SLOVENSKI STANDARD
SIST EN 55011:2010

01-februar-2010

Nadomeġļ a:
SIST EN 55011:2007

Industrijska, znanstvena in medicinska (ISM) radiofrekvenļ na oprema - Karakteristike obļ utljivosti za radijske motnje - Mejne vrednosti in merilne metode (CISPR 11:2009, spremenjen)

Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

Industrielle, wissenschaftliche und medizinische Geräte - Funkstörungen - Grenzwerte und Messverfahren

Appareils industriels, scientifiques et médicaux - Caractéristiques des perturbations radioélectriques - Limites et méthodes de mesure

Ta slovenski standard je istoveten z: **EN 55011:2009**

ICS:

33.100.10	Emisija	Emission

SIST EN 55011:2010 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 55011

November 2009

ICS 33.100.10

Supersedes EN 55011:2007 + A2:2007

English version

Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement

(CISPR 11:2009, modified)

Appareils industriels, scientifiques et médicaux - Caractéristiques des perturbations radioélectriques - Limites et méthodes de mesure (CISPR 11:2009, modifiée)

Industrielle, wissenschaftliche und medizinische Geräte - Funkstörungen - Grenzwerte und Messverfahren (CISPR 11:2009, modifiziert)

This European Standard was approved by CENELEC on 2009-09-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 55011:2009 E

Foreword

The text of document CISPR/B/478/FDIS, future edition 5 of CISPR 11, prepared by CISPR SC B, Interference relating to industrial, scientific and medical radio-frequency apparatus, to other (heavy) industrial equipment, to overhead power lines, to high voltage equipment and to electric traction, was submitted to the IEC-CENELEC parallel vote.

A draft amendment (FprAA) covering common modifications towards the future edition 5 of CISPR 11 (CISPR/B/478/FDIS), prepared by the Technical Committee CENELEC TC 210, Electromagnetic compatibility (EMC), was submitted to the formal vote.

The combined texts were approved by CENELEC as EN 55011 on 2009-09-01.

This European Standard supersedes EN 55011:2007 + A2:2007.

This EN 55011:2009 got a more transparent structure, introduces another set of particular limits for conducted and radiated disturbances of "heavy duty" general purpose equipment of class A group 1 with a rated input power in excess of 20 kVA, in accordance with the needs of the industries and refers to the full approach in respect of the measurement instrumentation uncertainty specified in CISPR 16-4-4. Furthermore, any kind of "legal statements" were removed from the normative main body of this European Standard.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2010-09-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2012-09-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directive 2004/108/EC. See Annex ZZ.

Annexes ZA, ZB and ZZ have been added by CENELEC.

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The main content of this standard is based on CISPR Recommendation No. 39/2 given below:

RECOMMENDATION No. 39/2

Limits and methods of measurement of electromagnetic disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment

The CISPR

CONSIDERING

a) that ISM RF equipment is an important source of disturbance;

b) that methods of measuring such disturbances have been prescribed by the CISPR;

c) that certain frequencies are designated by the International Telecommunication Union (ITU) for unrestricted radiation from ISM equipment,

RECOMMENDS

that the latest edition of EN 55011 be used for the application of limits and methods of measurement of ISM equipment.

Endorsement notice

The text of the International Standard CISPR 11:2009 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

4 Frequencies designated for ISM use

Replace by:

4 National measures and frequencies designated for ISM use

Certain frequencies are designated by the International Telecommunication Union (ITU) for use as fundamental frequencies for ISM RF applications (see also definition 3.1). These frequencies are listed in Table 1.

Table 1 – Frequencies in the radio-frequency (RF) range designated by ITU for use as fundamental ISM frequencies

Centre frequency MHz	Frequency range MHz	Maximum radiation limit [a]	Number of appropriate footnote to the table of frequency allocation of the ITU Radio Regulations [b]
6,780	6,765 – 6,795	Under consideration	5.138
13,560	13,553 – 13,567	Unrestricted	5.150
27,120	26,957 – 27,283	Unrestricted	5.150
40,680	40,66 – 40,70	Unrestricted	5.150
433,920	433,05 – 434,79	Under consideration	5.138 in Region 1, except countries mentioned in 5.280
915,000	902 – 928	Unrestricted	5.150 in Region 2 only
2 450	2 400 – 2 500	Unrestricted	5.150
5 800	5 725 – 5 875	Unrestricted	5.150
24 125	24 000 – 24 250	Unrestricted	5.150
61 250	61 000 – 61 500	Under consideration	5.138
122 500	122 000 – 123 000	Under consideration	5.138
245 000	244 000 – 246 000	Under consideration	5.138

[a] The term “unrestricted” applies to the fundamental and all other frequency components falling within the designated band. Outside of ITU designated ISM bands the limits for the disturbance voltage and radiation disturbance in this standard apply.

