Update of Design of the Existing Lagoon Show in Ocean Park Hong Kong

1st Monthly Noise Monitoring Report

19 February 2020

Project No.: 0540005

The business of sustainability

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Document details	The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.
Document title	Update of Design of the Existing Lagoon Show in Ocean Park Hong Kong
Document subtitle	1st Monthly Noise Monitoring Report
Project No.	0540005
Date	19 February 2020
Version	3.0
Author	Mark Cheng
Client Name	Ocean Park Corporation

Document history

				ERM approval to issue		
Version	Revision	Author	Reviewed by	Name	Date	Comments
Draft	1.0	Mark Cheng	Mandy To	Terence Fong	31.1.2020	-
Revised	2.0	Pako Yu	Mandy To	Terence Fong	18.2.2020	Revised based on comments from IEC
Revised	3.0	Pako Yu	Mandy To	Terence Fong	19.2.2020	Revised based on comments from IEC

Environmental Permit No. EP-249/2006/D

Ocean Park Master Redevelopment Project

Environmental Team Leader Certification

Reference Document/Plan

Document/~~Plan~~ to be Certified/ ~~Verified~~:	Monthly EM&A Report (10 Jan to 9 Feb 2020)
Date of Report:	19 February 2020

Reference EP Condition

Environmental Permit Condition: 3.4

Four hard copies and one electronic copy of the monthly EM&A Reports for the construction and operation stages shall be submitted to the Director within two weeks after the end of the reporting month. The monthly EM&A Reports shall include a summary of all non-compliance with the recommendations in the EIA Report or this Permit. The submissions shall be certified by the ET Leader and verified by the IEC as complied with the requirements as set out in the EM&A Manual before submission to the Director. Additional copies of the submission shall be provided upon request by the Director.

ETL Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-249/2006/D.

Ms Mandy To

Environmental Team Leader

Date: 19 February 2020

Our ref: 0540005_ETL Verification Cert_1_20200219.docx

Ocean Park Master Redevelopment Project

Environmental Permit No. EP-249/2006/D - Condition 3.1

Update of Design of the Existing Lagoon Show in Ocean Park Hong Kong
1st Monthly Noise Monitoring Report

Submitted by ERM-Hong Kong, Limited dated 19-02-2020

This is to verify that

Update of Design of the Existing Lagoon Show in Ocean Park Hong Kong
1st Monthly Noise Monitoring Report

Submitted by ERM-Hong Kong, Limited

dated 19-02-2020

Has been verified by the undersigned.

Signed _____

Ir Eric Ching
Independent Environmental Checker (IEC)
Retained by Ocean Park Corporation
pursuant to Environmental Permit No. EP-249/2006/D

Date 20 February 2020

Signature Page

19 February 2020

Update of Design of the Existing Lagoon Show in Ocean Park Hong Kong

1st Monthly Noise Monitoring Report

Terence Fong
Partner

ERM-Hong Kong, Limited
2507, 25/F One Harbourfront,
18 Tak Fung Street,
Hunghom, Kowloon
Hong Kong

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1. INTRODUCTION

ERM-Hong Kong, Limited (ERM) has been appointed by Ocean Park Corporation (OPC) to undertake noise monitoring for the first operational year of the Update of Design of the Existing Lagoon Show under the "*Repositioning and Long Term Operation Plan of Ocean Park"* (the Project) with an updated layout of loudspeaker clusters, as presented in the *Noise Review Study Report* (*Noise Review 2020)* deposited to the EPD on 9 January 2020.

1.1 Purpose of the Report

The Update of Design of the Existing Lagoon Show commenced on 10 January 2020. This is the 1st noise monitoring report which summarises the impact monitoring results during the reporting period from **10 January** to **9 February 2020**.

1.2 Structure of the Report

After this introductory section, the remainder of this report is arranged as follows:

Section 2 describes the noise monitoring methodology, presents the monitoring results and discusses the results; and

Section 3 presents an overall conclusion of the noise monitoring.

2. NOISE MONITORING

2.1 Introduction

Noise monitoring has been carried out following the requirements given in Condition 3.1 of the Environmental Permit (EP-249/2006/D) and the updated EM&A Manual. The requirements and results are detailed in the following sections.

2.2 Noise Monitoring Requirements

It has been recommended in the approved EIA Report for *"Repositioning and Long Term Operation Plan of Ocean Park*" and stated in the EM&A Manual that fixed plant noise source monitoring should be conducted during the first operational year of the Open-air Night Show at the Aqua City. Therefore, noise monitoring is carried out during the first operational year of the Update of Design of the Existing Lagoon Show to review the compliance with the noise limits and requirements stipulated in the *Noise Review 2020*.

The monitoring of fixed plant noise source impact is to be conducted:

- During the lagoon night show (hereinafter referred to as "lagoon night show noise monitoring")

Lagoon night show noise monitoring was carried out at all designated monitoring stations during the performance of lagoon night shows at a logging interval of 5 minutes. The noise monitoring was conducted twice a week, i.e. once on a normal weekday and once on a general holiday or Sunday.

The need for noise monitoring during the lagoon night show was reviewed based on the monitoring results, any requirements to adjust the loudspeaker system, and any change to the show schedule or rundown. With the same loudspeaker system and show rundown, if the noise levels of the month comply with the fixed plant noise criteria as stipulated in *Technical Memorandum on Environmental Impact Assessment Process* (EIAO-TM), or are consistent with the baseline noise levels, the ETL may consider not including the noise monitoring in the subsequent monitoring programme. Agreement from the IEC and approval from EPD must be sought prior to suspension of noise monitoring. Impact monitoring can be resumed if there is any change to the power, orientation, and volume of the loudspeaker system, or to the show rundown, or an increase of show frequency.

The following sections describe the detailed methodology of the fixed plant noise monitoring.

2.2.1 Monitoring Locations

Noise monitoring was conducted at five alternative noise monitoring stations, which are the same locations as that carried out during the first year of operation for the lagoon night show (ie Symbio) from January 2011 to February 2012. The five alternative noise monitoring stations are presented in *Table 2.1*, and shown in *Figure 2.1*.

Table 2.1 Alternative Noise Monitoring Stations

Alternative Noise Monitoring Stations	Description	Location	With or without Façade Correction
AON1	Open Area adjacent to Police Training School	1.2m above street level	without facade correction
AON2	Marriott Hotel, Ocean Park	1m from façade at 5/F on 12 January 2020 1m from façade at roof level on other days	with facade correction
AON3	Woodgreen Estate	1.2m above street level outside boundary wall	with facade correction
AON4	Manly Villa	1.2m above street level near the entrance	with facade correction

Legend

- ▲ Noise Monitoring Stations in the Approved EM&A Manual
- ● Proposed Alternative Noise Monitoring Stations (CN4 is the station for baseline noise monitoring)

AON1
ON1
AON2
ON2
AON3
ON3
AON5
ON5
AON4 (ie CN4)
ON4

Hong Kong Police College
Main Drill Square
Ocean Square
Hong Kong Ocean Park Marriott Hotel
Aqua City
The Grand Aquarium
Ocean Park Hong Kong
Amazing Asian Animals
Waterfront Station
Panda Cafe
Water Tank
Upper Range
Tunnel
Country Villa
The Hazelton
Woodgreen Estate
Henredon Court
Elite Villas
Pak Vila
Flamaglo
Island View
Nederindha
The Hong Kong Country Club
Whisker Harbour
Floating Jetty
Veterinary Hospital
Manly Villa
WONG CHUK HANG RD
SHOUSON HILL ROAD
MILLS
HWM

N
Metres
0 100 200

Figure 2.1

Noise Monitoring Locations

File: T:\GIS\CONTRACT\0540005\mxd\0540005_NSR.mxd
Date: 24/1/2020

Environmental Resources Management

ERM

Alternative Noise Monitoring Stations	Description	Location	With or without Façade Correction
AON5	Hau Yuen	1.2m above street level outside boundary wall	with façade correction

2.2.2 Monitoring Parameters

2.2.2.1 Lagoon Night Show Noise Monitoring

Three consecutive measurements of $L_{Aeq, 5\ min}$ reading were carried out to calculate the $L_{Aeq, 15\ min}$ noise level during the shows including Soul of the Ocean (SOTO) and Visions of Hong Kong (VHK) hosted at the Lagoon at 19:00 to 19:15 hours and 21:00 to 21:05 hours, respectively.

