SLOVENSKI STANDARD
SIST EN 61000-2-2:2003/A2:2019

01-november-2019

Elektromagnetna združljivost (EMC) - Okolje - Nivoji združljivosti za nizkofrekvenčne prevodne motnje in signaliziranje v javnih nizkonapetostnih napajalnih sistemih - Dopolnilo A2

Electromagnetic compatibility (EMC) - Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems

Elektromagnetische Verträglichkeit (EMV) - Teil 2-2: Umgebungsbedingungen - Verträglichkeitspegel für niederfrequente leitungsgeführte Störgrößen und Signalübertragung in öffentlichen Niederspannungsnetzen

Compatibilité électromagnétique (CEM) - Partie 2-2: Environnement - Niveaux de compatibilité pour les perturbations conduites à basse fréquence et la transmission des signaux sur les réseaux publics d'alimentation basse tension

Ta slovenski standard je istoveten z: **EN 61000-2-2:2002/A2:2019**

ICS:

33.100.01	Elektromagnetna združljivost na splošno	Electromagnetic compatibility in general

SIST EN 61000-2-2:2003/A2:2019 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61000-2-2:2002/A2

May 2019

ICS 33.100.01

English Version

Electromagnetic compatibility (EMC) - Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems (IEC 61000-2-2:2002/A2:2018)

Compatibilité électromagnétique (CEM) - Partie 2-2: Environnement - Niveaux de compatibilité pour les perturbations conduites à basse fréquence et la transmission des signaux sur les réseaux publics d'alimentation basse tension (IEC 61000-2-2:2002/A2:2018)

Elektromagnetische Verträglichkeit (EMV) - Teil 2-2: Umgebungsbedingungen - Verträglichkeitspegel für niederfrequente leitungsgeführte Störgrößen und Signalübertragung in öffentlichen Niederspannungsnetzen (IEC 61000-2-2:2002/A2:2018)

This amendment A2 modifies the European Standard EN 61000-2-2:2002; it was approved by CENELEC on 2018-06-13. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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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

Ref. No. EN 61000-2-2:2002/A2:2019 E

European foreword

The text of document 77A/980/CDV, future IEC 61000-2-2/A2, prepared by SC 77A "EMC - Low frequency phenomena" of IEC/TC 77 "Electromagnetic compatibility" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61000-2-2:2002/A2:2019.

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)	2019-11-17
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2022-05-17

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

Endorsement notice

The text of the International Standard IEC 61000-2-2:2002/A2:2018 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

CISPR 15 NOTE Harmonized as EN 55015

IEC 61000-2-2

Edition 2.0 2018-05

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AMENDMENT 2

AMENDEMENT 2

Electromagnetic compatibility (EMC) – Part 2-2: Environment – Compatibility levels for lowfrequency conducted disturbances and signalling in public low-voltage power supply systems

Compatibilité électromagnétique (CEM) – Partie 2-2: Environnement – Niveaux de compatibilité pour les perturbations conduites à basse fréquence et la transmission des signaux sur les réseaux publics d'alimentation basse tension

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FOREWORD

This amendment has been prepared by subcommittee 77A: EMC – Low frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

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

CDV	Report on voting
77A/980/CDV	77A/992/RVC

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability date indicated on the IEC website 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.

1 Scope and object

Renumber the existing note, as modified by Amendment 1, into NOTE 1.

After the existing note, add the following new note:

NOTE 2 The measurement methods of disturbance levels are outside the scope of this document.

4.2 Voltage fluctuations and flicker

Add, after Figure 1, the following new text:

In some cases, it is necessary to use the numerical values for points on the curves in Figure 1. These values are given in Table E.1.

4.12.3 Frequency range from 30 kHz to 150 kHz

Replace the existing text, as modified by Amendment 1, with the following new text and Table:

The compatibility levels for voltage distortion in differential mode from 30 kHz to 150 kHz are given in Table 4.

Table 4 – Compatibility levels for voltage distortion in differential mode from 30 kHz to 150 kHz[a]

Frequency range kHz	Compatibility levels dB(μV)
30 to 50[b]	122 to 119[c]
50[b] to 150	113 to 89[c]

[a] For EMC coordination in the setting of emission limits for unsymmetrical voltage distortion, see 4.12.1.

[b] At the transition frequency, the lower level applies.

[c] The level decreases linearly with the logarithm of the frequency in the ranges 30 kHz to 50 kHz and 50 kHz to 150 kHz.

Annex D has been prepared in order to provide the basis for the definition of compatibility levels in the frequency range from 30 kHz to 150 kHz.

Add the following new Annexes D and E:

Annex D
(informative)

Basis for the definition of the compatibility levels for voltage distortion in differential mode from 30 kHz to 150 kHz

D.1 General

A number of electromagnetic interference cases due to disturbances in the frequency range from 2 kHz to 150 kHz have been collected by IEC and CENELEC. Consequently, it was decided to start the maintenance of IEC 61000-2-2 mainly to define compatibility levels in this frequency range, from which associated emission limits and immunity requirements can be derived.

D.2 Compatibility levels

The compatibility levels for voltage distortion in differential mode from 30 kHz to 150 kHz are reference levels for coordination in the setting of emission limits and immunity levels, in order to improve EMC (including long-term degradation) for equipment such as MCSs, static electricity meters, clocks, filter capacitors, etc, supplied by public low voltage power supply systems, against disturbances generated by equipment such as switching power converters, switch mode power supplies, photovoltaic inverters, etc. Several additional parameters other than the disturbance level can have an impact on EMC in this frequency range, such as impedance behaviour of the mains and attenuation effects, global voltage spectrum and time behaviour of conducted emissions, as well as the expected amount of equipment supplied by public low voltage power supply systems (see the note in 4.12.1).

In particular, MCSs cannot work properly when the levels of disturbance are too high. Today, in 2017, emission limits for the frequency range from 30 kHz to 150 kHz are defined only for a few types of equipment. When defining emission limits in this range, CISPR 15 limits should be considered, when possible. Their use would allow a better design of the MCS network leading to a better operation; in the majority of cases, harmful interferences could be better managed and solved at reasonable cost. Additionally, tests have shown that the performance of multicarrier MCSs depends not only on the amplitude but also on the shape and the number of spectral lines of disturbances: a few lines are expected to be less harmful than a large number.

In other respects, the definition of a very low compatibility level curve for non-intentional emissions is not reasonable due to the estimated high cost for making all equipment compliant with emission limits consistent with this compatibility level curve.

The proposed compatibility level curve is the result of the efforts made by the different parties to reach a compromise, after years of intense discussions and studies within IEC SC77A, also taking into account investigation results from CENELEC SC205A. This compatibility level curve represents the best currently achievable compromise supported by all stakeholders, giving for the first time a reference level for setting emission limits for non-intentional emissions in the frequency range from 30 kHz to 150 kHz.