#### **EQUIPMENT CALIBRATION RECORD**

Type:	Laser Dust Monitor
Manufacturer / Brand :	SIBATA
Model No.:	LD-3B
Equipment No.:	LD-3B-002
Serial No.:	974350
Sensitivity Adjustment Scale Setting	622 CPM

#### Standard Equipment

Equipment :	MFC High Volume Air Sampler
Venue:	CM_FM1a Western Wholesale Food Market
Model No.:	TE-5170 Total Suspended Particulated
Serial No.:	2146
Previous Calibration Date	19/10/2013

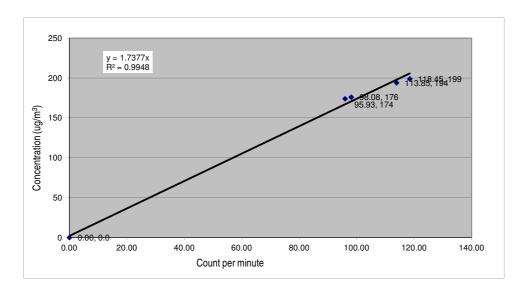
#### Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration) : Sensitivity Adjustment Scale Setting (After Calibration) : 622 CPM

Ĭ	Hour	Date (dd-mmm-yy)	Tim	Time		Condition	Concentration (ug/m³)	Total Count	Count/Minute X-axis
ı					Temp (C)	R.H. (%)	Y-axis		
ſ	1	11-Dec-14	10:40	11:40	25.6	79%	174	5756	95.93
ſ	2	11-Dec-14	12:05	13:05	25.6	79%	176	5885	98.08
ſ	3	11-Dec-14	13:20	14:20	25.6	79%	194	6831	113.85
ı	4	11-Dec-14	15:30	16:30	25.6	79%	199	7107	118.45

Be Linear Regression of Y or X Slope (K-factor): 1.7377 Correlation coefficient : 0.9948

Remark:			



Recorded by: Ruby Law Signature: Date: 19/12/2014 Checked by: Keith Chau Signature: Date: 19/12/2014

### **EQUIPMENT CALIBRATION RECORD**

Type:	Laser Dust Monitor
Manufacturer / Brand :	SIBATA
Model No.:	LD-3B
Equipment No.:	LD-3B-003
Serial No.:	276018
Sensitivity Adjustment Scale Setting :	799 CPM

#### Standard Equipment

Equipment :	MFC High Volume Air Sampler			
Venue: CB_FM1a Western Wholesale Food M				
Model No.:	TE-5170 Total Suspended Particulate			
Serial No.:	2146			

#### Calibration Result

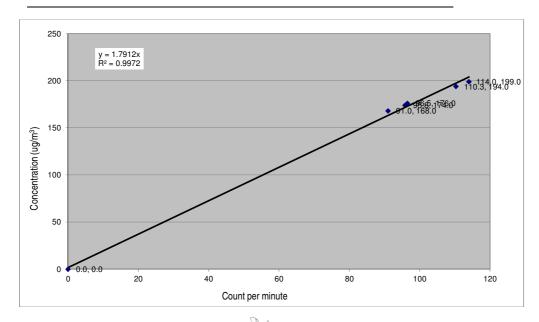
 Sensitivity Adjustment Scale Setting (Before Calibration):
 799
 CPM

 Sensitivity Adjustment Scale Setting (After Calibration):
 799
 CPM

Hour	Date (dd-mmm-yy)	Т	Time		Condition	Concentration (ug/m³)	Total Count	Count/Minute X-axis
				Temp (°C)	R.H. (%)	Y-axis		
1	11-Dec-14	09:30	10:30	19.5	62%	168	5460	91.00
2	11-Dec-14	10:40	11:40	19.5	62%	174	5749	95.82
3	11-Dec-14	11:46	12:46	19.5	62%	176	5790	96.50
4	11-Dec-14	13:00	14:00	19.5	62%	194	6618	110.30
5	11-Dec-14	14:50	15:50	19.5	62%	199	6840	114.00

 $\begin{array}{ll} \text{Be Linear Regression of Y or X} \\ \text{Slope (K-factor):} & \underline{1.7912} \\ \text{Correlation coefficient:} & \underline{0.9972} \\ \end{array}$ 

Remark:



 Recorded by:
 Ruby Law
 Signature:
 Lun
 Date:
 19/12/2014

 Checked by:
 Keith Chau
 Signature:
 Date:
 19/12/2014



### Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

校正證書

Certificate No.:

C153870

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號: IC15-1591)

Date of Receipt / 收件日期: 16 July 2015

Description / 儀器名稱 :

Acoustical Calibrator

Manufacturer / 製造商

Brüel & Kjær

Model No. / 型號

4231

Serial No. / 編號

3004068

Supplied By / 委託者

Atkins China Limited

19/F., Tower 1, The Gateway Harbour City,

Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 温度 :

 $(23 \pm 2)^{\circ}$ C

Relative Humidity / 相對濕度 :

 $(55 \pm 20)\%$ 

Line Voltage / 電壓 :

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST/測試日期

18 July 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

All results are within 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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試

K C Lee Project Engineer

Certified By

核證

K M Wu

Date of Issue

21 July 2015

簽發日期 Engineer

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory

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### Sun Creation Engineering Limited

