

Calibration Summary of Test Report No.:30043

Rion Type: NL52/EX Serial no: 00732122

Customer: Scantek, Inc.
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Instrument software version: 1.5/1.4

Microphone:	Rion	Type: UC-59	Serial no: 05311	Sens:dB
Preamplifier	Rion	Type: NH-25	Serial no: 32150	
Wind screen	Rion	Type: WS-10		

Measurement Results:

Calibration of sound level meter - ANSI S1.4 Clause 3.2	Passed
Level Linearity Test - ANSI S1.4-1983, Clause 6.9 & 6.10	Passed
Weighting Network Test: A Network - ANSI S1.4-1983 Clause 8.2.1	Passed
Weighting Network Test: C Network - ANSI S1.4-1983 Clause 8.2.1	Passed
Weighting Network Test: Linear Network - ANSI S1.4-1983 Clause 8.2.1	Passed
Overload Detector Test: A-Network - ANSI S1.4-1983 Clause 8.3.1	Passed
F/S/I/Peak Test: Steady State Response - ANSI S1.4 1983 Clause 6.4	Passed
Fast-Slow Test: Overshoot test - ANSI S1.4 1983 Clause 8.4.1	Passed
Fast-Slow Test: Single Sine Wave Burst - ANSI S1.4 1983 Clause 8.4.1 & 8.4.3	Passed
Peak Detector Test, single square wave burst - ANSI S1.4 1983 Clause 8.4.4	Passed
RMS Detector Test: Crest Factor Test - ANSI S1.4-1983 Clause 8.4.2	Passed
RMS Detector Test: Continuous Sine Wave Burst - ANSI S1.4-1983 Clause 8.4.2	Passed
Time Averaging Test: Averaging Functions - ANSI S1.43 Clause 9.3.2	Passed
Linearity Test - ANSI S1.43 Clause 9.3.3	Passed
Filter Test 1/1octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3	Passed
Filter Test 1/3octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3	Passed
Summation of acoustic tests - ANSI S1.4 Clause 5 using MF Calibrator	Passed

Environmental conditions:

Pressure:	Temperature:	Relative humidity:
101.17 kPa	23.0 °C	38.3 %RH

Date of calibration: 11/13/2013

Date of issue: 2/7/2014

Supervisor: Valentin Buzduga

Measurements performed by:

Mariana Buzduga

Software version: 5.2a

Scantek, Inc.

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Test Report No.:30043

Manufacturer: Rion
Instrument type: NL52/EX
Serial no: 00732122
Customer: Scantek, Inc.
Department:
Order No:
Contact Person: Mariana Buzduga
Address: 6430 Dobbin Rd., Suite C, Columbia MD, 21045

Environmental conditions:
Pressure: 101.17 kPa
Temperature: 23.0 °C
Relative humidity: 38.3 %RH

Supervisor Valentin Buzduga
Engineer Mariana Buzduga
Date: 11/13/2013

Measurement Results:

Calibration of sound level meter - ANSI S1.4 Clause 3.2

Reference Calibrator: WSC4 - NOR1251-30878
 Reference calibrator level: 113.99
 After calibration:
 Environmental corrections: 0.00
 Other corrections: 0.0
 Notional level: 113.99
 Reference calibrator level after calibration: 114.0
 Associated Calibrator: - -
 Associated calibrator level: Not calibrated
 Test Passed

Level Linearity Test - ANSI S1.4-1983, Clause 6.9 & 6.10

The SLM is set to the reference range and the signal generator is adjusted to give a reading equal to the reference level (Normally 94dB.) The test signal is increased to give a reading equal to FSD. The generator is lowered in 1 dB step until the lower limit of the reference range is reached. The Fast SPL value is measured. The error is measured relative to 94 dB, in the last one dB step and the max error in a floating 10 dB window.

