BS EN 55035:2017+A11:2020

Incorporating corrigenda December 2017 and November 2019



BSI Standards Publication

Electromagnetic compatibility of multimedia equipment - Immunity requirements

bsi.

National foreword

This British Standard is the UK implementation of EN 55035:2017+A11:2020, incorporating corrigendum November 2019. It is derived from CISPR 35:2016. It supersedes BS EN 55035:2017, which will be withdrawn on 28 July 2022.

The CENELEC common modifications have been implemented at the appropriate places in the text. The start and finish of each common modification is indicated in the text by tags 〈C〉 〈C〉.

The UK participation in its preparation was entrusted to Technical Committee GEL/210/11, EMC - Standards Committee.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Date	Text affected
31 December 2017	Supersession details in national foreword corrected
30 November 2019	Implementation of CENELEC corrigendum November 2019: supersession details on CENELEC title page and in European foreword corrected
31 May 2020	Implementation of CENELEC amendment A11:2020: supersession details on CENELEC title page and in European foreword corrected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 55035:2017+A11

May 2020

ICS 33.100.20

Supersedes EN 55020:2007, EN 55024:2010 and EN 55103-2:2009 and all of their amendments and corrigenda (if any)

English Version

Electromagnetic compatibility of multimedia equipment — Immunity requirements (CISPR 35:2016 , modified)

Compatibilité électromagnétique des équipements multimédia — Exigences d'immunité (CISPR 35:2016 , modifiée)

Elektromagnetische Verträglichkeit von Multimediageräten — Anforderungen zur Störfestigkeit (CISPR 35:2016 , modifiziert)

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Ref. No. EN 55035:2017: E

European foreword

The text of document CISPR/I/522/FDIS, future edition 1 of CISPR 35:2016, prepared by CISPR SC I "Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers" of CISPR "International special committee on radio interference" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 55035:2017.

A draft amendment, which covers common modifications to CISPR 35:2016 (CISPR/I/522/FDIS), was prepared by CLC/TC 210 "Electromagnetic Compatibility (EMC)" and approved by CENELEC.

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) 2018-01-28
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-07-28

This document supersedes EN 55020:2007, EN 55024:2010 and EN 55103-2:2009 and all of their amendments and corrigenda (if any).

Clauses, subclauses, notes, tables, figures and annexes which are additional to those in CISPR 35:2016 are prefixed “Z”.

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 mandate(s) given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) and the standardization request(s), see informative Annexes ZZA and ZZB, which are integral parts of this document.

Endorsement notice

The text of the International Standard CISPR 35:2016 was approved by CENELEC as a European Standard with agreed common modifications.

CISPR 16-2-1:2014 NOTE Harmonized as EN 55016-2-1:2014 (not modified).

CISPR 20:2006 & CISPR 20:2006/A1:2013 NOTE Harmonized as EN 55020:2007 (not modified)[1)] and as EN 55020:2007/A1:201X (not modified)[2)]

CISPR 24:2010 NOTE Harmonized as EN 55024:2010 (not modified).

CISPR 32:2015 NOTE Harmonized as EN 55032:2015 (not modified).

IEC 60942:2003 NOTE Harmonized as EN 60942:2003 (not modified).

IEC 61672-1:2013 NOTE Harmonized as EN 61672-1:2013 (not modified).

ISO/IEC 17025:2005 NOTE Harmonized as EN ISO/IEC 17025:2005 (not modified).

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1) EN 55020:2007 is also amended by EN 55020:2007/A11:2011 and by EN 55020:2007/A12:2016.

2) At publication stage.

Foreword to amendment A11

This document (EN 55035/A11:2020) has been prepared by CLC/TC 210 "Electromagnetic Compatibility (EMC)".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2021-03-04
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2022-07-28

This document amends EN 55035:2017.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annexes ZZA and ZZB, which are an integral part of EN 55035:2017.

C

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When 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.

Publication	Year	Title	EN/HD	Year
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	EN 55016-1-2	2014
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	2005	Electromagnetic compatibility (EMC) — Part 4-5: Testing and measurement techniques — Surge immunity test	EN 61000-4-5	2006
IEC 61000-4-6	2008	Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques — Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2009
IEC 61000-4-8	2009	Electromagnetic compatibility (EMC) — Part 4-8: Testing and measurement techniques — Power frequency magnetic field immunity test	EN 61000-4-8	2010
IEC 61000-4-11	2004	Electromagnetic compatibility (EMC) — Part 4-11: Testing and measurement techniques — Voltage dips, short interruptions and voltage variations immunity tests	EN 61000-4-11	2004

Publication	Year	Title	EN/HD	Year
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 61000-4-21	2011	Electromagnetic compatibility (EMC) — Part 4-21: Testing and measurement techniques — Reverberation chamber test methods	EN 61000-4-21	2011
ISO 9241-3	1992	Ergonomic requirements for office work with visual display terminals (VDTs) — Part 3: Visual display requirements	EN 29241-3	1993
IEEE Standard 802.3	—	IEEE Standard for Ethernet, Section Three	—	—

