SLOVENSKI STANDARD
SIST EN IEC 61000-4-41:2025

01-marec-2025

Elektromagnetna združljivost (EMC) - 4-41. del: Preskusne in merilne tehnike - Preskusi odpornosti proti širokopasovnemu sevanju

Electromagnetic compatibility (EMC) - Part 4-41: Testing and measurement techniques - Broadband radiated immunity tests

Elektromagnetische Verträglichkeit (EMV) - Teil 4-41: Prüf- und Messverfahren - Prüfungen der breitbandigen Störfestigkeit

Compatibilité électromagnétique (CEM) - Partie 4-41: Techniques d'essai et de mesure - Essais d'immunité aux rayonnements à large bande

Ta slovenski standard je istoveten z: **EN IEC 61000-4-41:2025**

ICS:

33.100.20 Imunost Immunity

SIST EN IEC 61000-4-41:2025 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61000-4-41

January 2025

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English Version

Electromagnetic compatibility (EMC) - Part 4-41: Testing and measurement techniques - Broadband radiated immunity tests (IEC 61000-4-41:2024)

Compatibilité électromagnétique (CEM) - Partie 4-41: Techniques d'essai et de mesure - Essais d'immunité aux rayonnements à large bande (IEC 61000-4-41:2024)

Elektromagnetische Verträglichkeit (EMV) - Teil 4-41: Prüf- und Messverfahren - Prüfungen der breitbandigen Störfestigkeit (IEC 61000-4-41:2024)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 77B/892/FDIS, future edition 1 of IEC 61000-4-41, prepared by SC 77B "High frequency phenomena" of IEC/TC 77 "Electromagnetic compatibility" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61000-4-41:2025.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2026-01-31
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2028-01-31

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 61000-4-3	2020	Electromagnetic compatibility (EMC) - Part 4-3 : Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN IEC 61000-4-3	2020

IEC 61000-4-41

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INTERNATIONAL STANDARD

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colour inside

Electromagnetic compatibility (EMC) – Part 4-41: Testing and measurement techniques – Broadband radiated immunity tests

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-41: Testing and measurement techniques – Broadband radiated immunity tests

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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IEC 61000-4-41 has been prepared by subcommittee 77B: High frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility. It is an International Standard.

It forms Part 4-41 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107.

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

Draft	Report on voting
77B/892/FDIS	77B/895/RVD

Full information on the voting for its approval 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 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 parts in the IEC 61000 series, published under the general title *Electromagnetic compatibility (EMC)*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

IEC 61000 is published in separate parts 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 the 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 a second number identifying the subdivision (example: IEC 61000-6-1).

This part is an international standard which gives immunity requirements and test procedures related to radiated disturbances generated by broadband signals.

Modern digital communication signals operate on multiple frequencies such as orthogonal frequency division multiplexing (OFDM) and use bandwidths ranging from tens of MHz to hundreds of MHz, all while employing in-band time division duplexing (TDD) or frequency division duplexing (FDD) transmission technology, or both. Such broadband signals can cause a performance degradation or malfunction of other equipment, or both. In this document, the disturbance is not a frequency sweep of a narrowband signal but a broadband signal with coexisting multiple frequencies which is stepped through the desired frequency range.

Examples of broadband signals are LTE signals and 5G mobile communication signals.

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-41: Testing and measurement techniques – Broadband radiated immunity tests

1 Scope

This part of IEC 61000 relates to broadband radiated disturbances generated by, for example, communication devices or services, transmitters or industrial electromagnetic sources or any other devices capable of generating such a signal.

The object of this document is to establish a common reference for evaluating the immunity of electrical and electronic equipment when subjected to broadband radiated electromagnetic fields.

This document specifies testing in the frequency ranges above 80 MHz, limited only by the capabilities of commercially available test instrumentation.

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 61000-4-3:2020, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic field immunity test*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61000-4-3 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.1.1
auxiliary equipment
AE
equipment necessary to provide the equipment under test (EUT) with the signals required for normal operation and equipment to verify the performance of the EUT

3.1.2
equivalent carrier electric field strength
electric field strength at carrier frequency equivalent to the square root of the cumulative electric field power (E^2) caused by the radiation of broadband signal

Note 1 to entry: Equivalent carrier electric field strength is expressed in V/m.