BRITISH STANDARD

BS EN
61000-6-4:2007
+A1:2011

Electromagnetic compatibility (EMC) —

Part 6-4: Generic standards — Emission standard for industrial environments

ICS 33.100.10

BSI
British Standards

National foreword

This British Standard is the UK implementation of EN 61000-6-4:2007+A1:2011. It is identical with IEC 61000-6-4:2006, incorporating amendment 1:2011. It supersedes BS EN 61000-6-4:2007, which will be withdrawn on 1 January 2014.

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

The UK participation in its preparation was entrusted by Technical Committee GEL/210, EMC — Policy committee, to Subcommittee GEL/210/12, EMC — Basic and generic standards.

A list of organizations represented on GEL/210/12 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.

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30 June 2011	Implementation of IEC amendment 1:2011 with CENELEC endorsement A1:2011.

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN 61000-6-4:2007+A1

February 2011

ICS 33.100.10

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English version

Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

(IEC 61000-6-4:2006)

Compatibilité électromagnétique (CEM) - Partie 6-4: Normes génériques - Norme sur l'émission pour les environnements industriels (CEI 61000-6-4:2006)

Elektromagnetische Verträglichkeit (EMV) - Teil 6-4: Fachgrundnormen - Störaussendung für Industriebereiche (IEC 61000-6-4:2006)

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

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Foreword

The text of document CISPR/H/122/FDIS, future edition 2 of IEC 61000-6-4, prepared by CISPR SC H, Limits for the protection of radio services, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61000-6-4 on 2006-12-01.

This European Standard supersedes EN 61000-6-4:2001.

The major changes in EN 61000-6-4:2007 are the inclusion of a clause on tests for equipment in series production, a new clause on measurement uncertainty and the inclusion of requirements on telecommunications ports. The informative annex has been deleted.

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)	2007-09-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-12-01

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 Directives EMC (89/336/EEC), EMC (2004/108/EC) and RTTED (1999/5/EC). See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61000-6-4:2006 was approved by CENELEC as a European Standard without any modification.

Foreword to amendment A1

The text of document CISPR/H/205/FDIS, future amendment 1 to IEC 61000-6-4:2006, prepared by CISPR SC H, Limits for the protection of radio services, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61000-6-4:2007 on 2011-01-01.

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

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)	2011-10-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2014-01-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 1:2010 to the International Standard IEC 61000-6-4:2006 was approved by CENELEC as an amendment to the European Standard without any modification.

CONTENTS

INTRODUCTION

IEC 61000 is published in separate parts according to the following structure:

Part 1: General

General considerations (introduction, fundamental principles)

Definitions, terminology

Part 2: Environment

Description of the environment

Classification of the environment

Compatibility levels

Part 3: Limits

Emission limits

Immunity limits (insofar as they do not fall under the responsibility of the product committees)

Part 4: Testing and measurement techniques

Measurement techniques

Testing techniques

Part 5: Installation and mitigation guidelines

Installation guidelines

Mitigation methods and devices

Part 6: Generic standards

Part 9: Miscellaneous

Each part is further subdivided into several parts published either as International Standards or technical reports/specifications, some of which have already been published as sections. Others will be published with the part number followed by a dash and a second number identifying the subdivision (example: 61000-6-1).

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 6-4: Generic standards – Emission standard for industrial environments

1 Scope and object

This part of IEC 61000 for EMC emission requirements applies to electrical and electronic apparatus intended for use in industrial environments as described below.

Emission requirements in the frequency range 0 Hz to 400 GHz are covered. No measurement needs to be performed at frequencies where no requirement is specified.

This generic EMC emission standard is applicable if no relevant dedicated product or product-family EMC emission standard exists.

This standard applies to a apparatus intended to be connected to a power network supplied from a high or medium voltage transformer dedicated to the supply of an installation feeding manufacturing or similar plant, and intended to operate in or in proximity to industrial locations, as described below. This standard applies also to apparatus, which is battery operated and intended to be used in industrial locations.

The environments encompassed by this standard are industrial, both indoor and outdoor.

Industrial locations are in addition characterised by the existence of one or more of the following examples:

– industrial, scientific and medical (ISM)[1)]) apparatus;

– heavy inductive or capacitive loads that are frequently switched;

– high currents and associated magnetic fields.

The object of this standard is to define the emission test requirements for apparatus defined in the scope in relation to continuous and transient, conducted and radiated disturbances.

