ANNEX F NOISE

ANNEX F1 CALIBRATION CERTIFICATES FOR NOISE

Certificate of Calibration

for

Description:	***Sound Level Calibrator***
Manufacturer:	***Larson Davis***
Type No.:	***CAL 200***
Serial No.:	***15678***

Submitted by:

Customer:	*Envirotech Services Co.*
Address:	*Rm.712, 7/F., My Loft, 9 Hoi Wing Road,*
	Tuen Mun, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within**

☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 03 January 2025

Date of calibration: 06 January 2025

Date of NEXT calibration: 05 January 2026

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **06 January 2025**

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precautions:*

- 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 Specifications:*

Calibration check

3. *Calibration Conditions:*

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

4. *Calibration Equipment:*

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV240109	HOKLAS

5. *Calibration Results*

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	94.1
114.0	113.6	114.4	114.1

6. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 60942 Class 1.

Note:
The values given in this certification only related to the values measured at the time of the calibration.

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Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***RION***
Type No.:	***NL-52 (Serial No.: 00542913)***
Microphone:	***UC-53A (Serial No.: 99995)***
Preamplifier:	***NH-25 (Serial No.:43068)***

Submitted by:

Customer:	*Envirotech Services Co.*
Address:	*Rm.712, 7/F., My Loft, 9 Hoi Wing Road, Tuen Mun, Hong Kong*

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5Hz – 8kHz)**
☐ **Outside**

the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 28 August 2024

Date of calibration: 29 August 2024

Date of NEXT calibration: 28 August 2025

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 29 August 2024

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A)*L

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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: 24.6 °C
Air Pressure: 1004 hPa
Relative Humidity: 53.9 %

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, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.0	±0.4

Linearity

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	1000	94.0	Ref
			104		104.0	±0.3
			114		114.0	±0.3

Time 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	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,	IEC 61672 Class 1
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz	dB	Specification, dB
30-130	dB SPL	Fast	94	31.5	92.7	±2.0
				63	93.7	±1.5
				125	93.9	±1.5
				250	94.0	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.9	±1.6
				4000	94.3	±1.6
				8000	92.4	+2.1; -3.1

A-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	31.5	53.5	-39.4±2.0
				63	67.5	-26.2±1.5
				125	77.8	-16.1±1.5
				250	85.3	-8.6±1.4
				500	90.8	-3.2±1.4
				1000	94.0	Ref
				2000	95.2	+1.2±1.6
				4000	95.3	+1.0±1.6
				8000	91.3	-1.1+2.1; -3.1

C-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	dBC SPL	Fast	94	31.5	89.7	-3.0±2.0
				63	92.9	-0.8±1.5
				125	93.8	-0.2±1.5
				250	94.0	-0.0±1.4
				500	94.0	-0.0±1.4
				1000	94.0	Ref
				2000	93.8	-0.2±1.6
				4000	93.5	-0.8±1.6
				8000	89.4	−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	± 0.10
	500 Hz	± 0.10
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.10
	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.

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ANNEX F2 MONITORING SCHEDULE FOR NOISE

Tung Chung New Town Extension (East)
Noise Monitoring Schedule (May 2025)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01-May	02-May	03-May
						Noise Monitoring
04-May	05-May	06-May	07-May	08-May	09-May	10-May
					Noise Monitoring	
11-May	12-May	13-May	14-May	15-May	16-May	17-May
				Noise Monitoring		
18-May	19-May	20-May	21-May	22-May	23-May	24-May
			Noise Monitoring			
25-May	26-May	27-May	28-May	29-May	30-May	31-May
		Noise Monitoring				

ANNEX F3 MONITORING RESULTS FOR NOISE

Table F3.1 Data for Noise Monitoring at Station NMS-CA-1A during Normal Working Hours (0700-1900 hours)