Nom. Value (dB)	Meas. Value (dB)	Tolerance limits (dB)	Error in the last 1dB (dB)	Max Error in the last 10dB (dB)	Error Rel. to ref. level (dB)
Measured at 31.5 Hz					
94.0	94.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
95.0	94.9	0.2/0.4/0.7	-0.1 P	0.1 P	-0.1 P
100.0	99.8	0.2/0.4/0.7	-0.1 P	0.2 P	-0.2 P
105.0	104.8	0.2/0.4/0.7	0.0 P	0.1 P	-0.2 P
110.0	109.9	0.2/0.4/0.7	0.1 P	0.1 P	-0.1 P
115.0	114.9	0.2/0.4/0.7	0.0 P	0.1 P	-0.1 P
120.0	119.9	0.2/0.4/0.7	0.0 P	0.0 P	-0.1 P
125.0	124.9	0.3/1.0/1.0	0.0 P	0.0 P	-0.1 P
130.0	129.9	0.3/1.0/1.0	0.0 P	0.0 P	-0.1 P
134.0	133.9	0.3/1.0/1.0	0.0 P	0.0 P	-0.1 P
135.0	134.9	0.3/1.0/1.0	0.0 P	0.0 P	-0.1 P
136.0	135.9	0.3/1.0/1.0	0.0 P	0.0 P	-0.1 P
137.0	136.9	0.3/1.0/1.0	0.0 P	0.0 P	-0.1 P
94.0	94.0	0.2/0.4/0.7	0.1 P	0.2 P	0.0 P
90.0	90.0	0.2/0.4/0.7	0.0 P	0.1 P	0.0 P
85.0	85.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
80.0	80.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
75.0	75.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
70.0	70.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
65.0	65.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
60.0	60.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
55.0	55.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
50.0	50.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
45.0	45.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P
42.0	41.9	0.2/0.4/0.7	-0.1 P	0.1 P	-0.1 P

Level Linearity Test - ANSI S1.4-1983, Clause 6.9 & 6.10								
Nom. Value	Meas. Value	Tolerance limits	Error in the last 1dB		Max Error in the last 10dB		Error Rel. to ref. level	
(dB)	(dB)	(dB)	(dB)		(dB)		(dB)	
41.0	40.9	0.2/0.4/0.7	0.0	P	0.1	P	-0.1	P
40.0	39.9	0.2/0.4/0.7	0.0	P	0.1	P	-0.1	P
39.0	39.0	0.3/1.0/1.0	0.1	P	0.1	P	0.0	P
Measured at 1000 Hz								
94.0	94.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
95.0	95.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
100.0	100.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
105.0	105.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
110.0	110.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
115.0	115.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
120.0	120.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
125.0	125.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
130.0	130.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
134.0	134.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
135.0	135.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
136.0	136.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
137.0	137.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
94.0	94.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
90.0	90.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
85.0	85.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
80.0	80.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
75.0	75.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
70.0	70.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
65.0	65.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
60.0	60.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
55.0	55.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
50.0	50.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
45.0	45.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
42.0	42.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
41.0	41.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
40.0	40.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
39.0	39.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
Measured at 8000 Hz								
94.0	94.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
95.0	95.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
100.0	100.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
105.0	105.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
110.0	110.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
115.0	115.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
120.0	120.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
125.0	125.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
130.0	130.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
134.0	134.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
135.0	135.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
136.0	136.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
137.0	137.0	0.3/1.0/1.0	0.0	P	0.0	P	0.0	P
94.0	94.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
90.0	90.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
85.0	85.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
80.0	80.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
75.0	75.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
70.0	70.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
65.0	65.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
60.0	60.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P
55.0	55.0	0.2/0.4/0.7	0.0	P	0.0	P	0.0	P

Level Linearity Test - ANSI S1.4-1983, Clause 6.9 & 6.10							
Nom. Value	Meas. Value	Tolerance limits	Error in the last 1dB	Max Error in the last 10dB	Error Rel. to ref. level		
(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)	(dB)
50.0	50.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P	0.0 P	0.0 P
45.0	45.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P	0.0 P	0.0 P
42.0	42.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P	0.0 P	0.0 P
41.0	41.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P	0.0 P	0.0 P
40.0	40.0	0.2/0.4/0.7	0.0 P	0.0 P	0.0 P	0.0 P	0.0 P
39.0	39.0	0.3/1.0/1.0	0.0 P	0.0 P	0.0 P	0.0 P	0.0 P

Test Passed

Weighting Network Test: A Network - ANSI S1.4-1983 Clause 8.2.1

The frequency weighting networks test is performed with the SLM set to reference range. Reference frequency is 1000 Hz. The test signal is adjusted to give a full scale indication at 1000 Hz. The frequency of the test signal is increased in 1/3 octave steps from 10 Hz to 20 kHz. All applicable networks can be tested (I.E. A, B and C).

