SLOVENSKI STANDARD
SIST EN 62433-2:2017

01-julij-2017

Nadomešča:

SIST EN 62433-2:2010

Modeliranje integriranih vezij (IC) za elektromagnetno združljivost (EMC) - 2. del: Modeli integriranih vezij za vedenjsko simulacijo pri EMI - Vodeni model oddajanja (ICEM-CE) (IEC 62433-2:2017)

EMC IC modelling - Part 2: Models of integrated circuits for EMI behavioural simulation - Conducted emissions modelling (ICEM-CE) (IEC 62433-2:2017)

EMV-IC-Modellierung - Teil 2: Modelle integrierter Schaltungen für die Simulation des Verhaltens bei elektromagnetischer Beeinflussung - Modellierung leitungsgeführter Aussendungen (ICEM-CE) (IEC 62433-2:2017)

Modèles de circuits intégrés pour la CEM - Partie 2: Modèles de circuits intégrés pour la simulation du comportement lors de perturbations électromagnétiques – Modélisation des émissions conduites (ICEM-CE) (IEC 62433-2:2017)

Ta slovenski standard je istoveten z: EN 62433-2:2017

ICS:

31.200	Integrirana vezja, mikroelektronika	Integrated circuits. Microelectronics
33.100.10	Emisija	Emission

SIST EN 62433-2:2017 **en**

EUROPEAN STANDARD

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EMC IC modelling - Part 2: Models of integrated circuits for EMI behavioural simulation - Conducted emissions modelling (ICEM-CE) (IEC 62433-2:2017)

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This European Standard was approved by CENELEC on 2017-03-03. 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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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 CEN-CENELEC Management Centre has the same status as the official versions.

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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 62433-2:2017 E

European foreword

The text of document 47A/999/FDIS, future edition 2 of IEC 62433-2, 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 62433-2:2017.

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) 2017-12-03
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-03-03

This document supersedes EN 62433-2:2010.

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 62433-2:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61967	NOTE	Harmonized in EN 61967 series.
IEC 61967-4	NOTE	Harmonized as EN 61967-4.

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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC/TS 62433-1	2011	EMC IC modelling - Part 1: General modelling framework	-	-
CISPR 17	-	Methods of measurement of the suppression characteristics of passive EMC filtering devices	EN 55017	-

IEC 62433-2

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

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EMC IC modelling –
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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 62433-2 has been prepared by subcommittee 47A: Integrated Circuits, of IEC technical committee 47: Semiconductor devices.

This second edition cancels and replaces the first edition published in 2008. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

Incorporation of an XML based exchange format for model representation.

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

FDIS	Report on voting
47A/999/FDIS	47A/1007/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.

A list of all parts in the IEC 62433 series, published under the general title *EMC IC modelling*, 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 website 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

EMC IC MODELLING –

Part 2: Models of integrated circuits for EMI behavioural simulation – Conducted emissions modelling (ICEM-CE)

1 Scope

This part of IEC 62433 specifies macro-models for an Integrated Circuit (IC) to simulate conducted electromagnetic emissions on a printed circuit board. The model is commonly called Integrated Circuit Emission Model – Conducted Emission (ICEM-CE).

The ICEM-CE macro-model can also be used for modelling an IC-die, a functional block and an Intellectual Property (IP) block.

The ICEM-CE macro-model can be used to model both digital and analogue ICs.

Basically, conducted emissions have two origins:

- conducted emissions through power supply terminals and ground reference structures;
- conducted emissions through input/output (I/O) terminals.

The ICEM-CE macro-model addresses those two types of origins in a single approach.

This standard defines structures and components of the macro-model for EMI simulation taking into account the IC's internal activities.

This part of IEC 62433 has two main parts:

- the first is the electrical description of ICEM-CE macro-model elements along with the specific requirements for information.
- the second part proposes a universal data exchange format called CEML based on XML. This format allows encoding the ICEM-CE in a more useable and generic form for simulating the conducted emissions.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC TS 62433-1:2011, *EMC IC modelling – Part 1: General modelling framework*

CISPR 17, *Methods of measurement of the suppression characteristics of passive EMC filtering devices*

3 Terms, definitions, abbreviations and conventions

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.