Date & Time	$L_{eq\ (5min)}$	L_{10}	L_{90}	$L_{eq\ (30min)}$
2025-05-03 9:48	65.4	66.4	61.7	66.9
2025-05-03 9:53	68.2	70.2	64.3	
2025-05-03 9:58	67.2	69.4	62.9	
2025-05-03 10:03	67.1	69.2	62.9	
2025-05-03 10:08	66.7	69.0	62.9	
2025-05-03 10:13	66.4	68.2	63.3	
2025-05-09 9:06	67.5	70.4	63.0	67.8
2025-05-09 9:11	68.9	71.5	62.3	
2025-05-09 9:16	67.5	70.1	62.3	
2025-05-09 9:21	66.8	68.8	61.4	
2025-05-09 9:26	67.8	70.9	62.9	
2025-05-09 9:31	68.2	69.5	62.8	
2025-05-15 9:41	67.9	69.8	62.1	66.6
2025-05-15 9:46	66.8	69.3	60.7	
2025-05-15 9:51	64.9	67.3	59.8	
2025-05-15 9:56	65.4	68.3	60.3	
2025-05-15 10:01	67.3	69.9	62.0	
2025-05-15 10:06	66.4	68.8	62.1	
2025-05-21 15:47	66.3	69.6	60.0	66.7
2025-05-21 15:52	65.4	68.9	60.5	
2025-05-21 15:57	70.1	71.7	59.8	
2025-05-21 16:02	66.8	69.7	60.3	
2025-05-21 16:07	63.9	67.0	59.6	
2025-05-21 16:12	64.6	77.0	59.3	
2025-05-27 15:10	68.8	70.2	61.1	68.2
2025-05-27 15:15	67.5	70.6	62.4	
2025-05-27 15:20	67.9	71.3	60.3	
2025-05-27 15:25	66.8	69.5	60.3	
2025-05-27 15:30	64.8	67.7	59.8	
2025-05-27 15:35	70.9	73.4	63.1	

Figure F3.1 Graphical Presentation for Noise Monitoring at Station NMS-CA-1A

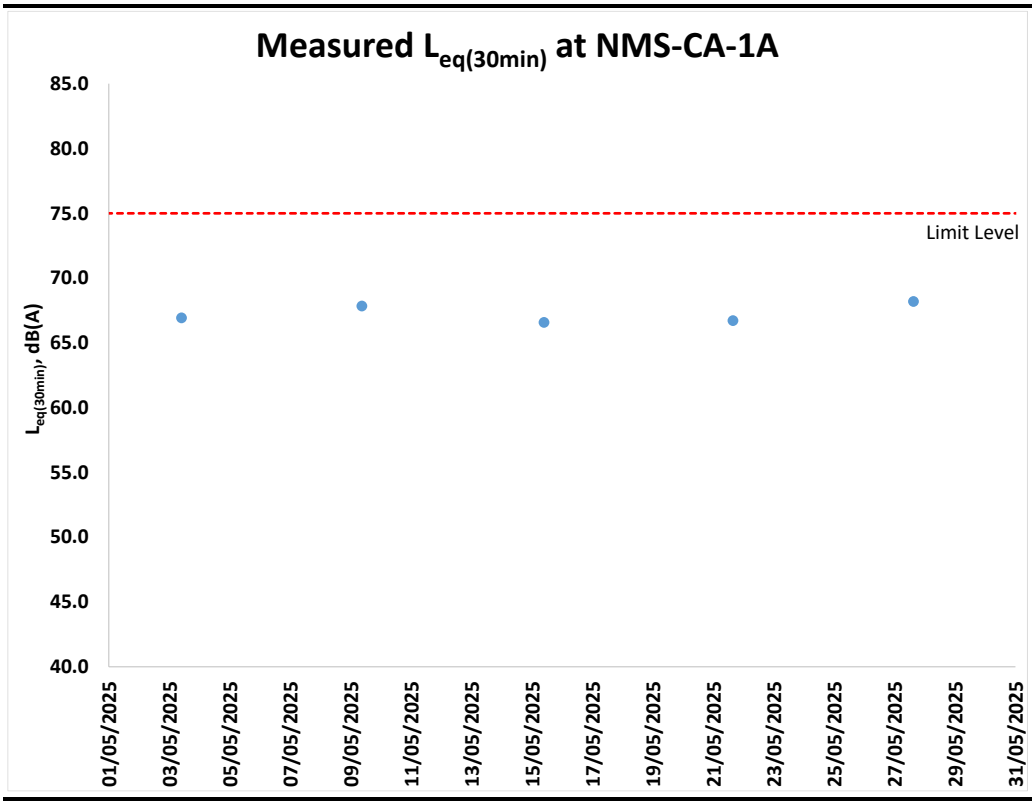
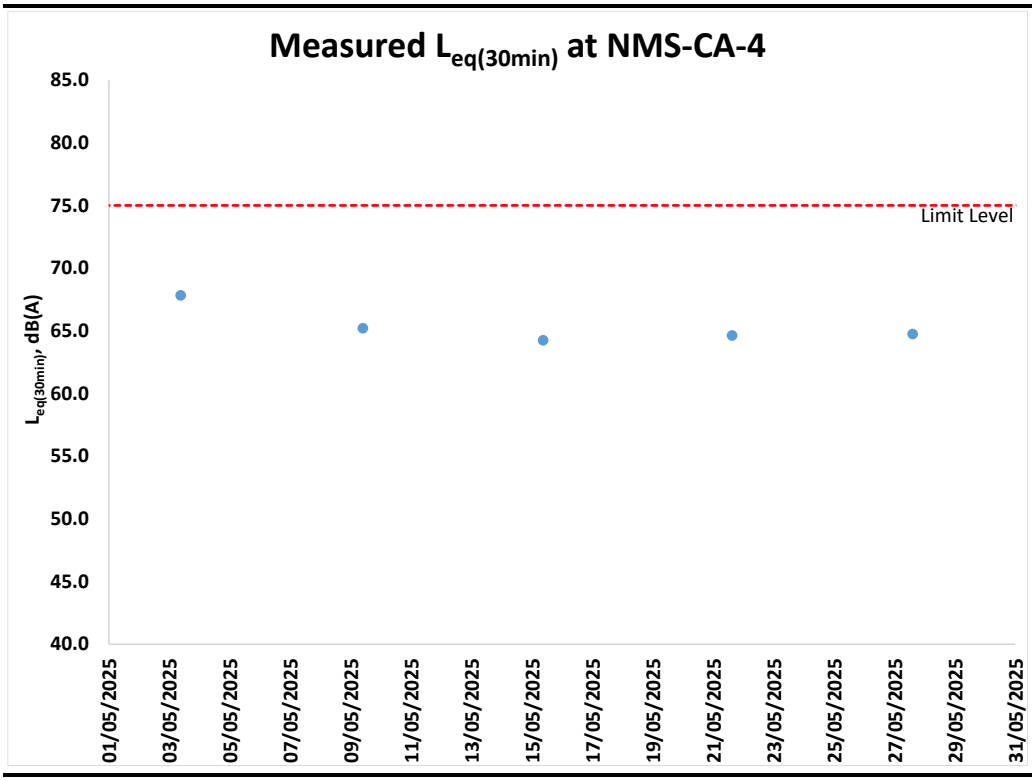


