



SLOVENSKI STANDARD
oSIST prEN IEC 63296-1:2021
01-april-2021

**Prenosna multimedijaska oprema - Določanje življenjske dobe baterije - 1. del:
Zvočniki z lastnim napajanjem (TA 19)**

Portable multimedia equipment - Determination of battery duration - Part 1: Powered
loudspeaker equipment (TA 19)

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ICS:

33.160.50 Pribor Accessories

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100/3546/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: IEC 63296-1 ED1	
DATE OF CIRCULATION: 2021-01-29	CLOSING DATE FOR VOTING: 2021-04-23
SUPERSEDES DOCUMENTS: 100/3465/CD, 100/3542/CC	

IEC TA 19 : ENVIRONMENTAL AND ENERGY ASPECTS FOR MULTIMEDIA SYSTEMS AND EQUIPMENT	
SECRETARIAT: Germany	SECRETARY: Mr Andreas Schneider
OF INTEREST TO THE FOLLOWING COMMITTEES: TA 20	PROPOSED HORIZONTAL STANDARD: <input type="checkbox"/> Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: <input type="checkbox"/> EMC <input checked="" type="checkbox"/> ENVIRONMENT <input type="checkbox"/> QUALITY ASSURANCE <input type="checkbox"/> SAFETY	
<input checked="" type="checkbox"/> SUBMITTED FOR CENELEC PARALLEL VOTING	<input type="checkbox"/> NOT SUBMITTED FOR CENELEC PARALLEL VOTING
<p>Attention IEC-CENELEC parallel voting</p> <p>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.</p> <p>The CENELEC members are invited to vote through the CENELEC online voting system.</p>	

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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:

Portable multimedia equipment – Determination of battery duration – Part 1: Powered loudspeaker equipment (TA 19)

PROPOSED STABILITY DATE: 2024

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Portable multimedia equipment – Determination of battery duration –
Part 1: Powered loudspeaker equipment**

FOREWORD

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International Standard IEC 63296-1 has been prepared by technical area 19: Environmental and energy aspects for multimedia systems and equipment, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

a)

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

FDIS	Report on voting
100/XX/FDIS	100/XX/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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

- 95 • reconfirmed,
96 • withdrawn,
97 • replaced by a revised edition, or
98 • amended.
99

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100

INTRODUCTION

101 This standard specifies methods of measurement for battery duration on powered loudspeaker
102 equipment. The operating time of a battery-powered powered loudspeaker varies greatly
103 depending on the reproduced sound pressure from the loudspeaker. Since the reproduced
104 sound pressure of a powered loudspeaker varies depending on the purpose of use, it is a
105 measurement method that measures the battery operating time at different sound pressures.

106 IEC 63296 series currently consists of the following planned or published parts:

- 107 – Part 1: Powered loudspeaker equipment
- 108 – Part 2: Headphones and earphones with active noise cancelling functions
- 109 – Part 3: Personal sound amplification equipment

110

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111 **Portable multimedia equipment – Determination of battery duration –**
 112 **Part 1: Powered loudspeaker equipment**
 113

114 **1 Scope**

115 This document specifies the methods for measuring the battery duration at defined sound
 116 pressure levels for continuous music playback of battery powered loudspeaker equipment. A
 117 primary battery or secondary battery can be used as a power source for the loudspeaker and
 118 its composite equipment. In case of composite equipment this method for the measurement of
 119 battery duration can be applied under the condition of powered loudspeaker playback only.

120 NOTE Loudspeakers designed for short hearing distance are not in the scope of this document.

121 **2 Normative reference**

122 The following documents are referred to in the text in such a way that some or all of their content
 123 constitutes requirements of this document. For dated references, only the edition cited applies.
 124 For undated references, the latest edition of the referenced document (including any
 125 amendments) applies.

126 IEC 60268-1:1985, *Sound system equipment – Part 1: General*
 127 Amendment 1:1988
 128 Amendment 2:1988

129 IEC 60268-5:2003+AMD1:2007 CSV, *Sound system equipment - Part 5: Loudspeakers*

130 IEC 61672 -1:2013, *Electroacoustics - Sound level meters - Part 1: Specifications*

131 IEC 61938:2018, *Multimedia systems - Guide to the recommended characteristics of analogue*
 132 *interfaces to achieve interoperability*

133 **3 Terms and definitions**

134 **3.1 Terms and definitions**

135 For the purposes of this document, the following terms and definitions apply.

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

- 137 • IEC Electropedia: available at <http://www.electropedia.org/>
- 138 • ISO Online browsing platform: available at <https://www.iso.org/obp>

