





Peter Scott Field Studies Centre (Demolition and Rebuild)

Monthly Environmental Impact Monitoring Report
(Re-build Stage) for February 2021

April 2021

**Peter Scott Field Studies Centre
(Demolition and Rebuild)**

Impact Monitoring Report

	Name	Signature
Certified by:	Ida Yu Environmental Team Leader	
Verified by:	Cindy Chung Independent Environmental Checker	
Date:	30 April 2021	

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1 EXECUTIVE SUMMARY

1.1 Introduction

This is the 4th monthly Environmental Monitoring and Audit (EM&A) report for the non-statutory Environmental and Ecological Assessment (EEA) for the Peter Scott Field Studies Centre Demolition and Rebuild (online [here](#)). This EM&A report addresses the effectiveness of the recommended mitigation measures. This report covers the period 1-28 February 2021 (the 'reporting period').

1.2 Environmental Monitoring, and Site Inspection and Audit

During the reporting period, the major construction works involve sheet piling works and king post installation, as follows:

Week 1 & 2: Sheet piling, king post installation, and shifting of the existing hoarding.

Week 3 & 4: Sheet piling (including pre-drilling works), and king post installation.

Table 1: Environmental monitoring events and site /inspections & audits carried out in the reporting period.

Environmental Aspect	Monitoring Parameters / Inspection & Audit	No. monitoring locations	Dates
Air Quality	1-hour TSP	Two	8 th , 22 nd
Noise	Leq (30min)	Two	8 th , 22 nd
Site Inspections	Joint Site Inspection and Auditing by IEC, ET & Contractor	Project Site	8 th , 24 th

1.3 Exceedance of Action and Limit (A/L) Levels

The relevant baseline monitoring of air quality and noise was carried out from 30 March 2020 to 3 April 2020, ahead of demolition. Based on this monitoring data, Action and Limit Levels were calculated in the Baseline Monitoring Report for subsequent use for the EM&A program during the demolition and construction period.

During the reporting period, no exceedance or complaint was recorded.

Table 2: Record of exceedances.

Environmental Aspect	Monitoring parameters	Action Level	Limit Level	Result	Action
Air Quality	1-hour TSP	295µg/m ³ (ASR1) 292µg/m ³ (ASR2)	500µg/m ³	No exceedance	Not required
Noise	Leq30min (dB(A))	One documented complaint	75dB(A)	No complaint or exceedance	Not required

1.4 Site inspections

During the reporting period, a total of two site inspections and audits were carried out to verify the environmental performance and to ensure mitigation measures were properly implemented. Bi-weekly site inspection and audit was carried out on 8th and 24th February 2021 by the ET and the Contractor, while the IEC conducted joint inspection on 8th February. The only issue observed during these inspections was in relation to the working hours as effective from March 2021; this minor issue was clarified immediately. No activities or practices that might adversely impact local ecology were noted.

During the reporting period, no exceedances regarding noise or air quality occurred, and no environmental complaints, summons or prosecution were received. Environmental mitigation measures were implemented, and construction activities were not generating adverse impacts off-site.

2 INTRODUCTION

2.1 Project Background

This Environmental Monitoring and Audit (EM&A) report for the Peter Scott Field Studies Centre Demolition and Rebuild summarises the effectiveness of the mitigation measures recommended in the non-statutory Environmental and Ecological Assessment (EEA).

AEC Limited has been commissioned as the Environmental Team, while SMEC fulfills the role of Independent Environmental Checker. WWF-Hong Kong is the Project Proponent, Faithful and Gould is the Project Manager and Willey Construction and Engineering Company is the Demolition Contractor.

Baseline monitoring for air quality and noise is required to determine the ambient environmental conditions before the demolition and construction works. This was carried out between 30 March 2020 and 3 April 2020 for air quality and noise before demolition and construction works commenced. The baseline monitoring report details the monitoring results and findings for air quality and noise in advance of the erection of scaffolding. Action and limit levels were derived based on the baseline monitoring data.

