



CALIBRATION CERTIFICATE

Customer name:

Contact information:

Product: SOUND CALIBRATOR (Pistonphone)

Type: NC-72B

Serial Number:

Manufacturer: RION CO., LTD.

Test Calibration chart: Cal. Date:

Test Barometer: Type: SBR-121

Serial Number:

Calibration location: 2-22-2, Hyoe, Hachioji, Tokyo 192-0918, JAPAN
RION SERVICE CENTER CO., LTD. Calibration room

Ambient condition: Air Temperature: 20 °C ~ 26 °C

Relative Humidity: 25 % ~ 70 %

Static Pressure: 97 kPa ~ 105 kPa

Procedure: ASNITE Calibration Manual (Sound Calibrator)

Calibration date:

•Notes

The calibration result of the above-mentioned acoustic calibrator is the result of performing the test specified in Annex B (Periodical test) of IEC 60942:2003 (JIS C 1515:2004) according to the document written based on the accreditation of ISO/IEC 17025:2017.

Issue date:

Head of Office
Quality Control Office
Engineering Business Unit
RION SERVICE CENTER CO., LTD.
2-22-2, Hyoe, Hachioji, Tokyo 192-0918, JAPAN

This certificate shows the results of calibration with a standard unit traceable to national standards. The accreditation symbol is attestation of which the result of calibration is traceable to Primary Measurement Standards (National Standards).

The certificate shall not be reproduced except in full, without the written approval of the issuing laboratory. The calibration laboratory who issued this calibration certificate conforms to ISO/IEC 17025:2017.

This calibration certificate was issued by the calibration laboratory accredited by IAJapan who is a signatory to the Mutual Recognition Arrangement (MRA) of International Laboratory Accreditation Cooperation (ILAC) and Asia Pacific Accreditation Cooperation (APAC).

This (These) calibration result(s) may be accepted internationally through ILAC/APAC MRA.

Statements of conformity

Summary of calibration results

Test Item	Judgment	
	Class LS/C	Class 1/C
Sound pressure level	Pass	Pass
Frequency	Pass	Pass
Total distortion	Pass	Pass

As a result of calibration, the acoustic calibrator provided for the test showed compliance with the requirements of class LS/C and class 1/C specified in Annex B of IEC 60942:2003 (JIS C 1515:2004), which specified periodic tests on sound pressure level, frequency and total distortion in the environment at the time of calibration.

• Notes

Acceptance decision rule for conformity

The determination of the conformity of the sound calibrator to the standard IEC 60942:2003 (JIS C 1515:2004), Annex B, is judged to be a fit if the result broadened by the actual expanded uncertainty of measurement is within the specified tolerance, and the calibration is performed. It is written in the judgment column of the result as "Pass". At this time, the expanded uncertainty of the measurement result must not exceed the maximum allowable tolerance value of the specified expanded uncertainty.

If a barometer is included as a test sample, test the barometer in advance. As for the inspection, if the measurement value of the calibration person's standard barometer is within the range of the expanded uncertainty of measurement of the test barometer, it is judged as the inspection pass and the barometer is used for the periodical test. At this time, the expanded uncertainty of the standard barometer does not exceed 0.2 kPa.

Calibration Results

• Test Environment

Air Temperature :

Relative Humidity :

Static Pressure :

• Expanded uncertainty of measurement

The uncertainty of measurement is based on the standard uncertainty multiplied by a coverage factor $k=2$ providing a level of confidence of approximately 95 %

• Calibration chart used for Calibration

Calibration Date	Specified sound pressure level	Specified frequency
	114.00 dB	251.19 Hz

• Barometer used for Calibration and Static pressure at the time of the test

Class	Type	Serial Number	Static Pressure	Notes
LS/C	SBR-121			Owning of customer
1/C	SBR-121			Owning of customer

• Sound pressure level Specified sound pressure level: 114.00 dB

Class	Measured Value ^{*1}	Result ^{*2}	Tolerance limit of result	Expanded uncertainty	Maximum permitted uncertainty	Judgment
LS/C	114.04 dB	0.12 dB	0.20 dB	0.08 dB	0.10 dB	Pass
1/C	114.04 dB	0.12 dB	0.40 dB	0.08 dB	0.15 dB	Pass

• Calibration method is by Standard Microphone.

• Frequency Specified frequency: 251.19 Hz

Class	Measured Value	Result ^{*3}	Tolerance limit of result	Expanded uncertainty	Maximum permitted uncertainty	Judgment
LS/C	251.2 Hz	0.2 %	1.0 %	0.2 %	0.3 %	Pass
1/C	251.2 Hz	0.2 %	1.0 %	0.2 %	0.3 %	Pass

• Calibration method is by Digital Multimeter.

• Total distortion

Class	Measured Value	Result ^{*4}	Tolerance limit of result	Expanded uncertainty	Maximum permitted uncertainty	Judgment
LS/C	1.7 %	2.1 %	2.5 %	0.4 %	0.5 %	Pass
1/C	1.7 %	2.1 %	3.0 %	0.4 %	0.5 %	Pass

• Calibration method is by Distortion Analyzer.

*1 Converted value at reference static pressure 101.325 kPa.

*2 The Result is the absolute value of the deviation of the Specified sound pressure level and the Measured Value plus the Expanded uncertainty.

*3 The Result is the absolute value of the deviation of the Specified frequency and the Measured Value converted to a percentage plus the Expanded uncertainty.

*4 The Result is the Measured Value plus the Expanded uncertainty.

Certificate No.

Statements of Metrological Traceability

This certificate shows the results of calibration with our working standards traceable to national standards or public calibration agencies of foreign countries affiliated with the International Measurement and Measurement Commission.

Some working standards are traceable through national reference or public calibration institutes of foreign countries affiliated with the National Metrology Commission through our reference standards.

End of certificate.