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Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus

Part 1: Emission

bsi.

National foreword

This British Standard is the UK implementation of EN 55014-1:2017+A11:2020. It is derived from CISPR 14-1:2016, incorporating corrigendum 1:2016, Intepretation Sheet 1 (May 2017) and Interpretation Sheet 2 (May 2017). It supersedes BS EN 55014-1:2017, which will be withdrawn on 27 November 2022.

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Compatibilité électromagnétique - Exigences pour les appareils électrodomestiques, outillages électriques et appareils analogues - Partie 1: Emission (CISPR 14-1:2016 + COR1:2016)

Elektromagnetische Verträglichkeit - Anforderungen an Haushaltgeräte, Elektrowerkzeuge und ähnliche Elektrogeräte - Teil 1: Störaussendung (CISPR 14-1:2016 + COR1:2016)

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European foreword

The text of document CISPR/F/681/FDIS, future edition 6 of CISPR 14-1, prepared by SC CISPR/F "Interference related to household appliances, tools, lighting equipment and similar appliances" of IEC/TC CISPR was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 55014-1:2017.

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
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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 15:2013	NOTE	Harmonized as EN 55015:2013 (not modified).
IEC 61140	NOTE	Harmonized as EN 61140.
IEC 61558-2-7	NOTE	Harmonized as EN 61558-2-7.

European foreword to amendment A11

This document (EN 55014-1:2017/A11:2020) has been prepared by CLC/TC 210 "Electromagnetic Compatibility (EMC)".

The following dates are fixed:

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• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2022-11-27

This document amends EN 55014-1:2017.

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For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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CISPR 14-1
Edition 6.0 2016-08

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

Part 1: Emission

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by subcommittee CISPR F: Interference relating to household appliances tools, lighting equipment and similar apparatus, of IEC technical committee CISPR: International special committee on radio interference.

The text of this interpretation sheet is based on the following documents:

FDIS	Report on voting
CIS/F/703/FDIS	CIS/F/707/RVD

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

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Interpretation Sheet 1 to CISPR 14-1: Interpretation of subclause 5.4.2.4 of CISPR 14-1:2016 on the upper quartile method for the evaluation of clicks

Introduction

The evaluation of clicks has to be performed at four frequencies while the determination of the click rate N is made only at two frequencies. The application of the upper quartile method at the frequencies 150 kHz and 500 kHz is clear, while the situation is unclear for the frequencies 1,4 MHz and 30 MHz. This interpretation sheet is intended to clarify this matter.

The click measurement procedure is under revision in CISPR/F WG1 and will be updated in the next amendment to CISPR 14-1:2016.

Question

How should the upper quartile method be applied at the frequencies 1,4 MHz and 30 MHz?

Interpretation

Each of the following two interpretations is valid.

ICS 33.100.10

CISPR 14-1:2016-08/ISH1:2017-05(en)

Interpretation 1:

The number of clicks at 1,4 MHz and the number of clicks at 30 MHz which exceed the limit, L, for continuous disturbances during the observation time, T, are measured. The number of clicks at 1,4 MHz and the number of clicks at 30 MHz exceeding L_q are allowed to be one quarter of the number of clicks counted at each respective frequency.

Interpretation 2:

The number of clicks at 1,4 MHz and the number of clicks at 30 MHz which exceed the limit, L, for continuous disturbances during the observation time, T, are not measured but are assumed to be equal to the number of clicks counted at 500 kHz during the observation time T. The number of clicks at 1,4 MHz and the number of clicks at 30 MHz exceeding L_q are allowed to be one quarter of the number of clicks counted at 500 kHz.

In any situation where it is necessary to verify the original measurement, the assessment method (interpretation 1 or 2) originally chosen shall be used in order to ensure consistency of the results.

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CISPR 14-1
Edition 6.0 2016-08

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

Part 1: Emission

INTERPRETATION SHEET 2

This interpretation sheet has been prepared by subcommittee CISPR F: Interference relating to household appliances tools, lighting equipment and similar apparatus, of IEC technical committee CISPR: International special committee on radio interference.

The text of this interpretation sheet is based on the following documents:

FDIS	Report on voting
CIS/F/702/FDIS	CIS/F/706/RVD

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

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Interpretation Sheet 2 to CISPR 14-1: Interpretation of subclause A.4.11 of CISPR 14-1:2016 on the assessment of irons with steam generator

Introduction

Subclause A.4.11 of CISPR 14-1:2016 defines the testing conditions for irons (dry or steam), but there are no instructions regarding the steam production.

Question

How to set the steam function of irons during CISPR 14-1 emission tests?

CISPR 14-1:2016-08/ISH2:2017-05(en)

ICS 33.100.10

Interpretation

When measuring disturbances from irons, if the iron has a continuous steam function, it shall be operated in this mode only and use a sufficient amount of water to facilitate continuous steaming for the duration of the test.

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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 *t*-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

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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 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*.

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

The contents of the corrigendum of October 2016 and the interpretation sheet 1 of May 2017 and 2 of May 2017 have been included in this copy.

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;