IEC 62433-4

Edition 1.0 2016-05

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

EMC IC modelling –
Part 4: Models of integrated circuits for RF immunity behavioural simulation – Conducted immunity modelling (ICIM-CI)

Modèles de circuits intégrés pour la CEM –
Partie 4: Modèles de circuits intégrés pour la simulation du comportement d'immunité aux radiofréquences – Modélisation de l'immunité conduite (ICIM-CI)

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Part 4: Models of integrated circuits for RF immunity behavioural simulation – Conducted immunity modelling (ICIM-CI)

FOREWORD

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

FDIS	Report on voting
47A/988/FDIS	47A/989/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.

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EMC IC MODELLING –

Part 4: Models of integrated circuits for RF immunity behavioural simulation – Conducted immunity modelling (ICIM-CI)

1 Scope

This part of IEC 62433 specifies a flow for deriving a macro-model to allow the simulation of the conducted immunity levels of an integrated circuit (IC). This model is commonly called Integrated Circuit Immunity Model – Conducted Immunity, ICIM-CI. It is intended to be used for predicting the levels of immunity to conducted RF disturbances applied on IC pins.

In order to evaluate the immunity threshold of an electronic device, this macro-model will be inserted in an electrical circuit simulation tool.

This macro-model can be used to model both analogue and digital ICs (input/output, digital core and supply). This macro-model does not take into account the non-linear effects of the IC.

The added value of ICIM-CI is that it could also be used for immunity prediction at board and system level through simulations.

This part of IEC 62433 has two main parts:

- the electrical description of ICIM-CI macro-model elements;
- a universal data exchange format called CIML based on XML. This format allows ICIM-CI to be encoded in a more useable and generic form for immunity simulation.

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 62132-1, *Integrated circuits – Measurement of electromagnetic immunity – Part 1: General conditions and definitions*

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

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

ISO 8879: 1986, *Information processing – Text and office systems – Standard Generalized Markup Language (SGML)*

ISO/IEC 646: 1991, *Information technology – ISO 7-bit coded character set for information interchange (7-Bit ASCII)*

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