The emission requirements have been selected so as to ensure that disturbances generated by apparatus operating normally in industrial locations do not exceed a level that could prevent other apparatus from operating as intended. Fault conditions of apparatus are not taken into account. Not all disturbance phenomena have been included for testing purposes in this standard but only those considered as relevant for the equipment covered by this standard. These requirements represent essential electromagnetic compatibility emission requirements.

Requirements are specified for each port considered.

NOTE 1 Safety considerations are not covered by this standard.

NOTE 2 In special cases, situations will arise where the levels specified in this standard will not offer adequate protection; for example where a sensitive receiver is used in close proximity to an apparatus. In these instances, special mitigation measures may have to be employed.

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1) As defined in CISPR 11.

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.

[A1] IEC 60050-161, *International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility*

IEC 61000-4-20:2010, *Electromagnetic compatibility (EMC) – Part 4-20: Testing and measurement techniques – Emission and immunity testing in transverse electromagnetic (TEM) waveguide*

CISPR 11:2009, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*

CISPR 14-1:2005, *Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emission*
Amendment 1:2008

CISPR 16-1-1:2010, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus* [A1]

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*

[A1] 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*
Amendment 1:2007

CISPR 16-2-1:2008, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements*

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*

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*

CISPR 22:2008, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement* [A1]

3 Terms, definitions and abbreviations

For the purposes of this document, the terms and definitions given in IEC 60050-161, as well as the following apply.

3.1 Terms and definitions

3.1.1
port
particular interface of the specified apparatus with the external electromagnetic environment (see Figure 1)

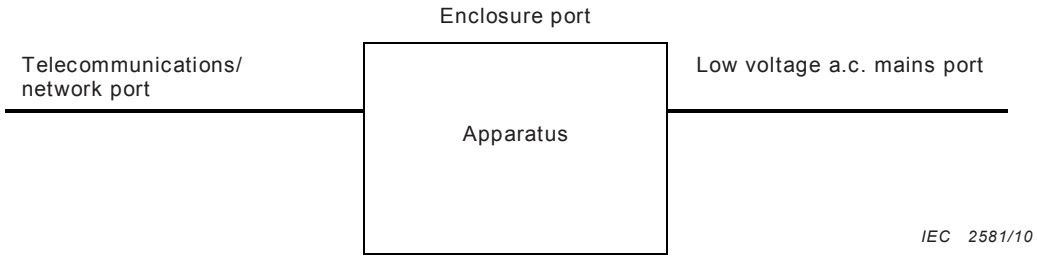

Figure 1 – Ports covered by Tables 1 to 3

3.1.2
enclosure port
physical boundary of the apparatus which electromagnetic fields may radiate through or impinge on

3.1.3
cable port
port at which a conductor or a cable is connected to the apparatus

NOTE Examples are signal, control and power ports.

3.1.4
telecommunications/network port
point of connection for voice, data and signalling transfers intended to interconnect widely dispersed systems via such means as direct connection to multi-user telecommunications networks (e.g. public switched telecommunications networks (PSTN) integrated services digital networks (ISDN), x-type digital subscriber lines (xDSL), etc.), local area networks (e.g. Ethernet, Token Ring, etc.) and similar networks)

NOTE A port generally intended for interconnection of components of an ITE system under test (e.g. RS-232,RS-485, field buses in the scope of IEC 61158, IEEE Standard 1284 (parallel printer), Universal Serial Bus (USB), IEEE Standard 1394 (“Fire Wire”), etc.) and used in accordance with its functional specifications (e.g. for the maximum length of cable connected to it), is not considered to be a telecommunications port.

3.1.5
power port
port at which a conductor or cable carrying the primary electrical power needed for the operation (functioning) of an apparatus or associated apparatus is connected to the apparatus

3.1.6
public mains network
electricity lines to which all categories of consumers have access and which are operated by a supply or distribution undertaking for the purpose of supplying electrical energy

3.1.7
low voltage
LV
low tension
voltage having a value below a conventionally adopted limit

[IEV 601-01-26 modified]

NOTE For the distribution of AC electric power, the upper limit is generally accepted to be 1 000 V.

3.1.8
low voltage AC mains port
port used to connect to the low voltage AC mains supply network to power the equipment

NOTE Equipment with a DC power port is considered low voltage AC mains powered if it is powered from an AC/DC power converter.