Freq (Hz)	Ref. (dB)	Measured value (dB)	Tolerance norm		Error Value (dB)	Result
			Upp. (dB)	Low. (dB)		
31.6	88.6	88.5	1.5	-1.5	-0.1	P
63.1	101.8	101.8	1.0	-1.0	0.0	P
125.9	111.9	111.9	1.0	-1.0	0.0	P
251.2	119.4	119.3	1.0	-1.0	-0.1	P
501.2	124.8	124.7	1.0	-1.0	-0.1	P
1000.0	128.0	128.0	1.0	-1.0	0.0	P
1995.3	129.2	129.2	1.0	-1.0	0.0	P
3981.1	129.0	129.0	1.0	-1.0	0.0	P
7943.3	126.9	127.0	1.5	-3.0	0.1	P
12589.3	123.7	123.4	3.0	-6.0	-0.3	P

Test Passed

Weighting Network Test: C Network - ANSI S1.4-1983 Clause 8.2.1

The frequency weighting networks test is performed with the SLM set to reference range. Reference frequency is 1000 Hz. The test signal is adjusted to give a full scale indication at 1000 Hz. The frequency of the test signal is increased in 1/3 octave steps from 10 Hz to 20 kHz. All applicable networks can be tested (I.E. A, B and C).

Freq (Hz)	Ref. (dB)	Measured value (dB)	Tolerance norm		Error Value (dB)	Result
			Upp. (dB)	Low. (dB)		
31.6	125.0	124.9	1.5	-1.5	-0.1	P
63.1	127.2	127.1	1.0	-1.0	-0.1	P
125.9	127.8	127.8	1.0	-1.0	0.0	P
251.2	128.0	128.0	1.0	-1.0	0.0	P
501.2	128.0	128.0	1.0	-1.0	0.0	P
1000.0	128.0	128.0	1.0	-1.0	0.0	P
1995.3	127.8	127.8	1.0	-1.0	0.0	P
3981.1	127.2	127.2	1.0	-1.0	0.0	P
7943.3	125.0	125.1	1.5	-3.0	0.1	P

Weighting Network Test: C Network - ANSI S1.4-1983 Clause 8.2.1

Freq (Hz)	Ref. (dB)	Measured value (dB)	Tolerance norm		Error Value (dB)	Result
			Upp. (dB)	Low. (dB)		
12589.3	121.8	121.5	3.0	-6.0	-0.3	P

Test Passed

Weighting Network Test: Linear Network - ANSI S1.4-1983 Clause 8.2.1

The frequency weighting networks test is performed with the SLM set to reference range. Reference frequency is 1000 Hz. The test signal is adjusted to give a full scale indication at 1000 Hz. The frequency of the test signal is increased in 1/3 octave steps from 10 Hz to 20 kHz. All applicable networks can be tested (I.E. A, B and C).

Freq (Hz)	Ref. (dB)	Measured value (dB)	Tolerance norm		Error Value (dB)	Result
			Upp. (dB)	Low. (dB)		
31.6	128.0	127.9	1.5	-1.5	-0.1	P
63.1	128.0	127.9	1.0	-1.0	-0.1	P
125.9	128.0	128.0	1.0	-1.0	0.0	P
251.2	128.0	128.0	1.0	-1.0	0.0	P
501.2	128.0	128.0	1.0	-1.0	0.0	P
1000.0	128.0	128.0	1.0	-1.0	0.0	P
1995.3	128.0	128.0	1.0	-1.0	0.0	P
3981.1	128.0	128.0	1.0	-1.0	0.0	P
7943.3	128.0	128.0	1.5	-3.0	0.0	P
12589.3	128.0	128.0	3.0	-6.0	0.0	P

Test Passed

Overload Detector Test: A-Network - ANSI S1.4-1983 Clause 8.3.1

The SLM is set to A-weighted and the least sensitive range setting. A sine wave of 1000 Hz is applied to the SLM with an amplitude that gives a reading 5 dB less than the maximum level the SLM is designed to measure. The test signal is lowered in 1/3 octave frequency steps until 20 Hz is reached. The amplitude of the test signal is simultaneously increased corresponding to the inverse of the A-weighting curve. The overload indication shall be turned on before the measured Slow SPL value is deviating more than one dB from the initial value measured at 1000 Hz.

