SVENSK STANDARD SS-EN 55016-2-3

| Fastställd | Utgåva | Sida | Ansvarig kommitté |
|---|---|---|---|
| 2017-06-14 | 4 | 1 (1+105) | SEK TK EMC |




# EMC –
# Utrustning och metoder för mätning av radiostörningar och immunitet –
# Del 2-3: Mätning av utstrålade störningar

*Specification for radio disturbance and immunity measuring apparatus and methods –*
*Part 2-3: Methods of measurement of disturbances and immunity –*
*Radiated disturbance measurements*

Som svensk standard gäller europastandarden EN 55016-2-3:2017. Den svenska standarden innehåller den officiella engelska språkversionen av EN 55016-2-3:2017.

**Nationellt förord**

Europastandarden EN 55016-2-3:2017

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **CISPR 16-2-3, Fourth edition, 2016 - Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 55016-2-3, utgåva 3, 2010, SS-EN 55016-2-3/A1, utgåva 1, 2010, SS-EN 55016-2-3/A2, utgåva 1, 2014 och SS-EN 55016-2-3 AC1, utgåva 1, 2013, gäller ej fr o m 2020-04-28.

ICS 33.100.10; 33.100.20

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
Postadress: Box 1284, 164 29 KISTA
Telefon: 08 - 444 14 00.
E-post: sek@elstandard.se. Internet: www.elstandard.se

## *Standarder underlättar utvecklingen och höjer elsäkerheten*

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

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SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

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Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

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Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

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Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

# EN 55016-2-3

April 2017

ICS 33.100.10; 33.100.20

Supersedes EN 55016-2-3:2010

English Version

# Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements (CISPR 16-2-3:2016)

Spécifications des méthodes et des appareils de mesure des perturbations radioélectriques et de l'immunité aux perturbations radioélectriques - Partie 2-3: Méthodes de mesure des perturbations et de l'immunité - Mesures des perturbations rayonnées (CISPR 16-2-3:2016)

Anforderungen an Geräte und Einrichtungen sowie Festlegung der Verfahren zur Messung der hochfrequenten Störaussendung (Funkstörungen) und Störfestigkeit - Teil 2-3: Verfahren zur Messung der hochfrequenten Störaussendung (Funkstörungen) und Störfestigkeit - Messung der gestrahlten Störaussendung (CISPR 16-2-3:2016)

This European Standard was approved by CENELEC on 2016-10-20. 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, Serbia, 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**



Ref. No. EN 55016-2-3:2017 E

SEK Svensk Elstandard

## European foreword

The text of document CISPR/A/1176A/FDIS, future edition 4 of CISPR 16-2-3, prepared by CISPR SC A "Radio-Interference measurements and statistical methods" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 55016-2-3:2017.

The following dates are fixed:

| | | |
|---|---|---|
| • latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2017-10-28 |
| • latest date by which the national standards conflicting with the document have to be withdrawn | (dow) | 2020-04-28 |

This document supersedes EN 55016-2-3:2010.

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 CISPR 16-2-3:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

| | | |
|---|---|---|
| CISPR 11:2015 | NOTE | Harmonized as EN 55011:2016. |
| CISPR 16-1-6:2014 | NOTE | Harmonized as EN 55016-1-6:2015. |
| CISPR 22:2008 | NOTE | Harmonized as EN 55022:2010. |
| IEC 61140:2016 | NOTE | Harmonized as EN 61140:2016. |
| ISO/IEC Guide 2:2004 | NOTE | Harmonized as EN 45020:2006. |
| ISO/IEC 17000:2004 | NOTE | Harmonized as EN ISO/IEC 17000:2004. |
| IEC 61000-4-21 | NOTE | Harmonized as EN 61000-4-21. |