2.2.2.2 Background Noise Level

Three consecutive measurements of $L_{Aeq, 5\ min}$ reading were carried out to calculate the $L_{Aeq, 15\ min}$ noise level before and/or after each show when speakers for the lagoon night shows were switched off.

Any significant influencing factors on the measured noise levels were noted in accordance with standard acoustical principles and practices. The background-corrected noise level due to the lagoon night show was computed based on the background noise level and measured noise level during the shows.

2.2.3 Monitoring Frequency

The monitoring for lagoon night show noise monitoring was conducted twice per week - one on a normal weekday and one on a general holiday, including Sundays during this reporting month. Noise monitoring schedule during this reporting month is summarised in *Table 2.2*.

Table 2.2 Noise Monitoring Schedule during this Reporting Month

Scheduled Monitoring Date	Public Holiday/ Normal Weekday	Monitoring Stations
12 Jan 2020 (Sunday)	Public holiday	AON1 to AON5
14 Jan 2020 (Tuesday)	Normal weekday	AON1, AON3 to AON5[(a)]
19 Jan 2020 (Sunday)	Public holiday	AON1 to AON5
21 Jan 2020 (Tuesday)	Normal weekday	AON1 to AON5
28 Jan 2020 (Tuesday)	Public holiday	Suspended[(b)]
30 Jan 2020 (Thursday)	Normal weekday	Suspended[(b)]
2 Feb 2020 (Sunday)	Public holiday	Suspended[(b)]
4 Feb 2020 (Tuesday)	Normal weekday	Suspended[(b)]
9 Feb 2020 (Sunday)	Public holiday	Suspended[(b)]

Note:
(a) Noise monitoring at AON2 was suspended due to guest room at suitable location not available.
(b) Noise monitoring was suspended from 26 January to 9 February 2020 due to temporary closure of Ocean Park.

2.2.4 Monitoring Methodology

The sound level meters and calibrator used for the noise monitoring, as listed in *Table 2.3* below, complies with IEC 651: 1979 and 804:1985 (Type 1) or equivalent international standards.

Table 2.3 Noise Measurement Equipment

Monitoring Location		Monitoring Equipment
AON1	Open Area adjacent to Police Training School	RION NL-52 Sound Level Meter CAL200 Calibrator

Monitoring Location		Monitoring Equipment
AON2	Marriott Hotel, Ocean Park	RION NL-52 Sound Level Meter CAL200 Calibrator
AON3	Woodgreen Estate	RION NL-52 Sound Level Meter CAL200 Calibrator
AON4	Manly Villa	RION NL-52 Sound Level Meter CAL200 Calibrator
AON5	Hau Yuen	RION NL-52 Sound Level Meter CAL200 Calibrator

Noise monitoring was conducted with reference to the calibration and measurement procedures as stated in the *Technical Memorandum for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites (IND-TM)* issued under the *Noise Control Ordinance (NCO)*. Immediately prior to and following each noise measurement the accuracy of the monitoring equipment was checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements were accepted as the calibration levels from before and after the noise measurement agree to within 1.0 dB.

The sound level meters and acoustic calibrators have been calibrated by a HOKLAS accredited laboratory every two years. The relevant calibration certificates are presented in *Appendix A*.

Noise measurements were conducted without the presence of fog and rain, and with steady wind speed and gusts not exceeding 5ms^{-1} and 10 ms^{-1}, respectively in accordance with international standards and practices [1]. Measurement of L_{Aeq}, L_{10}, L_{90}, L_{max} and L_{min} has been recorded for reference.

If measured noise level is affected by other noise sources at the monitoring station, eg traffic noise, such that the measured noise level is dominated by noise source other than the lagoon night show, noise data will be discarded.

If measured noise level for the lagoon night show is below or equal to the measured background noise level, the noise from the lagoon night show is considered as insignificant and hence negligible at the monitoring location.

2.2.5 Compliance Assessment

2.2.5.1 Fixed Plant Noise Criteria

As recommended in the approved EIA Report and stated in the EM&A Manual, OPC will follow the Action and Limit (A/L) Levels as recommended in the approved EIA Report and EM&A Manual which are summarised in *Table 2.4*. In case exceedances are resulted from cumulative impacts, all steps stipulated in the Event/ Action Plan shall be followed.

Table 2.4 Action and Limit Levels for Entertainment Noise

Identification No.	Action Level	Limit Level
ON1/AON1	When documented complaint is received from any one of the sensitive receivers	$L_{eq\ (15\ min)}$ 60 dB(A)
ON2/AON2		$L_{eq\ (15\ min)}$ 60 dB(A)
ON3/AON3		$L_{eq\ (15\ min)}$ 55 dB(A)
ON4/AON4		$L_{eq\ (15\ min)}$ 55 dB(A)
ON5/AON5		$L_{eq\ (15\ min)}$ 55 dB(A)

2.2.5.2 Noise Criteria for Outdoor Activities

As advised by EPD, the noise levels in terms of $L_{eq,\ 15mins}$ from the outdoor activities should not be more than 5dB(A) above the prevailing background noise level during the daytime and evening periods (0700-2300 hrs), as measured at 1m from the exterior building façade of the most affected

(1) ISO 11819-1:1997 and ISO/FDIS 13472-1:2001

NSRs for regular outdoor activities in accordance with the *Noise Control Guidelines for Music, Singing and Instrument Performing Activities*. For the night-time period (2300-0700 hrs of the next day), the noise from outdoor events should not be audible at the nearby NSRs.

2.3 Results of Noise Monitoring

The results of noise monitoring conducted during this reporting period are given in *Appendix B*, with summary of compliance shown in *Table 2.5*. Photographs taken at the monitoring stations are shown in *Appendix C*.

Table 2.5 Compliance of Noise Monitoring during this Reporting Period

Date	ID	Compliance			Compliance		
		<BGL+5	Limit Level	Not Applicable	<BGL+5	Limit Level	Not Applicable
12 Jan 2020 (Sunday)	AON1	YES	YES	-	YES	YES	-
	AON2	YES	YES	-	YES	YES	-
	AON3	YES	YES	-	YES	YES	-
	AON4	YES	YES	-	YES	YES	-
	AON5	YES	YES	-	YES	YES	-
14 Jan 2020 (Tuesday)	AON1	YES	YES	-	YES	YES	-
	AON2	-	-	NA[(a)]	-	-	NA[(a)]
	AON3	YES	YES	-	YES	YES	-
	AON4	YES	YES	-	YES	YES	-
	AON5	YES	YES	-	YES	YES	-
19 Jan 2020 (Sunday)	AON1	YES	YES	-	YES	YES	-
	AON2	-	-	NA[(b)]	YES	YES	-
	AON3	YES	YES	-	YES	YES	-
	AON4	-	-	NA[(b)]	YES	YES	-
	AON5	-	-	NA[(c)]	YES	YES	-
21 Jan 2020 (Tuesday)	AON1	YES	YES	-	YES	YES	-
	AON2	-	-	NA[(d)]	YES	YES	-
	AON3	YES	YES	-	YES	YES	-
	AON4	YES	YES	-	YES	YES	-
	AON5	YES	YES	-	YES	YES	-
28 Jan 2020 (Tuesday)		Note [(e)]					
30 Jan 2020 (Thursday)		Note [(e)]					
2 Feb 2020 (Sunday)		Note [(e)]					
4 Feb 2020 (Tuesday)		Note [(e)]					
9 Feb 2020 (Sunday)		Note [(e)]					

Note:

(a) Noise monitoring at AON2 was suspended due to guest room at suitable location not available.
(b) Noise monitoring not carried out due to problem with getting access.
(c) Noise data discarded as measurement was affected by several motorbikes passed by.
(d) Noise data discarded as measurement was affected by vehicles and buses from Wong Chuk Hang Road.
(e) Noise monitoring was suspended from 26 January to 9 February 2020 due to temporary closure of Ocean Park.

2.4 Summary of Noise Exceedances

No record of noise exceedance during this reporting month.

