

## Calibration Certificate No. P02QC2017111301

17/11/13

### Instrument

Type: Integrating Averaging Sound Level Meter  
Model: Piccolo-II  
SN: P0216123199  
Class: 2  
Mic Sensitivity: 17.81mV/Pa (0.0 dB from nominal)

### Standards

Tested in accordance with procedures from ANSI/ASA S1.4-3 (2014) / IEC 61672-3 (2013) Electroacoustics - Sound Level Meters - Part 3: Periodic tests

### Calibration Instruments

Description	Manufacturer	Model	Serial Number
Function Generator	Stanford Research Systems	DS360	33623
Multi-function Calibrator	Brüel & Kjær	4226	1551588

### Environmental Conditions

Temperature	Barometric Pressure	Humidity
23.0 C	101.3kPa	50%

### Personnel

Calibrated by: \_\_\_\_\_

Technician Name

Date : 17/11/13

### Summary

Description	PASS / FAIL
Section 11.1 – Self-generated noise (Microphone)	Pass
Section 11.2 – Self-generated noise (Electrical input)	Pass
Section 12 – Acoustical signal tests of frequency weightings	Pass
Section 13 – Electrical signal tests of frequency weightings	Pass
Section 14 – Frequency and time weightings at 1 kHz	Pass
Section 15 – Long-term stability	Pass
Section 16 – Level linearity on the reference level range	Pass
Section 17 – Level linearity including range control	Pass
Section 18 – Toneburst response	Pass
Section 19 – C-weighted peak sound level	Pass
Section 20 – Overload indication	Pass
Section 21 – High-level stability	Pass

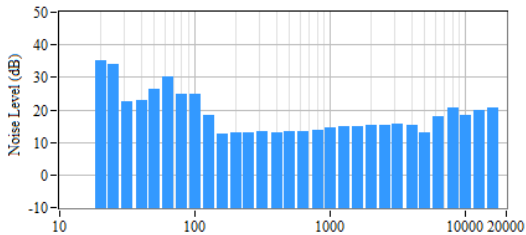
### Declaration of Conformity

The sound level meter submitted for testing has successfully completed the Class 2 tests of ANSI/ASA S1.4-3 (2014) / IEC 61672-3 (2013) (limited to sections 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21), for the environment conditions under which the tests were performed.

### IEC 61672-3 – Section 11.1 – Self-generated noise (Microphone)

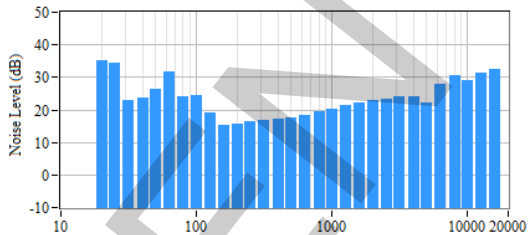
Low Range

Value	Measure	Limit	PASS / FAIL
dBZ	42.0	---	---
dBBC	36.7	---	---
dBAA	27.9	30.0	Pass



High Range

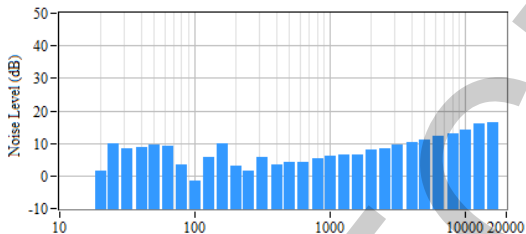
Value	Measure	Limit	PASS / FAIL
dBZ	43.9	---	---
dBBC	39.1	---	---
dBAA	36.8	40.0	Pass



### IEC 61672-3 – Section 11.2 – Self-generated noise (Electric)

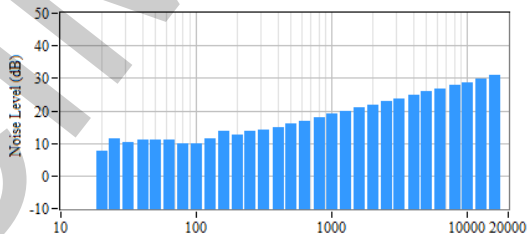
Low Range

Value	Measure	Limit	PASS / FAIL
dBZ	25.1	---	---
dBBC	21.9	---	---
dBAA	21.8	24.0	Pass

