

INTERNATIONAL STANDARD

**Integrated circuits - Measurement of electromagnetic immunity -
Part 8: Measurement of radiated immunity - IC stripline method**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Integrated circuits - Measurement of electromagnetic immunity -
Part 8: Measurement of radiated immunity - IC stripline method**

FOREWORD

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IEC 62132-8 has been prepared by subcommittee 47A: Integrated circuits, of IEC technical committee 47: Semiconductor devices. It is an International Standard.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

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

- a) frequency range of 150 kHz to 3 GHz was deleted from the scope;
- b) extension of upper usable frequency to 6 GHz or higher as long as the defined requirements are fulfilled.

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

FDIS	Report on voting
47A/1205/FDIS	47A/1209/RVD

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.

The language used for the development of this International Standard is English.

This part of IEC 62132 is to be read in conjunction with IEC 62132-1.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all the parts in the IEC 62132 series, published under the general title *Integrated circuits - Measurement of electromagnetic immunity*, 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 web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn, or
- revised.

1 Scope

This part of IEC 62132 specifies a method for measuring the immunity of an integrated circuit (IC) to radio frequency (RF) radiated electromagnetic disturbances using an [IC stripline](#).

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 60050-131, *International Electrotechnical Vocabulary (IEV) - Part 131: Circuit theory*

IEC 60050-161, *International Electrotechnical Vocabulary (IEV) - Part 161: Electromagnetic compatibility*

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

3 Terms and definitions

For the purpose of this document, the terms and definitions given in IEC 62132-1, IEC 60050-131 and IEC 60050-161, and the following, apply.

3.1 transverse electromagnetic mode TEM mode

waveguide mode in which the components of the electric and magnetic fields in the propagation direction are much less than the primary field components across any transverse cross-section

3.2 TEM waveguide

open or closed transmission line system, in which a wave is propagating in the [transverse electromagnetic mode](#) to produce a specified field for testing purposes

3.3 IC stripline

[TEM waveguide](#) consisting of an active conductor placed on a defined spacing over an enlarged ground plane, connected to a port structure on each end and an optional shielded enclosure

Note 1 to entry: This arrangement guides a wave propagation in the [transverse electromagnetic mode](#) to produce a specific field for testing purposes between the active conductor and the enlarged ground plane. The ground plane of the standard EMC test board, according to IEC 62132-1, is used. An optional shielding enclosure may be used to shield the [IC stripline](#). In contrast to the open version without a shielding enclosure, the shield leads to a closed version of the [IC stripline](#). For further information, see [Annex A](#).

3.4 characteristic impedance

magnitude of the ratio of the voltage between the active conductor and the corresponding ground plane to the current on either conductor for any constant phase wave-front

Note 1 to entry: The [characteristic impedance](#) is independent of the voltage/current magnitudes and depends only on the cross sectional geometry of the transmission line. [TEM](#) waveguides are typically designed to have a 50 Ω [characteristic impedance](#). For further information and equation to stripline arrangements, see [Annex A](#).