Annex ZZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2014/30/EU [2014 OJ L96] aimed to be covered

This European Standard has been prepared under the European Commission standardization request C(2016) 7641 final of 30.11.2016[3)], ('M/552'), as regards harmonized standards in support of Directive 2014/30/EU relating to electromagnetic compatibility, to provide one voluntary means of conforming to essential requirements of Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to electromagnetic compatibility [2014 OJ L96].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZA.1 — Correspondence between this European Standard and the Essential Requirements set out in Directive 2014/30/EU [2014 OJ L96]

Essential requirements of Directive 2014/30/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Annex I. 1(b) (electromagnetic immunity)	Clause 5 Immunity requirements Table 1 – Immunity requirements for enclosure ports	Not applicable for broadcast receivers (Annex A) under 2014/30/EU
	Clause 5 Immunity requirements Table 2 – Immunity requirements for analogue/digital data ports	Not applicable for broadcast receivers (Annex A) under 2014/30/EU
	Clause 5 Immunity requirements Table 3 – Immunity requirements for DC network power ports	Not applicable for broadcast receivers (Annex A) under 2014/30/EU
	Clause 5 Immunity requirements Table 4 – Immunity requirements for AC mains power ports	Not applicable for broadcast receivers (Annex A) under 2014/30/EU

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

3) COMMISSION IMPLEMENTING DECISION C(2016) 7641 final of 30.11.2016 on a standardisation request to the European Committee for Standardisation, to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards harmonised standards in support of Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.

Annex ZZB
(informative)

Relationship between this European Standard and the essential requirements of Directive 2014/53/EU [2014 OJ L153] aimed to be covered

This European Standard has been prepared under the European Commission standardization request C(2015) 5376 final of 4.8.2015[4)] ('M/536'), as regards harmonized standards in support of Directive 2014/53/EU relating to radio equipment, to provide one voluntary means of conforming to essential requirements of Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC [2014 OJ L153].

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZZB.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZZB.1 — Correspondence between this European Standard and Article 3 of Directive 2014/53/EU [2014 OJ L153]

Essential requirements of Directive 2014/53/EU	Clause(s) / sub-clause(s) of this EN	Remarks / Notes
Article 3 1.(b) (electromagnetic compatibility), immunity	Clause 5 Immunity requirements Table 1 – Immunity requirements for enclosure ports	Only applicable for broadcast receivers (Annex A) under 2014/53/EU
	Clause 5 Immunity requirements Table 2 – Immunity requirements for analogue/digital data ports	Only applicable for broadcast receivers (Annex A) under 2014/53/EU
	Clause 5 Immunity requirements Table 3 – Immunity requirements for DC network power ports	Only applicable for broadcast receivers (Annex A) under 2014/53/EU
	Clause 5 Immunity requirements Table 4 – Immunity requirements for AC mains power ports	Only applicable for broadcast receivers (Annex A) under 2014/53/EU

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

4) COMMISSION IMPLEMENTING DECISION C(2015) 5376 final of 4.8.2015 on a standardisation request to the European Committee for Electrotechnical Standardisation and to the European Telecommunications Standards Institute as regards radio equipment in support of Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment. [2014 OJ L153].

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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 35 has been prepared by CISPR subcommittee I: Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers.

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

FDIS	Report on voting
CISPR/I/522/FDIS	CISPR/I/527/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.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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

This CISPR document establishes uniform requirements for the electromagnetic immunity of multimedia equipment. The test methods are given within this document or in referenced basic EMC immunity standards. This document specifies applicable tests, test levels, product operating conditions and assessment criteria.

Electromagnetic compatibility of multimedia equipment — Immunity Requirements

1 Scope

NOTE Blue coloured text within this document indicates text aligned with CISPR 32. CISPR 32 contains the appropriate emission requirements above 150 kHz for the equipment within the scope of this document.

This document applies to multimedia equipment (MME) as defined in 3.1.24 and having a rated AC or DC supply voltage not exceeding 600 V.

〔C〉For MME that falls within the scope of EN 300 386 or any part(s) of EN 301 489 series, the requirements within these product specific/product family standards take precedence over the requirements within this document.〈C〕

MME with a broadcast reception function is within the scope of this document, see Annex A. MME with non-broadcast wireless interfaces is also within the scope of this document, however, compliance with this document does not require the assessment of the performance of these interfaces.

MME intended primarily for professional use is within the scope of this document.

MME for which immunity requirements in the frequency range covered by this document are explicitly formulated in other CISPR documents (except CISPR 20 and CISPR 24) are excluded from the scope of this document.

The objectives of this document are:

- to establish requirements which provide an adequate level of intrinsic immunity so that the MME will operate as intended in its environment in the frequency range 0 kHz to 400 GHz;
- to specify procedures to ensure the reproducibility of tests and the repeatability of results.

Due to technology convergence of the functions of MME, the performance criteria have been determined on a function-orientated basis rather than on an equipment-orientated basis.

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 16-1-2:2014, *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*

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/AMD 1:2007

IEC 61000-4-3:2006/AMD 2:2010

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