Freq. (Hz)	Level Increase (dB)	Meas. Value (dB)	Tol. Upp. (dB)	Low. (dB)	Error Value (dB)	Error Code
The Reference range is used for this test because of expected high signal amplitude.						
1000.0	0.0	125.0	-1.0	1.0	0.0	P No overload
794.3	0.8	125.0	-1.0	1.0	0.0	P No overload
631.0	1.9	125.0	-1.0	1.0	0.0	P No overload
501.2	3.2	125.0	-1.0	1.0	0.0	P No overload
398.1	4.8	125.0	-1.0	1.0	0.0	P No overload
316.2	6.6	125.0	-1.0	1.0	0.0	P No overload
251.2	8.6	124.9	-1.0	1.0	-0.1	P No overload
199.5	10.9	125.0	-1.0	1.0	0.0	P No overload
158.5	13.4	125.1	-1.0	1.0	0.1	P Overload

Test Passed

F/S//Peak Test: Steady State Response - ANSI S1.4 1983 Clause 6.4

A continuous sine wave is applied and adjusted to give an indication of 94.0 dB with time constant F(ast). The instrument is set to S(low) and I(mpulse), if applicable. The indication shall not differ more than 0.1 dB for type 0,1,2 instruments and 0.2 for type 3 instruments.

Time Const.	Norm Value (dB)	Measured Value (dB)	Tol. limit (dB)	Error Value (dB)	
Fast	94.0	94.0	0.1	0.0	P
Slow	94.0	94.0	0.1	0.0	P

Test Passed

Fast-Slow Test: Overshoot test - ANSI S1.4 1983 Clause 8.4.1

The overshoot is tested by applying a sine wave that step (sudden increase) in amplitude by 20 dB. The steady end response shall give a signal 4 dB below the upper limit of primary indicator range. The difference between the maximum value and the end value tells the overshoot. Both F(ast) and S(low) time constants are tested.

Time Const.	Ref.- Value (dB)	Measured Value (dB)	Tolerance norm (dB)	Overshoot (dB)	Error
Fast	117.0	117.0	1.1	0.0	P
Slow	117.0	117.0	1.6	0.0	P
Fast	87.0	87.0	1.1	0.0	P
Slow	87.0	86.9	1.6	-0.1	P

Test Passed

Fast-Slow Test: Single Sine Wave Burst - ANSI S1.4 1983 Clause 8.4.1 & 8.4.3

A continuous sine wave is applied to the SLM and adjusted to give an indication 4 dB below upper limit of the primary indicator range. Then onset transient characteristics are tested using a single sine wave burst with an amplitude equal to the continuous signal and a duration of T(ms). The test is repeated at a level 24 dB below the upper limit of the primary indicator range.

Time Constant	Burst Duration (ms)	Ref. Value (dB)	Measured Value (dB)	Tolerance Value (dB)	Error Value (dB)	
Fast	200.0	116.0	116.0	1.0 -1.0	0.0	P
Slow	500.0	112.9	112.9	1.0 -1.0	0.0	P
Fast	200.0	86.0	86.0	1.0 -1.0	0.0	P
Slow	500.0	82.9	82.9	1.0 -1.0	0.0	P

Test Passed

Peak Detector Test, single square wave burst - ANSI S1.4 1983 Clause 8.4.4

Pulse Duration	Pulse Polarity	Ref. Value (dB)	Measured Value (dB)	Tolerance Value (dB)	Error (dB)	
10ms	+	120.0	120.8	2.0	0.8	P
0.1ms	+	120.0	119.9	2.0	-0.1	P
10ms	-	120.0	120.8	2.0	0.8	P
0.1ms	-	120.0	119.9	2.0	-0.1	P

The results have been compensated for the impulse response of the C-weighting network.
Test Passed

RMS Detector Test: Crest Factor Test - ANSI S1.4-1983 Clause 8.4.2

The SLM is set to reference range. A continuous square wave with CF=1 is applied and adjusted to give an indication 2 dB below upper limit of primary indicator range. The duration of the square wave pulses is kept constant at 200 μs and rise time less than 10μs. The RMS value of the signal is kept constant while the crest factor (CF) is increased from 1 to 10. The test is performed both for positive and negative going test signals.

