

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES

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

**Compatibilité électromagnétique – Exigences pour les appareils électrodomestiques, outillages électriques et appareils analogues –  
Partie 1: Emission**



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## CONTENTS

FOREWORD.....	7
1 Scope.....	9
2 Normative references.....	10
3 Terms, definitions and abbreviated terms .....	11
3.1 General.....	11
3.2 General terms and definitions .....	11
3.3 Terms and definitions related to click analysis .....	12
3.4 Terms and definitions related to types of ports .....	13
3.5 Terms and definitions related to parts and devices connected to the EUT .....	14
3.6 Terms and definitions related to operating conditions .....	15
3.7 Terms and definitions related to toys .....	16
3.8 Other terms and definitions .....	17
3.9 Abbreviations .....	17
4 Limits of disturbances .....	18
4.1 General.....	18
4.2 Application of limits .....	18
4.3 Continuous disturbances .....	19
4.3.1 General .....	19
4.3.2 Frequency range 9 kHz to 30 MHz.....	19
4.3.3 Frequency range 150 kHz to 30 MHz .....	21
4.3.4 Frequency range 30 MHz to 1 000 MHz .....	23
4.4 Discontinuous disturbances .....	26
4.4.1 General .....	26
4.4.2 Limits.....	26
5 Test equipment and methods of measurement.....	26
5.1 Test equipment .....	26
5.1.1 General .....	26
5.1.2 Measuring receivers.....	26
5.1.3 Artificial Mains Network (AMN) .....	27
5.1.4 Voltage probe .....	27
5.1.5 Current probe .....	27
5.1.6 Artificial hand.....	27
5.1.7 Disturbance analyser for discontinuous disturbance .....	27
5.1.8 Absorbing clamp .....	27
5.1.9 Radiated emission test sites .....	28
5.2 Conducted disturbances set-up and measurements.....	28
5.2.1 Arrangement of the EUT.....	28
5.2.2 Arrangement of the leads at the ports of the EUT.....	29
5.2.3 Arrangement of EUT having associated devices.....	30
5.3 Radiated disturbances set-up and measurements .....	31
5.3.1 General .....	31
5.3.2 Magnetic field strength – 9 kHz to 30 MHz .....	31
5.3.3 Disturbance power – 30 MHz to 300 MHz .....	31
5.3.4 Radiated emission – 30 MHz to 1 000 MHz .....	33
5.4 Measurement procedures and interpretation of results .....	35
5.4.1 Continuous disturbance.....	35

5.4.2	Discontinuous disturbance .....	36
5.4.3	Exceptions from the click definition .....	37
6	Operating conditions .....	39
6.1	General .....	39
6.2	Mains operation .....	39
6.2.1	Voltage at the mains port .....	39
6.2.2	Frequency at the mains port .....	40
6.3	Battery operation .....	40
6.4	Speed controls .....	40
6.5	Multifunction equipment .....	40
6.6	Equipment with built-in luminaires .....	40
7	Interpretation of CISPR radio disturbance limits .....	41
7.1	Significance of a CISPR limit .....	41
7.2	Type tests .....	41
7.2.1	Equipment producing continuous disturbance .....	41
7.2.2	Equipment producing discontinuous disturbance .....	41
7.3	Compliance with limits for equipment in large-scale production .....	42
7.3.1	General .....	42
7.3.2	Method based on a general margin to the limit .....	42
7.3.3	Test based on the non-central <i>t</i> -distribution .....	43
7.3.4	Test based on the binomial distribution .....	44
7.3.5	Larger sample size .....	44
7.3.6	Non-compliance .....	45
8	Measurement uncertainty .....	45
Annex A (normative)	Standard operating conditions and normal loads for specific equipment .....	60
A.1	Motor operated equipment for household and similar purposes .....	60
A.1.1	Vacuum cleaners .....	60
A.1.2	Floor polishers .....	61
A.1.3	Coffee grinders and coffee makers .....	61
A.1.4	Kitchen machines .....	61
A.1.5	Massage apparatus .....	61
A.1.6	Fans .....	62
A.1.7	Extractors and range hoods .....	62
A.1.8	Hair-dryers, fan heaters .....	62
A.1.9	Refrigerators and freezers .....	62
A.1.10	Washing machines .....	62
A.1.11	Dish-washers .....	63
A.1.12	Tumble dryers .....	63
A.1.13	Centrifugal dryers .....	63
A.1.14	Razors and clippers .....	63
A.1.15	Sewing machines .....	63
A.1.16	Electro-mechanical office machines .....	63
A.1.17	Projectors .....	64
A.1.18	Milking machines .....	64
A.1.19	Lawn mowers .....	64
A.1.20	Air conditioning equipment .....	64
A.2	Electric tools .....	65
A.2.1	General .....	65