3. CONCLUSION

The Update of Design of the Existing Lagoon Show commenced on 10 January 2020. According to the requirements set out in Condition 3.1 of the Environmental Permit (EP-249/2006/D) and the updated EM&A Manual, noise monitoring shall be carried out during the first year of the operation of the Update of Design of the Existing Lagoon Show. This is the 1st monthly noise monitoring report which summarises the noise monitoring results during the reporting period from **10 January** to **9 February 2020**.

Lagoon night show noise monitoring were carried out at five designated monitoring stations during this reporting period. Lagoon night show noise monitoring was suspended from 26 January to 9 February 2020 due to temporary closure of Ocean Park.

No noise exceedances have been recorded during this reporting period.

APPENDIX A CALIBRATION CERTIFICATES OF THE NOISE MEASUREMENT EQUIPMENT

Certificate of Calibration

for

Description:	***Sound Level Meter***
Manufacturer:	***RION***
Type No.:	***NL-52 (Serial No.: 00643049)***
Microphone:	***RION UC-53A (Serial No.:316987)***
Preamplifier:	***RION NH-25 (Serial No.:76317)***

Submitted by:

Customer:	*Envirotech Services Co.*
Address:	*Rm. 113, 1/F., My Loft, 9 Hoi Wing Road,*
	Tuen Mun, N.T. Hong Kong

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

☑ **Within**
☐ **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: 12 December 2019

Date of calibration: 16 December 2019

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **16 December 2019**

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

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 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:	23.5°C
Air Pressure:	1008hPa
Relative Humidity:	61.1%

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV180064	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		104.2	±0.3
			114		114.2	±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	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	93.9	±1.6
				4000	93.6	±1.6
				8000	91.6	+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	54.7	-39.4 ±2.0
				63	67.9	-26.2 ±1.5
				125	77.9	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.8	-3.2 ±1.4
				1000	94.0	Ref
				2000	95.1	+1.2 ±1.6
				4000	94.6	+1.0 ±1.6
				8000	90.6	-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	90.9	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.0	-0.0 ±1.4
				500	94.1	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.7	-0.2 ±1.6
				4000	92.8	-0.8 ±1.6
				8000	88.7	-3.0 +2.1; -3.1

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

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	± 0.05
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	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.

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

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

Certificate of Calibration

for

Description:	***Sound Level Meter with extension cable***
Manufacturer:	***RION***
Type No.:	***NL-52 (Serial No.: 00542913)***
Microphone:	***PCB 577B02 (Serial No.:152236)***
Preamplifier:	***RION NH-25 (Serial No.:21756)***

Submitted by:

Customer:	*Envirotech Services Co.*
Address:	*Rm. 113, 1/F., My Loft, 9 Hoi Wing Road, Tuen Mun, N.T. Hong Kong*

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

☑ **Within**
☐ **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: 23 December 2019

Date of calibration: 24 December 2019

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **24 December 2019**

Certificate No.: APJ19-134-CC003

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 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:	24.3 °C
Air Pressure:	1008 hPa
Relative Humidity:	52.3 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV180064	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		114.0	±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,	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	94.2	±2.0
				63	94.2	±1.5
				125	94.1	±1.5
				250	94.0	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.8	±1.6
				4000	93.4	±1.6
				8000	92.0	+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	54.8	-39.4 ±2.0
				63	67.9	-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	95.0	+1.2 ±1.6
				4000	94.4	+1.0 ±1.6
				8000	90.9	-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	91.1	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.0	-0.0 ±1.4
				500	94.0	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.6	-0.2 ±1.6
				4000	92.6	-0.8 ±1.6
				8000	89.0	-3.0 +2.1; -3.1

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Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

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	± 0.05
	63 Hz	± 0.05
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	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.

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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. : C192958
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-0995) Date of Receipt / 收件日期 : 17 May 2019

Description / 儀器名稱	:	Sound Level Meter
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-52
Serial No. / 編號	:	00331806
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/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

DATE OF TEST / 測試日期 : 7 June 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification. (after adjustment)
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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 12 June 2019

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C192958
證書編號

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 using the internal standard (After Adjustment) was performed before the test 6.1.1.2 to 6.3.2.

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	C190176
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Adjustment

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	1	* 97.2	± 1.1

* Out of IEC 61672 Class 1 Spec.

6.1.1.2 After Adjustment

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
30 - 130	L_A	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

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

Certificate of Calibration
校正證書

Certificate No. : C192958
證書編號

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.7	-26.2 ± 1.5
					125 Hz	77.7	-16.1 ± 1.5
					250 Hz	85.3	-8.6 ± 1.4
					500 Hz	90.8	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.3	+1.2 ± 1.6
					4 kHz	95.1	+1.0 ± 1.6
					8 kHz	93.0	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.6	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.1	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.9	-0.2 ± 1.6
					4 kHz	93.2	-0.8 ± 1.6
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.7	-6.2 (+3.0 ; -6.0)

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
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輝創工程有限公司
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Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C192958
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 13748

- Mfr's Spec. : 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
	12.5 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration

for

Description:	*Sound Level Meter*
Manufacturer:	*RION*
Type No.:	*NL-52 (Serial No.: 00175561)*
Microphone:	*UC-53A (Serial No.: 99995)*
Preamplifier:	*NH-25 (Serial No.:65663)*

Submitted by:

Customer:	***Envirotech Services Co.***
Address:	***Rm.113, 1/F., My Loft, 9 Hoi Wing Road, Tuen Mun, N.T., Hong Kong.***

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

☑ **Within**
☐ **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: 24 September 2019

Date of calibration: 26 September 2019

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **26 September 2019**

(A+A) *L

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 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:	24.1 °C
Air Pressure:	1006 hPa
Relative Humidity:	54.2 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV180064	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		114.1	±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	94.3	±2.0
				63	94.2	±1.5
				125	94.1	±1.5
				250	94.0	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.9	±1.6
				4000	93.7	±1.6
				8000	91.9	+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	55.2	-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	95.1	+1.2±1.6
				4000	94.7	+1.0±1.6
				8000	90.9	-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	91.3	-3.0±2.0
				63	93.4	-0.8±1.5
				125	93.9	-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	92.9	-0.8±1.6
				8000	89.0	–3.0 +2.1: –3.1

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

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	± 0.15
	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	± 0.10
	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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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C193477
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-1283) Date of Receipt / 收件日期 : 21 June 2019

Description / 儀器名稱 : Sound Level Meter
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00131628
Supplied By / 委託者 : Envirotech Services Co.
Room 113, 1/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 : 1 July 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- The Bruel & Kjaer 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 : 8 July 2019

Certificate of Calibration
校正證書

Certificate No. : C193477
證書編號

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	C190176
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	1	93.9	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
30 - 130	L_A	A	Fast	94.00	1	93.9 (Ref.)
				104.00		103.9
				114.00		113.9

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

6.2 Time Weighting

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Class 1 Spec. (dB)
30 - 130	L_A	A	Fast	94.00	1	93.9	Ref.
			Slow			93.9	± 0.3

Certificate of Calibration
校正證書

Certificate No. : C193477
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.6	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.2	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.9	Ref.
					2 kHz	95.1	+1.2 ± 1.6
					4 kHz	94.9	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					12.5 kHz	89.4	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.0	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.9	0.0 ± 1.4
					1 kHz	93.9	Ref.
					2 kHz	93.7	-0.2 ± 1.6
					4 kHz	93.1	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					12.5 kHz	87.5	-6.2 (+3.0 ; -6.0)

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Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C193477
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 10446

- Mfr's Spec. : 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
	12.5 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.

