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Responsible committee: GEL/210 EMC Policy and Standards Committee

Interested committees:

Title: Draft PD CIS/PR TR 15 AMD1 Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

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Introduction

This draft standard is based on international discussions in which the UK has taken an active part. Your comments on this draft are welcome and will assist in the preparation of the consequent standard. There is a high probability that this text could be adopted by CENELEC as a reference document for harmonization or as a European Standard. Recipients of this draft are requested to comment on the text bearing in mind this possibility.

UK Vote

Please indicate whether you consider the UK should submit a negative (with reasons) or positive vote on this draft.

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Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	(7)
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/ Figure/ Table/Note	Type of comment	Comment (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	



CIS/F/821/CD

COMMITTEE DRAFT (CD)

PROJECT NUMBER:
CISPR 15/AMD1 ED9

DATE OF CIRCULATION:
2022-06-10

CLOSING DATE FOR COMMENTS:
2022-09-02

SUPERSEDES DOCUMENTS:
CIS/F/801/CD, CIS/F/803A/CC

IEC CIS/F : INTERFERENCE RELATING TO HOUSEHOLD APPLIANCES TOOLS, LIGHTING EQUIPMENT AND SIMILAR APPARATUS

SECRETARIAT:
Australia

SECRETARY:
Ms Suba Ananth

OF INTEREST TO THE FOLLOWING COMMITTEES:
TC 34

PROPOSED HORIZONTAL STANDARD:
☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☒ EMC

☐ ENVIRONMENT

☐ QUALITY ASSURANCE

☐ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Amendment 1 - Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

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Documents

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1 INTRODUCTION

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

- 3 a) The removal of the voltage probe method for the conducted disturbance measurement of local wired
4 port other than the electrical power supply interface of ELV lamps;
- 5 b) The introduction of limits and measurement methods for radiated disturbance of the enclosure port
6 in the frequency range 1 – 6 GHz;
- 7 c) The test set-up for the conical metal housing for single capped lamps has been rotated;
- 8 d) The arrangement of cables connected to interfaces of wired network ports has been modified. Cable
9 length has been extended to 1,0 m;
- 10 e) Measuring arrangements for conducted disturbances for very large EUTs has been clarified.
- 11 f) Removal of Annex E regarding statistical methods
- 12 g) Includes agreed comments to 1st CD CIS/F/801/CD given in CIS/F/803a/CC.

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1 Scope

Replace the first and second paragraph with the following text:

This document sets out requirements for controlling the emission (radiated and conducted) of radiofrequency disturbances from:

- lighting equipment (3.3.16), except for the types excluded in the second paragraph;
 - the lighting part of multi-function equipment where this lighting part is a primary function;
- NOTE 1 Examples are lighting equipment with visible-light communication.
- UV and IR radiation equipment for residential and non-industrial applications;
 - simple advertising signs (see 3.3.1);
 - decorative and entertainment lighting (see 3.3.6);
 - emergency signs.

Excluded from the scope of this document are:

- components or modules intended to be built into lighting equipment and which are not user-replaceable;
- lighting equipment for aircraft and airfield facilities (runways, service facilities, platforms);
- installations;
- equipment for which the electromagnetic compatibility requirements in the radio-frequency range are explicitly formulated in other IEC standards, even if they incorporate a built-in lighting function.

NOTE 2 Examples of exclusions are:

- equipment with built-in lighting devices for display back lighting, scale illumination and signaling;
- video signs and dynamic displays (in scope of CISPR 32);
- range hoods, refrigerators, freezers (in scope of CISPR 14);
- photocopiers, projectors (in scope of CISPR 32);
- lighting equipment for road vehicles (in scope of CISPR 12);
- maritime equipment (in scope of IEC TC 80);
- lighting equipment operating in the ISM frequency bands (in scope of CISPR 11).

Replace the sixth paragraph with the following text and additional note:

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.

NOTE: This exclusion is limited to those intended transmitter emissions, which leave the EUT as radiated emissions and are coupled onto the wire line in the measurement setup. For conducted transmissions on frequencies intentionally produced by the radio part of an EUT this exclusion does not apply."