A.2.2	Handheld (portable) motor-operated tools .....	66
A.2.3	Transportable (semi-stationary) motor-operated tools .....	66
A.2.4	Soldering equipment, soldering guns, soldering irons and similar .....	66
A.2.5	Glue guns .....	66
A.2.6	Heat guns .....	67
A.2.7	Power staplers .....	67
A.2.8	Spray guns .....	67
A.2.9	Internal vibrators .....	67
A.3	Motor-operated electro-medical apparatus .....	67
A.3.1	Dental drills .....	67
A.3.2	Saws and knives .....	67
A.3.3	Electrocardiograms and similar recorders .....	67
A.3.4	Pumps .....	67
A.4	Electrical heating equipment.....	67
A.4.1	General .....	67
A.4.2	Hobs and hotplates .....	68
A.4.3	Cooking pans, table-type roasters, deep-fat fryers .....	68
A.4.4	Feed boilers, water boilers, kettles and similar boilers.....	68
A.4.5	Instantaneous water heaters .....	68
A.4.6	Storage heaters .....	68
A.4.7	Warming plates, boiling tables, heating drawers, heating cabinets.....	68
A.4.8	Cooking ovens, grills, waffle irons, waffle grills .....	68
A.4.9	Toasters .....	69
A.4.10	Ironing machines.....	69
A.4.11	Irons .....	70
A.4.12	Vacuum packagers.....	70
A.4.13	Flexible electrical heating equipment.....	70
A.4.14	Air convection room heaters .....	70
A.4.15	Rice cookers.....	70
A.5	Thermostats.....	71
A.5.1	General .....	71
A.5.2	Thermostatically controlled three-phase switches .....	71
A.5.3	Thermostats – Alternative procedure to that specified in A.5.1 .....	71
A.6	Automatic goods-dispensing machines, entertainment machines and similar equipment.....	72
A.6.1	General .....	72
A.6.2	Automatic dispensing machines.....	72
A.6.3	Juke boxes .....	73
A.6.4	Automatic entertainment machines incorporating a winnings-payout mechanism .....	73
A.6.5	Automatic entertainment machines with no winnings-payout mechanism .....	73
A.7	Electric and electronic toys.....	74
A.7.1	Classification .....	74
A.7.2	Application of tests.....	74
A.7.3	Operating conditions .....	75
A.8	Miscellaneous equipment .....	76
A.8.1	Time switches not incorporated in equipment.....	76
A.8.2	Electric fence energizers .....	76
A.8.3	Electronic gas igniters.....	76

A.8.4	Insect killers .....	77
A.8.5	Radiating equipment for personal care.....	77
A.8.6	Air cleaners .....	78
A.8.7	Steam generators and humidifiers .....	78
A.8.8	Battery chargers .....	78
A.8.9	External Power Supplies (EPS) and converters.....	78
A.8.10	Lifting devices (electric hoists) .....	78
A.8.11	Robotic cleaners .....	79
A.8.12	Other robotic equipment.....	80
A.8.13	Clocks .....	80
A.9	Induction cooking appliances.....	80
A.9.1	General .....	80
A.9.2	Operating conditions for EUT with fixed cooking zone(s).....	80
A.9.3	Operating conditions for EUT with many small coils .....	81
A.10	Operating conditions for particular equipment and integrated parts.....	81
A.10.1	Integrated starting switches, speed controls, etc. ....	81
A.10.2	Regulating controls and external power controller .....	81
A.10.3	Equipment operated from External Power Supplies (EPS).....	82
Annex B (normative)	Click rate of special equipment .....	87
Annex C (informative)	Guidance for the measurement of discontinuous disturbances/clicks .....	88
C.1	General.....	88
C.2	Measuring apparatus.....	88
C.2.1	Artificial mains network .....	88
C.2.2	Measuring receiver .....	88
C.2.3	Disturbance analyser .....	88
C.2.4	Oscilloscope .....	88
C.3	Measurement of the basic parameters of a discontinuous disturbance .....	89
C.3.1	Amplitude .....	89
C.3.2	Duration and spacing .....	89
C.4	Measuring procedure of discontinuous disturbances .....	90
C.4.1	Determination of the click rate .....	90
C.4.2	Application of the exceptions.....	91
C.4.3	Upper quartile method.....	91
Annex D (informative)	Example of the use of the upper quartile method .....	93
Bibliography	.....	95
Figure 1	– Possible issue due to a high standard deviation when using method 7.3.3 .....	44
Figure 2	– Examples of discontinuous disturbances whose duration and separation meet the definition of clicks (see 3.3.3) .....	46
Figure 3	– Examples of discontinuous disturbance whose duration or separation do not meet the definition of click.....	47
Figure 4	– Flow chart for emission measurements of mains operated equipment in the frequency range from 30 MHz to 1 000 MHz .....	48
Figure 5	– Flow chart for emission testing of battery operated equipment in the frequency range from 30 MHz to 1 000 MHz .....	49
Figure 6	– Flow diagram for measurements of discontinuous disturbance.....	50
Figure 7	– Artificial hand – RC element .....	51