Sun Creation Engineering Limited - Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里 -號四樓
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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. : C196121
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-2324) Date of Receipt / 收件日期 : 4 November 2019

Description / 儀器名稱	:	Precision Acoustic Calibrator
Manufacturer / 製造商	:	LARSON DAVIS
Model No. / 型號	:	CAL200
Serial No. / 編號	:	16172
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/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 : 10 November 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- The Bruel & Kjaer 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 : 18 November 2019

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
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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. : C196121
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

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

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C193756
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.9	± 0.2	± 0.2
114 dB, 1 kHz	113.9		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000	1 kHz ± 1 %	± 1

Remark : 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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

Certificate of Calibration
校正證書

Certificate No. : C196120
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-2324) Date of Receipt / 收件日期 : 4 November 2019

Description / 儀器名稱	:	Precision Acoustic Calibrator
Manufacturer / 製造商	:	LARSON DAVIS
Model No. / 型號	:	CAL200
Serial No. / 編號	:	15678
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/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 : 10 November 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- The Bruel & Kjaer 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 : 18 November 2019

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
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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. : C196120
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

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

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C193756
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000	1 kHz ± 1 %	± 1

Remark : 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
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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. : C196453
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-2418) Date of Receipt / 收件日期 : 18 November 2019

Description / 儀器名稱	:	Precision Acoustic Calibrator
Manufacturer / 製造商	:	LARSON DAVIS
Model No. / 型號	:	CAL200
Serial No. / 編號	:	11334
Supplied By / 委託者	:	Envirotech Services Co. Room 113, 1/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 : 30 November 2019

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification & user's specified acceptance criteria.
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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 3 December 2019

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 — 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
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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. : C196453
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

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

3. Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C193756
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	User's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	93.8	± 0.5	± 0.2
114 dB, 1 kHz	113.7		

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000	1 kHz ± 1 %	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

- 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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APPENDIX B RESULTS OF NOISE MONITORING

