TECHNICAL REPORT

IEC TR 61967-4-1

First edition
2005-02

Integrated circuits – Measurement of electromagnetic emissions, 150 kHz to 1 GHz –

Part 4-1: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method – Application guidance to IEC 61967-4

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE X

For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

INTEGRATED CIRCUITS – MEASUREMENT OF ELECTROMAGNETIC EMISSIONS, 150 kHz TO 1 GHz –

Part 4-1: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method – Application guidance to IEC 61967-4

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IEC 61967-4-1, which is a technical report, has been prepared by subcommittee 47A: Integrated circuits, of IEC technical committee 47: Semiconductor devices.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
47A/694/DTR	47A/702A/RVC

Full information on the voting for the approval of this technical report 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 61967 consists of the following parts, under the general title *Integrated circuits – Measurement of electromagnetic emissions, 150 kHz to 1 GHz*

Part 1 General conditions and definitions

Part 2 Measurement of radiated emissions – TEM-cell method

Part 3 Measurement of radiated emissions – Surface scan method

Part 4 Measurement of conducted emissions – 1 Ω / 150 Ω Direct coupling method

Part 5 Measurement of conducted emissions – Workbench Faraday cage method

Part 6 Measurement of conducted emissions – Magnetic probe method

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- withdrawn;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

A bilingual version of this Technical Report may be issued at a later date.

INTEGRATED CIRCUITS – MEASUREMENT OF ELECTROMAGNETIC EMISSIONS, 150 kHz TO 1 GHz –

Part 4-1: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method – Application guidance to IEC 61967-4

1 Scope

This technical report serves as an application guidance and relates to IEC 61967-4.The division of *IC types* into →*IC function modules* and the software modules for →*cores* with *CPU* can be used for Parts 3, 5 and 6 of IEC 61967 as well. This report gives advice for performing test methods described in IEC 61967-4 by classifying types of integrated circuits (ICs) and providing hints for test applications related to the IC type classification.

To obtain comparable results of IC emission measurements using IEC 61967-4, definitions are given which are in addition to the general conditions specified in IEC 61967-1 and IEC 61967-4. These definitions concern IC related operating modes, pins and →*ports* to be tested, test set-ups according IEC 61967-4, including description of load circuits and RF path, and IC related emission limits (or limit classes). Parts of the guidance provided by this technical report may be applicable to other parts of IEC 61967.

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 amendments) applies.

IEC 60050(101), *International Electrotechnical Vocabulary (IEV) – Part 101: Mathematics*

IEC 60050(161:1990), *International Electrotechnical Vocabulary (IEV) – Part 161: Electromagnetic compatibility*
Amendment 2 (1998)

IEC 61967-1, *Integrated circuits – Measurement of electromagnetic emissions 150 kHz to 1 GHz – Part 1: General conditions and definitions*

IEC 61967-2, *Integrated circuits – Measurement of electromagnetic emissions 150 kHz to 1 GHz – Part 2: Measurement of radiated emissions, TEM-cell method*[1]

IEC 61967-3, *Integrated circuits – Measurement of electromagnetic emissions 150 kHz to 1 GHz – Part 3: Measurement of radiated emissions, surface scan method*[2]

IEC 61967-4, *Integrated circuits – Measurement of electromagnetic emissions 150 kHz to 1 GHz – Part 4: Measurement of conducted emissions – 1 Ω/150 Ω direct coupling method*

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1 In preparation.

2 To be published.

IEC 61967-5, *Integrated circuits - Measurement of electromagnetic emissions, 150 kHz to 1 GHz - Part 5: Measurement of conducted emissions, Workbench Faraday Cage method*

IEC 61967-6, *Integrated circuits – Measurement of electromagnetic emissions, 150 kHz to 1 GHz – Part 6: Measurement of conducted emissions – Magnetic probe method*

ISO 9141, *Road vehicle – Diagnostic systems – Requirements for interchange of digital information*