Crest Factor	Ref. Value (dB)	Meas. Value (dB)	Tol. norm (dB)	Error Value (dB)	
Positive Pulses					
3.0	119.0	118.8	0.5	-0.2	P
5.0	119.0	118.9	1.5	-0.1	P
10.0	119.0	118.9	1.5	-0.1	P
Negative Pulses					
3.0	119.0	118.9	0.5	-0.1	P
5.0	119.0	118.8	1.5	-0.2	P
10.0	119.0	118.9	1.5	-0.1	P
Positive Pulses					
3.0	89.0	88.9	0.5	-0.1	P
5.0	89.0	89.1	1.5	0.1	P
10.0	89.0	88.9	1.5	-0.1	P
Negative Pulses					
3.0	89.0	88.9	0.5	-0.1	P
5.0	89.0	89.1	1.5	0.1	P
10.0	89.0	88.9	1.5	-0.1	P

Test Passed

RMS Detector Test: Continuous Sine Wave Burst - ANSI S1.4-1983 Clause 8.4.2

The instrument is set to time constant Slow. A continuous sine wave (2kHz) is applied to the SLM and adjusted to give an indication 2 dB below upper limit of the primary indicator range. The signal is replaced by a sequence of tone bursts with a repetition rate of 40Hz. The RMS level of the signal is kept constant while the crest factor is increased from 1 to 10.

Test signal: Continuous sine wave burst with repetition rate of 40Hz

Crest Factor	Ref. Value (dB)	Meas. Value (dB)	Tolerance norm (dB)	Error Value (dB)	
3	119.0	119.0	0.5	0.0	P
5	119.0	118.9	1.5	-0.1	P
10	119.0	118.9	1.5	-0.1	P

RMS Detector Test: Continuous Sine Wave Burst - ANSI S1.4-1983 Clause 8.4.2

Crest Factor	Ref. Value (dB)	Meas. Value (dB)	Tolerance norm (dB)	Error Value (dB)	
3	89.0	88.9	0.5	-0.1	P
5	89.0	88.9	1.5	-0.1	P
10	89.0	88.9	1.5	-0.1	P

Test Passed

Time Averaging Test: Averaging Functions - ANSI S1.43 Clause 9.3.2

The SLM is set to the reference range. The signal generator is adjusted to give a 4 kHz sine wave with an rms level equal to 20dB above the bottom end of the Linearity range. The sine wave is replaced by a sequence of tone burst with the same frequency. The burst duty factor (the distance between each burst) is increased, while the amplitude is increased to keep the same equivalent rms level. The measurement time is 100 sec for type 0 (and manually controlled) instruments and 10 sec for all other instruments.

Burst Duration (ms)	Ref. Value (dB)	Tolerance norm (dB)	Value (LeqA) (dB)	Error Value (dB)		Value (SEL) (dB)	Error Value (dB)	
1000.0	60.0	0.5	59.9	-0.1	P	69.9	-0.1	P
100.0	60.0	0.5	59.9	-0.1	P	69.9	-0.1	P
10.0	60.0	1.0	60.0	0.0	P	70.0	0.0	P
1.0	60.0	1.0	59.9	-0.1	P	69.9	-0.1	P
1min	60.0	1.0	60.0	0.0	P	77.8	0.0	P

Test Passed

Linearity Test - ANSI S1.43 Clause 9.3.3

Int. Time (sec.)	Ref. Value (dB)	Meas. Value (dB)	Tolerance norm (dB)	Error Value (dB)		Meas. Value (dB)	Tolerance norm (dB)	Error Value (dB)	
10	94.0	94.0	0.4	0.0	P	104.0	0.4	0.0	P
10	138.0	138.0	0.7	0.0	P	148.0	0.7	0.0	P
10	39.0	39.0	0.7	0.0	P	49.0	0.7	0.0	P

