Irish Standard
I.S. EN 62215-3:2013

Integrated circuits - Measurement of impulse immunity -- Part 3: Non-synchronous transient injection method (IEC 62215-3:2013 (EQV))

I.S. EN 62215-3:2013

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English version

Integrated circuits - Measurement of impulse immunity - Part 3: Non-synchronous transient injection method

(IEC 62215-3:2013)

Circuits intégrés -
Mesure de l'immunité aux impulsions -
Partie 3: Méthode d'injection de transitoires non synchrones
(CEI 62215-3:2013)

Integrierte Schaltungen -
Messung der Störfestigkeit gegen Impulse -
Teil 3: Asynchrones Transienteneinspeisungs-Verfahren
(IEC 62215-3:2013)

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CENELEC

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

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Ref. No. EN 62215-3:2013 E

Foreword

The text of document 47A/881/CDV, future edition 1 of IEC 62215-3, prepared by SC 47A “Integrated circuits” of IEC/TC 47 “Semiconductor devices” was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62215-3:2013.

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)	2014-05-21
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-08-21

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 62215-3:2013 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 60050	Series	International Electrotechnical Vocabulary (IEV)	-	-
IEC 61000-4-4	2012	Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test	EN 61000-4-4	2012
IEC 61000-4-5 + corr. October	2005 2009	Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test	EN 61000-4-5	2006
IEC 62132-4	2006	Integrated circuits - Measurement of electromagnetic immunity, 150 kHz to 1 GHz - Part 4: Direct RF power injection method	EN 62132-4	2006
ISO 7637-2	2011	Road vehicles - Electrical disturbances from conduction and coupling - Part 2: Electrical transient conduction along supply lines only	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INTEGRATED CIRCUITS – MEASUREMENT OF IMPULSE IMMUNITY –

Part 3: Non-synchronous transient injection method

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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 62215-3 has been prepared by subcommittee 47A: Integrated circuits, of IEC technical committee 47: Semiconductor devices.

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

CDV	Report on voting
47A/881/CDV	47A/890/RVC

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.

A list of all parts in the IEC 62215 series, published under the general title *Integrated circuits – Measurement of impulse immunity* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.

INTEGRATED CIRCUITS – MEASUREMENT OF IMPULSE IMMUNITY –

Part 3: Non-synchronous transient injection method

1 Scope

This part of IEC 62215 specifies a method for measuring the immunity of an integrated circuit (IC) to standardized conducted electrical transient disturbances. The disturbances, not necessarily synchronized to the operation of the device under test (DUT), are applied to the IC pins via coupling networks. This method enables understanding and classification of interaction between conducted transient disturbances and performance degradation induced in ICs regardless of transients within or beyond the specified operating voltage range.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050 (all parts), *International Electrotechnical Vocabulary (IEV)* (available at <http://www.electropedia.org>)

IEC 61000-4-4:2012, *Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test*

IEC 61000-4-5:2005, *Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Surge immunity test*

IEC 62132-4:2006, *Integrated circuits – Measurement of electromagnetic immunity 150 kHz to 1 GHz – Part 4: Direct RF power injection method*

ISO 7637-2:2011, *Road vehicles – Electrical disturbances from conduction and coupling – Part 2: Electrical transient conduction along supply lines only*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050-131 and IEC 60050-161, some of which have been added for convenience, as well as the following apply.

3.1
auxiliary equipment
equipment not under test but is indispensable for setting up all the functions and assessing the correct performance (operation) of the equipment under test (EUT) during its exposure to the disturbance

3.2
burst
sequence of a limited number of distinct impulses or an oscillation of limited duration