Electroacoustics - Sound level meters -- Part 2: Pattern evaluation tests

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 61672-2:2013 sisaldab Euroopa standardi EN 61672-2:2013 inglisekeelset teksti.	This Estonian standard EVS-EN 61672-2:2013 consists of the English text of the European standard EN 61672-2:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 13.12.2013.	Date of Availability of the European standard is 13.12.2013.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 17.140.50

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61672-2

December 2013

ICS 17.140.50

Supersedes EN 61672-2:2003

English version

Electroacoustics - Sound level meters - Part 2: Pattern evaluation tests

(IEC 61672-2:2013)

Electroacoustique - Sonomètres - Partie 2: Essais d'évaluation d'un modèle (CEI 61672-2:2013)

Elektroakustik - Schallpegelmesser - Teil 2: Baumusterprüfungen (IEC 61672-2:2013)

This European Standard was approved by CENELEC on 2013-11-04. 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.

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 European Standard 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

CENELEC

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61672-2:2013 E

Foreword

The text of document 29/813/FDIS, future edition 2 of IEC 61672-2, prepared by IEC/TC 29 "Electroacoustics" in cooperation with the International Organization of Legal Metrology (OIML), was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61672-2:2013.

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) 2014-08-04

– latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2016-11-04

This document supersedes EN 61672-2:2003.

EN 61672-2:2013 includes the following significant technical changes with respect to EN 61672-2:2003.

In this second edition, conformance to specifications is demonstrated when

a) measured deviations from design goals do not exceed the applicable acceptance limits, and

b) the uncertainty of measurement does not exceed the corresponding maximum permitted uncertainty, with both uncertainties determined for a coverage probability of 95 %.

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

Endorsement notice

The text of the International Standard IEC 61672-2:2013 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 :

IEC 61094-8	NOTE	Harmonized as EN 61094-8.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60942	-	Electroacoustics - Sound calibrators	EN 60942	-
IEC 61000-4-2	2008	Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test	EN 61000-4-2	2009
IEC 61000-4-3 + A1 + A2	2006 2007 2010	Electromagnetic compatibility (EMC) Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test	EN 61000-4-3 + A1 + A2	2006 2008 2010
IEC 61000-4-6	2008	Electromagnetic compatibility (EMC) Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields	EN 61000-4-6	2009
IEC 61000-6-2	2005	Electromagnetic compatibility (EMC) Part 6-2: Generic standards - Immunity for industrial environments	EN 61000-6-2 + corr. September	2005 2005
IEC 61094-1	-	Measurement microphones Part 1: Specifications for laboratory standard microphones	EN 61094-1	-
IEC 61094-5	-	Measurement microphones Part 5: Methods for pressure calibration of working standard microphones by comparison	EN 61094-5	-
IEC 61183	-	Electroacoustics - Random-incidence and diffuse-field calibration of sound level meters	EN 61183	-
IEC 61672-1	-	Electroacoustics - Sound level meters Part 1: Specifications	EN 61672-1	-
IEC 62585	-	Electroacoustics - Methods to determine corrections to obtain the free-field response of a sound level meter	EN 62585	-

Publication	Year	Title	EN/HD	Year
CISPR 16-1-1	-	Specification for radio disturbance and immunity measuring apparatus and methods Part 1-1: Radio disturbance and immunity measuring apparatus - Measuring apparatus	EN 55016-1-1	-
CISPR 16-1-2 + corr. January + A1 + A2	2003 2009 2004 2006	Specification for radio disturbance and immunity measuring apparatus and methods Part 1-2: Radio disturbance and immunity measuring apparatus - Ancillary equipment - Conducted disturbances	EN 55016-1-2 - + A1 + A2	2004 - 2005 2006
CISPR 16-2-1 + A1	2008 2010	Specification for radio disturbance and immunity measuring apparatus and methods Part 2-1: Methods of measurement of disturbances and immunity - Conducted disturbance measurements	EN 55016-2-1 + A1	2009 2011
CISPR 16-2-3 - + A1	2010 - 2010	Specification for radio disturbance and immunity measuring apparatus and methods Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements	EN 55016-2-3 + AC:2013 + A1	2010 2013 2010
CISPR 22 (mod)	2008	Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement	EN 55022 + AC:2011 [1)]	2010 2011
ISO/IEC Guide 98-3	-	Uncertainty of measurement Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)	-	-
ISO/IEC Guide 99	-	International vocabulary of metrology - Basic and general concepts and associated terms (VIM)	-	-
ISO 26101	2012	Acoustics - Test methods for the qualification of free-field environments	-	-

1) EN 55022 is superseded by EN 55032:2012, which is based on CISPR 32:2012 + corr. Mars 2012 + corr. August 2012 .

