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Standards

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

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 62333-2:2006/A1**

December 2015

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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**

**EN 62333-2:2006/A1:2015**

**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 (dop) 2016-06-09  
national level by publication of an identical national  
standard or by endorsement
- latest date by which the national standards conflicting with (dow) 2018-09-09  
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**IEC 62333-2**

Edition 1.0 2015-08

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



### 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



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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**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  
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## 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.

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national standard or by endorsement (dop) 2007-03-01
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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)

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62333-1	- <sup>1)</sup>	Noise suppression sheet for digital devices and equipment Part 1: Terms and definitions	EN 62333-1	2006 <sup>2)</sup>
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)	- <sup>1)</sup>	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022	2006 <sup>2)</sup>

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<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

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# INTERNATIONAL STANDARD

**IEC**  
**62333-2**

First edition  
2006-05

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**Noise suppression sheet for digital  
devices and equipment –**

**Part 2:  
Measuring methods**



Reference number  
IEC 62333-2:2006(E)

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# INTERNATIONAL STANDARD

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**62333-2**

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## Noise suppression sheet for digital devices and equipment –

### Part 2: Measuring methods

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### **NOISE SUPPRESSION SHEET FOR DIGITAL DEVICES AND EQUIPMENT –**

#### **Part 2: Measuring methods**

#### **FOREWORD**

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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;
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- replaced by a revised edition, or
- amended.

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## **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.

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