Raadioringhäälingu ja televisioonilevi vastuvõtjad ja kaasseadmed. Raadiohäiringu tunnussuurused. Piirväärtused ja mõõtemeetodid

Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement (CISPR 13:2009, modified)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 55013:2013 sisaldab Euroopa standardi EN 55013:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 55013:2013 consists of the English text of the European standard EN 55013:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 21.06.2013.	Date of Availability of the European standard is 21.06.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.100.10

EUROPEAN STANDARD

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Supersedes EN 55013:2001 + A1:2003 + A2:2006, EN 55013:2001/IS1:2009

English version

Sound and television broadcast receivers and associated equipment - Radio disturbance characteristics - Limits and methods of measurement

(CISPR 13:2009, modified)

Récepteurs de radiodiffusion et de télévision et équipements associés - Caractéristiques des perturbations radioélectriques - Limites et méthodes de mesure (CISPR 13:2009, modifiée)

Ton- und Fernseh-Rundfunkempfänger und verwandte Geräte der Unterhaltungselektronik - Funkstöreigenschaften - Grenzwerte und Messverfahren (CISPR 13:2009, modifiziert)

This European Standard was approved by CENELEC on 2013-04-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 55013:2013 E

Foreword

The text of document CISPR/I/296/FDIS, future edition 5 of CISPR 13, prepared by CISPR SC I "Electromagnetic compatibility of information technology equipment, multimedia equipment and receivers" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 55013:2013.

A draft amendment, which covers common modifications to CISPR 13:2009, was prepared by CLC/TC 210 "Electromagnetic Compatibility (EMC)" and approved by CENELEC.

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)	2014-04-22
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2016-04-22

This document supersedes EN 55013:2001 + IS1:2009 + A1:2003 + A2:2006.

EN 55013:2013 includes the following significant technical changes with respect to EN 55013:2001:

EN 55013:2013 constitutes the introduction of the RMS-average detector as an alternative to quasi-peak and average detector for conducted and radiated emission measurements.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

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 Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard CISPR 13:2009 was approved by CENELEC as a European Standard with agreed common modifications.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

CISPR 11:2003 + A1:2004	NOTE	Harmonised as EN 55011:2007 (modified).
CISPR 16-2-1:2008	NOTE	Harmonised as EN 55016-2-1:2009 (not modified).
CISPR 16-2-3:2006	NOTE	Harmonised as EN 55016-2-3:2006 (not modified).

COMMON MODIFICATIONS

4.2 Disturbance Voltage at the mains terminals

Add the following new paragraph after the 1st sentence:

In addition to the RMS-average limit as specified in Table 1, a Peak limit with an increased value of 20 dB shall apply. Both RMS-average and Peak limits shall be met.

4.5 Disturbance power

Add the following new paragraph after the 1st sentence:

In addition to the RMS-average limit as specified in Table 4, a Peak limit with an increased value of 20 dB shall apply. Both RMS-average and Peak limits shall be met.

4.6 Radiated disturbance

Replace existing Table 5 in CISPR 13:2009 by the following new table:

Table 5 – Limits of radiated disturbances at 3 m distance

Equipment type	Source	Frequency MHz	Limit dB(μV/m) Quasi-peak [a]	Limit dB(μV/m) RMS-average [a, b]
Television receivers, video recorders and PC tuner cards	Local oscillator	≤1 000	Fundamental 57[a]	Fundamental 57[a]
		30 to 300	Harmonics 52	Harmonics 52
		300 to 1 000	Harmonics 56	Harmonics 56
	Other	30 to 230	40	**34/ 40[c]**
		230 to 1 000	47	47
Television and sound receivers for broadcast satellite transmissions (except outdoor units), Infrared remote control units and Infrared headphone systems	Other	30 to 230	40	**34/ 40[c]**
		230 to 1 000	47	47
Frequency modulation sound receivers and PC tuner cards	Local oscillator	≤1 000	Fundamental 60	Fundamental 60
		30 to 300	Harmonics 52	Harmonics 52
		300 to 1 000	Harmonics 56	Harmonics 56
	Other	30 to 230	40	**34/ 40[c]**
		230 to 1 000	47	47

[a] In Japan: 57 dB(μV/m) is relaxed to 66 dB(μV/m) for operating channels <300 MHz and to 70 dB(μV/m) for operating channels >300 MHz.

[b] The RMS-average limits can be applied as an alternative to quasi-peak limits.

[c] For narrowband disturbances 40 dB(μV/m) applies. For this application a narrowband disturbance is identified if the difference between Peak and RMS-average value is ≤ 3 dB. All other signals are considered as broadband disturbances. For these signals a Peak limit of 54 dB(μV/m) applies in addition to the RMS-average limit of 34 dB(μV/m).