3.1.9
highest internal frequency
highest fundamental frequency generated or used within the EUT, or the highest frequency at which it operates

3.2 Abbreviations

FAR	Fully Anechoic Room
OATS	Open Area Test Site
SAC	Semi Anechoic Chamber
TEM	Transverse Electromagnetic Mode

4 Conditions during testing

The equipment under test (EUT) shall be tested in the operating mode producing the largest emission in the frequency band being investigated, e.g. based on limited pre-tests and consistent with normal applications. The configuration of the test sample shall be varied to achieve maximum emission consistent with typical applications and installation practice.

If the apparatus is part of a system, or can be connected to auxiliary apparatus, the apparatus shall be tested while connected to the minimum representative configuration of auxiliary apparatus necessary to exercise the ports in a similar manner to that described in CISPR 11 or CISPR 22.

In cases where a manufacturer's specification requires external filtering and/or shielding devices or measures that are clearly specified in the user's manual, the test requirements of this standard shall be applied with the specified devices or measures in place.

The configuration and mode of operation during the measurements shall be precisely noted in the test report. If the apparatus has a large number of similar ports or ports with many similar connections, a sufficient number shall be selected to simulate actual operating conditions and to ensure that all the different types of termination are covered.

The measurements shall be carried out at one single set of parameters within the operating ranges of temperature, humidity and atmospheric pressure specified for the product and at the rated supply voltage, unless otherwise indicated in the basic standard.

Where applicable, additional information on EUT configuration can be found in the CISPR 16-2 series and CISPR 11 or CISPR 22.

5 Product documentation

The purchaser/user shall be informed if special measures have to be taken to achieve compliance, e.g. the use of shielded or special cables.

6 Applicability

The application of measurements for emission(s) depends on the particular apparatus, its configuration, its ports, its technology and its operating conditions.

A1 Measurements shall be applied to the relevant ports of the apparatus according to Tables 1 to 3. Measurements shall only be carried out where the relevant ports exist. A1

It may be determined from consideration of the electrical characteristics and usage of a particular apparatus that some of the measurements are inappropriate and therefore unnecessary. In such a case it is required that the decision and justification not to measure shall be recorded in the test report.

7 Emission requirements

The emission requirements for apparatus covered by this standard are given on a port by port basis.

Measurements shall be conducted in a well-defined and reproducible manner.

The measurements may be performed in any order.

A1 The emission requirements for apparatus covered by this standard are given on a port by port basis. The requirements are stated in Tables 1 to 3.

The description of the measurement, the measurement instrumentation, the measurement methods, and the measurement set-up to be used are given in the standards, which are referred to in Tables 1 to 3. A1

A1 8 Measurement uncertainty

The measurement instrumentation uncertainty shall be determined according to CISPR 16-4-2, where applicable.

NOTE For a given test method, the actual value of U_{lab} has only to be recorded in the test report if the value is greater than U_{cispr}. A1

A1 9 Application of limits in tests for conformity of equipment in series production

9.1 Tests shall be made:

– either on a sample of equipment of the type using the statistical method of evaluation set out in 9.2,

– or, for simplicity's sake, on one equipment only. A1

9.2 Statistically assessed compliance with limits shall be made as follows:

This test shall be performed on a sample of not less than five and not more than 12 items of the type. If, in exceptional circumstances, five items are not available, a sample of four or three shall be used. Compliance is judged from the following relationship:

$$\bar{x} + kS_n \leq L$$

where

$\bar{x}$ is the arithmetic mean of the measured value of n items in the sample

$$S_n^2 = \frac{1}{n-1}\sum_{i=1}^{n}\left(x_i - \bar{x}\right)^2$$

x_n is the value of the individual item

L is the appropriate limit

k is the factor derived from tables of the non-central t-distribution which assures with 80 % confidence that 80 % of the type is below the limit; the value of k depends on the sample size n and is stated below.

The quantities x_n, $\bar{x}$, S_n and L are expressed logarithmically: dB(µV), dB(µV/m) or dB(pW).

n	3	4	5	6	7	8	9	10	11	12
k	2,04	1,69	1,52	1,42	1,35	1,30	1,27	1,24	1,21	1,20

10 Compliance with this standard

Where this standard gives options for testing particular requirements with a choice of test methods, compliance can be shown against any of the test methods, using the specific limits with the restrictions provided in the relevant tables.

In any situation where it is necessary to retest the equipment the test method original chosen should be used in order to ensure consistency of the results.