2 Normative references

Replace the references to CISPR 16-1-1 with the following updated reference:

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*

Add the following just below the CISPR 16-1-2 reference:

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

Replace the reference to CISPR 16-1-4 with the following updated reference:

CISPR 16-1-4:2019/AMD1:2020, *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*

Insert the following references to new amendments under the existing references to CISPR 16-2-3 and CISPR 16-4-2 respectively:

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

CISPR 16-4-2:2011/AMD2:2018

Insert the following new reference just below the existing reference to CISPR TR 30-1:

CISPR TR 30-2:2012, *Test method on electromagnetic emissions – Part 2: Electronic control gear for discharge lamps excluding fluorescent lamps*

Replace the reference to CISPR 32 with the following updated reference:

CISPR 32:2015/AMD1:2019

Modify definitions 3.2.6 and 3.2.7 to read:

3.2.6

primary function

function of an equipment as specified in the instructions for use

3.2.7

secondary function

any function of an equipment not being essential for fulfilling the primary function as specified in the instructions for use

Modify definitions 3.3.1 and 3.3.2 to the following:

3.3.1

simple advertising sign

unit which makes use of lighting for advertising, traffic signage, road signs or alike

Note 1 to entry: Examples are neon tube advertising signs, emergency signs, inner-illuminated signs.

3.3.2**ancillary equipment**

transducers (e.g. current probes and artificial networks) and other equipment (e.g. cables, preamplifiers, attenuators, filters, adapters) connected to a measuring receiver or to the EUT and used in the disturbance signal transfer between the EUT and the measuring receiver

Add a note to entry at the end of definition 3.3.3:

Note 2 to entry: The emission from the auxiliary equipment should not influence the emission of the EUT.

Replace the existing term of definition 3.3.6 with the following new term and add two new notes (reusing the same definition):

3.3.6**decorative and entertainment lighting**

equipment that emits light for atmospheric, artistic or ambience purposes

Note 1 to entry: Examples of decorative lighting include LED strip lights, rope lights, and projectors for illuminating building walls or statues in coloured and/or patterned light. Usually, these types of lighting equipment are static, but they can shift through various colours/patterns.

Note 2 to entry: Examples of entertainment lighting include stage, theatre and sky beam lights. Usually, these types of lighting equipment also include some movement, such as dynamically changing the direction of the projected light."

Modify the definition 3.3.16 as follows (keeping the existing Note 1 to entry):

3.3.16**lighting equipment**

device that can be used as an independent unit to illuminate a scene, objects or their surroundings so that they can be seen, and modules and components designed to be used in or with such device or assembly of devices

Modify definition 3.3.20 to the following:

3.3.20**restricted ELV lamp**

ELV lamp with specific restrictions on the type of power supply and/or the cable length that can be applied to it, as specified in the instructions for use

3.5 Abbreviated terms

Correct the term AAN to the following:

AAN asymmetric artificial network

Add the term FSOATS:

FSOATS free space open area test site

Add the term Fc:

Fc Clock frequency

Remove the term ISN

4.3.1 Electric power supply interface

Add the following note below Table 1:

NOTE In the US, lighting devices are classified as either a non-consumer (Class A) or consumer (Class B) device. These classifications limits are similar to the Class A and Class B equipment categories in the CISPR 32:2015+A1 2019 publication.

4.3.2 Wired network interfaces other than power supply

In NOTE 2 replace the term 'artificial asymmetrical network' with 'asymmetric artificial network'

4.4 Limits and methods for the assessment of local wired ports

Delete the existing third paragraph.

Replace the existing fifth paragraph with:

The limits and methods given in Table 6 shall be applied to local wired ports other than electrical power supply interface of ELV lamps.

Delete Table 5.

Table 6 – Disturbance current limits at local wired ports: local wired ports other than electrical power supply interface of ELV lamp

Within the table, renumber existing NOTE 1 to NOTE and delete existing NOTE 2.

4.5.2 Frequency range 9 kHz to 30 MHz

Replace the fifth paragraph with the following text:

The limits in Table 7 and Table 8 provide different options. The test report shall state which method was used and which limits were applied.

Replace Table 7 with the following:

Table 7 – Maximum EUT dimension that can be used for testing using LLAS with different diameters

Maximum dimension of the EUT, D m	Loop antenna diameter m
$D \leq 1,6$	2
$D \leq 2,4$	3
$D \leq 3,2$	4
No minimum dimensions are given for the 3 m and 4 m LLAS antenna systems. It is therefore recommended to apply always the smallest size of LLAS possible. If a small EUT is tested in a large LLAS (i.e., EUT smaller than 1,6 m tested in a 3 m or 4 m LLAS, or EUT smaller than 2,4 m tested in a 4 m LLAS), it shall be confirmed that the LLAS is able to detect EUT generated emissions with at least 10 dB of margin above the measuring instrument's noise floor.	