

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Electromagnetic compatibility (EMC)

Part 4-25: Testing and measurement techniques – HEMP immunity test methods for equipment and systems

Compatibilité électromagnétique (CEM)

Partie 4-25: Techniques d'essai et de mesure – Méthodes d'essai d'immunité à l'IEMN-HA des appareils et des systèmes



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

CN

ICS 33.100.99

ISBN 978-2-88912-055-0

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CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references.....	7
3 Definitions	8
4 General	11
5 Immunity tests and immunity test levels	12
5.1 Introduction	12
5.2 Immunity tests	12
5.3 Immunity test levels	12
5.4 Radiated disturbance tests.....	12
5.4.1 Radiated immunity test levels.....	12
5.4.2 Radiated immunity test specifications.....	13
5.4.3 Small radiated test facilities	14
5.4.4 Large HEMP simulators	14
5.4.5 Frequency domain spectrum requirements	16
5.5 Conducted disturbance tests.....	16
5.5.1 Conducted immunity test levels	16
5.5.2 Conducted immunity test specifications	19
6 Test equipment.....	20
6.1 Radiated field tests	20
6.1.1 Radiated field generator.....	20
6.1.2 Instrumentation.....	20
6.2 Conducted disturbance tests.....	21
6.2.1 Test generator	21
6.2.2 Instrumentation.....	23
7 Test set-up	23
7.1 Radiated disturbance test	23
7.2 Conducted disturbance test	23
8 Test procedure	24
8.1 Climatic conditions.....	24
8.2 Immunity test level and test exposures.....	25
8.3 Radiated disturbance test procedure	25
8.3.1 Test parameter measurements	25
8.3.2 Radiated test procedure.....	25
8.4 Conducted disturbance immunity test procedure	27
8.5 Test execution	27
8.5.1 Execution of the radiated immunity test	27
8.5.2 Execution of the conducted immunity test.....	28
9 Test results and test reports	28

Annex A (informative) Rationale for the immunity test levels	29
Annex B (informative) Conducted immunity tests for antennas	38
Annex C (informative) Conducted disturbance immunity tests	40
Annex D (normative informative) Damped oscillatory wave test.....	44
Figure 1 – Frequency domain spectral magnitude between 100 kHz and 300 MHz.....	14
Figure C.1 – Block diagram for EC10 and EC11 immunity tests	41
Figure C.2 – Example of a simplified circuit diagram of a fast transient/burst generator.....	41
Figure C.3 – Waveshape of an EC10 pulse into a 50 Ω load	42
Figure C.4 – Example of an EC11 generator (see clause C.1 for details).....	42
Figure C.5 – Waveshape of an EC11 pulse into a 50 Ω load	43
Figure C.6 – Simplified block diagram for LC immunity test levels	43
Figure C.7 – Waveshape of the LC slow pulse.....	43
Table 1 – Radiated immunity test levels defined in the present standard	13
Table 2 – Early time conducted immunity test levels	17
Table 3 – Intermediate time HEMP conducted immunity test levels	18
Table 4 – Conducted environment immunity test levels for late-time HEMP	19
Table 5 – Late time HEMP conducted environment effects tests for low-voltage a.c. power ports	19
Table 6 – Conducted HEMP immunity test specifications	20
Table A.1 – Radiated immunity test levels	30
Table A.2 – Conducted common-mode early time HEMP environments.....	31
Table A.3 – Early time HEMP conducted environments on LV circuits (low-voltage circuits up to 1 000 V).....	32
Table A.4 – Conducted environments for early time HEMP	33
Table A.5 – Early time HEMP conducted environments immunity test levels for LV circuits (low-voltage circuits up to 1000 V).....	34
Table A.6 – Example early time HEMP immunity test levels for various applications.	35
Table D.1 – ISO 7137 test procedure reference number 3.8.....	44
Table D.2 – VG current injection test	45
Table D3 – MIL-STD-461-E	45

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-25: Testing and measurement techniques – HEMP immunity test methods for equipment and systems

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This consolidated version of IEC 61000-4-25 consists of the first edition (2001) [documents 77C/113/FDIS and 77C/117/RVD] and its amendment 1 (2012) [documents 77C/216/FDIS and 77C/218/RVD]. It bears the edition number 1.1.

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience. A vertical line in the margin shows where the base publication has been modified by amendment 1. Additions and deletions are displayed in red, with deletions being struck through.

International Standard IEC 61000-4-25 has been prepared by subcommittee 77C: High power transient phenomena, of IEC technical committee 77: Electromagnetic compatibility.

It forms part 4-25 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107.

~~Annex D forms an integral part of this standard.~~

Annexes A, B C and D are for information only.

The committee has decided that the contents of the base publication and its amendments 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,
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INTRODUCTION

This standard is part of the IEC 61000 series, according to the following structure:

Part 1: General

General considerations (introduction, fundamental principles)

Definitions, terminology

Part 2: Environment

Description of the environment

Classification of the environment

Compatibility levels

Part 3: Limits

Emission limits

Immunity limits (in so far as they do not fall under the responsibility of product committees)

Part 4: Testing and measurement techniques

Measurement techniques

Testing techniques

Part 5: Installation and mitigation guidelines

Installation guidelines

Mitigation methods and devices

Part 6: Generic standards

Part 9: Miscellaneous

Each part is further subdivided into several parts, published either as International Standards or as technical specifications or technical reports, some of which have already been published as sections. Others will be published with the part number followed by a dash and completed by a second number identifying the subdivision (example: 61000-6-1).

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-25: Testing and measurement techniques – HEMP immunity test methods for equipment and systems

1 Scope

This part of IEC 61000 describes the immunity test levels and related test methods for electrical and electronic equipment and systems exposed to high-altitude electromagnetic pulse (HEMP) environments. It defines ranges of immunity test levels and establishes test procedures. Specifications for test equipment and instrumentation test set-up, test procedures, pass/fail criteria, and test documentation requirements are also defined by this standard. These tests are intended to demonstrate the immunity of electrical and electronic equipment when subjected to HEMP radiated and conducted electromagnetic disturbances. For radiated disturbance immunity tests, specifications are defined in this standard both for small test facilities and large HEMP simulators.

This part of IEC 61000 defines specifications for laboratory immunity tests. On-site tests performed on equipment in the final installation to verify immunity are also specified. These verification tests use the same specifications as laboratory tests, except for the climatic environmental specifications.

The objective of this part of IEC 61000 is to establish a common and reproducible basis for evaluating the performance of electrical and electronic equipment, when subjected to HEMP radiated environments and the associated conducted transients on power, antenna, and input/output (I/O) signal and control lines.

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(161), *International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility*

IEC 60038, *IEC standard voltages*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 61000-2-5, *Electromagnetic compatibility (EMC) – Part 2: Environment – Section 5: Classification of electromagnetic environments*. Basic EMC publication

IEC 61000-2-9, *Electromagnetic compatibility (EMC) – Part 2: Environment – Section 9: Description of HEMP environment – Radiated disturbance*. Basic EMC publication

IEC 61000-2-10:1998, *Electromagnetic compatibility (EMC) – Part 2-10: Environment – Description of HEMP environment – Conducted disturbance*

IEC 61000-2-11, *Electromagnetic compatibility (EMC) – Part 2: Environment – Section 11: Classification of HEMP environments*. Basic EMC publication