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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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C242217
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC24-0586) Date of Receipt / 收件日期 : 5 April 2024

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00331805
Supplied By / 委託者 : Envirotech Services Co.
Room 712, 7/F, My Loft, 9 Hoi Wing Road, Tuen Mun,
New Territories, Hong Kong

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 19 April 2024

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 19 April 2024

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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c/o 香港新界屯門興安里一號四樓
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1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C240212
CL281	Multifunction Acoustic Calibrator	CDK2302738

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.5	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	93.5 (Ref.)
				104.00		103.5
				114.00		113.5

IEC 61672 Class 1 Limit : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.5	Ref.
			Slow			93.5	± 0.3

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6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.2	-26.2 ± 1.5
					125 Hz	77.2	-16.1 ± 1.5
					250 Hz	84.8	-8.6 ± 1.4
					500 Hz	90.2	-3.2 ± 1.4
					1 kHz	93.5	Ref.
					2 kHz	94.7	+1.2 ± 1.6
					4 kHz	94.5	+1.0 ± 1.6
					8 kHz	92.5	-1.1 (+2.1 ; -3.1)
					16 kHz	85.6	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	92.5	-0.8 ± 1.5
					125 Hz	93.3	-0.2 ± 1.5
					250 Hz	93.5	0.0 ± 1.4
					500 Hz	93.5	0.0 ± 1.4
					1 kHz	93.5	Ref.
					2 kHz	93.3	-0.2 ± 1.6
					4 kHz	92.7	-0.8 ± 1.6
					8 kHz	90.6	-3.0 (+2.1 ; -3.1)
					16 kHz	83.6	-8.5 (+3.5 ; -17.0)

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Certificate of Calibration
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Certificate No. : C242217
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Remarks : - UUT Microphone Model No. : UC-59 & S/N : 06829

- Mfr's Limit : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	16 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :
Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited 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 (March 2025)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1-Mar
2-Mar	3-Mar	4-Mar	5-Mar	6-Mar	7-Mar	8-Mar
		Noise Monitoring				
9-Mar	10-Mar	11-Mar	12-Mar	13-Mar	14-Mar	15-Mar
	Noise Monitoring					**Noise Monitoring**
16-Mar	17-Mar	18-Mar	19-Mar	20-Mar	21-Mar	22-Mar
					Noise Monitoring	
23-Mar	24-Mar	25-Mar	26-Mar	27-Mar	28-Mar	29-Mar
				Noise Monitoring		
30-Mar	31-Mar					

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}	$L_{eq\ (30min)}$
3/4/2025 13:40	68.7	71.8	61.1	67.4
3/4/2025 13:45	67.8	70.9	60.0	
3/4/2025 13:50	66.8	70.0	60.6	
3/4/2025 13:55	67.7	69.4	60.4	
3/4/2025 14:00	64.8	67.8	60.2	
3/4/2025 14:05	67.6	70.7	60.7	
3/10/2025 9:07	66.9	72.3	61.7	66.6
3/10/2025 9:12	66.5	71.9	60.8	
3/10/2025 9:17	65.9	70.2	60.8	
3/10/2025 9:22	67.3	73.6	60.1	
3/10/2025 9:27	65.9	70.2	61.2	
3/10/2025 9:32	66.7	68.9	61.0	
3/15/2025 13:42	64.3	67.0	60.0	65.4
3/15/2025 13:47	65.5	67.2	59.7	
3/15/2025 13:52	65.9	68.6	60.0	
3/15/2025 13:57	66.9	67.8	60.2	
3/15/2025 14:02	65.6	68.3	60.2	
3/15/2025 14:07	63.6	66.1	59.7	
3/21/2025 9:09	66.7	69.9	61.3	66.8
3/21/2025 9:14	67.5	69.1	62.1	
3/21/2025 9:19	66.5	68.0	60.4	
3/21/2025 9:24	67.2	69.8	63.2	
3/21/2025 9:29	66.8	70.2	61.8	
3/21/2025 9:34	66.0	69.5	60.6	
3/27/2025 13:47	67.5	69.6	62.5	66.3
3/27/2025 13:52	66.6	68.4	60.1	
3/27/2025 13:57	67.2	68.8	60.4	
3/27/2025 14:02	66.5	68.9	59.5	
3/27/2025 14:07	63.6	66.6	58.6	
3/27/2025 14:12	65.1	68.0	59.2	

