BS EN IEC 62433-1:2019

BSI Standards Publication

EMC IC modelling

Part 1: General modelling framework

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 62433-1:2019. It is identical to IEC 62433-1:2019. It supersedes DD IEC/TS 62433-1:2011, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/47, Semiconductors.

A list of organizations represented on this committee 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.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Date	Text affected

EUROPEAN STANDARD

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EN IEC 62433-1

April 2019

ICS 31.200

English Version

EMC IC modelling - Part 1: General modelling framework (IEC 62433-1:2019)

Modèles de circuits intégrés pour la CEM - Partie 1: Cadre de modèle général (IEC 62433-1:2019)

EMV-IC-Modellierung - Teil 1: Allgemeine Modellierungsstruktur (IEC 62433-1:2019)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 47A/1042/CDV, future edition 1 of IEC 62433-1, 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 IEC 62433-1:2019.

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)	2020-01-12
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2022-04-12

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Endorsement notice

The text of the International Standard IEC 62433-1:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

CISPR 17	NOTE	Harmonized as EN 55017

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where 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 62433	series	EMC IC modelling	EN 62433	series
ISO 8879	-	Information processing - Text and office systems - Standard Generalized Markup Language (SGML)	-	-
ANSI INCITS 4	1986	Information Systems - Coded Character Sets - 7-Bit American National Standard Code for Information Interchange (7-Bit ASCII)	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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EMC IC MODELLING –

Part 1: General modelling framework

FOREWORD

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International Standard IEC 62433-1 has been prepared by subcommittee 47A: Integrated circuits, of IEC technical committee 47: Semiconductor devices.

IEC 62433-1 cancels and replaces IEC TS 62433-1 published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC TS 62433 1:2011:

Incorporation of a data exchange format for an integrated circuit's model representation.

The text of this International Standard is based on the following documents:

CDV	Report on voting
47A/1042/CDV	47A/1055/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 62433 series, under the general title *EMC IC modelling*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document 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 1: General modelling framework

1 Scope

This part of IEC 62433 specifies the framework and methodology for EMC IC macro-modelling. Terms that are commonly used in IEC 62433 (all parts), different modelling approaches, requirements and data-exchange format for each model category that is standardized in this series are defined in this document.

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 62433 (all parts), *EMC IC modelling*

ISO 8879, *Information processing – Text and office systems – Standard Generalized Markup Language (SGML)*

ANSI INCITS 4:1986, *Information Systems – Coded Character Sets – 7-Bit American National Standard Code for Information Interchange (7-Bit ASCII)*

3 Terms, definitions, abbreviated terms and conventions

3.1 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
ICEM-CE
Integrated Circuit Emission Model – Conducted Emissions
macro-model of an integrated circuit (IC) to simulate the conducted electromagnetic emissions

Note 1 to entry: An ICEM-CE macro-model can be used for modelling an IC-die, a functional block and an Intellectual Property (IP) block.

3.1.2
ICEM-RE
Integrated Circuit Emission Model – Radiated Emissions
macro-model of an integrated circuit (IC) to simulate the radiated electromagnetic emissions