SLOVENSKI STANDARD
oSIST prEN IEC 61326-2-1:2019

01-oktober-2019

Električna oprema za merjenje, kontrolo in laboratorijsko uporabo - Zahteve za elektromagnetno združljivost (EMC) - 2-1. del: Posebne zahteve - Preskusne konfiguracije, obratovalni pogoji in merila za delovanje občutljive preskuševalne in merilne opreme v razmerah brez zaščite proti elektromagnetnim motnjam EMC

Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-1: Particular requirements - Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications

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Elektrische Mess-, Steuer-, Regel- und Laborgeräte – EMV-Anforderungen – Teil 2-1: Besondere Anforderungen – Prüfanordnung, Betriebsbedingungen und Leistungsmerkmale für empfindliche Prüf- und Messgeräte für Anwendungen ohne EMV-Schutzmaßnahmen

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Matériel électrique de mesure, de commande et de laboratoire - Exigences relatives à la CEM - Partie 2-1: Exigences particulières - Configurations d'essai, conditions fonctionnelles et critères de performance pour essai de sensibilité et équipement de mesure pour les applications non protégées de la CEM

Ta slovenski standard je istoveten z: prEN IEC 61326-2-1:2019

ICS:

19.080	Električno in elektronsko preskušanje	Electrical and electronic testing
33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

oSIST prEN IEC 61326-2-1:2019 en,fr,de

2003-01.Slovenski inštitut za standardizacijo. Razmnoževanje celote ali delov tega standarda ni dovoljeno.

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65A/923/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:	
IEC 61326-2-1 ED3	
DATE OF CIRCULATION:	CLOSING DATE FOR VOTING:
2019-08-23	**2019-11-15**
SUPERSEDES DOCUMENTS:	
65A/904/CD, 65A/914A/CC	

IEC SC 65A : SYSTEM ASPECTS	
SECRETARIAT:	SECRETARY:
United Kingdom	Mr Petar Luzajic
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD:
TC 77, SC 77A	☐
	Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.

FUNCTIONS CONCERNED:

☒ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY

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☒ SUBMITTED FOR CENELEC PARALLEL VOTING ☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING

Attention IEC-CENELEC parallel voting

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

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This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 2-1: Particular requirements – Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications

PROPOSED STABILITY DATE: 2023

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL AND LABORATORY USE – EMC REQUIREMENTS –

Part 2-1: Particular requirements – Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications

FOREWORD

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International Standard IEC 61326-2-1 has been prepared by subcommittee 65A: System aspects, of IEC technical committee 65: Industrial-process measurement, control and automation.

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

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The main technical changes with regard to the previous edition are as follows:

– Update with respect to IEC 61326-1:20xx.

The text of this standard is based on the following documents:

FDIS	Report on voting
65A/641/FDIS	65A/652/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.

This part of IEC 61326 series is to be used in conjunction with IEC 61326-1:20xx and follows the same numbering of clauses, subclauses, tables and figures.

When a particular subclause of IEC 61326-1:20xx is not mentioned in this part, that subclause applies as far as is reasonable. When this standard states “addition”, “modification” or “replacement”, the relevant text in IEC 61326-1:20xx is to be adapted accordingly.

NOTE The following numbering system is used:

– subclauses, tables and figures that are numbered starting from 101 are additional to those in IEC 61326-1:20xx;

– unless notes are in a new subclause or involve notes in IEC 61326-1:20xx, they are numbered starting from 101 including those in a replaced clause or subclause;

– additional annexes are lettered AA, BB, etc.

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A list of all parts of IEC 61326 series, under the general title *Electrical equipment for measurement, control and laboratory use – EMC requirements* 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,
- replaced by a revised edition, or
- amended.

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ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL AND LABORATORY USE – EMC REQUIREMENTS –

Part 2-1: Particular requirements – Test configurations, operational conditions and performance criteria for sensitive test and measurement equipment for EMC unprotected applications

1 Scope

In addition to the scope of IEC 61326-1:20xx, this part of IEC 61326 specifies more detailed test configurations, operational conditions and performance criteria for equipment with test and measurement circuits (internal or, external to the equipment, or both) that are not EMC protected for operational and/or functional reasons, as specified by the manufacturer.

The manufacturer specifies the environment for which the product is intended to be used and selects the appropriate test level specifications of IEC 61326-1:20xx.

