BRITISH STANDARD

BS EN
55011:2007

Industrial, scientific and medical (ISM) radio-frequency equipment — Electromagnetic disturbance characteristics — Limits and methods of measurement

The European Standard EN 55011:2007, incorporating amendment A2:2007, has the status of a British Standard

ICS 33.100.10

BSI
British Standards

National foreword

This British Standard was published by BSI. It is the UK implementation of EN 55011:2007, incorporating amendment A2:2007. It was derived by CENELEC from CISPR 11:2003, incorporating amendments A1:2004 and A2:2006. It supersedes BS EN 55011:1998, which will be withdrawn on 1 November 2009.

The start and finish of text introduced or altered by IEC amendment is indicated in the text by tags [A1] 〈A1]. Tags indicating changes to IEC text carry the number of the IEC amendment. For example, text altered by IEC amendment 1 is indicated by [A1] 〈A1].

The CENELEC common modifications have been implemented at the appropriate places in the text and are indicated by tags (e.g. [C] 〈C]).

The UK participation in its preparation was entrusted by Technical Committee GEL/210, EMC — Policy committee, to Subcommittee GEL/210/11, EMC product standards.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2007

ISBN 978 0 580 50793 9

Amendments issued since publication

Amd. No.	Date	Comments

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 55011

March 2007

+ A2

March 2007

ICS 33.100.10

Supersedes EN 55011:1998 + A1:1999 + A2:2002

English version

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

(CISPR 11:2003 + A1:2004, modified)

Appareils industriels,
scientifiques et médicaux (ISM)
à fréquence radioélectrique -
Caractéristiques de perturbations
électromagnétiques -
Limites et méthodes de mesure
(CISPR 11:2003 + A1:2004, modifiée)

Industrielle, wissenschaftliche
und medizinische Hochfrequenzgeräte
(ISM-Geräte) -
Funkstörungen -
Grenzwerte und Messverfahren
(CISPR 11:2003 + A1:2004, modifiziert)

This European Standard was approved by CENELEC on 2006-11-01. 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: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 55011:2007 E

Foreword

The text of the International Standard CISPR 11:2003 + A1:2004, 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, together with the common modifications prepared by the Technical Committee CENELEC TC 210, Electromagnetic compatibility (EMC), was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 55011 on 2006-11-01.

This European Standard supersedes EN 55011:1998 + A1:1999 + A2:2002.

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)	2007-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-11-01

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 89/336/EEC. See Annex ZZ.

Clauses, subclauses, notes, tables and figures which are additional to those in CISPR 11 are prefixed “Z”.

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

Endorsement notice

The text of the International Standard CISPR 11:2003 + A1:2004 was approved by CENELEC as a European Standard with agreed common modifications.

Foreword to amendment A2

The text of document CISPR/B/394/FDIS, future amendment 2 to CISPR 11:2003, 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 and was approved by CENELEC as amendment A2 to EN 55011:2007 on 2006-11-01.

The following dates were fixed:

– latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2007-11-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2009-11-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 2:2006 to the International Standard CISPR 11:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

CONTENTS

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 r.f. 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 CISPR 11 be used for the application of limits and methods of measurement of ISM equipment.

INDUSTRIAL, SCIENTIFIC AND MEDICAL (ISM) RADIO-FREQUENCY EQUIPMENT – ELECTROMAGNETIC DISTURBANCE CHARACTERISTICS – LIMITS AND METHODS OF MEASUREMENT

1 General

1.1 Scope and object

The limits and methods of measurement laid down in this International Standard apply to industrial, scientific and medical (ISM) equipment as defined in Clause 2, and to electro-discharge machining (EDM) and arc welding equipment.

NOTE The limits have been determined on a probabilistic basis taking into account the likelihood of interference. In cases of interference, additional provisions may be required.

Procedures are given for the measurement of radio-frequency disturbances and limits are laid down within the frequency range 9 kHz to 400 GHz.

〚A1〉 Requirements for ISM lighting apparatus and UV irradiators operating at frequencies within the ISM frequency bands defined by the ITU Radio Regulations are contained in this standard. 〈A1〛

Requirements for other types of lighting apparatus are covered in CISPR 15.

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 15, *Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment*

CISPR 16-1:1999, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1: Radio disturbance and immunity measuring apparatus*

CISPR 16-2:1996, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2: Methods of measurement of disturbances and immunity*

〚A2〉 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* 〈A2〛

CISPR 19, *Guidance on the use of the substitution method for measurements of radiation from microwave ovens for frequencies above 1 GHz*

IEC 60050(161), *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electro-magnetic compatibility*

IEC 60083, *Plugs and sockets outlets for domestic and similar general use standardized in member countries of IEC*