Test Passed

Filter Test 1/1octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3

Test 1/1 octave filter X= 3 fexact=7943.282Hz class 1

Nominal f [Hz]	Measured L [dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
501.187	30.2	0.0	58.0	P
1000.00	30.3	0.0	67.0	P
1995.26	42.1	0.0	86.0	P
3981.07	88.4	0.0	110.5	P
5623.41	125.0	123.0	126.0	P
6130.56	128.1	126.7	128.3	P
6683.44	128.2	127.4	128.3	P
7286.18	128.2	127.6	128.3	P
7943.28	128.2	127.7	128.3	P

Filter Test 1/octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3

Nominal f[Hz]	Measured L[dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
8659.64	128.2	127.6	128.3	P
9440.61	128.2	127.4	128.3	P
10292.0	128.1	126.7	128.3	P
11220.2	125.0	123.0	126.0	P
15848.9	87.6	0.0	110.5	P
31622.8	31.3	0.0	86.0	P
63095.7	32.0	0.0	67.0	P
125893	28.0	0.0	58.0	P

Test 1/1 octave filter X= 4 fexact=15848.932Hz class 1

Filter Test 1/3octave: Relative attenuation - IEC 61260, Clause 4.4 & #5.3

Nominal f[Hz]	Measured L[dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
2939.37	44.2	0.0	58.0	P
5190.16	61.1	0.0	67.0	P
8422.54	79.8	0.0	86.0	P
12244.5	105.3	0.0	110.5	P
14125.4	124.5	123.0	126.0	P
14574.3	127.4	126.7	128.3	P
15012.0	128.1	127.4	128.3	P
15437.2	128.2	127.6	128.3	P
15848.9	128.2	127.7	128.3	P
16271.7	128.2	127.6	128.3	P
16732.6	128.1	127.4	128.3	P
17235.0	127.3	126.7	128.3	P
17782.8	124.2	123.0	126.0	P
20514.4	104.9	0.0	110.5	P
29823.4	31.2	0.0	86.0	P
48397.1	32.3	0.0	67.0	P
85456.6	39.8	0.0	58.0	P

Test 1/3 octave filter X= 12 fexact=15848.932Hz class 1

Nominal f[Hz]	Measured L[dB]	LoLim [dB]	HiLim [dB]	Result [P/F]
3700.45	41.7	0.0	58.0	P
6534.02	57.9	0.0	67.0	P
10603.4	77.6	0.0	86.0	P
15414.9	105.3	0.0	110.5	P
17782.8	125.4	123.0	126.0	P
18348.0	127.6	126.7	128.3	P
18898.9	128.1	127.4	128.3	P
19434.2	128.2	127.6	128.3	P
19952.6	128.2	127.7	128.3	P
20484.8	128.2	127.6	128.3	P
21065.1	128.1	127.4	128.3	P
21697.6	127.4	126.7	128.3	P
22387.2	123.8	123.0	126.0	P
25826.2	87.1	0.0	110.5	P
37545.4	37.4	0.0	86.0	P
60928.4	36.1	0.0	67.0	P
107584	37.4	0.0	58.0	P

Test 1/3 octave filter X= 13 fexact=19952.623Hz class 1

Summation of acoustic tests - ANSI S1.4 Clause 5 using MF Calibrator

The results are obtained using a multi frequency calibrator.
Multi frequency calibrator results

SLM: A-Weighted results

Freq. (Hz)	SLM (dB)	Cal. (dB)	CR. (dB)	WS. (dB)	Tol. (dB)	Dev. (dB)
31.5	55.5	94.0		0.0	+/-1.5	0.9
63	68.1	94.0		0.0	+/-1.5	0.3
125	78.1	94.0		0.0	+/-1.0	0.2
250	85.5	94.0		0.0	+/-1.0	0.1
500	90.9	94.0		0.1	+/-1.0	0.2
1 k	94.0	94.0		0.1	+/-1.0	0.1
2 k	95.0	93.8		0.3	+/-1.0	0.3
4 k	94.2	93.1		0.3	+/-1.0	0.5
8 k	89.9	90.9		0.0	+1.5,-3	0.1
12.5 k	83.1	88.1		-0.5	+3,-6	-1.2

Test Passed

The overall frequency response of the sound level meter, typical wind screen and microphone has shown to conform with the requirements in §6 of the ANSI S1.4 for a type 1 sound level meter.