139 **3.1.1**

140 **battery**

141 power storage equipment that is capable of powering equipment such that the equipment can
 142 provide its primary functions

143 **3.1.2**

144 **battery duration**

145 time during which the equipment can provide its main function using its built-in power source

- 146 **3.1.3**
147 **equipment under test**
148 **EUT**
149 equipment to be measured using the methods described in this standard
- 150 Note 1 to entry: Other terminology used is device under test (DUT) or unit under test (UUT).
- 151 **3.1.4**
152 **free-field condition**
153 environment in which the sound pressure decreases with the distance from a point source
- 154 EXAMPLE Anechoic room
- 155 **3.1.5**
156 **input terminal**
157 terminal for audio signal input
- 158 **3.1.6**
159 **powered loudspeaker**
160 battery-driven loudspeaker system with built-in amplifier
- 161 **3.1.7**
162 **receiver**
163 radio receiver and wireless receiver circuit such as Wi-Fi and Bluetooth
- 164 **3.1.8**
165 **reference axis**
166 line that passes through the reference plane at the reference point
<https://standards.iteh.ai/catalog/standards/sist/7567be33-6bfb-4afc-9e97-54d301edaff7/osist-pr-en-iec-63296-1-2021>
167 Note 1 to entry: The manufacturer shall specify the direction.
168 Note 2 to entry: If not specified, the axis is perpendicular to the air reference plane passing through the reference
169 point of the speaker system according to IEC 60268-5.
- 170 **3.1.9**
171 **reproduced sound pressure level**
172 A-weighted and time-weighted sound level at a point 1 m on the reference axis
- 173 Note 1 to entry: When measured at a distance other than 1 m, it is specified as a value converted to 1 m
- 174 Note 2 to entry: Unless otherwise specified, the reference sound pressure is 20 µPa for airborne sound.
- 175 Note 3 to entry: The reproduced sound pressure level is expressed in dBA.
- 176 **3.1.10**
177 **smart speaker**
178 equipment for audio playback with internal microphone for voice recognition and communication
- 179 **3.2 Abbreviations**
- 180 AM amplitude modulation
- 181 dB decibel
- 182 dBA A-weighted decibel
- 183 dBFS decibels relative to full scale
- 184 FM frequency modulation
- 185 kPa kilopascal
- 186 RMS root mean square

187 SPL sound pressure level

188 4 Measurement conditions

189 4.1 General

190 Unless otherwise specified, items related to acoustic characteristics are performed under
191 IEC 60268-5. Connection is based on IEC 61938.

192 4.2 Environmental conditions

- 193 • Air pressure 86 kPa to 106 kPa
- 194 • Ambient temperature 15 °C to 35 °C, preferably at 20 °C
- 195 • Relative humidity 25 % to 75 %

196 4.3 Acoustical environment

197 SPL measurements shall be made under the free-field conditions specified in IEC 60268-5:2007,
198 5.2.

199 4.4 Input signal

200 4.4.1 Test signal

201 The simulated programme signal specified by IEC 60268-1 is used. The crest factor shall be a
202 noise signal of 2, the deviation shall be within $\pm 10\%$, and a reference voltage measurement
203 signal of 1.0 V RMS measured with an RMS voltmeter. For the digital signal, a simulated
204 programme signal recorded at a recording level of -10 dBFs is used.

205 4.4.2 Receiver <https://standards.iteh.ai/catalog/standards/sist/7567be33-6bfb-4afc-9e97-54d301edaff7/osist-pren-iec-63296-1-2021>

206 The radio receiver uses a standard signal generator, and the modulation of the test signal is
207 30% modulated for both the AM broadcast receiver and the FM broadcast receiver. DAB/DAB+
208 receiver, digital wireless receivers including Wi-Fi and Bluetooth use a test signal recorded at
209 a recording level of -10 dBFs.

210 4.4.3 Other digital equipments

211 Use a test signal recorded at a recording level of -10 dBFs.

212 NOTE If compressed recording is used, level before compression is -10 dB.

213 4.5 Sound level meter

214 Measurements in free-field condition shall be made using a sound level meter having a known
215 calibration.

216 NOTE Class 1 certified meter, specified in IEC 61672-1, with A-weighting, specified in IEC 60268-1.

217 4.6 Reproduced sound pressure level

218 Reproduced sound pressure level is a value assumed by the manufacturer and is selected from
219 the following values. If any other value is used, specify the purpose together with the value in
220 the measurement report. In addition, values measured at different reproduced sound pressure
221 levels can specify multiple battery duration results for each sound pressures.

- 222 a) 60 dBA: Reproduced sound pressure level designed for use close to an intended listener.
223 This situation assumes listening at a quiet room at low volume.