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

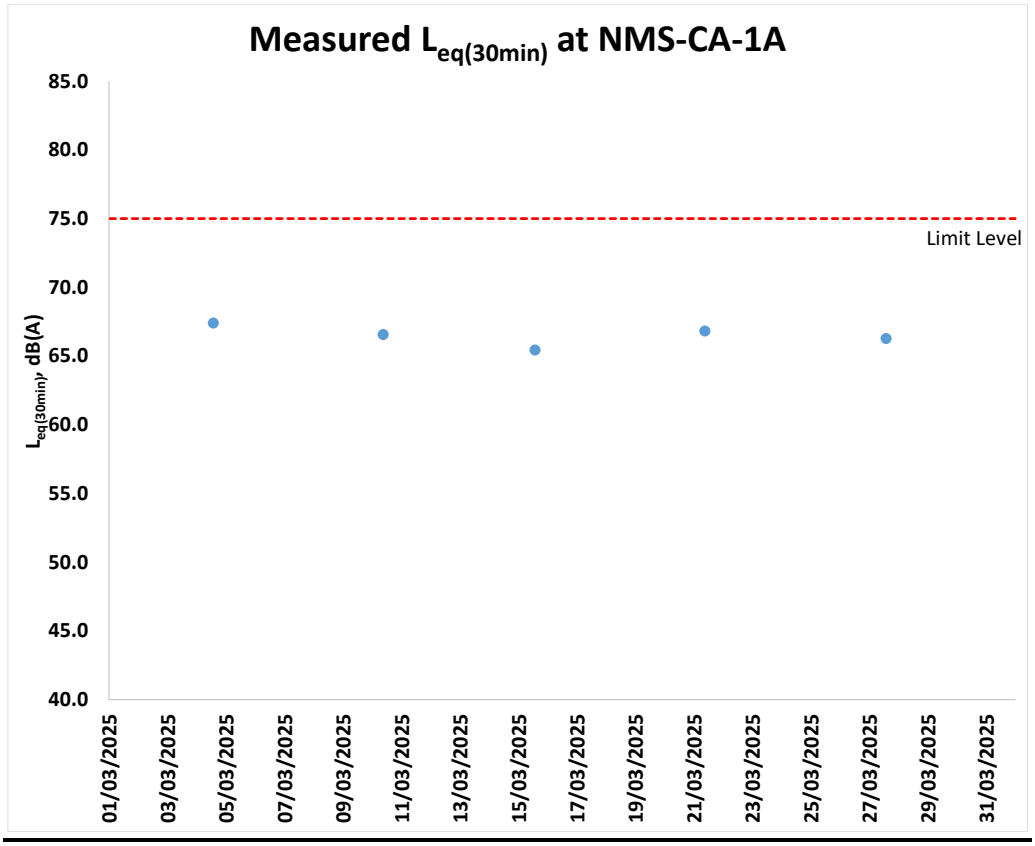
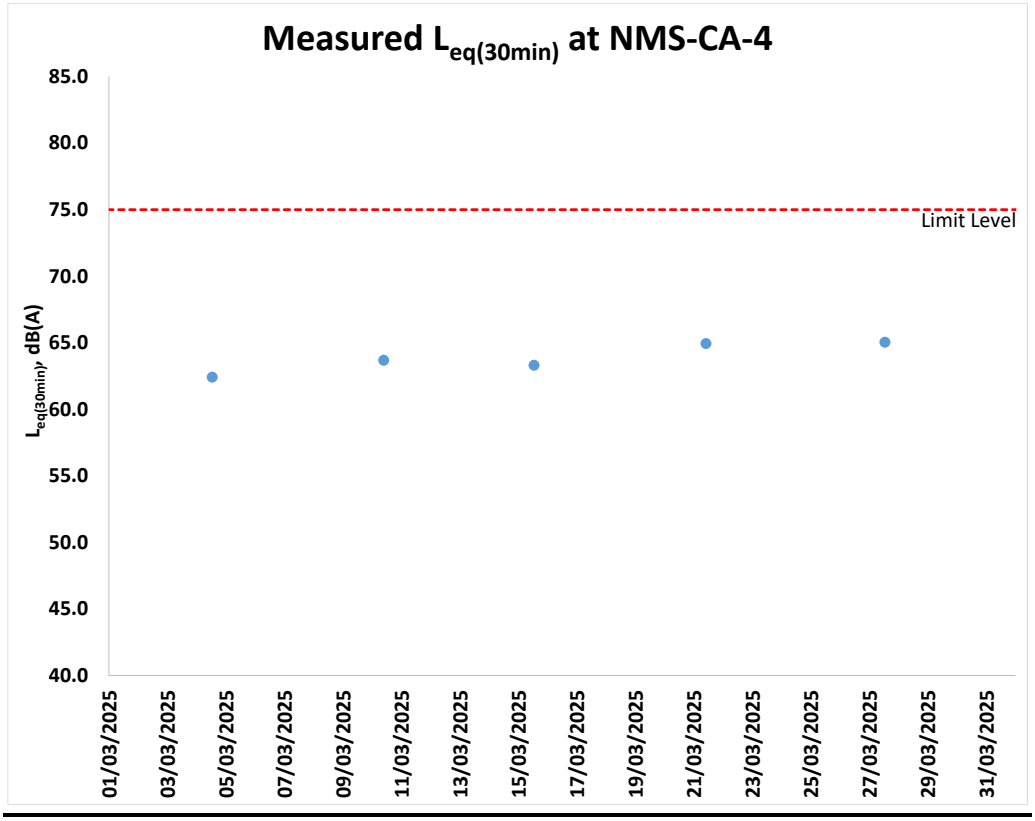


