



ANNEX E1

CALIBRATION CERTIFICATES (SOUND
LEVEL METERS AND ACOUSTIC
CALIBRATORS)

Certificate of Calibration

Certificate No. ATS25-066-CC002

Customer: Envirotech Services Company

Room 712, 7/F, My Loft,
9 Hoi Wing Road, Tuen Mun
N.T., Hong Kong

Unit-under-test (UUT):

Description: Precision Acoustic Calibrator
Manufacturer: Larson Davis
Type No.: CAL 200
Serial No.: 11333

Conditions during calibration:

Temperature: 26°C
Relative Humidity: 59%

Test Specifications: Calibration Check

Date of calibration: 15 July 2025

Test Results: All calibration points are within manufacturer's specification.

Certified by:



Mr. Y. T. LEUNG / Technical Manager
MIOA, MHKIOA, MHKIQEP

Issue Date: 15 July 2025

- The instrument under test was allowed to stabilize in the laboratory for over 24 hours.
- Calibration equipment:

Description:	Sound Analyzer	Reference Microphone
Manufacturer:	Brüel & Kjær	Brüel & Kjær
Type No.:	2270	4189
Serial No.:	3001883	2662797
Last Calibration Date:	11 March 2025	11 March 2025
Certificate No.:	AV250047	AV250047

The calibration equipment used for calibration is traceable to National Standards via Standards and Calibration Laboratory, the Government of the HKSAR.

- The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted, if any, will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. Acoustic Testing Services Limited shall not be liable for any loss or damage resulting from the use of the equipment.
- Calibration Results

Nominal value dB	Measured value dB	IEC 60942 Class 1 Tolerance Limits dB	Conclusion	Expanded Measurement Uncertainty of Reference Microphone B&K 4189 at 1000 Hz dB
94.00	93.84	± 0.25	PASS	0.20
114.0	113.75	± 0.25	PASS	0.20

All calibration points are within manufacturer's specification.

Certificate of Calibration

Certificate No. ATS25-066-CC004

Customer: **Envirotech Services Company**

Room 712, 7/F, My Loft,
9 Hoi Wing Road, Tuen Mun
N.T., Hong Kong

Unit-under-test (UUT):

Description:	Sound Level Meter	,	Microphone	,	Pre-amplifier
Manufacturer:	RION				
Type No.:	NL-52	,	UC-59	,	NH-25
Serial No.:	00542913	,	06829	,	76317

Conditions during calibration:

Temperature:	26°C
Relative Humidity:	56%

Test Specifications: Calibration Check

Date of calibration: 22 August 2025

Test Results: All calibration points are within manufacturer's specification.

Certified by:



Mr. Y. T. YEUNG * Technical Manager
MIOA, MHKIOA, MHKIQEP

Issue Date: 22 August 2025

1. The instrument under test was allowed to stabilize in the laboratory for over 24 hours.

2. Calibration equipment:

Description: Acoustical Calibrator
Manufacturer & Type: Brüel & Kjær 4231
Serial No.: 2478237
Last Calibration Date: 18 February 2025
Certificate No.: AV250027

The calibration equipment used for calibration is traceable to National Standards via Standards and Calibration Laboratory, the Government of the HKSAR.

3. The Sound Analyzer has been calibrated in accordance with the requirements as specified in IEC 61672-1 Class 1, and vendor specific procedures.

4. The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted, if any, will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. Acoustic Testing Services Limited shall not be liable for any loss or damage resulting from the use of the equipment.

5. Calibration Results

Setting of unit-under-test (UUT)				Applied value		UUT Reading, dB	IEC 61672-1 Class 1 Tolerance Limits, dB	Conclusion
Range, dB	Parameter	Frequency Weighting	Response	Level, dB	Frequency, Hz			
30-130	SPL	A	F	94.00	1000	94.1	± 0.7	PASS
			S			94.1	± 0.7	PASS
		C	F			94.1	± 0.7	PASS
			S			94.1	± 0.7	PASS
		L	F			94.1	± 0.7	PASS
			S			94.1	± 0.7	PASS
		A	F	114.00	1000	114.1	± 0.7	PASS
			S			114.1	± 0.7	PASS

All calibration points are within manufacturer's specification.

1. Calibration Precaution:

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. Calibration Conditions:

Air Temperature: 22.9 °C
 Air Pressure: 1019 hPa
 Relative Humidity: 33.2 %

3. Calibration Equipment:

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS

4. Calibration Results

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA SPL	Fast	94	1000	94.0	±0.4	

Linearity

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA SPL	Fast	94	1000	94.0	Ref	
			104		104.0	±0.3	
			114		114.1	±0.3	

Time Weighting

Setting of Unit-under-test (UUT)				Applied value		UUT Reading,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB	
30-130	dBA SPL	Fast	94	1000	94.0	Ref	
		Slow			94.0	±0.3	

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Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dB	SPL	Fast	94	31.5	94.0	±2.0
					63	94.1	±1.5
					125	94.1	±1.5
					250	94.1	±1.4
					500	94.0	±1.4
					1000	94.0	Ref
					2000	93.7	±1.6
					4000	92.9	±1.6
				8000	91.2	+2.1; -3.1	

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBA	SPL	Fast	94	31.5	54.7	-39.4±2.0
					63	68.0	-26.2±1.5
					125	78.0	-16.1±1.5
					250	85.4	-8.6±1.4
					500	90.8	-3.2±1.4
					1000	94.0	Ref
					2000	94.9	+1.2±1.6
					4000	93.9	+1.0±1.6
				8000	90.2	-1.1+2.1; -3.1	

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB	
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz			
30-130	dBC	SPL	Fast	94	31.5	91.1	-3.0±2.0
					63	93.3	-0.8±1.5
					125	94.0	-0.2±1.5
					250	94.1	-0.0±1.4
					500	94.0	-0.0±1.4
					1000	94.0	Ref
					2000	93.5	-0.2±1.6
					4000	92.1	-0.8±1.6
				8000	88.3	-3.0+2.1; -3.1	

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5. Calibration Results Applied

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.10
	63 Hz	± 0.10
	125 Hz	± 0.10
	250 Hz	± 0.05
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
	8000 Hz	± 0.10
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:

The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.