

Integrated circuits — Measurement of electromagnetic immunity, 150 kHz to 1 GHz —

Part 1: General conditions and definitions

The European Standard EN 62132-1:2006 has the status of a
British Standard

ICS 31.200

National foreword

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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.

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English version

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

Circuits intégrés -
Mesure de l'immunité électromagnétique,
150 kHz à 1 GHz
Partie 1: Conditions générales
et définitions
(CEI 62132-1:2006)

Integrierte Schaltungen -
Messung der elektromagnetischen
Störfestigkeit im Frequenzbereich
von 150 kHz bis 1 GHz
Teil 1: Allgemeine Bedingungen
und Begriffe
(IEC 62132-1:2006)

This European Standard was approved by CENELEC on 2006-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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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/734/FDIS, future edition 1 of IEC 62132-1, 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 62132-1 on 2006-02-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
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national standard or by endorsement (dop) 2006-11-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2009-02-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62132-1:2006 was approved by CENELEC as a European Standard without any modification.

CONTENTS

1	Scope and object.....	5
2	Normative references	5
3	Terms and definitions	6
4	Test conditions	9
4.1	General	9
4.2	Ambient conditions	9
4.3	Test generator	10
4.4	Frequency range	10
5	Test equipment.....	10
5.1	General	10
5.2	Shielding	10
5.3	Test generator and power amplifier	10
5.4	Other components	10
6	Test set-up	11
6.1	General	11
6.2	Test circuit board.....	11
6.3	Pin selection scheme	11
6.4	IC pin loading/termination	11
6.5	Power supply requirements	12
6.6	IC specific considerations	12
6.7	IC stability over time	13
7	Test procedure	13
7.1	Monitoring check	13
7.2	Human exposure	13
7.3	System verification	13
7.4	Specific procedures	14
8	Test report	15
8.1	General	15
8.2	Immunity limits or levels.....	16
8.3	Performance classes	16
8.4	Interpretation of results	16
	Annex A (informative) Test method comparison table.....	17
	Annex B (informative) General test board specification	18
	Annex ZA (normative) Normative references to international publications with their corresponding European publications.....	23
	Bibliography	22

Figure 1 – RF signal when RF peak power level is maintained	15
Figure B.1 – Example of an immunity test board	21
Table 1 – IC pin loading recommendations	12
Table 2 – Frequency step size versus frequency range	14
Table A.1 – Test method comparison table	17
Table B.1 – Position of vias over the board.....	18

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

Part 1: General conditions and definitions

1 Scope and object

This part of IEC 62132 provides general information and definitions on measurement of conducted and radiated electromagnetic immunity of integrated circuits (ICs) to conducted and radiated disturbances. It also provides a description of measurement conditions, test equipment and set-up, as well as the test procedures and content of the test reports. A test method comparison table is included in Annex A to assist in selecting the appropriate measurement method(s).

This standard describes general conditions required to obtain a quantitative measure of immunity of ICs in a uniform testing environment. Critical parameters that are expected to influence the test results are described. Deviations from this standard are noted explicitly in the individual test report. The measurement results can be used for comparison or other purposes.

Measurement of the injected voltages and currents, together with the responses of the ICs tested at controlled conditions, yields information about the potential immunity of the IC to conducted and radiated RF disturbances in a given application.

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 61000-4-3, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

IEC 61000-4-6, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

3 Terms and definitions

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

3.1

amplitude modulation

AM

process by which a continuous high-frequency wave (carrier) is caused to vary in amplitude by the action of another wave containing information

[IEEE 100-1984]

3.2

artificial network

AN

agreed reference load impedance (simulated), presented to the DUT by networks (e.g. extended power or communication lines) across which the RF disturbance voltage is measured and which isolates the apparatus from the power supply or loads in that frequency range

[IEV 161-04-05, modified]

3.3

associated equipment

transducers (e.g. probes, networks and antennas) connected to a measuring receiver or test generator; also transducers which are used in the signal or disturbance transmission path between a DUT and measuring equipment or a (test-) signal generator

3.4

auxiliary equipment

AE

equipment not under test that is nevertheless indispensable for setting up all the functions and assessing the correct performance (operation) of the equipment under test (DUT) during its exposure to the disturbance

3.5

biasing tee

coupling device that allows the signal superposition of an RF signal to a DC signal to an output port without affecting the RF path

3.6

common mode voltage

asymmetrical disturbance voltage

mean of the phasor voltages appearing between each conductor and a specified reference, usually earth or frame

[IEV 161-04-09]

3.7

common mode current

vector sum of the currents flowing through two or more conductors at a specified cross-section of a “mathematical” plane intersected by these conductors