SVENSK STANDARD SS-EN IEC 55014-1

Fastställd	Utgåva	Sida	Ansvarig kommitté
2021-04-21	5	1 (1+115)	SEK TK EMC

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Elektriska hushållsapparater, elverktyg och liknande bruksföremål – Elektromagnetisk kompatibilitet (EMC) – Del 1: Emission

Electromagnetic compatibility –
Requirements for household appliances, electric tools and similar apparatus –
Part 1: Emission

Som svensk standard gäller europastandarden EN IEC 55014-1:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 55014-1:2021.

Nationellt förord

Europastandarden EN IEC 55014-1:2021

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **CISPR 14-1, Seventh edition, 2020 - Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 55014-1, utgåva 4, 2017 och SS-EN 55014-1/A11, utgåva 1, 2020, gäller ej fr o m 2023-10-12.

ICS 33.100.10

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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.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

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Stora delar av arbetet sker internationellt

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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.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 55014-1

March 2021

ICS 33.100.10

Supersedes EN 55014-1:2017 and all of its amendments and corrigenda (if any)

English Version

Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission (CISPR 14-1:2020)

Compatibilité électromagnétique - Exigences pour les appareils électrodomestiques, outillages électriques et appareils analogues - Partie 1: Emission (CISPR 14-1:2020)

Elektromagnetische Verträglichkeit - Anforderungen an Haushaltgeräte, Elektrowerkzeuge und ähnliche Elektrogeräte - Teil 1: Störaussendung (CISPR 14-1:2020)

This European Standard was approved by CENELEC on 2020-10-12. 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.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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Ref. No. EN IEC 55014-1:2021 E

European foreword

The text of document CIS/F/796/FDIS, future edition 7 of CISPR 14-1, prepared by CISPR SC F "Interference relating to household appliances tools, lighting equipment and similar apparatus" of CISPR "International special committee on radio interference" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 55014-1:2021.

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) 2021-09-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-10-12

This document supersedes EN 55014-1:2017 and all of its amendments and corrigenda (if any).

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

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

Endorsement notice

The text of the International Standard CISPR 14-1:2020 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	NOTE	Harmonized as EN 55011
CISPR 12	NOTE	Harmonized as EN 55012
CISPR 15:2018	NOTE	Harmonized as EN IEC 55015:2019 (not modified)
IEC 60335-2-3:2012	NOTE	Harmonized as EN 60335-2-3:2016 (modified)
IEC 60335-2-3:2012/A1:2015	NOTE	Harmonized as EN 60335-2-3:2016/A1:2020 (not modified)
IEC 61140	NOTE	Harmonized as EN 61140
IEC 61558-2-7	NOTE	Harmonized as EN 61558-2-7

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 Where 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
CISPR 16-1-1	2015[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	EN 55016-1-2	2014
+ A1	2017		+ A1	2018
CISPR 16-1-3	2004	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-3: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Disturbance power	EN 55016-1-3	2006
+ A1	2016		+ A1	2016
+ A2	2020		+ A2	2020
CISPR 16-1-4	2019	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 IEC 55016-1-4	2019

[1] 4th edition (2015). This 4th edition has been replaced in 2019 by a 5th Edition CISPR 16-1-1:2019, Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus.

Publication	Year	Title	EN/HD	Year
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
+ A1	2017		+ A1	2017
CISPR 16-2-2	2010	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-2: Methods of measurement of disturbances and immunity - Measurement of disturbance power	EN 55016-2-2	2011
CISPR 16-2-3	2016	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements	EN 55016-2-3	2017
+ A1	2019		+ A1	2019
CISPR 16-4-2	2011	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	2011
+ A1	2014		+ A1	2014
+ A2	2018		+ A2	2018
CISPR 32	2015	Electromagnetic compatibility of multimedia equipment - Emission requirements	EN 55032	2015
IEC 60050-161	1990	International Electrotechnical Vocabulary. Chapter 161: Electromagnetic compatibility	-	-
+ A1	1997		-	-
+ A2	1998		-	-
+ A3	2014		-	-
+ A4	2014		-	-
+ A5	2015		-	-
+ A6	1990		-	-
+ A7	2017		-	-
+ A8	2018		-	-
+ A9	2019		-	-
IEC 61000-4-20	2010	Electromagnetic compatibility (EMC) - Part 4-20: Testing and measurement techniques - Emission and immunity testing in transverse electromagnetic (TEM) waveguides	EN 61000-4-20	2010
IEC 61000-4-22	2010	Electromagnetic compatibility (EMC) - Part 4-22: Testing and measurement techniques - Radiated emissions and immunity measurements in fully anechoic rooms (FARs)	EN 61000-4-22	2011

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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ELECTROMAGNETIC COMPATIBILITY – REQUIREMENTS FOR HOUSEHOLD APPLIANCES, ELECTRIC TOOLS AND SIMILAR APPARATUS –

Part 1: Emission

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.
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The International Standard CISPR 14-1 has been prepared by subcommittee CISPR/F: Interference related to household appliances tools, lighting equipment and similar apparatus, of IEC technical committee CISPR.

This seventh edition cancels and replaces the sixth edition published in 2016. This edition constitutes a technical revision.