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	12 Jan 2020 (Sunday)
Noise Monitoring Staff:	Cheng Tse Ho
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00542913
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON1	19:10-19:15	SOTO	61.4	61.4	63.4	-2.0	Negligible	60	YES	YES	-	Measurement started after the show started at 19:00 due to site access problem
AON1	19:30-19:35	Background	61.1	63.0	-	-	-	-	-	-	-	
AON1	19:35-19:40	Background	64.5									Noise from vehicles and buses
AON1	19:40-19:45	Background	62.6									Noise from vehicles and buses
AON1	20:35-20:40	Background	58.5	58.7	-	-	-	-	-	-	-	
AON1	20:40-20:45	Background	57.8									
AON1	20:45-20:50	Background	59.5									
AON1	21:00-21:05	Visions of HK	55.2	59.7	57.8	2.0	55.3	60	YES	YES	-	
AON1	21:05-21:10	Finishing of VHK & BG	61.2									
AON1	21:10-21:15	Background	60.7									
AON1	21:15-21:20	Background	59.8	56.7	-	-	-	-	-	-	-	
AON1	21:20-21:25	Background	53.4									
AON1	21:25-21:30	Background	53.6									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	12 Jan 2020 (Sunday)
Noise Monitoring Staff:	Yeung Ping Fai
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00131628
Calibrator Model / Identification:	CAL200/ 15678
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON2	18:45-18:50	Background	66.0	65.7	-	-	-	-	-	-	-	
AON2	18:50-18:55	Background	65.3									
AON2	18:55-19:00	Background	65.7									
AON2	19:00-19:05	SOTO	65.6	66.6	65.5	1.0	59.8	60	YES	YES	-	
AON2	19:05-19:10	SOTO	67.2									
AON2	19:10-19:15	SOTO	66.7									
AON2	19:15-19:20	Background	65.8	65.4	-	-	-	-	-	-	-	
AON2	19:20-19:25	Background	64.5									
AON2	19:25-19:30	Background	65.7									
AON2	20:45-20:50	Background	66.8	65.1	-	-	-	-	-	-	-	
AON2	20:50-20:55	Background	64.9									
AON2	20:55-21:00	Background	62.8									
AON2	21:00-21:05	Visions of HK	65.3	64.9	65.2	-0.3	Negligible	60	YES	YES	-	
AON2	21:05-21:10	Finishing of VHK & BG	65.5									
AON2	21:10-21:15	Background	63.7									
AON2	21:15-21:20	Background	64.4	65.4	-	-	-	-	-	-	-	
AON2	21:20-21:25	Background	66.5									
AON2	21:25-21:30	Background	64.9									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	12 Jan 2020 (Sunday)
Noise Monitoring Staff:	Ho Hiu Wa
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00175561
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON3	18:45-18:50	Background	64.3	64.6	-	-	-	-	-	-	-	
AON3	18:50-18:55	Background	65.1									
AON3	18:55-19:00	Background	64.5									
AON3	19:00-19:05	SOTO	63.7	63.3	65.1	-1.8	Negligible	55	YES	YES	-	
AON3	19:05-19:10	SOTO	76.7									affected by noisy vehicles and discarded
AON3	19:10-19:15	SOTO	62.8									
AON3	19:15-19:20	Background	61.8	65.5	-	-	-	-	-	-	-	
AON3	19:20-19:25	Background	67.2									
AON3	19:25-19:30	Background	65.9									
AON3	20:45-20:50	Background	72.7	68.7	-	-	-	-	-	-	-	
AON3	20:50-20:55	Background	64.0									
AON3	20:55-21:00	Background	61.1									
AON3	21:00-21:05	Visions of HK	63.8	63.0	66.5	-3.6	Negligible	55	YES	YES	-	
AON3	21:05-21:10	Finishing of VHK & BG	64.0									
AON3	21:10-21:15	Background	60.2									
AON3	21:15-21:20	Background	61.6	61.9	-	-	-	-	-	-	-	
AON3	21:20-21:25	Background	63.5									
AON3	21:25-21:30	Background	59.7									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	12 Jan 2020 (Sunday)
Noise Monitoring Staff:	Ho Kam Chuen
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00643049
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON4	18:45-18:50	Background	-	-	-	-	-	-	-	-	-	Measurement unable to start before the show due to site access problem
AON4	18:50-18:55	Background	-									
AON4	18:55-19:00	Background	-									
AON4	19:00-19:05	SOTO	57.2	58.4	57.0	1.3	52.5	55	YES	YES	-	
AON4	19:05-19:10	SOTO	56.6									
AON4	19:10-19:15	SOTO	60.3									
AON4	19:15-19:20	Background	58.5	57.0	-	-	-	-	-	-	-	
AON4	19:20-19:25	Background	58.4									
AON4	19:25-19:30	Background	50.6									
AON4	20:45-20:50	Background	50.1	50.5	-	-	-	-	-	-	-	
AON4	20:50-20:55	Background	51.3									
AON4	20:55-21:00	Background	50.1									
AON4	21:00-21:05	Visions of HK	51.5	52.3	51.8	0.5	42.5	55	YES	YES	-	
AON4	21:05-21:10	Finishing of VHK & BG	52.9									
AON4	21:10-21:15	Background	67.9									This set of data is disregarded as show was finished, noise was due to vehicles
AON4	21:15-21:20	Background	55.4	52.7	-	-	-	-	-	-	-	
AON4	21:20-21:25	Background	50.2									
AON4	21:25-21:30	Background	50.5									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	12 Jan 2020 (Sunday)
Noise Monitoring Staff:	Ho Kam Fat
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00331806
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON5	18:45-18:50	Background	58.2	57.8	-	-	-	-	-	-	-	
AON5	18:50-18:55	Background	57.2									
AON5	18:55-19:00	Background	57.9									
AON5	19:00-19:05	SOTO	57.2	60.1	58.5	1.6	55.0	55	YES	YES	-	
AON5	19:05-19:10	SOTO	61.5									
AON5	19:10-19:15	SOTO	60.5									
AON5	19:15-19:20	Background	56.2	59.0	-	-	-	-	-	-	-	
AON5	19:20-19:25	Background	60.4									
AON5	19:25-19:30	Background	59.5									
AON5	20:45-20:50	Background	47.9	50.2	-	-	-	-	-	-	-	
AON5	20:50-20:55	Background	53.4									
AON5	20:55-21:00	Background	45.7									
AON5	21:00-21:05	Visions of HK	53.0	56.9	54.7	2.2	52.9	55	YES	YES	-	
AON5	21:05-21:10	Finishing of VHK & BG	56.2									
AON5	21:10-21:15	Background	59.3									
AON5	21:15-21:20	Background	58.1	56.8	-	-	-	-	-	-	-	
AON5	21:20-21:25	Background	56.2									
AON5	21:25-21:30	Background	55.9									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	14 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Cheng Tse Ho
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00542913
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON1	18:45-18:50	Background	62.8	62.8	-	-	-	-	-	-	-	Noise from vehicles and buses
AON1	18:50-18:55	Background	62.7									Noise from vehicles and buses
AON1	18:55-19:00	Background	62.8									Noise from vehicles and buses
AON1	19:00-19:05	SOTO	64.1	63.8	62.4	1.4	58.3	60	Yes	Yes	-	
AON1	19:05-19:10	SOTO	63.5									
AON1	19:10-19:15	SOTO	63.9									
AON1	19:15-19:20	Background	61.6	62.0	-	-	-	-	-	-	-	
AON1	19:20-19:25	Background	62.7									Noise from vehicles and buses
AON1	19:25-19:30	Background	61.6									
AON1	20:45-20:50	Background	56.9	58.1	-	-	-	-	-	-	-	
AON1	20:50-20:55	Background	60.2									
AON1	20:55-21:00	Background	56.0									
AON1	21:00-21:05	Visions of HK	57.4	58.7	58.0	0.6	50.0	60	Yes	Yes	-	
AON1	21:05-21:10	Finishing of VHK & BG	56.6									
AON1	21:10-21:15	Background	60.8									
AON1	21:15-21:20	Background	55.2	58.0	-	-	-	-	-	-	-	
AON1	21:20-21:25	Background	59.0									
AON1	21:25-21:30	Background	58.8									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	14 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Ho Hiu Wa
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00175561
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON3	18:45-18:50	Background	68.1	68.7	-	-	-	-	-	-	-	
AON3	18:50-18:55	Background	68.4									
AON3	18:55-19:00	Background	69.4									
AON3	19:00-19:05	SOTO	67.1	65.9	67.6	-1.6	Negligible	55	Yes	Yes	-	
AON3	19:05-19:10	SOTO	64.3									
AON3	19:10-19:15	SOTO	65.9									
AON3	19:15-19:20	Background	66.3	66.1	-	-	-	-	-	-	-	
AON3	19:20-19:25	Background	67.3									
AON3	19:25-19:30	Background	63.9									
AON3	20:45-20:50	Background	62.6	62.8	-	-	-	-	-	-	-	
AON3	20:50-20:55	Background	64.3									
AON3	20:55-21:00	Background	60.9									
AON3	21:00-21:05	Visions of HK	65.1	63.6	64.5	-0.8	Negligible	55	Yes	Yes	-	
AON3	21:05-21:10	Finishing of VHK & BG	62.2									
AON3	21:10-21:15	Background	63.1									
AON3	21:15-21:20	Background	65.9	65.7	-	-	-	-	-	-	-	
AON3	21:20-21:25	Background	62.4									
AON3	21:25-21:30	Background	67.4									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	14 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Ho Kam Chuen
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00643049
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON4	18:45-18:50	Background	62.9	60.7	-	-	-	-	-	-	-	
AON4	18:50-18:55	Background	56.5									
AON4	18:55-19:00	Background	60.6									
AON4	19:00-19:05	SOTO	57.9	58.5	58.9	-0.4	Negligible	55	Yes	Yes	-	
AON4	19:05-19:10	SOTO	58.4									
AON4	19:10-19:15	SOTO	59.2									
AON4	19:15-19:20	Background	56.7	55.7	-	-	-	-	-	-	-	
AON4	19:20-19:25	Background	55.5									
AON4	19:25-19:30	Background	54.8									
AON4	20:45-20:50	Background	53.9	54.8	-	-	-	-	-	-	-	
AON4	20:50-20:55	Background	54.8									
AON4	20:55-21:00	Background	55.5									
AON4	21:00-21:05	Visions of HK	59.3	57.7	54.8	2.9	54.6	55	Yes	Yes	-	
AON4	21:05-21:10	Finishing of VHK & BG	55.3									
AON4	21:10-21:15	Background	59.2									This set of data is discarded as show was finished, noise was due to vehicles
AON4	21:15-21:20	Background	55.2	54.9	-	-	-	-	-	-	-	
AON4	21:20-21:25	Background	54.9									
AON4	21:25-21:30	Background	54.5									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	14 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Ho Kam Fat
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00331806
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON5	18:45-18:50	Background	60.3	59.7	-	-	-	-	-	-	-	
AON5	18:50-18:55	Background	57.6									
AON5	18:55-19:00	Background	60.5									
AON5	19:00-19:05	SOTO	60.6	59.4	59.2	0.2	45.9	55	Yes	Yes	-	
AON5	19:05-19:10	SOTO	59.8									
AON5	19:10-19:15	SOTO	57.2									
AON5	19:15-19:20	Background	58.7	58.8	-	-	-	-	-	-	-	
AON5	19:20-19:25	Background	55.9									
AON5	19:25-19:30	Background	60.5									
AON5	20:45-20:50	Background	58.2	56.4	-	-	-	-	-	-	-	
AON5	20:50-20:55	Background	55.5									
AON5	20:55-21:00	Background	54.5									
AON5	21:00-21:05	Visions of HK	56.0	56.0	54.6	1.4	50.5	55	Yes	Yes	-	
AON5	21:05-21:10	Finishing of VHK & BG	57.7									
AON5	21:10-21:15	Background	53.4									
AON5	21:15-21:20	Background	53.5	51.6	-	-	-	-	-	-	-	
AON5	21:20-21:25	Background	52.6									
AON5	21:25-21:30	Background	45.0									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	19 Jan 2020 (Sunday)
Noise Monitoring Staff:	Cheng Tse Ho
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00542913
