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INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

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

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 1: Emission

FOREWORD

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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- withdrawn,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*

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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)*