As part of the EM&A program, this is the 4th monthly EM&A report which presents the monitoring results as well as findings from site inspection and audit for the reporting period 1-28 February 2021.

2.2 Project Location

The site of the PSFSC is located on Tam Kon Chau Road in an area zoned “Government, Institution or Community” (“GIC”) on the Mai Po and Fairview Park OZP No. S/YL-MP/6 and surrounded by an area zoned “Conservation Area” (“CA”). The location of PSFSC is shown in **Figure 1**.

2.3 Activities

During the reporting period, the project carried out the following construction activities:

Week 1 & 2: Sheet piling, king post installation, and shifting of the existing hoarding.

Week 3 & 4: Sheet piling (including pre-drilling works), and king post installation.

2.4 Concurrent Projects

No concurrent project was observed throughout the reporting period.

2.5 Monitoring Scope

The EM&A program requires impact monitoring of air quality and noise, as well as site inspections to identify any potential issues of water quality, waste and ecology.

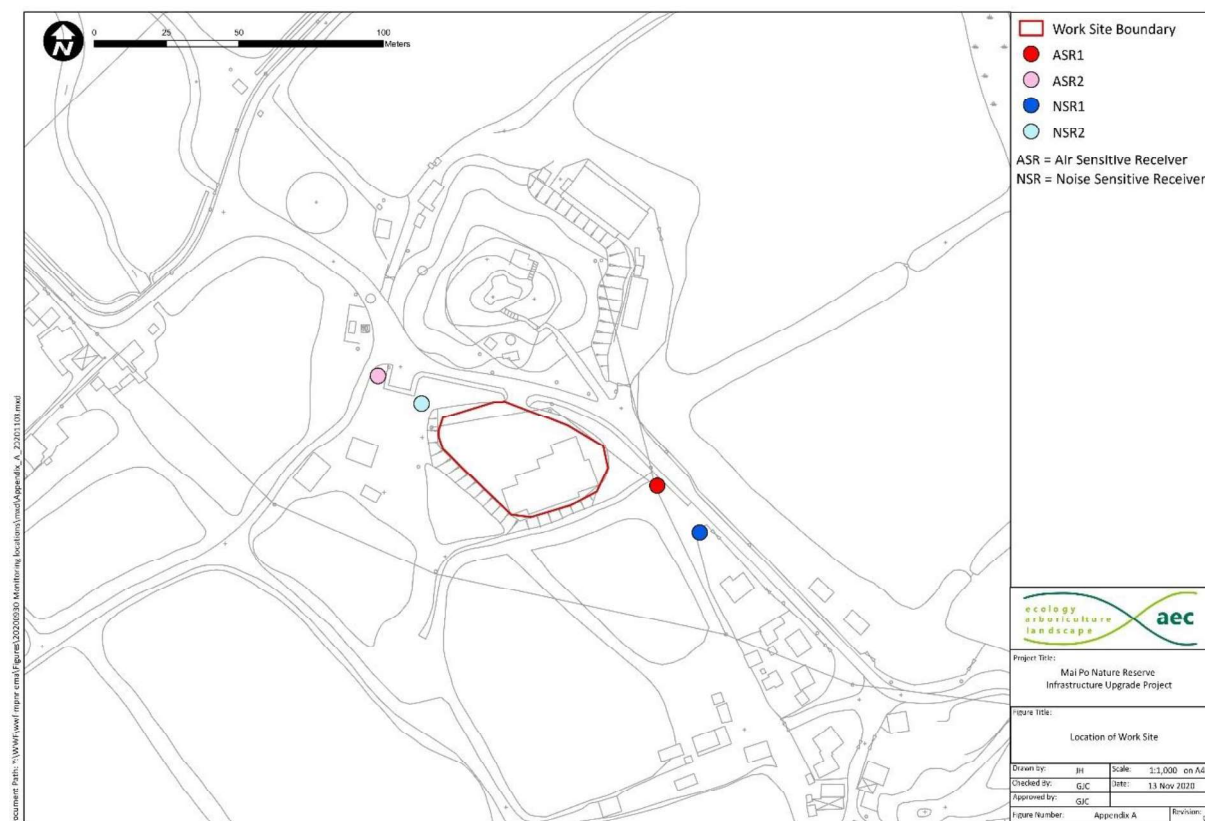
Table 3: Summary of EM&A requirements

Environmental Aspect	Monitoring Parameters	No. monitoring locations*
Air Quality	1-hour TSP	Two
Noise	Leq30min (dB(A))	Two
Site Inspections	IEC, ET & Contractor joint site Environmental Inspection and Auditing	Project Site

*Location of monitoring points shown in **Figure 1** and photographs in **Appendix A**.

Calibration certificates of monitoring equipment are provided in **Appendix B**.

Figure 1. Location of Air Quality and Noise Sensitive Receivers / Monitoring Points



2.6 Licenses and Permits

A summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project is presented below.

Table 4: Status of Environmental Licenses and Permits of the Project

Regulation	Description	Ref No.	Effective Date	Expiry Date
Air Pollution Control (Construction Dust) Regulation	Notification pursuant to Section 3(1) of the Air Pollution Control (Construction Dust) Regulation	461499	3 November 2020	N/A
Waste Disposal Ordinance – Chemical Waste Producer Registration	Waste Disposal Ordinance (Cap. 354) Waste Disposal (Chemical Waste) (General) Regulation Registration as a Chemical Waste Producer	Application No.: 461622 Waste Producer No.: 8334-542-C3112-26	23 February 2021	-