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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
CISPR 16-1-1 + A1 + A2	2006 2006 2007	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	EN 55016-1-1 + A1 + A2	2007 2007 2008
CISPR 16-1-2 + corr. January + A1 + A2	2003 2009 2004 2006	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-2: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Conducted disturbances	EN 55016-1-2 + A1 + A2	2004 2005 2006
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	EN 55016-1-3	2006
CISPR 16-1-4 + A1 + A2	2007 2007 2008	Specification for radio disturbance and immunity measuring apparatus and methods - Part 1-4: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Radiated disturbances	EN 55016-1-4 + A1 + A2	2007 2008 2009
CISPR 16-2-2 + A1 + A2	2003 2004 2005	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-2: Methods of measurement of disturbances and immunity - Measurement of disturbance power	EN 55016-2-2 + A1 + A2	2004 2005 2005
CISPR 22 (mod)	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022 + AC:2011	2010 2011
IEC 60050-161 + A1 + A2	1990 1997 1998	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-
IEC 60728-2	2002	Cabled distribution systems for television and sound signals - Part 2: Electromagnetic compatibility for equipment	-	-
ITU-R BT.471-1	-	Nomenclature and description of colour bar signals	-	-

Annex ZZ
(informative)

Coverage of Essential Requirements of EU Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers protection requirements of Annex I Article 1(a) of the EU Directive 2004/108/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directives concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

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INTRODUCTION

The CISPR recommends that the limits and methods of measurement of radio disturbance characteristics of sound and television receivers contained in the latest edition of CISPR 13, including amendments, be used, without regional or national addenda or modifications. The requirements are considered sufficient to reach adequate emission levels to protect radio broadcast and telecommunication services and to allow other apparatus to operate as intended at a reasonable distance.

SOUND AND TELEVISION BROADCAST RECEIVERS AND ASSOCIATED EQUIPMENT – RADIO DISTURBANCE CHARACTERISTICS – LIMITS AND METHODS OF MEASUREMENT

1 Scope and object

This International Standard applies to the generation of electromagnetic energy from sound and television receivers for the reception of broadcast and similar transmissions and from associated equipment. The frequency range covered extends from 9 kHz to 400 GHz.

No measurements need be performed at frequencies where no limits are specified.

Receiving systems for collective reception, in particular:

– cable distribution head ends (Community Antenna Television, CATV);
– community reception systems (Master Antenna Television, MATV)

are covered by IEC 60728-2.

Broadcast receivers for digital signals are covered by Annex A and Annex B.

Information technology equipment (ITE) is excluded, even if intended to be connected to a television broadcast receiver.

The telecommunication port of broadcast receivers, intended to be connected to a telecommunication network, is covered by CISPR 22.

In addition, measurements at the telecommunication port are performed with the broadcast reception functions, which are independent from the telecommunication function, disabled during the measurement.

PC tuner cards are measured according to the relevant clauses of this standard.

This standard describes the methods of measurement applicable to sound and television receivers or associated equipment and specifies limits for the control of disturbance from such equipment.

For multifunction equipment which is subjected simultaneously to different clauses of this standard and/or other standards, details are given in 4.1.

2 Normative references

The following referenced documents are indispensable for the application 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 16-1-1:2006, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus* [1]
Amendment 1 (2006)
Amendment 2 (2007)

CISPR 16-1-2:2003, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Conducted disturbances* [2]
Amendment 1 (2004)
Amendment 2 (2006)

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 16-1-4:2007, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-4: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Radiated disturbances* [3]
Amendment 1 (2007)
Amendment 2 (2008)

CISPR 16-2-2:2003, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-2: Methods of measurement of disturbances and immunity – Measurement of disturbance power* [4]
Amendment 1 (2004)
Amendment 2 (2005)

CISPR 22:2008, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement*

IEC 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*
Amendment 1 (1997)
Amendment 2 (1998)

IEC 60728-2:2002, *Cabled distribution systems for television and sound signals – Part 2: Electromagnetic compatibility for equipment* (only available in English)

ITU-R BT 471-1, *Nomenclature and description of colour bar signals*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms, definitions and abbreviations apply.

3.1.1
sound broadcast receivers
appliances intended for the reception of sound broadcast and similar services for terrestrial, cable and satellite transmission, regardless whether the input signals are digital or analog

1 There exists a consolidated edition 2.2 (2007) including edition 2.0, its Amendment 1 (2006) and its Amendment 2 (2007).

2 There exists a consolidated edition 1.2 (2006) including edition 1.0, its Amendment 1 (2004) and its Amendment 2 (2006).

3 There exists a consolidated edition 2.1 (2008) including edition 2.0 and its Amendment 1 (2007).

4 There exists a consolidated edition 1.2 (2005) including edition 1.0, its Amendment 1 (2004) and its Amendment 2 (2005).