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON1	18:45-18:50	Background	64.7	63.7	-	-	-	-	-	-	-	Noise from vehicles and buses
AON1	18:50-18:55	Background	64.9									Noise from vehicles and buses
AON1	18:55-19:00	Background	60.2									
AON1	19:00-19:05	SOTO	63.9	63.5	63.3	0.2	49.3	60	YES	YES	-	
AON1	19:05-19:10	SOTO	64.5									
AON1	19:10-19:15	SOTO	61.4									
AON1	19:15-19:20	Background	59.1	62.8	-	-	-	-	-	-	-	
AON1	19:20-19:25	Background	66.4									Noise from vehicles and buses
AON1	19:25-19:30	Background	57.2									
AON1	20:45-20:50	Background	57.6	58.4	-	-	-	-	-	-	-	
AON1	20:50-20:55	Background	59.9									
AON1	20:55-21:00	Background	57.3									
AON1	21:00-21:05	Visions of HK	58.1	58.3	61.0	-2.7	Negligible	60	YES	YES	-	
AON1	21:05-21:10	Finishing of VHK & BG	55.8									
AON1	21:10-21:15	Background	60.1									
AON1	21:15-21:20	Background	65.7	62.6	-	-	-	-	-	-	-	
AON1	21:20-21:25	Background	55.5									
AON1	21:25-21:30	Background	61.5									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	19 Jan 2020 (Sunday)
Noise Monitoring Staff:	Yeung Ping Fai
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00131628
Calibrator Model / Identification:	CAL200/ 15678
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON2	18:45-18:50	Background	-	-	-	-	-	-	-	-	-	Measurement not carried out due to problem with getting access to the rooftop
AON2	18:50-18:55	Background	-									
AON2	18:55-19:00	Background	-									
AON2	19:00-19:05	SOTO	-	-	-	-	-	-	-	-	-	
AON2	19:05-19:10	SOTO	-									
AON2	19:10-19:15	SOTO	-									
AON2	19:15-19:20	Background	-	-	-	-	-	-	-	-	-	
AON2	19:20-19:25	Background	-									
AON2	19:25-19:30	Background	-									
AON2	20:45-20:50	Background	59.0	58.9	-	-	-	-	-	-	-	
AON2	20:50-20:55	Background	58.3									
AON2	20:55-21:00	Background	59.4									
AON2	21:00-21:05	Visions of HK	61.9	61.7	59.1	2.6	58.2	60	YES	YES	-	
AON2	21:05-21:10	Finishing of VHK & BG	63.4									
AON2	21:10-21:15	Background	58.3									
AON2	21:15-21:20	Background	59.0	59.3	-	-	-	-	-	-	-	
AON2	21:20-21:25	Background	59.3									
AON2	21:25-21:30	Background	59.6									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	19 Jan 2020 (Sunday)
Noise Monitoring Staff:	Ho Hiu Wa
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00175561
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON3	18:45-18:50	Background	64.8	64.6	-	-	-	-	-	-	-	
AON3	18:50-18:55	Background	64.7									
AON3	18:55-19:00	Background	64.2									
AON3	19:00-19:05	SOTO	62.9	63.6	65.0	-1.4	Negligible	55	YES	YES	-	
AON3	19:05-19:10	SOTO	65.0									
AON3	19:10-19:15	SOTO	62.3									
AON3	19:15-19:20	Background	65.0	65.3	-	-	-	-	-	-	-	
AON3	19:20-19:25	Background	65.8									
AON3	19:25-19:30	Background	65.2									
AON3	20:45-20:50	Background	64.0	61.7	-	-	-	-	-	-	-	
AON3	20:50-20:55	Background	60.4									
AON3	20:55-21:00	Background	59.4									
AON3	21:00-21:05	Visions of HK	62.3	63.0	63.1	-0.1	Negligible	55	YES	YES	-	
AON3	21:05-21:10	Finishing of VHK & BG	64.4									
AON3	21:10-21:15	Background	62.0									
AON3	21:15-21:20	Background	64.2	64.2	-	-	-	-	-	-	-	
AON3	21:20-21:25	Background	64.5									
AON3	21:25-21:30	Background	63.8									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	19 Jan 2020 (Sunday)
Noise Monitoring Staff:	Ho Kam Chuen
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00643049
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON4	18:45-18:50	Background	55.4	55.8	-	-	-	-	-	-	-	
AON4	18:50-18:55	Background	56.1									
AON4	18:55-19:00	Background	55.9									
AON4	19:00-19:05	SOTO	-	-	-	-	-	-	-	-	Not Applicable	A taxi stopped in front of the measurement location for passengers taking off, and it stopped there waited for more than 10 min without switching off engine
AON4	19:05-19:10	SOTO	-									
AON4	19:10-19:15	SOTO	-									
AON4	19:15-19:20	Background	54.9	54.7	-	-	-	-	-	-	-	
AON4	19:20-19:25	Background	54.6									
AON4	19:25-19:30	Background	54.6									
AON4	20:45-20:50	Background	57.2	55.1	-	-	-	-	-	-	-	
AON4	20:50-20:55	Background	52.8									
AON4	20:55-21:00	Background	53.9									
AON4	21:00-21:05	Visions of HK	56.6	55.6	54.0	1.6	50.5	55	YES	YES	-	
AON4	21:05-21:10	Finishing of VHK & BG	54.4									
AON4	21:10-21:15	Background	52.3									
AON4	21:15-21:20	Background	51.5	52.7	-	-	-	-	-	-	-	
AON4	21:20-21:25	Background	53.7									
AON4	21:25-21:30	Background	52.7									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	19 Jan 2020 (Sunday)
Noise Monitoring Staff:	Ho Kam Fat
Temperature:	18 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00331806
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON5	18:45-18:50	Background	62.5	60.4	-	-	-	-	-	-	-	Noise from vehicles
AON5	18:50-18:55	Background	58.0									
AON5	18:55-19:00	Background	59.6									
AON5	19:00-19:05	SOTO	-	-	-	-	-	-	-	-	Not Applicable	Several motorbikes passed by the measurement location and affected the noise results.
AON5	19:05-19:10	SOTO	-									
AON5	19:10-19:15	SOTO	-									
AON5	19:15-19:20	Background	57.1	58.6	-	-	-	-	-	-	-	
AON5	19:20-19:25	Background	61.3									Noise from vehicles
AON5	19:25-19:30	Background	55.0									
AON5	20:45-20:50	Background	57.3	56.0	-	-	-	-	-	-	-	
AON5	20:50-20:55	Background	55.7									
AON5	20:55-21:00	Background	54.7									
AON5	21:00-21:05	Visions of HK	54.0	54.9	55.0	-0.1	Negligible	55	YES	YES	-	
AON5	21:05-21:10	Finishing of VHK & BG	56.9									
AON5	21:10-21:15	Background	52.7									
AON5	21:15-21:20	Background	54.5	53.6	-	-	-	-	-	-	-	
AON5	21:20-21:25	Background	52.6									
AON5	21:25-21:30	Background	53.5									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	21 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Cheng Tse Ho
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00542913
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON1	18:45-18:50	Background	55.7	55.1	-	-	-	-	-	-	-	
AON1	18:50-18:55	Background	54.1									
AON1	18:55-19:00	Background	55.3									
AON1	19:00-19:05	SOTO	56.3	56.2	55.3	0.9	48.8	60	YES	YES	-	
AON1	19:05-19:10	SOTO	56.2									
AON1	19:10-19:15	SOTO	56.1									
AON1	19:15-19:20	Background	55.7	55.6	-	-	-	-	-	-	-	
AON1	19:20-19:25	Background	54.8									
AON1	19:25-19:30	Background	56.1									
AON1	20:45-20:50	Background	56.8	59.7	-	-	-	-	-	-	-	
AON1	20:50-20:55	Background	60.5									
AON1	20:55-21:00	Background	60.9									
AON1	21:00-21:05	Visions of HK	57.1	54.5	57.3	-2.8	Negligible	60	YES	YES	-	
AON1	21:05-21:10	Finishing of VHK & BG	53.6									
AON1	21:10-21:15	Background	50.1									
AON1	21:15-21:20	Background	51.0	51.0	-	-	-	-	-	-	-	
AON1	21:20-21:25	Background	50.7									
AON1	21:25-21:30	Background	51.2									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	21 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Yeung Ping Fai
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00131628
Calibrator Model / Identification:	CAL200/ 15678
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON2	18:45-18:50	Background	63.5	64.6	-	-	-	-	-	-	-	
AON2	18:50-18:55	Background	63.7									
AON2	18:55-19:00	Background	66.1									Noise from vehicles and buses
AON2	19:00-19:05	SOTO	-	-	-	-	-	-	-	-	-	Noise dominated by vehicles and buses from Wong Chuk Hang Road
AON2	19:05-19:10	SOTO	-									
AON2	19:10-19:15	SOTO	-									
AON2	19:15-19:20	Background	64.5	63.8	-	-	-	-	-	-	-	
AON2	19:20-19:25	Background	64.8									
AON2	19:25-19:30	Background	61.5									
AON2	20:45-20:50	Background	60.9	60.6	-	-	-	-	-	-	-	
AON2	20:50-20:55	Background	60.0									
AON2	20:55-21:00	Background	60.9									
AON2	21:00-21:05	Visions of HK	61.5	62.3	59.8	2.5	58.7	60	YES	YES	-	
AON2	21:05-21:10	Finishing of VHK & BG	64.2									
AON2	21:10-21:15	Background	60.2									
AON2	21:15-21:20	Background	58.7	58.8	-	-	-	-	-	-	-	
AON2	21:20-21:25	Background	58.7									
AON2	21:25-21:30	Background	58.9									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	21 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Ho Hiu Wa
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00175561
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON3	18:45-18:50	Background	66.8	67.7	-	-	-	-	-	-	-	
AON3	18:50-18:55	Background	66.4									
AON3	18:55-19:00	Background	69.3									
AON3	19:00-19:05	SOTO	67.9	67.5	67.6	-0.1	Negligible	55	YES	YES	-	
AON3	19:05-19:10	SOTO	68.8									Noise due to vehicles, noise from show was inaudible at AON3
AON3	19:10-19:15	SOTO	67.0									
AON3	19:15-19:20	Background	68.3	67.4	-	-	-	-	-	-	-	
AON3	19:20-19:25	Background	67.8									
AON3	19:25-19:30	Background	65.7									
AON3	20:45-20:50	Background	63.7	64.8	-	-	-	-	-	-	-	
AON3	20:50-20:55	Background	66.4									
AON3	20:55-21:00	Background	63.9									
AON3	21:00-21:05	Visions of HK	63.4	62.7	64.7	-2.0	Negligible	55	YES	YES	-	
AON3	21:05-21:10	Finishing of VHK & BG	62.0									
AON3	21:10-21:15	Background	62.5									
AON3	21:15-21:20	Background	63.1	64.5	-	-	-	-	-	-	-	
AON3	21:20-21:25	Background	63.2									
AON3	21:25-21:30	Background	66.3									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	21 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Ho Kam Chuen
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00643049
Calibrator Model / Identification:	CAL200/ 11334
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON4	18:45-18:50	Background	59.4	61.0	-	-	-	-	-	-	-	
AON4	18:50-18:55	Background	62.0									
AON4	18:55-19:00	Background	61.2									
AON4	19:00-19:05	SOTO	64.0	61.2	60.2	1.0	54.3	55	YES	YES	-	Noise from aeroplane passing by
AON4	19:05-19:10	SOTO	59.8									
AON4	19:10-19:15	SOTO	62.3									
AON4	19:15-19:20	Background	59.2	59.3	-	-	-	-	-	-	-	
AON4	19:20-19:25	Background	58.8									
AON4	19:25-19:30	Background	59.9									
AON4	20:45-20:50	Background	65.8	63.6	-	-	-	-	-	-	-	
AON4	20:50-20:55	Background	63.1									
AON4	20:55-21:00	Background	60.4									
AON4	21:00-21:05	Visions of HK	57.6	57.2	61.5	-4.3	Negligible	55	YES	YES	-	
AON4	21:05-21:10	Finishing of VHK & BG	56.8									
AON4	21:10-21:15	Background	60.1									
AON4	21:15-21:20	Background	59.2	57.3	-	-	-	-	-	-	-	
AON4	21:20-21:25	Background	56.0									
AON4	21:25-21:30	Background	55.8									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