Water Pollution Control Ordinance – Wastewater/ Effluent Discharge License	Application for Wastewater/ Effluent Discharge License on 5 November 2020	Application No.: 461571	-	-
C&D Waste Disposal Account	Waste Disposal (Charges for Disposal of Construction Waste)	Application No.: WFG23232 Account no.: 7038886	16 November 2020	-

Regulation	Description	Ref No.	Effective Date	Expiry Date
	Regulation. Approval of Application for Billing Account			
Construction Noise Permit for the Use of Powered Mechanical Equipment for the Purpose of Carrying Out Construction Work other than Percussive Piling	Notice of Issue of Construction Noise Permit pursuant to section 8(6) of the Noise Control Ordinance (Cap. 400)	GW-RN0057-21	25 January 2021	7 May 2021

2.7 Monitoring Schedule

Chronologically, monitoring occurred as follows:

Table 5: Dates of monitoring and attendance, February 2021.

Date	Monitoring aspect	AEC	SMEC	Chinney Construction Co. Ltd
8 th	Air quality, noise and site inspection	Y	Y	Y
24 th	Site inspection	Y		Y
22 nd	Air quality and noise	Y		

3 RESULTS

3.1 Air Quality

No air quality exceedances were recorded during the Reporting Period. Results of air quality monitoring activities in the Reporting Period are summarized below.

Table 6: Action and Limit Levels, and summary of 1-hour TSP Air Quality Monitoring at ASR1 and ASR2 in the Reporting Period.

Variable	8 th February 2021			22 nd February 2021		
Weather	Fine			Fine		
ASR1	1st hour	2nd hour	3rd hour	1st hour	2nd hour	3rd hour
Time	10:00-11:00	11:00-12:00	12:00-13:00	10:00-11:00	11:00-12:00	12:00-13:00
Temp. (°C)	24.8			22.9		
Wind Direction	E			W		
Wind Speed (m/s)	1.5			0.5		
Dust Concentration (µg/m ³)	213	164	127	124	75	69
Action Level (µg/m ³)	295			295		
Limit Level (µg/m ³)	500			500		
ASR2	1st hour	2nd hour	3rd hour	1st hour	2nd hour	3rd hour
Time	10:00-11:00	11:00-12:00	12:00-13:00	10:00-11:00	11:00-12:00	12:00-13:00
Temp. (°C)	22.5			21.7		

Variable	8 th February 2021			22 nd February 2021		
Wind Direction	E			W		
Wind Speed (m/s)	0.4			0.7		
Dust Concentration ($\mu\text{g}/\text{m}^3$)	217	177	129	126	73	66
Action Level ($\mu\text{g}/\text{m}^3$)	292			292		
Limit Level ($\mu\text{g}/\text{m}^3$)	500			500		

3.2 Noise

No noise exceedances were recorded during the Reporting Period. Results of noise monitoring activities in the Reporting Period are summarized below.

