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JJF 1738-2019

Calibration Specification for the Upper Limit of Dynamic Range of High Sound Pressure Measuring Microphones

高声压测量传声器动态范围上限校准规范

(English Translation)

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Preview: page 1 of 4 shown, 18 in the full document. Complete English PDF, instant download:
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Table of Contents

Introduction (II)
1 Scope (1)
2 References (1)
3 Terms and units of measurement (1)
3.1 Terms and definitions (1)
3.2 Quantity and unit (1)
4 Overview (2)
5 Metrological characteristics (2)
5.1 Linear error (2)
5.2 Total harmonic distortion (2)
5.3 Dynamic range upper limit (2)
6 Calibration conditions (2)
6.1 Environmental conditions (2)
6.2 Measurement standards and other equipment (2)
7 Calibration items and calibration methods (3)
7.1 Calibration items (3)
7.2 Measuring device (3)
7.3 Calibration method (4)
8 Expression of calibration results (6)
8.1 Calibration records (6)
8.2 Calibration data processing (6)
8.3 Calibration certificate (6)
8.4 Measurement uncertainty of calibration results (6)
9 Recalibration interval (7)
Appendix A Content and format of calibration records (8)
Appendix B Content and format of calibration certificate (10)
Appendix C Examples of measurement uncertainty assessment (13)

9 Recalibration interval (7)

Appendix A Content and format of calibration records (8)

Appendix B Content and format of calibration certificate (10)

Preview: page 2 of 4 shown, 18 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/jjf-1738-2019

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Appendix C Examples of measurement uncertainty assessment (13)

Introduction

This specification is compiled according to the rules and format given in JJF 1071-2010 "Rules for Compiling National Measurement and Calibration Specifications" the measurement uncertainty is written in accordance with the requirements of JJF 1059.1-2012 "Assessment and Expression of Measurement Uncertainty".

This specification is the first release.

High sound pressure measurement microphone Dynamic range upper limit calibration specification

1 Scope

This specification is applicable to the dynamic range of capacitive high sound pressure measurement microphones whose upper limit of dynamic range does not exceed 171dB Calibration of linear and total harmonic distortion at the upper limit and nearby interval levels. Calibration of other types of high sound pressure measurement microphones is also refer to this specification.

2 Reference documents this specification refers to the following documents.

JJF 1001-2011 General Measurement Terms and Definitions JJF 1034-2005 Acoustic measurement terms and definitions JJF 1059.1-2012 Evaluation and expression of measurement uncertainty GB/T 3947-1996 Acoustic terms for dated reference documents, only the dated version applies to this specification; for those without date references the latest version (including all amendments) is applicable to this specification.

3 Terms and units of measurement

3.1 Terms and definitions the following terms and definitions as defined in JJF 1001-2011, JJF 1034-2005 and JJF 1059.1-2012 Used in this specification.

3.1.1 Dynamic range

The difference between the overload sound pressure level of the electroacoustic transducer for sound reception and the equivalent noise sound pressure level.

[GB/T 3947-1996, definition 5.64].

3.1.2 Upper limit of dynamic range the corresponding sound pressure level when the total harmonic distortion of the microphone output voltage is a specified value.

3.1.3 Total harmonic distortion the ratio of the root-mean-square value of all harmonics to the fundamental square-root-mean-square value.

3.1.4 Level linearity error when the sound pressure level changes within the linear range of

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the microphone at any frequency in the range of 160Hz to 1000Hz, it is transmitted the amount of change in the sensitivity level of the speaker.

3.1.5 Linearity range the linear error of the level does not exceed the range of the sound pressure level of the specified error limit.

3.2 Quantity and unit High sound pressure measurement microphone dynamic range upper limit and related measurement characteristic quantity and corresponding unit name and symbol as follows.

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