
**Integrirana vezja - Meritve elektromagnetne odpornosti, 150 kHz do 1 GHz - 3. del:
Metoda z vnašanjem masovnega toka (BCI) (IEC 62132-3:2007)**

Integrated circuits - Measurement of electromagnetic immunity, 150 KHz to 1 GHz - Part
3: Bulk Current Injection (BCI) method (IEC 62132-3:2007)

Integrierte Schaltungen - Messung der elektromagnetischen Störfestigkeit im
Frequenzbereich von 150 kHz bis 1 GHz - Teil 3: Stromeinspeisungs-Verfahren (IEC
62132-3:2007)

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Circuits intégrés - Mesure de l'immunité électromagnétique, 150 kHz a 1 GHz - Partie 3:
Méthode d'injection de courant (BCI) (IEC 62132-3:2007)

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**Integrated circuits -
Measurement of electromagnetic immunity, 150 kHz to 1 GHz -
Part 3: Bulk current injection (BCI) method
(IEC 62132-3:2007)**

Circuits intégrés -
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150 kHz à 1 GHz -
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de courant (BCI)
(CEI 62132-3:2007)

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von 150 kHz bis 1 GHz -
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(BCI-)Verfahren
(IEC 62132-3:2007)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

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CENELEC

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

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Foreword

The text of document 47A/773/FDIS, future edition 1 of IEC 62132-3, prepared by SC 47A, Integrated circuits, of IEC TC 47, Semiconductor devices, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62132-3 on 2007-10-01.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement | (dop) | 2008-07-01 |
| – latest date by which the national standards conflicting
with the EN have to be withdrawn | (dow) | 2010-10-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62132-3:2007 was approved by CENELEC as a European Standard without any modification.

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Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 62132-1	2006	Integrated circuits - Measurement of electromagnetic immunity, 150 kHz to 1 GHz - Part 1: General conditions and definitions	EN 62132-1 + corr. November	2006 2006

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Part 3: Bulk current injection (BCI) method

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Partie 3: Méthode d'injection de courant (BCI)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 3: Bulk current injection (BCI) method

FOREWORD

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International Standard IEC 62132-3 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:

FDIS	Report on voting
47A/773/FDIS	47A/776/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 of the IEC 62132 series, published under the general title *Integrated circuits – Measurement of electromagnetic immunity, 150 kHz to 1 GHz* can be found on the IEC website.

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.

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

Part 3: Bulk current injection (BCI) method

1 Scope and object

This part of IEC 62132 describes a bulk current injection (BCI) test method to measure the immunity of integrated circuits (IC) in the presence of conducted RF disturbances, e.g. resulting from radiated RF disturbances. This method only applies to ICs that have off-board wire connections e.g. into a cable harness. This test method is used to inject RF current on one or a combination of wires.

This standard establishes a common base for the evaluation of semiconductor devices to be applied in equipment used in environments that are subject to unwanted radio frequency electromagnetic signals.

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 62132-1:2006, *Integrated circuits – Measurement of electromagnetic immunity, 150 kHz to 1 GHz – Part 1: General conditions and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 62132-1 apply.

4 General

The characterization of RF immunity (or susceptibility) of an integrated circuit (IC) is essential to define the optimum design of a printed circuit board, filter concepts and for further integration into an electronic system. This document defines a method for measuring the immunity of ICs to RF current induced by electromagnetic disturbance.

This method is based on the bulk current injection (BCI) method used for equipment and systems [1, 2, 3]. The BCI method simulates the induced current as a result of direct radiated RF signals coupled onto the wires and cables of equipment and systems.

In general, in electronic systems, off-board wire connections or traces on the printed circuit board act as antennas for electromagnetic fields. Via this coupling path, these electromagnetic fields will induce voltages and currents at the pins of the IC and may cause interference. ICs are often used in various configurations dependent on their application. In this case, immunity levels of electronic equipment are closely linked to the ability of an IC to withstand the effects of an electromagnetic field represented.

To characterize the RF immunity of an IC, the induced current level necessary to cause the IC's malfunction is measured. The malfunction may be classified from A to E according to the performance classes defined in IEC 62132-1.