Table 7: Action and Limit Levels, and summary of 1-hour Noise Monitoring Results –NSR1 and NSR2.

Variable	8 th February 2021	22 nd February 2021
NSR1		
Time	10:15-10:45	10:15-10:45
Leq30min (dB(A))	63.5*	65.2*
Action Level	1 documented complaint	1 documented complaint
Limit Level (dB(A))	75	75
L10 (dB(A))	66.7*	65.0*
L90 (dB(A))	53.1*	54.7*
Notes	* includes +3dB(A) façade correction. Other noise from pipe-laying works.	* includes +3dB(A) façade correction. Other noise from pipe-laying works.
NSR2		
Time	10:50-11:20	10:50-11:20
Leq30min (dB(A))	62.8	58.2
Action Level	1 documented complaint	1 documented complaint
Limit Level (dB(A))	75	75
L10 (dB(A))	66.3	62.3
L90 (dB(A))	54.7	50.1

3.3 Site Inspection and Audit

Findings during the site inspection are listed below.

Table 8: Findings of Site inspections

Date	Findings	Follow-up Status
8 th February 2021	No adverse issue observed other than the confirmation of the working hours at the site as effective from March 2021.	No works will be permitted from one hour before sunset to 0800 hours. The Contractor shall follow the agreed working hours throughout the re-build stage
22 nd February 2021	No adverse issue observed.	N/A

Ecology

No activities or practices that might adversely impact local ecology were noted during the Reporting Period.

Water

The Wastewater/ Effluent Discharge License was still pending from EPD's approval. Any effluent generated from the site has been recycled for water spraying system within the site, or will be pumped out by the licensed collector for further treatment. No issues were noted during the Reporting Period.

Waste

A waste management plan was submitted and implemented. No non-compliance was observed in the reporting period.

4 ENVIRONMENTAL COMPLAINTS

No documented environmental complaints, environmental summons or prosecutions were received during the Reporting Period.

5 CONCLUSIONS

No exceedances regarding noise or air quality occurred, and no environmental complaints, summons or prosecution were received. Action/Limit levels were not reached. In general, environmental mitigation measures are being implemented, and construction activities are not generating significant adverse impacts off-site.

Appendix A

Photographic Record of Air Quality and Noise Monitoring Locations



ASR1



ASR1



ASR2



ASR2



NSR1



NSR1



NSR2



NSR2

Appendix B

Calibration Certificates of Monitoring Equipment and HOKLAS-accreditation Certificate of the Testing Laboratory



Enovative Environmental Service Limited

REPORT OF EQUIPMENT CALIBRATION

INSTRUMENT DESCRIPTION

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler and the filter paper is weighted by HOKLAS laboratory.

*Instrument: Handheld TSP meter
Brand Name: TSI
Model No.: AM520
Serial No.: 5201735004
Date of Calibration: 01 August, 2020
Date of Next Calibration : 01 August, 2021*

ISSUING ORGANISATION

Address

*Enovative Environmental Service Limited
Flat 23, 6/F, Block C, Goldfield Industrial Centre
1 Sui Wo Road
Shatin, N.T.
Hong Kong*