Noise Monitoring Field Record Sheet

Project Name / GMS No.:	0511456 OPC Noise Monitoring
Date of Monitoring:	21 Jan 2020 (Tuesday)
Noise Monitoring Staff:	Ho Kam Fat
Temperature:	19 °C
Wind Speed:	<5 m/s
Noise Meter Model / Identification:	Rion-NL52/ 00331806
Calibrator Model / Identification:	CAL200/ 16172
Calibration Level before Measurement (dB(A)):	94.0
Calibration Level after Measurement (dB(A)):	94.0

Measurement Location:	
AON1	Open Area adjacent to Police Training School
AON2	Marriott Hotel
AON3	Woodgreen Estate
AON4	Manly Villa
AON5	Hau Yuen

Measurement Results (dB(A)):

Measurement Location	Time	Background/ With Show	$L_{eq, 5min}$	$L_{eq, 15min}$	Averaged BGL	Noise Level with Show - BGL	BG-corrected[(a)] $L_{eq, 15min}$	Limit Level	Compliance			Remarks
									NCO (BGL+5)	Limit Level	Not Applicable	
AON5	18:45-18:50	Background	58.9	60.0	-	-	-	-	-	-	-	
AON5	18:50-18:55	Background	58.5									
AON5	18:55-19:00	Background	61.8									
AON5	19:00-19:05	SOTO	61.6	60.5	59.9	0.6	51.9	55	YES	YES	-	
AON5	19:05-19:10	SOTO	61.2									
AON5	19:10-19:15	SOTO	57.8									
AON5	19:15-19:20	Background	59.8	59.7	-	-	-	-	-	-	-	
AON5	19:20-19:25	Background	59.5									
AON5	19:25-19:30	Background	59.8									
AON5	20:45-20:50	Background	58.1	58.7	-	-	-	-	-	-	-	
AON5	20:50-20:55	Background	60.1									
AON5	20:55-21:00	Background	57.3									
AON5	21:00-21:05	Visions of HK	59.6	58.2	57.6	0.6	49.3	55	YES	YES	-	
AON5	21:05-21:10	Finishing of VHK & BG	58.1									
AON5	21:10-21:15	Background	56.3									
AON5	21:15-21:20	Background	56.0	56.2	-	-	-	-	-	-	-	
AON5	21:20-21:25	Background	57.6									
AON5	21:25-21:30	Background	54.4									

Note:

(a) Impact from the show is considered negligible when measured noise level with the show is lower than measured background noise level.

APPENDIX C PHOTOGRAPHS OF THE MONITORING STATIONS

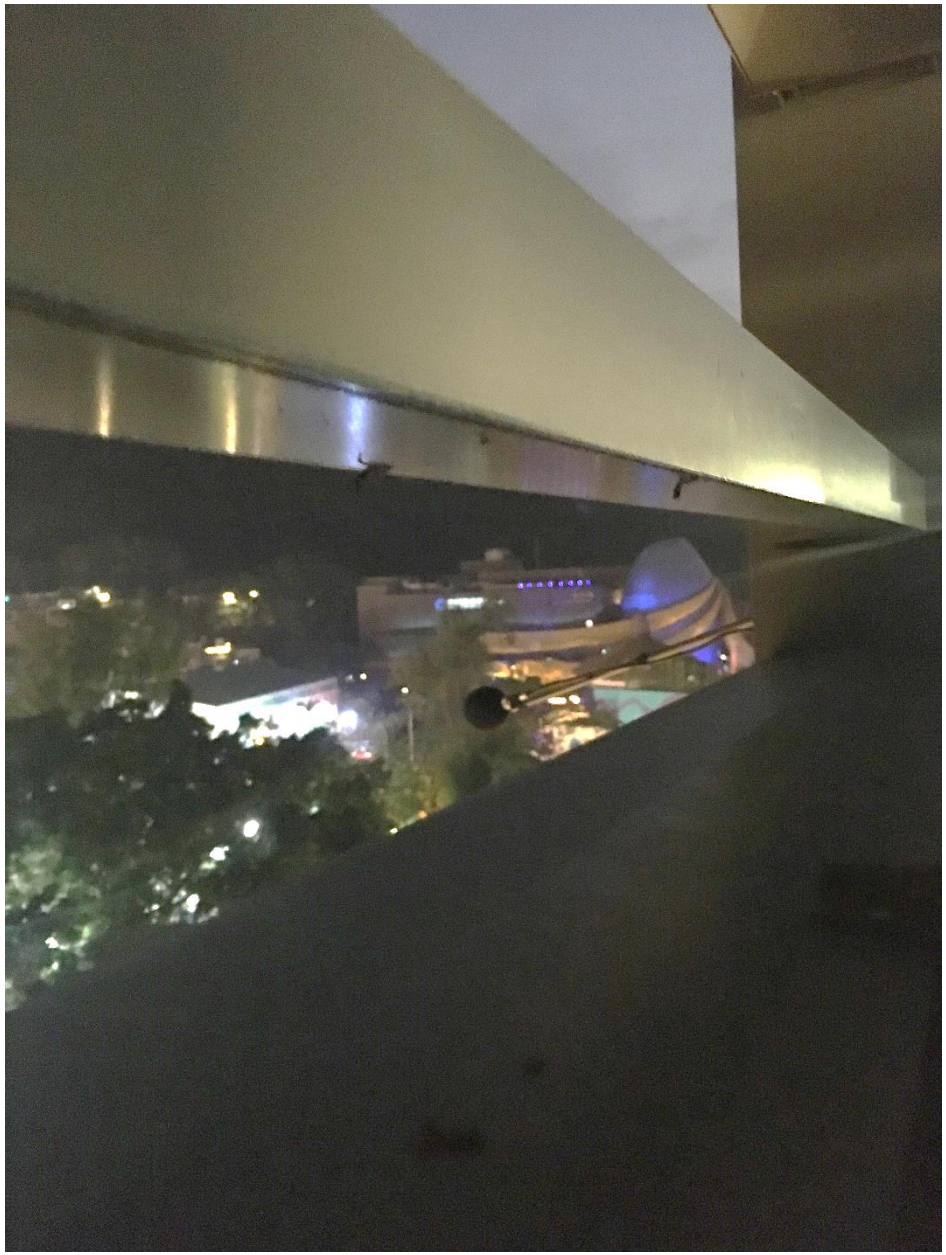
Appendix C

Open Area adjacent to Police Training School (AON1)

DATE: 31/01/2020

Environmental Resources Management

ERM



Appendix C

Marriot Hotel, Ocean Park (AON2)