[b] Resolution No. 63 of the ITU Radio Regulations applies.

In some CENELEC countries different or additional frequencies may be designated for use with ISM RF applications in the meaning of the definition found in the ITU Radio Regulations, see definition 3.1. These frequencies are listed in Table ZB.1 (see Annex ZB).

The limits for the disturbance voltage and radiation disturbance defined in this standard do also not apply to the fundamental ISM frequencies listed in Table ZB.1. If ISM RF applications use fundamental frequencies other than the ITU or nationally designated frequencies, then the limits for the disturbance voltage and radiation disturbance of this standard apply also to these fundamental frequencies.

Bibliography

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

CISPR 15	NOTE	Harmonized as EN 55015:2006 (not modified).
IEC 60364-5-51	NOTE	Harmonized as HD 60364-5-51:2009 (modified).
IEC 60705	NOTE	Harmonized as EN 60705:1999 (not modified).
IEC 61308	NOTE	Harmonized as EN 61308:2006 (not modified).
IEC 61689	NOTE	Harmonized as EN 61689:2007 (not modified).
IEC 61922	NOTE	Harmonized as EN 61922:2002 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

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 A1 A2	2003 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 16-1-4 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 16-2-3	2006	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements	EN 55016-2-3	2006
CISPR 16-4-2	2003	Specification for radio disturbance and immunity measuring apparatus and methods - Part 4-2: Uncertainties, statistics and limit modelling - Uncertainty in EMC measurements	EN 55016-4-2	2004
IEC 60050-161 A1 A2	1990 1997 1998	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	–	–
IEC 60601-1-2 (mod)	2007	Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests	EN 60601-1-2	2007
IEC 60601-2-2	2009	Medical electrical equipment - Part 2-2: Particular requirements for basic safety and essential performance of high frequency surgical equipment and high frequency surgical accessories	EN 60601-2-2	2009
IEC 60974-10	2007	Arc welding equipment - Part 10: Electromagnetic compatibility (EMC) requirements	EN 60974-10	2007
IEC 61307	2006	Industrial microwave heating installations - Test methods for the determination of power output	EN 61307	2006

Publication	Year	Title	EN/HD	Year
IEC 62135-2	2007	Resistance welding equipment - Part 2: Electromagnetic compatibility (EMC) requirements	EN 62135-2	2008
ITU Radio Regulations	2008	Radio Regulations, Volume 3 - Resolutions and recommendations, resolution no. 63	-	-

Annex ZB
(informative)

Frequencies designated on a national basis in CENELEC countries for use as fundamental ISM frequencies

Table ZB.1 - Frequencies designated on a national basis in CENELEC countries for use as fundamental ISM frequencies

Frequency MHz	Maximum radiation limit	Notes
0,009 - 0,010	Not limited	Germany only
83,996 - 84,004	Not limited	United Kingdom only [a]
167,992 - 168,008	Not limited	United Kingdom only [a]
886,000 - 906,000	Not limited	United Kingdom only [a]

[a] Radio communication services must accept harmful interference from ISM apparatus operating in accordance with the WT (Control of Interference from RF Heating Apparatus) Regulations 1971. The WT (Control of Interference from RF Heating Apparatus) Regulations 1971 specify the limits of levels of radiation permitted outside the ISM bands.

Annex ZZ
(informative)

Coverage of Essential Requirements of EC 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 as given in Article 1(a) of Annex I of the EC Directive 2004/108/EC.

Compliance with this standard provides presumption of conformity with the specified essential requirements of the Directive concerned.

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

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IEC®

CISPR 11

Edition 5.0 2009-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE
COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES

Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement

Appareils industriels, scientifiques et médicaux – Caractéristiques de perturbations radioélectriques – Limites et méthodes de mesure

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