Phone: 852-2242 1020
Fax: 852-3691 9240
Email: info@eno.com.hk



Thomas

*Mr Wong Siu Ho, Thomas
Manager*

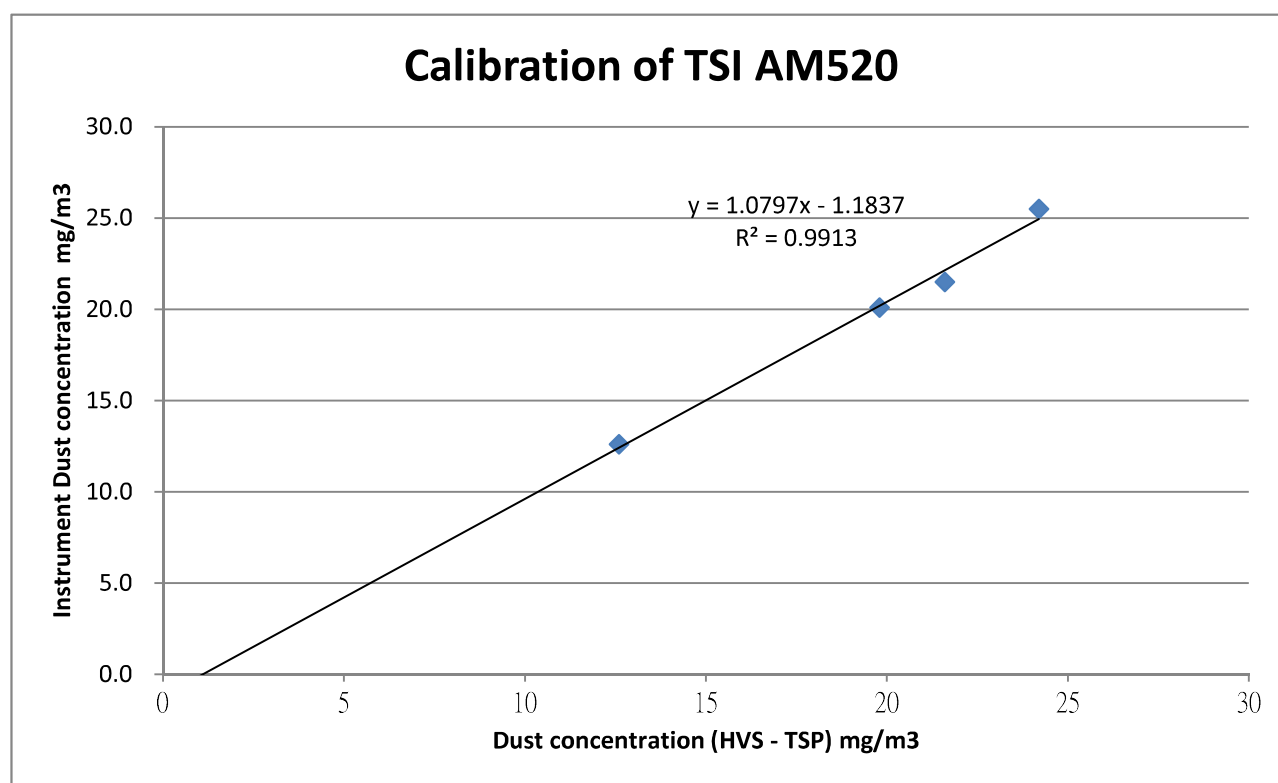


Enovative Environmental Service Limited

Brand Name: TSI
Model No.: AM520
Serial No.: 5201735004
HVS No.: A12-TSP-106
HVS Calibration Kit No.: Tisch 1612
Date of Calibration: 01 August, 2020
Date of next Calibration: 01 August, 2021

Calibration Record

HVS - TSP ug/m3	19.8	24.2	21.6	12.6
TSI AM520	20.1	25.5	21.5	12.6



*** Filter paper being used in the calibration :

207858, 207859, 207860, 207861

Those filter papers are weighted by HOKLAS laboratory (ALS Technichem (HK) Pty Ltd.)



Thomas

Mr Wong Siu Ho, Thomas
Manager



Enovative Environmental Service Limited

REPORT OF EQUIPMENT CALIBRATION

INSTRUMENT DESCRIPTION

It is certified that the item under calibration has been calibrated by corresponding calibrated High Volume Sampler and the filter paper is weighted by HOKLAS laboratory.