DATE: 31/01/2020

Environmental
Resources
Management

ERM

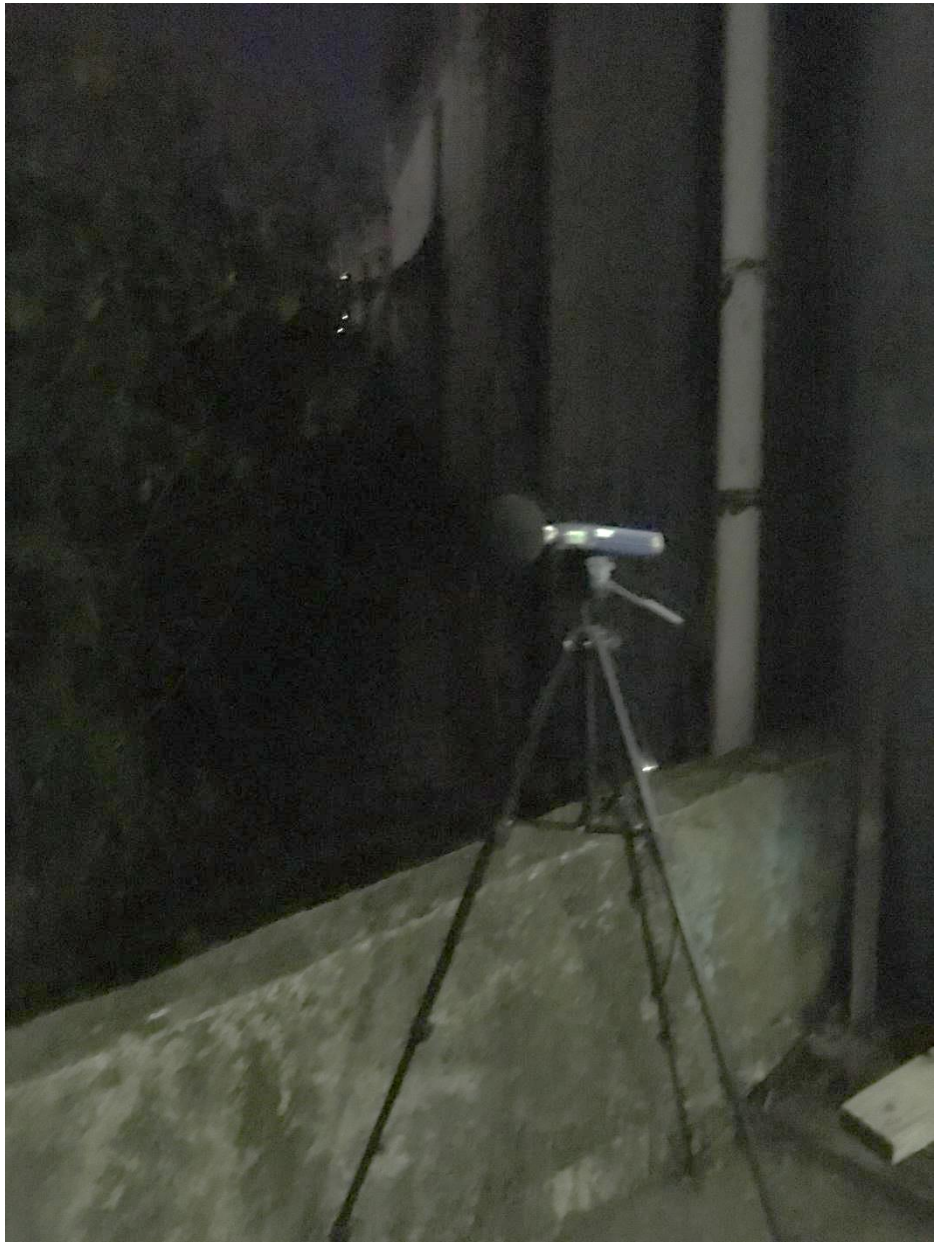
Appendix C

Woodgreen Estate (AON3)

DATE: 31/01/2020

Environmental
Resources
Management

ERM



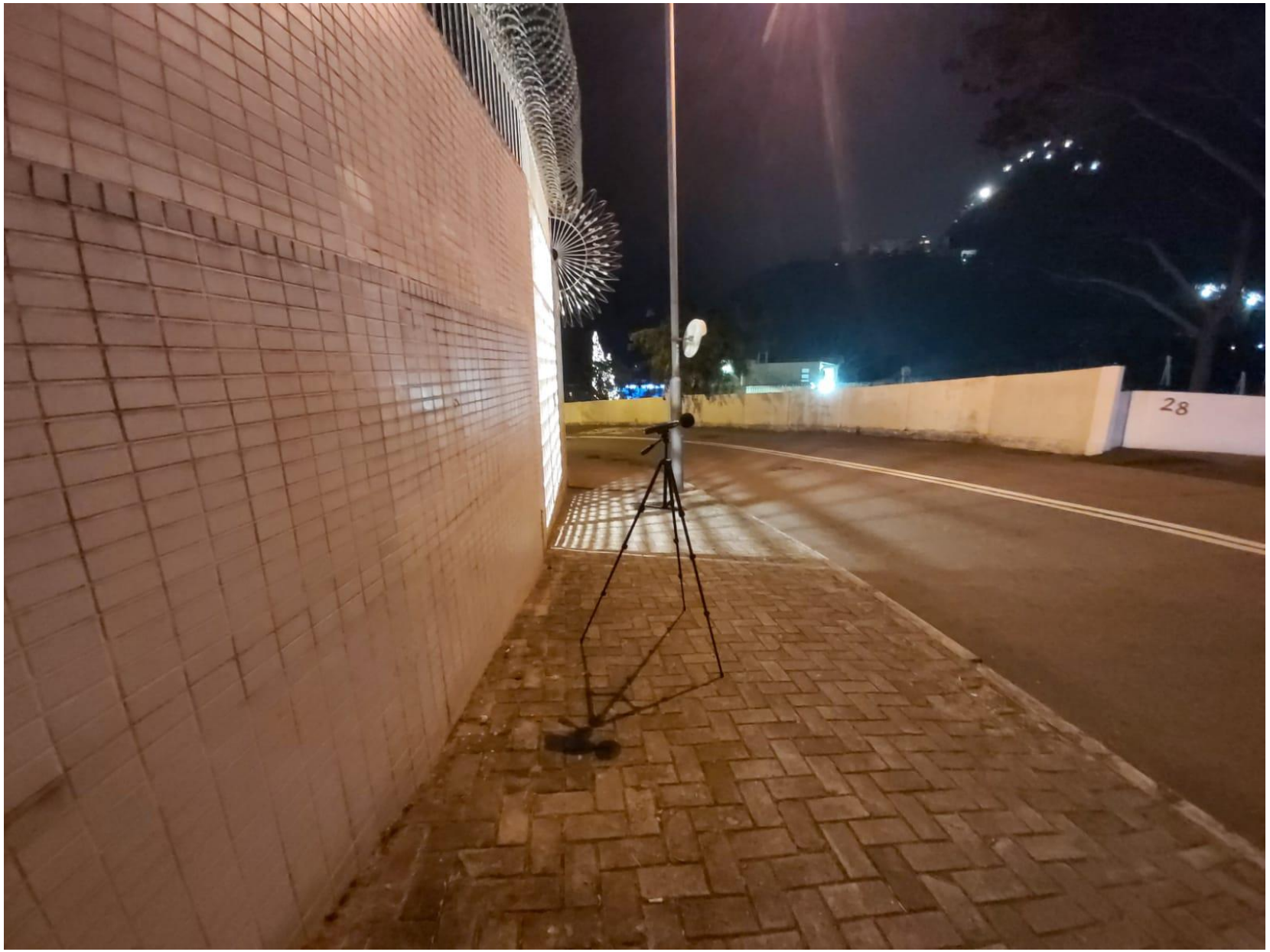
Appendix C

Manly Villa (AON4)

DATE: 31/01/2020

Environmental
Resources
Management

ERM



Appendix C

Hau Yuen (AON5)

DATE: 31/01/2020

Environmental
Resources
Management

ERM

ERM has over 160 offices across the following countries and territories worldwide

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Kenya
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Mexico
Myanmar
The Netherlands
New Zealand
Norway
Panama
Peru
Poland
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Puerto Rico
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