Equipment where the measurement result is less than or equal to the limit is deemed to be compliant with the requirements of this standard. Measurement uncertainty shall not be taken into account in the determination of compliance.

Equipment which fulfils the requirements across the frequency ranges specified in Tables 1 to 3 in this standard is deemed to fulfil the requirements in the entire frequency range from 9 kHz to 400 GHz.

Measurements do not need to be performed at frequencies where no limits are specified.

11 Emission test requirements

Table 1 – Emission – Enclosure port

Table Clause	Port	Frequency range	Limits	Basic standard	Applicability note	Remarks
1.1	Enclosure Test facility: OATS or SAC	30 MHz to 230 MHz 230 MHz to 1 000 MHz	40 dB(μV/m) quasi-peak at 10 m 47 dB(μV/m) quasi-peak at 10 m	The measurement instrumentation shall be as defined in 4 of CISPR 16-1-1. The measuring antennas shall be as defined in 4.4 of CISPR 16-1-4. The measuring site shall be as described in Clause 5 of CISPR 16-1-4. The measurement method shall be as specified in 7.2 of CISPR 16-2-3.	See [a, b and e]	May be measured at 30 m distance using the limits decreased by 10 dB. As stated in CISPR 16-2-3 the antenna height shall be varied between 1 m to 4 m. Additional guidance on the test method can be found in CISPR 16-2-3 clause 7.3 and clause 8.
1.2	Enclosure Test facility: FAR	30 MHz to 230 MHz	52 dB(μV/m) to 45 dB(μV/m) quasi-peak at 3 m Limit reducing linearly with the logarithm of the frequency.	The measurement instrumentation shall be as defined in 4 of CISPR 16-1-1. The measuring antennas shall be as defined in 4.4 of CISPR 16-1-4. The measuring site shall be as described in Clause 5.8 of CISPR 16-1-4. The measurement method shall be as specified in 7.2.9.2 of CISPR 16-2-3.	See [a, b and e] Only applicable to table top equipment	May be measured at greater distances with the limits decreased by 20 dB/decade (relative to distance) The limitations on EUT size in CISPR 16-1-4 apply
		230 MHz to 1 000 MHz	52 dB(μV/m) quasi-peak at 3 m			
1.3	Enclosure Test facility: TEM Waveguide	30 MHz to 230 MHz 230 MHz to 1 000 MHz	40 dB(μV/m) quasi-peak 47 dB(μV/m) quasi-peak The small-EUT correction factor given in A.4.3 of IEC 61000-4-20 shall be used. The limit relates to the OATS measurement distance of 10 m	IEC 61000-4-20	Only applicable to battery powered equipment not intended to have external cables attached. Restricted to equipment complying with the definition 6.2 in IEC61000-4-20. See [a, b and e]	

⟨A1⟩

Table Clause	Port	Frequency range	Limits	Basic standard	Applicability note	Remarks
1.4	Enclosure Test facility: OATS, SAC or FAR	1 GHz to 3 GHz	76 dB(μV/m) peak at 3 m 56 dB(μV/m) average at 3 m	The measurement instrumentation shall be as defined in 5 and 6 of CISPR 16-1-1. The measuring antennas shall be as defined in 4.5 of CISPR 16-1-4. The measuring site shall be as described in Clause 8 of CISPR 16-1-4. The measurement method shall be as specified in 7.3 of CISPR 16-2-3.	See [a, c, d] and [e]	May be measured at greater distances with the limits decreased by 20 dB/decade (relative to distance) For SAC and OATS facilities absorber may be required to achieve free space conditions as defined in CISPR 16-1-4.
		3 GHz to 6 GHz	80 dB(μV/m) peak at 3 m 60 dB(μV/m) average at 3 m			

[a] For apparatus containing devices operating at frequencies less than 9 kHz, measurements only need to be performed up to 230 MHz.

[b] The apparatus is deemed to comply with the enclosure port requirement below 1 GHz if it meets the requirements defined in one or more of the table clauses 1.1, 1.2 or 1.3.

[c] If the highest internal frequency of the EUT is less than 108 MHz, the measurement shall only be made up to 1 GHz.
If the highest internal frequency of the EUT is between 108 MHz and 500 MHz, the measurement shall only be made up to 2 GHz.
If the highest internal frequency of the EUT is between 500 MHz and 1 GHz, the measurement shall only be made up to 5 GHz.
If the highest internal frequency of the EUT is above 1 GHz, the measurement shall be made up to 6 GHz.