*Instrument: Handheld TSP meter
Brand Name: TSI
Model No.: AM520
Serial No.: 5201735006
Date of Calibration: 01 August, 2020
Date of Next Calibration : 01 August, 2021*

ISSUING ORGANISATION

Address

*Enovative Environmental Service Limited
Flat 23, 6/F, Block C, Goldfield Industrial Centre
1 Sui Wo Road
Shatin, N.T.
Hong Kong*

Phone: 852-2242 1020
Fax: 852-3691 9240
Email: info@eno.com.hk



Thomas

*Mr Wong Siu Ho, Thomas
Manager*

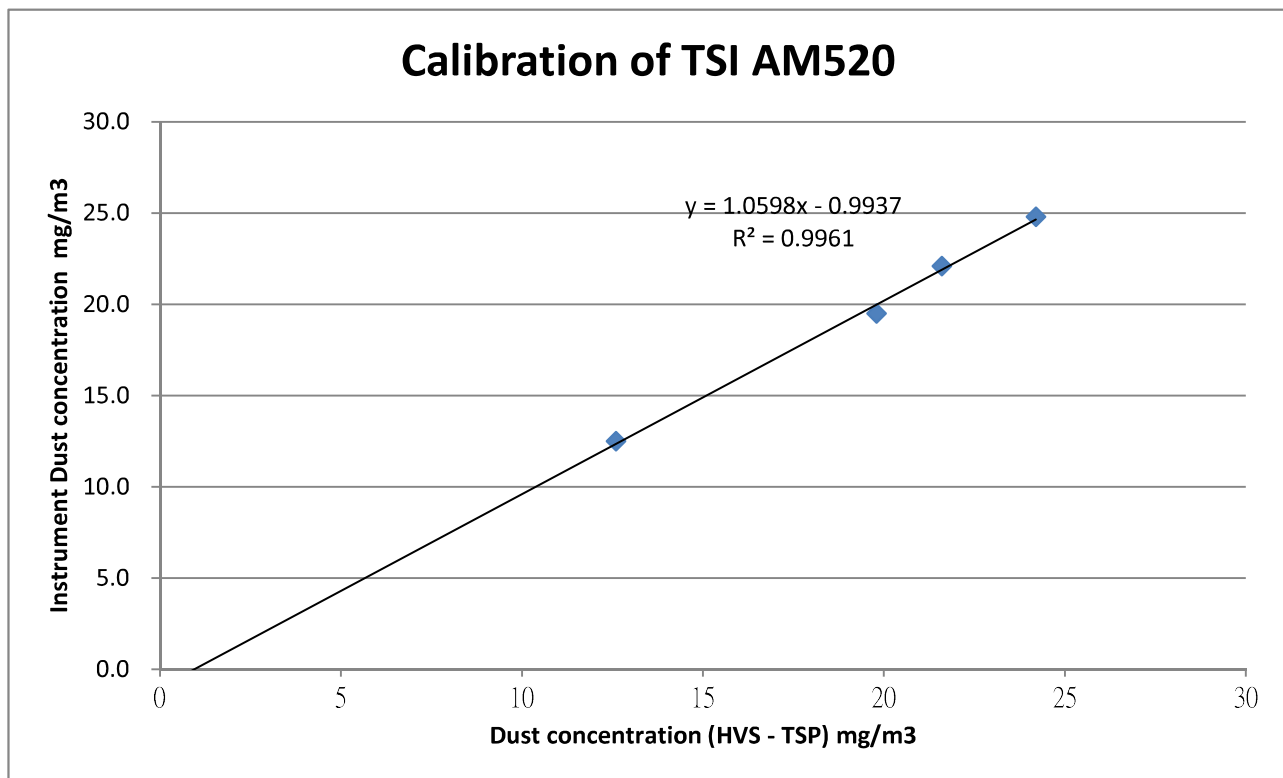


Enovative Environmental Service Limited

Brand Name: TSI
Model No.: AM520
Serial No.: 5201735006
HVS No.: A12-TSP-106
HVS Calibration Kit No.: Tisch 1612
Date of Calibration: 01 August, 2020
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Calibration Record

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*** Filter paper being used in the calibration :

207858, 207859, 207860, 207861

Those filter papers are weighted by HOKLAS laboratory (ALS Technichem (HK) Pty Ltd.)