Table F3.2 *Data for Noise Monitoring at Station NMS-CA-4 during Normal Working Hours (0700-1900 hours)*

Date & Time	$L_{eq\ (5min)}$	L_{10}	L_{90}	$L_{eq\ (30min)}$
2025-05-03 9:03	67.9	70.9	63.6	67.8
2025-05-03 9:08	67.9	71.2	63.1	
2025-05-03 9:13	67.7	70.7	63.0	
2025-05-03 9:18	69.4	71.9	64.8	
2025-05-03 9:23	67.1	70.2	63.0	
2025-05-03 9:28	66.3	69.9	62.7	
2025-05-09 9:49	65.2	66.2	63.6	65.2
2025-05-09 9:54	64.5	65.7	62.6	
2025-05-09 9:59	64.8	66.3	62.3	
2025-05-09 10:04	65.5	67.8	62.5	
2025-05-09 10:09	65.9	66.9	63.3	
2025-05-09 10:14	65.1	66.1	63.3	
2025-05-15 9:00	63.6	64.7	62.5	64.2
2025-05-15 9:05	64.0	66.0	61.9	
2025-05-15 9:10	65.2	66.7	63.3	
2025-05-15 9:15	64.6	66.0	62.8	
2025-05-15 9:20	64.0	65.9	62.2	
2025-05-15 9:25	63.8	65.6	61.8	
2025-05-21 15:02	64.4	65.6	62.4	64.6
2025-05-21 15:07	64.3	66.2	62.0	
2025-05-21 15:12	66.0	67.9	62.9	
2025-05-21 15:17	64.7	66.4	62.3	
2025-05-21 15:22	63.8	65.3	62.0	
2025-05-21 15:27	64.1	65.3	62.6	
2025-05-27 14:25	62.9	64.1	61.5	64.7
2025-05-27 14:30	66.1	66.6	61.8	
2025-05-27 14:35	65.7	68.0	62.5	
2025-05-27 14:40	64.0	65.9	61.9	
2025-05-27 14:45	63.8	66.1	60.9	
2025-05-27 14:50	65.0	67.7	61.2	

Figure F3.2 *Graphical Presentation for Noise Monitoring at Station NMS-CA-4*



ANNEX F4 EVENT AND ACTION PLAN FOR NOISE

Annex F4 Event and Action Plan for Construction Noise

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level Exceedance	1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level Exceedance	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.