# 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.

| Publication | Year | Title | EN/HD | Year |
|---|---|---|---|---|
| IEC 60050-161 | - | International Electrotechnical Vocabulary (IEV) -- Chapter 161: Electromagnetic compatibility | - | - |
| IEC 61000-4-3 | 2006 | Electromagnetic compatibility (EMC) -- Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test | EN 61000-4-3 | 2006 |
| + A1 | 2007 | | + A1 | 2008 |
| + A2 | 2010 | | + A2 | 2010 |
| IEC 61000-4-20 | - | Electromagnetic compatibility (EMC) -- Part 4-20: Testing and measurement techniques - Emission and immunity testing in transverse electromagnetic (TEM) waveguides | EN 61000-4-20 | |
| CISPR 14-1 | 2016 | Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission | FprEN 55014-1 | 2016 |
| CISPR 16-1-1 | - | Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring appartus | - | - |
| CISPR 16-1-2 | 2014 | Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-2: Radio disturbance and immunity measuring apparatus - Coupling devices for conducted disturbance measurements | EN 55016-1-2 | 2014 |
| CISPR 16-1-4 | 2010 | Specification for radio disturbance and immunity measuring apparatus and methods -- Part 1-4: Radio disturbance and immunity measuring apparatus - Antennas and test sites for radiated disturbance measurements | EN 55016-1-4 | 2010 |
| + A1 | 2012 | | + A1 | 2012 |
| CISPR 16-2-1 | 2014 | Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements | EN 55016-2-1 | 2014 |
| CISPR 16-4-2 | - | Specification for radio disturbance and immunity measuring apparatus and methods -- Part 4-2: Uncertainties, statistics and limit modelling - Measurement instrumentation uncertainty | EN 55016-4-2 | |

| | | | | |
|---|---|---|---|---|
| CISPR TR 16-4-1 | - | Specification for radio disturbance and immunity measuring apparatus and methods - Part 4-1: Uncertainties, statistics and limit modelling - Uncertainties in standardized EMC tests | - | - |
| CISPR TR 16-4-5 | - | Specification for radio disturbance and immunity measuring apparatus and methods - Part 4-5: Uncertainties, statistics and limit modelling - Conditions for the use of alternative test methods | - | - |

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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# SPECIFICATION FOR RADIO DISTURBANCE AND IMMUNITY MEASURING APPARATUS AND METHODS –

## Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements

## 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.
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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 CISPR 16-2-3 has been prepared by CISPR subcommittee A: Radio-interference measurements and statistical methods.

This fourth edition edition cancels and replaces the third edition published in 2010, its Amendment 1:2010 and its Amendment 2:2014. This edition constitutes a technical revision.

This edition includes the following significant technical change with respect to the previous edition: addition of content on correction of the electric field strength to account for phase centre of log-periodic dipole array antennas.

It has the status of a basic EMC publication in accordance with IEC Guide 107, *Electromagnetic compatibility – Guide to the drafting of electromagnetic compatibility publications.*

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

| FDIS | Report on voting |
|---|---|
| CISPR/A/1176A/FDIS | CISPR/A/1182/RVD |

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.

A list of all parts of the CISPR 16 series, published under the general title *Specification for radio disturbance and immunity measuring apparatus and methods,* can be found on the IEC website.

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.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

# SPECIFICATION FOR RADIO DISTURBANCE AND IMMUNITY MEASURING APPARATUS AND METHODS –

## Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements

## 1 Scope

This part of CISPR 16 specifies the methods of measurement of radiated disturbance phenomena in the frequency range of 9 kHz to 18 GHz. The aspects of measurement uncertainty are specified in CISPR 16-4-1 and CISPR 16-4-2.

NOTE In accordance with IEC Guide 107 [13][1], CISPR 16-2-3 is a basic EMC publication for use by product committees of the IEC. As stated in Guide 107, product committees are responsible for determining the applicability of the EMC standard. CISPR and its subcommittees are prepared to co-operate with product committees in the evaluation of the value of particular EMC tests for specific products.

## 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.

CISPR 14-1:2016, *Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission*

CISPR 16-1-1, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus*

CISPR 16-1-2:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Coupling devices for conducted disturbance measurements*

CISPR 16-1-4:2010, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Antennas and test sites for radiated disturbance measurements*
CISPR 16-1-4:2010/AMD1:2012

CISPR 16-2-1:2014, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements*

CISPR TR 16-4-1, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-1: Uncertainties, statistics and limit modelling – Uncertainties in standardized EMC tests*

CISPR 16-4-2, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Measurement instrumentation uncertainty*

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1 Numbers in square brackets refer to the Bibliography.

CISPR TR 16-4-5, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-5: Uncertainties, statistics and limit modelling – Conditions for the use of alternative test methods*

IEC 60050-161, *International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility*

IEC 61000-4-3:2006, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*
IEC 61000-4-3:2006/AMD1:2007
IEC 61000-4-3:2006/AMD2:2010

IEC 61000-4-20, *Electromagnetic compatibility (EMC) – Part 4-20: Testing and measurement techniques – Emission and immunity testing in transverse electromagnetic (TEM) waveguides*