Thomas

Mr Wong Siu Ho, Thomas
Manager



Calibration Certificate

Certificate No. 002715

Page 1 of 4 Pages

Customer : Enovative Environmental Service Limited

Address : Flat 6, 3/F, Block E, Wah Lok Industrial Centre, 31-35 Shan Mei Street, Shatin, N.T., Hong Kong.

Order No. : Q01094

Date of receipt : 24-Mar-20

Item Tested

Description : Sound Level Meter

Manufacturer : Rion

Model : NL-52

I.D. : 217524

Serial No. : 00175560

Test Conditions

Date of Test : 30-Mar-20

Ambient Temperature : $(23 \pm 3)^{\circ}\text{C}$

Supply Voltage : --

Relative Humidity : $(50 \pm 25) \%$

Test Specifications

Calibration check.

Ref. Document/Procedure: Z01, IEC 61672.

Test Results

All results were within the IEC 61672 class 1, IEC 61260 Class 1 or manufacturer's specification.

The results are shown in the attached page(s).

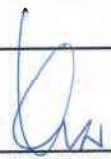
Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C190926	SCL-HKSAR
S240	Sound Level Calibrator	904042	NIM-PRC & SCL-HKSAR

The values given in this Calibration 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 environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.
The test results apply to the above Unit-Under-Test only

Calibrated by : 
Elva Chong

Approved by : 
Kin Wong

Date: 30-Mar-20



Calibration Certificate

Certificate No. 002715

Page 2 of 4 Pages

Results :

Acoustical signal test

1. Self-generated noise: 15.4dBA (Mfr's Spec ≤ 17 dBA)

2. Reference Sound Pressure Level

UUT Setting				Applied Value (dB)	UUT Reading (dB)
Range (dB)	Frequency Weighting	Time Weighting	Octave Filter		
20 ~ 130	A	F	OFF	94.0	94.1
		S	OFF		94.1
	C	F	OFF		94.1
	Z	F	OFF		94.1
	A	F	OFF	114.0	114.2
		S	OFF		114.2
	C	F	OFF		114.2
	Z	F	OFF		114.2

IEC 61672 Type 1 Spec. : ± 1.1 dB

Uncertainty : ± 0.1 dB

Electrical signal tests

3. Electrical signal tests of frequency weightings (A weighting)

Frequency	Attenuation (dB)	IEC 61672 Type 1 Spec.
31.5 Hz	-39.5	- 39.4 dB, ± 2 dB
63 Hz	-26.1	- 26.2 dB, ± 1.5 dB
125 Hz	-16.1	- 16.1 dB, ± 1.5 dB
250 Hz	-8.6	- 8.6 dB, ± 1 dB
500 Hz	-3.2	- 3.2 dB, ± 1.4 dB
1 kHz	0.0 (Ref)	0 dB, ± 1.1 dB
2 kHz	+1.1	+ 1.2 dB, ± 1.6 dB
4 kHz	+0.7	+ 1.0 dB, ± 1.6 dB
8 kHz	-1.1	- 1.1 dB, + 2.1 dB ~ -3.1 dB
16 kHz	-8.5	- 6.6 dB, + 3.5 dB ~ - 17.0 dB

Uncertainty : ± 0.1 dB



Calibration Certificate

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4. Frequency & Time weightings at 1 kHz

4.1 Frequency Weighting (Fast)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
A	94.0	94.0 (Ref.)	- -	± 0.4 dB
C	94.0	94.0	0.0	
Z	94.0	94.0	0.0	

4.2 Time Weighting (A-weighted)

UUT Setting	Applied Value (dB)	UUT Reading (dB)	Difference (dB)	IEC 61672 Type 1 Spec.
Fast	94.0	94.0 (Ref.)	- -	± 0.3 dB
Slow	94.0	94.0	0.0	
Time-averaging	94.0	94.0	0.0	