Figure 8 – Application of the artificial hand – Portable electric drill .....	51
Figure 9 – Application of the artificial hand – Portable electric saw .....	52
Figure 10 – Cable bundling .....	52
Figure 11 – Voltage probe measurement for mains powered EUT .....	53
Figure 12 – Radiated emission – Location of the EUT on the turntable and measuring distance .....	54
Figure 13 – Radiated emission – Example of test set-up for table-top EUT .....	54
Figure 14 – Radiated emission – Example of test set-up for table-top EUT .....	55
Figure 15 – Radiated emission – Example of test set-up for table-top EUT (top view) .....	55
Figure 16 – Radiated emission – Example of test set-up for floor standing EUT .....	56
Figure 17 – Radiated emission – Example of the test set-up for an EUT made of multiple table-top parts .....	57
Figure 18 – Radiated emission – Example of the test set-up for an EUT in SAC or OATS, made of a combination of table-top and floor standing parts .....	58
Figure 19 – Radiated emission – Height of the EUT in the FAR .....	59
Figure A.1 – Arrangement for measurement of the disturbance voltage produced at the fence port of electric fence energizers (see A.8.2) .....	83
Figure A.2 – Measuring arrangement for toys running on tracks .....	84
Figure A.3 – Radiated emission – Test set-up for floor operated vacuum cleaner .....	85
Figure A.4 – Example of an idle roller for the measurement of radiated emissions of robotic cleaners .....	85
Figure A.5 – Measurement arrangement for two-terminal external power controller .....	86
Table 1 – Application of limits .....	19
Table 2 – Disturbance voltage limits for induction cooking appliances .....	20
Table 3 – Magnetic field strength limits .....	20
Table 4 – Limits of the magnetic field induced current .....	21
Table 5 – General limits .....	23
Table 6 – Limits for mains port of tools .....	23
Table 7 – Disturbance power limits – 30 MHz to 300 MHz .....	24
Table 8 – Reduction applicable to Table 7 limits .....	25
Table 9 – Radiated disturbance limits and testing methods – 30 MHz to 1 000 MHz .....	25
Table 10 – General margin to the limit for statistical evaluation .....	42
Table 11 – Values of the coefficient as a function $k_E$ of the sample size .....	42
Table 12 – Factor $k$ for the application of the non-central $t$ -distribution .....	43
Table 13 – Application of the binomial distribution .....	44
Table B.1 – Application of factor $f$ for the determination of the click rate of special equipment .....	87



INTERNATIONAL ELECTROTECHNICAL COMMISSION  
INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE

**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 appliances, of IEC technical committee CISPR.

This sixth edition cancels and replaces the fifth edition published in 2005, Amendment 1:2008 and Amendment 2:2011. This edition constitutes a technical revision.

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

- full editorial review of the standard, rearranging the structure of several clauses;
- improvements to the operating conditions for testing induction cooking appliances and incorporation of the limits for these appliances in the body of the standard;

- moving all specific operating conditions to Annex A;
- improvement of definitions;
- addition of general and specific test setups (e.g. vacuum cleaners and robotic cleaners) for radiated emission;
- provision for the current probe test method for conducted disturbance measurements on ports other than the AC mains port in alternative to the voltage probe method;
- clarifications about click analysis (e.g. measurements under the presence of continuous disturbances). Further clarification is being developed for future inclusion;
- clarification about the use of the artificial hand;
- introduction of testing on wired network ports of household equipment (equivalent to CISPR 32 requirements);
- clarification in the scope regarding emissions from radio transmitters (copied verbatim from CISPR 32);
- clarification about the measurement of equipment with built-in luminaries.

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

FDIS	Report on voting
CISPR/F/681/FDIS	CISPR/F/684/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*.

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# **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).

Within this standard wherever the term “equipment” is used it includes the more specific terms “appliance”, “household or similar appliances”, “electric tool”, “toys” and “apparatus”.

This International Standard 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;
- in farms;
- by clients in hotels and other residential type environments;
- for induction cooking, 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 apparatus, electric/electronic toys, automatic goods-dispensing machines, entertainment machines, cine or slide projectors, as well as battery chargers and external power supplies for use with products under the scope of this standard.

Also included in the scope of this standard 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 standard.

Excluded from the scope of this standard 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 because of the use of radio frequency energy for heating (other than induction cooking) and therapeutic purposes, microwave ovens (but be aware of 6.5 on multifunction equipment e.g. for 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;
  - 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 radiated emission requirements in this standard are not intended to be applicable to the intentional transmissions from a radio transmitter as defined by the ITU, nor to any spurious emissions related to these intentional transmissions.

## 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, *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 16-1-3:2004, *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 16-1-4:2010, *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 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 16-2-3:2010, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements*  
CISPR 16-2-3:2010/AMD1:2010  
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CISPR 32:2015, *Electromagnetic compatibility of multimedia equipment – Emission requirements*

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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)*

### 3 Terms, definitions and abbreviated terms

#### 3.1 General

For the purposes of this document, the terms and definitions given in IEC 60050-161, as well as the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

#### 3.2 General terms and definitions

##### 3.2.1

##### **equipment under test**

##### **EUT**

equipment (devices, appliances and systems) subjected to EMC (emission) compliance tests

[SOURCE: CISPR 16-2-1:2014, 3.1.18]

##### 3.2.2

##### **reference ground**

reference potential connecting point

Note 1 to entry: There can only be one reference ground in a conducted disturbance measurement system.

[SOURCE: CISPR 16-2-1:2014, 3.1.24]