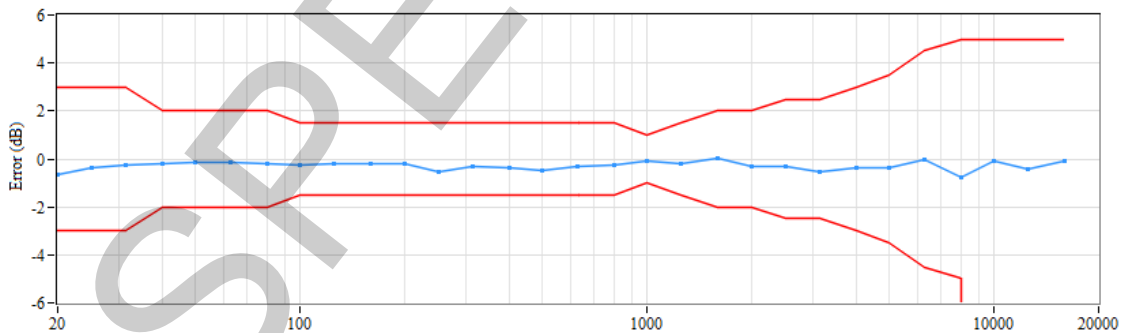


High Range

Value	Measure	Limit	PASS / FAIL
dBZ	40.6	---	---
dBBC	34.7	---	---
dBAA	36.0	40.0	Pass

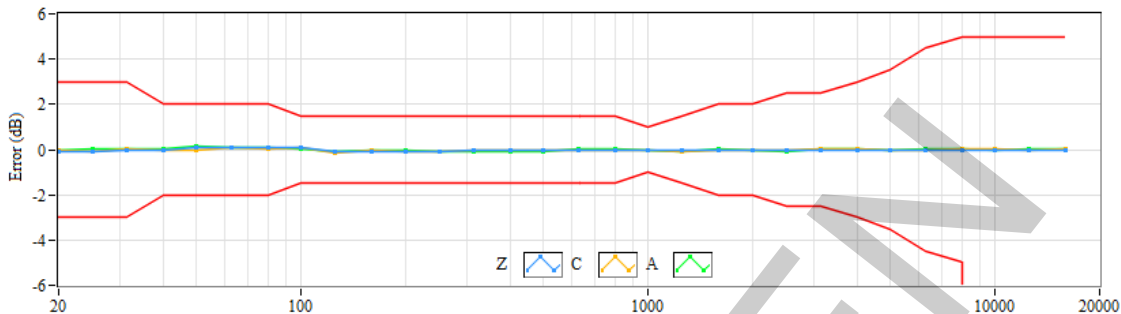


### IEC 61672-3 – Section 12 – Acoustical signal tests of a frequency weighting



Conformity to IEC 61672-3 – Section 12, Class 2: Pass

### IEC 61672-3 – Section 13 – Electrical signal tests of frequency weightings



Conformity to IEC 61672-3 – Section 12, Class 2: Pass

### IEC 61672-3 – Section 14 – Frequency and time weightings at 1 kHz

Data	Measure	Error	Tolerance	PASS / FAIL
LAF	94.0	---	---	---
LCF	94.0	0.0	±0.1	Pass
LZF	94.0	0.0	±0.1	Pass
LAS	94.0	0.0	±0.2	Pass
LCS	94.0	0.0	±0.1	Pass
LZS	94.0	0.0	±0.1	Pass
LAeq	94.0	0.0	±0.2	Pass
LCeq	93.9	0.1	±0.1	Pass
LZeq	93.9	0.1	±0.1	Pass

### IEC 61672-3 – Section 15 – Long-term Stability

Initial	Final	Error	Tolerance	PASS / FAIL
94.0	94.0	0.0	0.3	Pass

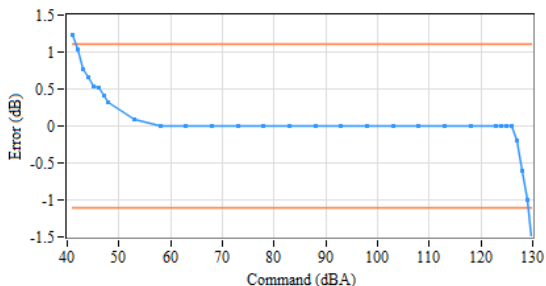
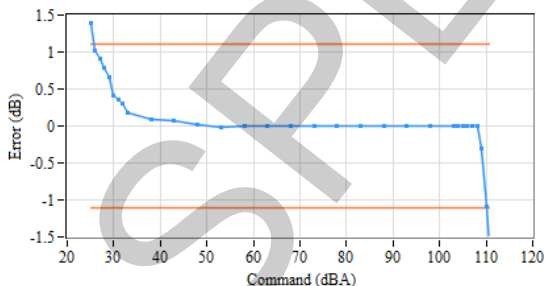
### IEC 61672-3 – Section 16 – Level Linearity (at 4 kHz)