Uncertainty : ± 0.1 dB

5. Filter Characteristics

5.1 1/1 – Octave Filter

Frequency	Attenuation (dB)	IEC 61260 Class 1 Spec. (dB)
125 Hz	-76.4	< - 61
250 Hz	-71.3	< - 42
500 Hz	-43.0	< - 17.5
707 Hz	-4.6	- 2 ~ - 5
1 kHz (Ref)	--	--
1.414 kHz	-2.5	- 2 ~ - 5
2 kHz	-39.8	< - 17.5
4 kHz	-85.6	< - 42
8 kHz	-86.1	< - 61

Uncertainty : ± 0.25 dB



Calibration Certificate

Certificate No. 002715

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5.2 1/3 – Octave Filter

Frequency	Attenuation (dB)	IEC 61260 Class 1 Spec.(dB)
326 Hz	-69.9	< - 61
530 Hz	-50.0	< - 42
772 Hz	-23.3	< - 17.5
891 Hz	-3.9	+ 0.3 ~ - 5.0
1 kHz (Ref)	--	--
1.122 kHz	-3.5	+ 0.3 ~ - 5.0
1.296 kHz	-22.1	< - 17.5
1.887 kHz	-46.6	< - 42
3.070 kHz	-92.7	< - 61

Uncertainty : ± 0.25 dB

- Remarks :
1. UUT : Unit-Under-Test
 2. The uncertainty claimed is for a confidence probability of not less than 95%.
 3. Atmospheric Pressure : 1 002 hPa.
 4. Microphone model: UC-59, S/N : 10989
 5. Preamplifier model : NH-25 , S/N : 65662
 6. Firmware Version: 2.0
 7. Power Supply Check: OK
 8. The UUT was adjusted with the supplied sound calibrator at the reference sound pressure level before the calibration.

----- END -----



Calibration Certificate

Certificate No. 002716

Page 1 of 2 Pages

Customer : Enovative Environmental Service Limited

Address : Flat 6, 3/F, Block E, Wah Lok Industrial Centre, 31-35 Shan Mei Street, Shatin, N.T., Hong Kong.

Order No. : Q01094

Date of receipt : 24-Mar-20

Item Tested

Description : Sound Level Calibrator

Manufacturer : Rion

I.D. : 217656

Model : NC-74

Serial No. : 34678506

Test Conditions

Date of Test : 30-Mar-20

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : F21, Z02.

Test Results

All results were within the IEC 60942 Class 1 specifications.


The results are shown in the attached page(s).

Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S014	Spectrum Analyzer	906710	NIM-PRC & SCL-HKSAR
S240	Sound Level Calibrator	904042	NIM-PRC & SCL-HKSAR
S041	Universal Counter	001622	SCL-HKSAR
S206	Sound Level Meter	904050	SCL-HKSAR

The values given in this Calibration 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 environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.
The test results apply to the above Unit-Under-Test only

Calibrated by : 
Elva Chong

Approved by : 
Kin Wong

Date: 30-Mar-20

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

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Calibration Certificate

Certificate No. 002716

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Results :

1. Generated Sound Pressure Level

UUT Nominal Value (dB)	Measured Value (dB)	IEC 60942 Class 1 Spec.
94.0	94.1	± 0.4 dB

Uncertainty : ± 0.2 dB

2. Short-term Level Fluctuation : 0.0 dB

IEC 60942 Class 1 Spec. : ± 0.1 dB

Uncertainty : ± 0.01 dB

3. Frequency

UUT Nominal Value (kHz)	Measured Value (kHz)	IEC 60942 Class 1 Spec.
1	1.001	± 1 %

Uncertainty : $\pm 3.6 \times 10^{-6}$

4. Total Distortion : < 1.1 %

IEC 60942 Class 1 Spec. : < 4 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1 002 hPa.

----- END -----