Where the highest internal frequency is not known, tests shall be performed up to 6 GHz.

[d.] The peak detector limits shall not be applied to disturbances produced by arcs or sparks that are high voltage breakdown events. Such disturbances arise when devices contain or control mechanical switches that control current in inductors, or when devices contain or control subsystems that create static electricity (such as paper handling devices). The average limits apply to disturbances from arcs or sparks, and both peak and average limits will apply to other disturbances from such devices.

[e] At transitional frequencies, the lower limit applies.

⟨A1⟩

Table 2 – Emission – Low voltage AC mains port

Table clause	Port	Frequency range	Limits	Basic standard	Applicability note	Remarks
2.1	Low voltage AC mains	0,15 MHz to 0,5 MHz	79 dB(μV) quasi-peak 66 dB(μV) average	The measurement instrumentation shall be as defined in 4 and 6 of CISPR 16-1-1. The measuring networks shall be as defined in 4 of CISPR 16-1-2. The measurement set up and method shall be as described in Clause 7 of CISPR 16-2-1.	See [a] and [b]	
		0,5 MHz to 30 MHz	73 dB(μV) quasi-peak 60 dB(μV) average			

[a] Impulse noise (clicks) which occur less than five times per minute is not considered. For clicks appearing more often than 30 times per minute, the limits apply. For clicks appearing between 5 and 30 times per minute, a relaxation of the limits is allowed of 20 log 30/N dB (where N is the number of clicks per minute). Criteria for separated clicks may be found in CISPR 14-1.

[b] At transitional frequencies, the lower limit applies.

Table 3 – Emission – Telecommunications/network port

Table clause	Port	Frequency range	Limits	Basic standard	Applicability note	Remarks
3.1	Telecommunications/ network	0,15 MHz to 0,5 MHz	97 dB(μV) to 87 dB(μV) quasi-peak 84 dB(μV) to 74 dB(μV) average 53 dB(μA) to 43 dB(μA) quasi-peak 40 dB(μA) to 30 dB(μA) average The limits decrease linearly with the logarithm of the frequency	CISPR 22	See [a and b]	
		0,5 MHz to 30 MHz	87 dB(μV) quasi-peak 74 dB(μV) average 43 dB(μA) quasi-peak 30 dB(μA) average			

[a] The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 150 Ω to the telecommunication port under test (conversion factor is 20 $\log_{10}$ 150 / I = 44 dB).

[b] When performing measurement using an ISN, the EUT shall meet the voltage limits of this table. All elements within CISPR 22 shall be followed, including but not limited to selection of test method, test configuration, cable characteristics.

Bibliography

IEC 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*

IEC 60050-601:1985, *International Electrotechnical Vocabulary (IEV) – Chapter 601: Generation, transmission and distribution of electricity – General*

IEC 61000-6-1, *Electromagnetic compatibility (EMC) – Part 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments*

NOTE Harmonized as EN 61000-6-1:2007 (not modified).

〖A1〉 *Text deleted* 〈A1〗

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
Add the following new references to the existing list:				
IEC 60050-161	-	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-
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
CISPR 14-1	2005	Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission	EN 55014-1	2006
CISPR 16-1-1	2010	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	2010
CISPR 16-1-4 + A1	2007 2007	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[1)]	2007 2008
Replace the existing references to CISPR 11, CISPR 16-2-1:2003, CISPR 16-2-3, CISPR 16-4-2 and CISPR 22 by the following new references:				
CISPR 11 (mod)	2009	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	2009
CISPR 16-2-1	2008	Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements	EN 55016-2-1	2009

[1)] EN 55016-1-4 is superseded by EN 55016-1-4:2010, which is based on CISPR 16-1-4:2010 + corr. December 2010.

Publication	Year	Title	EN/HD	Year
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[2)]	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
CISPR 22 (mod)	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022	2010

[2)] EN 55016-2-3 is superseded by EN 55016-2-3:2010, which is based on CISPR 16-2-3:2010.

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 the essential requirements as given in Article 4(a) of the EC Directive 89/336/EEC and Annex I Article 1(a) of the EC Directive 2004/108/EC, and the essential requirements of Article 3.1(b) (emission only) of the EC Directive 1999/5/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directives 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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BS EN 61000-6-4:2007 +A1:2011

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