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Elektriska hushållsapparater, elverktyg och liknande bruksföremål – Elektromagnetisk kompatibilitet (EMC) – Del 2: Immunitet

*Electromagnetic compatibility –
Requirements for household appliances, electric tools and similar apparatus –
Part 2: Immunity –
Product family standard*

Som svensk standard gäller europastandarden EN IEC 55014-2:2021. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 55014-2:2021.

Nationellt förord

Europastandarden EN IEC 55014-2:2021

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- **CISPR 14-2, Third edition, 2020 - Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 55014-2, utgåva 2, 2015, gäller ej fr o m 2023-10-05.

ICS 33.100.20

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EUROPEAN STANDARD

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NORME EUROPÉENNE

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March 2021

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Supersedes EN 55014-2:2015 and all of its amendments
and corrigenda (if any)

English Version

**Electromagnetic compatibility - Requirements for household
appliances, electric tools and similar apparatus - Part 2:
Immunity - Product family standard
(CISPR 14-2:2020)**

Compatibilité électromagnétique - Exigences relatives aux
appareils électrodomestiques, outillages électriques et
appareils analogues - Partie 2: Immunité - Norme de famille
de produits
(CISPR 14-2:2020)

Elektromagnetische Verträglichkeit - Anforderungen an
Haushaltgeräte, Elektrowerkzeuge und ähnliche
Elektrogeräte - Teil 2: Störfestigkeit - Produktfamilienorm
(CISPR 14-2:2020)

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SEK Svensk Elstandard

SS-EN IEC 55014-2, utg 3:2021

European foreword

The text of document CIS/F/795/FDIS, future edition 3 of CISPR 14-2, 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 55014-2:2021.

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) 2023-10-05

This document supersedes EN 55014-2:2015 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 14-2:2020 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:

IEC 60335-1:2010	NOTE	Harmonized as EN 60335-1:2012 (modified)
IEC 60335-1:2010/A1:2013	NOTE	Harmonized as EN 60335-1:2012/A1:2019 (modified)
IEC 60335-1:2010/A2:2016	NOTE	Harmonized as EN 60335-1:2012/A2:2019 (modified)
IEC 61000-6-1:2016	NOTE	Harmonized as EN IEC 61000-6-1:2019 (not modified)
IEC 61547	NOTE	Harmonized as EN 61547
CISPR 16-2-3:2016	NOTE	Harmonized as EN 55016-2-3:2017 (not modified)
CISPR 32:2015	NOTE	Harmonized as EN 55032:2015 (not modified)
CISPR 35	NOTE	Harmonized as EN 55035

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-161	-	International Electrotechnical Vocabulary. Chapter 161: Electromagnetic compatibility	-	-
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009
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 61000-4-4	2012	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2012
IEC 61000-4-5	2014	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2014
+ A1	2017		+ A1	2017
IEC 61000-4-6	2013	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2014

EN IEC 55014-2:2021 (E)

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-4-11	2020	Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase	EN IEC 61000-4-11	2020
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
CISPR 14-1	2020	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission	EN IEC 55014-1	2021

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INTERNATIONAL ELECTROTECHNICAL COMMISSION
INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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

Part 2: Immunity – Product family standard

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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International Standard CISPR 14-2 has been prepared by CISPR subcommittee F: Interference relating to household appliances tools, lighting equipment and similar apparatus.

This third edition cancels and replaces the second edition published in 2015. This edition constitutes a technical revision.

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

- a) extension of the frequency range for radiated immunity above 1 GHz;
- b) an advanced categorisation of equipment;
- c) revision of general test conditions and addition of new specific test conditions (e.g. for robotic equipment);
- d) clarification of requirements applicable to equipment incorporating radio functions;

- e) addition of requirements for wired network ports;
- f) revision of definitions and addition of new ones;
- g) delete requirements referring to statistical evaluation;
- h) alignment with CISPR 14-1, where applicable.

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

FDIS	Report on voting
CIS/F/795/FDIS	CIS/F/797/RVD

Full information on the voting for the approval of this document 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, published under the general title *Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus*, can be found on the IEC website.

This document has the status of a product family standard.

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.

INTRODUCTION

The intention of this document is to establish uniform requirements for the electromagnetic immunity of the equipment mentioned in the scope, to fix test specifications of immunity, to refer to basic standards for methods of testing, and to standardize operating conditions, performance criteria and interpretation of results.

Keywords: Immunity, household appliances, electric apparatus, electromagnetic compatibility.

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

Part 2: Immunity – Product family standard

1 Scope

This part of CISPR 14 specifies the electromagnetic immunity requirements in the frequency range 0 Hz to 400 GHz that apply to appliances, electric tools and similar apparatus as specified below, whether powered by AC or DC (including a battery).

This document specifies immunity requirements for continuous and transient electromagnetic disturbances, both conducted and radiated.

Unless otherwise specified, this document is applicable to all equipment in the scope of CISPR 14-1, namely:

- household appliances or similar apparatus;

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.

Included in the scope of this document are also microwave ovens for domestic use or catering.

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

NOTE 4 For handling cases where equipment under the scope of this document is combined with transmit and/or receive radio functions, see Clause 8.

Excluded from the scope of this document are:

- equipment for which all electromagnetic immunity requirements are explicitly formulated in other CISPR or IEC standards;

NOTE 5 Examples are:

- luminaires, including portable luminaires for children, discharge lamps, LED lamps and other lighting devices under the scope of IEC 61547 (but see 8.7);
 - multimedia equipment under the scope of CISPR 35;
 - mains communication devices, as well as baby surveillance systems;
 - arc welding equipment.
- equipment intended to be part of the fixed electrical installation of buildings (e.g. fuses, circuit breakers, cables and switches);
 - medical electrical equipment, including those in the scope of CISPR 14-1;
 - equipment used only in industrial environment;
 - equipment intended to be used exclusively in locations where special electromagnetic conditions exist (e.g. high electromagnetic fields nearby broadcast transmitting stations or high energy pulses nearby power generation stations);
 - equipment intended to be used exclusively on a vehicle, ship, boat or aircraft;
 - the effects of electromagnetic phenomena relating to the safety of apparatus (see IEC 60335 series);

Also excluded from the scope of this document is AC single-phase equipment with a rated voltage higher than 250 V between phase and neutral and AC multi-phase equipment with rated voltage higher than 480 V.

Abnormal operation of the equipment, such as simulated faults in the electric circuitry for testing purposes, is not taken into consideration.

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.

IEC 60050-161, *International Electrotechnical Vocabulary (IEV) – Part 161: Electromagnetic compatibility*

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

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 61000-4-4:2012, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2014, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 61000-4-5:2014/AMD1:2017

IEC 61000-4-6:2013, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-4-11:2020, *Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase*

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 emissions and immunity measurements in fully anechoic rooms (FARs)*

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