Irish Standard
I.S. EN 62333-2:2006&A1:2015

Noise suppression sheet for digital devices and equipment - Part 2: Measuring methods

I.S. EN 62333-2:2006&A1:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN 62333-2:2006/A1:2015

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National Foreword

I.S. EN 62333-2:2006&A1:2015 is the adopted Irish version of the European Document EN 62333-2:2006, Noise suppression sheet for digital devices and equipment - Part 2: Measuring methods

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

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In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62333-2:2006/A1

December 2015

ICS 29.100.10

English Version

Noise suppression sheet for digital devices and equipment – Part 2: Measuring method (IEC 62333-2:2006/A1:2015)

Plaque réduisant le bruit des dispositifs et appareils numériques - Partie 2: Méthodes de mesure (IEC 62333-2:2006/A1:2015)

Rauschunterdrückungsschicht für digitale Geräte und Einrichtungen - Teil 2: Messverfahren (IEC 62333-2:2006/A1:2015)

This amendment A1 modifies the European Standard EN 62333-2:2006; it was approved by CENELEC on 2015-09-09. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62333-2:2006/A1:2015 E

European foreword

The text of document 51/1068/CDV, future IEC 62333-2:2006/A1, prepared by IEC/TC 51 "Magnetic components and ferrite materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62333-2:2006/A1:2015.

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) 2016-06-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-09-09

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.

Endorsement notice

The text of the International Standard IEC 62333-2:2006/A1:2015 was approved by CENELEC as a European Standard without any modification.

IEC 62333-2

Edition 1.0 2015-08

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

AMENDMENT 1
AMENDEMENT 1

Noise suppression sheet for digital devices and equipment – Part 2: Measuring methods

Plaque réduisant le bruit des dispositifs et appareils numériques – Partie 2: Méthodes de mesure

IEC 62333-2:2006-05/AMD1:2015-08(en-fr)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62333-2

July 2006

ICS 29.100.10

English version

Noise suppression sheet for digital devices and equipment
Part 2: Measuring methods
(IEC 62333-2:2006)

Plaque réduisant le bruit des dispositifs et appareils numériques
Partie 2: Méthodes de mesure
(CEI 62333-2:2006)

Rauschunterdrückungsschicht für digitale Geräte und Einrichtungen
Teil 2: Messverfahren
(IEC 62333-2:2006)

This European Standard was approved by CENELEC on 2006-06-01. 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.

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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 62333-2:2006 E

Foreword

The text of document 51/853/FDIS, future edition 1 of IEC 62333-2, prepared by IEC TC 51, Magnetic components and ferrite materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62333-2 on 2006-06-01.

This Standard is to be used in conjunction with EN 62333-1.

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)	2007-03-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-06-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 62333-2:2006 was approved by CENELEC as a European Standard without any modification.

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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
IEC 62333-1	-[1)]	Noise suppression sheet for digital devices and equipment Part 1: Terms and definitions	EN 62333-1	2006[2)]
CISPR 16-1	Series	Specification for radio disturbance and immunity measuring apparatus and methods Part 1: Radio disturbance and immunity measuring apparatus	EN 55016-1	Series
CISPR 22 (mod)	-[1)]	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022	2006[2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

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INTERNATIONAL STANDARD

IEC 62333-2

First edition
2006-05

Noise suppression sheet for digital devices and equipment –

Part 2: Measuring methods

Reference number
IEC 62333-2:2006(E)

Publication numbering

As from 1 January 1997 all IEC publications are issued with a designation in the 60000 series. For example, IEC 34-1 is now referred to as IEC 60034-1.

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INTERNATIONAL STANDARD

IEC 62333-2

First edition
2006-05

Noise suppression sheet for digital devices and equipment –

Part 2: Measuring methods

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International Electrotechnical Commission
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

NOISE SUPPRESSION SHEET FOR DIGITAL DEVICES AND EQUIPMENT –

Part 2: Measuring methods

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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 IEC 62333-2 has been prepared IEC technical committee 51: Magnetic components and ferrite materials.

This standard is to be used in conjunction with IEC 62333-1.

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

FDIS	Report on voting
51/853/FDIS	51/861/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.

IEC 62333 consists of the following parts, under the general title *Noise suppression sheet for digital devices and equipment:*

Part 1: Definitions and general properties

Part 2: Measuring methods

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site 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.

A bilingual version of this publication may be issued at a later date.

NOISE SUPPRESSION SHEET FOR DIGITAL DEVICES AND EQUIPMENT –

Part 2: Measuring methods

1 Scope

This part of IEC 62333 specifies the methods for measuring the electromagnetic characteristics of a noise suppression sheet. Those methods are intended to provide useful and repeatable measurements to characterize the performance of the noise suppression sheets, so that manufacturers and their customers are able to obtain the same results.

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 amendment) applies.

IEC 62333-1, *Noise suppression sheet for digital devices and equipment – Part 1: Definitions and general properties*

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

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

3 General

Electromagnetic interference between electronic devices, and emission of radiation from electronic devices are caused, in part, by RF current generated by active devices which are driven at high frequency. Printed-circuit board (PCB), devices mounted on the PCB, and all other connected circuits or cables can act as antennas to radiate the RF noise. Levels of the electromagnetic interference and the emission are proportional to the RF current, and are also affected significantly by PCB design, radiation efficiency of the antennas, and noise coupling coefficients between the devices and the antennas.

The noise suppression sheet (NSS) is used for decoupling of the noise path, suppressing RF noise current, and reducing radiation. The noise suppression effect of the NSS can be evaluated by four parameters. They are defined as intra-decoupling ratio (R_{da}), inter-decoupling ratio (R_{de}), transmission attenuation power ratio (R_{tp}) and radiation suppression ratio (R_{rs}).

A pair of antennas is held close to each other for the measuring intra-decoupling ratio (R_{da}) and inter-decoupling ratio (R_{de}). One antenna acts as a noise source and another one as a receiver. Both decoupling ratios are derived from comparison before and after the NSS is installed nearby the antennas. These measuring procedures represent practical configurations of the NSS. Practically, the NSS is installed near the noise source or the noise interfered part, inside of the electronic equipments.