CONTENTS

ELECTROACOUSTICS – SOUND LEVEL METERS –

Part 2: Pattern-evaluation tests

1 Scope

This part of IEC 61672 provides details of the tests necessary to verify conformance to all mandatory specifications given in IEC 61672-1 for time-weighting sound level meters, integrating-averaging sound level meters, and integrating sound level meters. Pattern-evaluation tests apply for each channel of a multi-channel sound level meter, as necessary. Tests and test methods are applicable to class 1 and class 2 sound level meters. The aim is to ensure that all laboratories use consistent methods to perform pattern-evaluation tests.

NOTE 1 In this document, references to IEC 61672-1, IEC 61672-2, and IEC 61672-3 refer to the second editions unless stated otherwise.

NOTE 2 Procedures for the pattern-evaluation testing of sound level meters designed to conform to the specifications of IEC 61672-1:2002 were given in IEC 61672-2:2003.

2 Normative references

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. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60942, *Electroacoustics – Sound calibrators*

IEC 61000-4-2:2008, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques – Electrostatic discharge immunity test*

IEC 61000-4-3:2010, *Electromagnetic compatibility (EMC) – Part 4-3: Testing and measurement techniques – Radiated, radio-frequency, electromagnetic-field immunity test*

IEC 61000-4-6:2008, *Electromagnetic compatibility (EMC) – Part 4-6: Testing and measurement techniques – Immunity to conducted disturbances, induced by radio-frequency fields*

IEC 61000-6-2:2005, *Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments*

IEC 61094-1, *Measurement microphones – Part 1: Specifications for laboratory standard microphones*

IEC 61094-5, *Measurement microphones – Part 5: Methods for pressure calibration of working standard microphones by comparison*

IEC 61183, *Electroacoustics – Random-incidence and diffuse-field calibration of sound level meters*

IEC 61672-1, *Electroacoustics – Sound level meters – Part 1: Specifications*

IEC 62585, *Electroacoustics – Methods to determine corrections to obtain the free-field response of a sound level meter*

CISPR 16-1-1, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-1: Radio disturbance and immunity measuring apparatus – Measuring apparatus* [1]

CISPR 16-1-2:2006, *Specification for radio disturbance and immunity measuring apparatus and methods – Part 1-2: Radio disturbance and immunity measuring apparatus – Ancillary equipment – Conducted disturbances*

CISPR 16-2-1:2010 (Ed. 2.1), *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-1: Methods of measurement of disturbances and immunity – Conducted disturbance measurements*

CISPR 16-2-3:2010 (Ed. 3.1), *Specification for radio disturbance and immunity measuring apparatus and methods – Part 2-3: Methods of measurement of disturbances and immunity – Radiated disturbance measurements*

CISPR 22:2008, *Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement*

ISO/IEC Guide 98-3, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM: 1995)*

ISO/IEC Guide 99, *International vocabulary of metrology – Basic and general concepts and associated terms (VIM)*

ISO 26101:2012, *Acoustics – Test methods for the qualification of free-field environments*

3 Terms and definitions

For the purposes of this document, in addition to the terms and definitions given in IEC 61672-1 and IEC 62585, the terms and definitions given in IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-6, ISO/IEC Guide 98-3, and ISO/IEC Guide 99 also apply.

4 Submission for testing

4.1 At least three specimens of the same pattern of sound level meter shall be submitted for pattern-evaluation testing. As a minimum, the laboratory shall select two of the specimens for testing. At least one of the two specimens shall then be tested fully according to the procedures of this Standard. The laboratory shall decide whether the full tests shall also be performed on the second specimen or whether additional limited testing is adequate to approve the pattern.

4.2 An Instruction Manual and all items or accessories that are identified in the Instruction Manual as integral components for the normal mode of operation shall be submitted along with the three sound level meters. Examples of additional items or accessories include a microphone extension device or cable and peripheral equipment.

4.3 If the manufacturer of the sound level meter supplies devices that are to be connected to the sound level meter by cables, then the devices and cables shall be submitted with the sound level meter.

---

[1] In English, CISPR stands for International Special Committee on Radio Interference.