Table F3.2 Data for Noise Monitoring at Station NMS-CA-4 during Normal Working Hours (0700-1900 hours)

Date & Time	$L_{eq\ (5min)}$	L_{10}	L_{90}	$L_{eq\ (30min)}$
3/4/2025 13:00	59.8	61.3	57.6	62.4
3/4/2025 13:05	61.1	62.4	59.2	
3/4/2025 13:10	62.2	63.9	60.2	
3/4/2025 13:15	63.0	64.8	60.9	
3/4/2025 13:20	63.6	65.3	61.7	
3/4/2025 13:25	63.6	64.6	62.4	
3/10/2025 9:44	61.5	63.3	59.5	63.7
3/10/2025 9:49	63.5	65.6	60.5	
3/10/2025 9:54	64.8	66.7	60.9	
3/10/2025 9:59	63.3	65.8	60.7	
3/10/2025 10:04	63.4	65.3	61.4	
3/10/2025 10:09	64.8	67.0	61.4	
3/15/2025 13:04	60.1	61.8	68.4	63.3
3/15/2025 13:09	62.3	64.5	60.3	
3/15/2025 13:14	63.5	65.0	62.2	
3/15/2025 13:19	63.4	65.0	61.7	
3/15/2025 13:24	64.8	66.6	62.5	
3/15/2025 13:29	64.3	65.3	60.9	
3/21/2025 10:14	64.3	65.9	61.9	64.9
3/21/2025 10:19	65.0	67.1	62.7	
3/21/2025 10:24	64.2	65.4	62.8	
3/21/2025 10:29	66.1	68.7	62.9	
3/21/2025 10:34	64.4	66.0	62.6	
3/21/2025 10:39	65.3	67.4	63.0	
3/27/2025 13:05	62.8	65.2	59.3	65.0
3/27/2025 13:10	63.5	65.3	60.8	
3/27/2025 13:15	67.7	71.1	62.4	
3/27/2025 13:20	65.2	67.4	61.8	
3/27/2025 13:25	64.2	65.9	61.8	
3/27/2025 13:30	65.0	67.4	62.1	

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.