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

– extension of the frequency range for radiated measurements above 1 GHz;
– revision of general test conditions and addition of new specific test conditions (e.g. for robotic equipment);
– introduction of additional requirements for equipment making use of inductive power transfer technology;

– remove from the normative text any compliance requirement based on statistical evaluation;
– revision of clicks analysis, with particular relevance to the determination of the observation time and the application of the upper quartile method for different types of click analysers.

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

FDIS	Report on voting
CIS/F/796/FDIS	CIS/F/799/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 in the CISPR 14 series can be found on the IEC website under the general title *Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus*.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site 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.

ELECTROMAGNETIC COMPATIBILITY – REQUIREMENTS FOR HOUSEHOLD APPLIANCES, ELECTRIC TOOLS AND SIMILAR APPARATUS –

Part 1: Emission

1 Scope

This part of CISPR 14 specifies the requirements that apply to the emission of radio-frequency disturbances in the frequency range 9 kHz to 400 GHz from appliances, electric tools and similar apparatus as defined below, whether powered by AC or DC (including a battery).

This document is applicable to the following equipment:

- household appliances or similar equipment;

NOTE 1 Examples are equipment used:

- for typical housekeeping functions in the household environment, which includes the dwelling and its associated buildings, the garden, etc.;
- for typical housekeeping functions in shops, offices, commercial and other similar working environments;
- on farms;
- by clients in hotels and other residential type environments;
- for induction cooking or air-conditioning, either in residential or commercial environments.

- electric tools;

NOTE 2 Examples of electric tools include electric motor-operated or electromagnetically driven hand-held tools, transportable tools, lawn and garden machinery.

- similar apparatus.

NOTE 3 Examples are:

- external power controllers using semiconductor devices;
- motor-driven electro-medical equipment;
- electric/electronic toys;
- personal care and beauty care appliances;
- automatic goods-dispensing machines;
- entertainment machines;
- cine or slide projectors;
- battery chargers and external power supplies for use with products under the scope of this document;
- electric fence energisers.

Also included in the scope of this document are separate parts of the above mentioned equipment such as motors and switching devices (e.g. power or protective relays). However, no emission requirements apply to such separate parts, unless otherwise stated in this document.

Products which incorporate radio transmit/receive functions are included in the scope of this document.

Equipment under the scope of this document making use of IPT is also in the scope.

Excluded from the scope of this document are:

– equipment for which all emission requirements in the radio-frequency range are explicitly formulated in other CISPR standards;

NOTE 4 Examples are:

- luminaires, including portable luminaires for children, discharge lamps and other lighting devices under the scope of CISPR 15;
- information technology equipment, e.g. home computers, personal computers, electronic copying machines under the scope of CISPR 32;
- audio/video equipment and electronic music instruments other than toys under the scope of CISPR 32;
- mains communication devices, as well as baby surveillance systems;
- equipment which is under the scope of CISPR 11 (e.g. microwave ovens) but be aware of 6.5 on multifunction equipment (e.g. for another function requiring click measurements)
- radio controls, walkie-talkies and other types of radio-transmitters;
- arc welding equipment.

– equipment intended to be used only on a vehicle, ship or aircraft;

– equipment used only in industrial environment

– the effects of electromagnetic phenomena relating to the safety of the equipment.

Multifunction equipment may be required to comply with clauses in this and other standards. The details are given in 6.5.

The emission requirements in this document are not intended to be applicable to the intentional transmissions from a radio transmitter as defined by the ITU including their spurious emissions.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CISPR 16-1-1:2015[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 16-1-2:2014/AMD1:2017

CISPR 16-1-3:2004, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-3: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Disturbance power*
CISPR 16-1-3:2004/AMD1:2016
CISPR 16-1-3:2004/AMD2:2020

CISPR 16-1-4:2019, *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*

[1] 4th edition (2015). This 4th edition has been replaced in 2019 by a 5th Edition CISPR 16-1-1:2019, Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus.

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 16-2-1:2014/AMD1:2017

CISPR 16-2-2:2010, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-2: Methods of measurement of disturbances and immunity – Measurement of disturbance power*

CISPR 16-2-3:2016, *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/AMD1:2019

CISPR 16-4-2:2011, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 4-2: Uncertainties, statistics and limit modelling – Measurement instrumentation uncertainty*
CISPR 16-4-2:2011/AMD1:2014
CISPR 16-4-2:2011/AMD2:2018

CISPR 32:2015, *Electromagnetic compatibility of multimedia equipment – Emission requirements*

IEC 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Part 161: Electromagnetic compatibility*
IEC 60050-161:1990/AMD1:1997
IEC 60050-161:1990/AMD2:1998
IEC 60050-161:1990/AMD3:2014
IEC 60050-161:1990/AMD4:2014
IEC 60050-161:1990/AMD5:2015
IEC 60050-161:1990/AMD6:2016
IEC 60050-161:1990/AMD7:2017
IEC 60050-161:1990/AMD8:2018
IEC 60050-161:1990/AMD9:2019

IEC 61000-4-20:2010, *Electromagnetic compatibility (EMC) – Part 4-20: Testing and measurement techniques – Emission and immunity testing in transverse electromagnetic (TEM) waveguides*

IEC 61000-4-22:2010, *Electromagnetic compatibility (EMC) – Part 4-22: Testing and measurement techniques – Radiated emission and immunity measurements in fully anechoic rooms (FARs)*