Low Range

Boundary	Measure (dBA)	Limit (dBA)	PASS / FAIL
Upper	110.0	105.8	Pass
Lower	26.0	30.0	Pass

High Range

Boundary	Measure (dBA)	Limit (dBA)	PASS / FAIL
Upper	129.0	125.8	Pass
Lower	42.0	46.0	Pass



**IEC 61672-3 – Section 17 – Level Linearity including Range Control**

Range	Level	Applied	Measure	Error	Tolerance	PASS / FAIL
Low	Ref.	94.0	94.0	---	---	---
Low	UR+5dB	37.0	37.1	0.1	1.1	Pass
High	Ref.	94.0	94.0	0.0	1.1	Pass
High	UR+5dB	53.0	53.1	0.1	1.1	Pass

**IEC 61672-3 – Section 18 – ToneBurst Response**

Tb(ms)	Data	Applied	Measure	Meas. Diff.	Target Diff.	Error	Tolerance	PASS / FAIL
200	LASmax	104.9	97.5	-7.4	-7.4	0.0	±1.0	Pass
2	LASmax	104.9	77.9	-27.0	-27.0	0.0	1.0; -5.0	Pass
200	LAFmax	104.9	103.9	-1.0	-1.0	0.0	±1.0	Pass
2	LAFmax	104.9	86.2	-18.7	-18.0	-0.7	1.0; -2.5	Pass
0.25	LAFmax	104.9	77.7	-27.2	-27.0	-0.2	1.5; -5.0	Pass
200	LAE	104.9	98.0	-6.9	-7.0	0.1	±1.0	Pass
2	LAE	104.9	78.0	-26.9	-27.0	0.1	1.0; -2.5	Pass
0.25	LAE	104.9	68.9	-36.0	-36.0	0.0	1.5; -5.0	Pass

**IEC 61672-3 – Section 19 – C-Weighted Peak Sound Level**

Freq.	Cycle	Applied	Meas.	Meas. Diff.	Target Diff.	Error	Tolerance	PASS / FAIL
31.5Hz	1 (Full)	119.9	123.1	3.2	2.5	0.7	±3.0	Pass
500Hz	1 (Full)	123.0	126.6	3.6	3.5	0.1	±2.0	Pass
8kHz	1 (Full)	119.9	123.1	3.2	3.4	-0.2	±3.0	Pass
500Hz	½ (Pos.)	123.0	124.8	1.8	2.4	-0.6	±2.0	Pass
500Hz	½ (Neg.)	123.0	124.8	1.8	2.4	-0.6	±2.0	Pass

**IEC 61672-3 – Section 20 – Overload Indication**

## Low Range

Data	Freq.	Overload (+)	Overload (-)	Error	Tolerance	PASS / FAIL
LZE	4kHz	68.1	68.3	0.2	±1.5	Pass
LCE	4kHz	67.5	67.7	0.2	±1.5	Pass
LAE	4kHz	68.4	68.5	0.1	±1.5	Pass
LZpk	4kHz	110.0	110.0	0.0	±1.5	Pass
LCpk	4kHz	109.1	109.1	0.0	±1.5	Pass

## High Range

Data	Freq.	Overload (+)	Overload (-)	Error	Tolerance	PASS / FAIL
LZE	4kHz	88.4	88.2	0.2	±1.5	Pass
LCE	4kHz	87.8	87.6	0.2	±1.5	Pass
LAE	4kHz	88.6	88.4	0.2	±1.5	Pass
LZpk	4kHz	130.0	130.0	0.0	±1.5	Pass
LCpk	4kHz	129.2	129.2	0.0	±1.5	Pass

**IEC 61672-3 – Section 21 – High-level Stability**

Initial	Final	Error	Tolerance	PASS / FAIL
126.0	126.0	0.0	0.3	Pass