NOTE Examples of equipment include, but are not limited to, oscilloscopes, logic analysers, spectrum analysers, network analysers, analogue instruments, digital multimeters (DMM) and board test systems.

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2 Normative references

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The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies.

Clause 2 of IEC 61326-1:20xx applies with the following addition:

Addition:

IEC 61326-1: 20xx, *Electrical equipment for measurement, control and laboratory use – EMC requirements – Part 1: General requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 61326-1:20xx and IEC 60050-161 apply.

4 General

Clause 4 of IEC 61326-1:20xx applies.

5 EMC test plan

5.1 General

Subclause 5.1 of IEC 61326-1:20xx applies.

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5.2 Configuration of EUT during testing

Subclause 5.2 of IEC 61326-1:20xx applies, except as follows:

Addition:

5.2.4.101 I/O ports for test and measurement purposes

Test and measurement input ports shall be capped and terminated with an appropriate impedance unless this leads to an operating condition unsuitable for measuring the emission and immunity performance of the product. If an input signal is needed, an appropriate input signal shall be applied using test leads or probes as specified by the manufacturer.

Test and measurement output ports not needed to evaluate the essential functions of the EUT shall be capped and/or terminated.

Electrostatic discharges shall be applied to the mated connector of the shield of the unmated port, but not to the inner pins of shielded port or cable connectors.

Examples include but are not limited to: USB, BNC, D-subminiature, GPIB, RS232 and IEEE 1284-B (parallel printer port), etc.

NOTE 1 Probes and/or test leads not used to apply an input signal during test to the test and measurement ports do not need to be connected. Such test leads can vary substantially from one application to another and are often connected to equipment that has the covers removed and may be in various stages of disassembly to provide access to test points inside. Connected test leads may increase emissions and/or reduce immunity in certain applications.

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NOTE 2 Capped means locally covered with a screen or shield.

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5.3 Operation conditions of EUT during testing

Subclause 5.3 of IEC 61326-1:20xx applies, except as follows:

Addition:

5.3.101 Operational conditions

When both battery and mains options are available, both modes of operation shall comply.

5.3.102 Oscilloscopes

The oscilloscope ports shall be set for maximum sweep speed, maximum sensitivity and continuous acquisition mode unless other modes are known to provide worst-case emission or immunity results within normal applications.

5.3.103 Logic analysers

The logic analyser shall be set for data analysis modes during emission measurement and continuous data acquisition mode during immunity testing unless other modes are known to provide worst-case emission or immunity results within normal applications.

5.3.104 Digital multimeters (DMM)

Typical set-ups include: peak detect, maximum sensitivity (usually auto-range, if available, will suffice) and continuous acquisition mode.

5.3.105 Other equipment

For equipment not mentioned in 5.3.102 to 5.3.104, the following philosophy shall apply.

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A selection of representative operation modes shall be made, taking into account that not all functions, but only the most typical functions of the equipment can be tested. The estimated worst-case operating modes for normal application shall be selected

5.4 Specification of functional performance

Subclause 5.4 of IEC 61326-1:20xx applies.

5.5 Test description

Subclause 5.5 of IEC 61326-1:20xx applies.

6 Immunity requirements

6.1 Conditions during the tests

Subclause 6.1 of IEC 61326-1:20xx applies.

6.2 Immunity test requirements

Subclause 6.2 of IEC 61326-1:20xx applies.

6.3 Random aspects

Subclause 6.3 of IEC 61326-1:20xx applies.

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6.4 Performance criteria

Subclause 6.4 of IEC 61326-1:20xx applies, except as follows:

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Addition:

6.4.101 Tests with transient electromagnetic phenomenon

During testing with transient electromagnetic phenomena that are assigned to performance criteria B in Table 1, 2 or 3 of IEC 61326-1:20xx, the EUT may have temporary degradation or loss of function or performance which is self-recovering. Self-recovery times greater than 10 s shall be specified by the manufacturer in the equipment documentation for the user. Trigger functions need not be evaluated. No change in actual operating state or loss of stored data is allowed.

7 Emission requirements

Clause 7 of IEC 61326-1:20xx applies.

8 Test results and test report

Clause 8 of IEC 61326-1:20xx applies.

9 Instructions for use

Clause 9 of IEC 61326-1:20xx applies, except as follows:

Addition: