entry: In practice, the level at which the TP bit is immediately detected.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-