**Calibration and Testing Laboratory** 

## Certificate of Calibration

校正證書

Certificate No.: C153870

證書編號

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

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

3. Test equipment:

> **Equipment ID** CL130

CL281 TST150A Description

Universal Counter

Multifunction Acoustic Calibrator Measuring Amplifier

Certificate No. C153519

DC130171 C141558

4. Test procedure: MA100N.

5. Results:

5.1 Sound Level Accuracy

UUT	Measured Value	Mfr's Spec.	Uncertainty of Measured Value
Nominal Value	(dB)	(dB)	(dB)
94 dB, 1 kHz	94.0	± 0.2	± 0.2
114 dB, 1 kHz	114.0		90,000

5.2 Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's	Uncertainty of Measured Value (Hz)
(kHz)	(kHz)	Spec.	
1	1.000 0	$1 \text{ kHz} \pm 0.1 \%$	± 0.1

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

#### Note:

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.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior

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#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

## Certificate of Calibration

校正證書

Certificate No.: C156299

證書編號

Date of Receipt / 收件日期: 6 November 2015

ITEM TESTED / 送檢項目 (Job No. / 序引編號: IC15-2523)

Description / 儀器名稱

Integrating Sound Level Meter

Manufacturer / 製造商

Brüel & Kjær

Model No. / 型號

2238

Serial No. / 編號

2808432

Supplied By / 委託者

Atkins China Limited

19/F., Tower 1, The Gateway Harbour City,

Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 温度 :

 $(23 \pm 2)^{\circ}$ C

Relative Humidity / 相對濕度 :

 $(55 \pm 20)\%$ 

Line Voltage / 電壓 :

TEST SPECIFICATIONS / 測試規節

Calibration check

DATE OF TEST / 測試日期

10 November 2015

#### 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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試

H T Wong Technical Officer

Certified By

核證

K C Lee

Project Engineer

Date of Issue

11 November 2015

簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

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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青山灣機樓四樓 Tel/電話: 2927 2606 Fax/傳真: 2744 8986

E-mail/電郵: callab@suncreation.com



#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

## Certificate of Calibration

校正證書

Certificate No.: C156299

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 laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.3.2.
- The results presented are the mean of 3 measurements at each calibration point. 3.
- 4. Test equipment:

CL281

Equipment ID CL280

Description

40 MHz Arbitrary Waveform Generator Multifunction Acoustic Calibrator

Certificate No. C150014 DC130171

5. Test procedure: MA101N.

6. Results:

6.1 Sound Pressure Level:

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

	UUT Setting			Applied	UUT	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	$L_{AFP}$	A	F	94.00	1	95.2

#### 6.1.1.2 After Self-calibration

	UUT	Setting		Applied	l Value	UUT	IEC 61672 Class 1
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.1	± 1.1

6.1.2 Linearity

	UUT	Setting		Applied	Value	UUT	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.1 (Ref.)	
				104.00		104.1	
				114.00		114.1	

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

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory

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Sun Creation Engineering Limited

**Calibration and Testing Laboratory** 

## Certificate of Calibration

校正證書

Certificate No.: C156299

證書編號

6.2 Time Weighting

	UUT	Setting		Applied	d Value	UUT	IEC 61672 Class 1
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level Freq. (dB) (kHz)		Reading (dB)	Spec. (dB)
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.1	Ref.
	L <sub>ASP</sub>		S			94.1	± 0.3

#### 6.3 Frequency Weighting

6.3.1 A-Weighting

	UUT	Setting		Appl	ied Value	UUT	IEC 61672 Class 1
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Spec. (dB)
50 - 130	L <sub>AFP</sub>	A	F	94.00	63 Hz	68.0	$-26.2 \pm 1.5$
	And And Andrew				125 Hz	78.0	$-16.1 \pm 1.5$
					250 Hz	85.4	$-8.6 \pm 1.4$
					500 Hz	90.9	$-3.2 \pm 1.4$
					1 kHz	94.1	Ref.
			<u>.</u>		2 kHz	95.3	$+1.2 \pm 1.6$
					4 kHz	95.1	$+1.0 \pm 1.6$
					8 kHz	92.9	-1.1 (+2.1; -3.1)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

	UUT	Setting		Appl	lied Value	UUT	IEC 61672 Class 1
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Spec. (dB)
50 - 130	L <sub>CFP</sub>	C	F	94.00	63 Hz	93.4	$-0.8 \pm 1.5$
30 - 130	LCFP	C	1	34.00	125 Hz	94.0	$-0.8 \pm 1.5$ $-0.2 \pm 1.5$
					250 Hz	94.1	$0.0 \pm 1.4$
					500 Hz	94.1	$0.0 \pm 1.4$
					1 kHz	94.1	Ref.
					2 kHz	94.0	$-0.2 \pm 1.6$
					4 kHz	93.3	$-0.8 \pm 1.6$
					8 kHz	91.1	-3.0 (+2.1; -3.1)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 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青山灣機樓四樓

Tcl/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory



#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

## Certificate of Calibration 校正證書

Certificate No.:

C156299

證書編號

Remarks: - UUT Microphone Model No.: 4188 & S/N: 2929047

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value: 94 dB : 63 Hz - 125 Hz  $: \pm 0.35 \text{ dB}$ 

> 250 Hz - 500 Hz :  $\pm$  0.30 dB 1 kHz  $: \pm 0.20 \text{ dB}$ 2 kHz - 4 kHz  $: \pm 0.35 \text{ dB}$ 8 kHz  $: \pm 0.45 \text{ dB}$ 12.5 kHz  $: \pm 0.70 \text{ dB}$

104 dB : 1 kHz  $: \pm 0.10 \text{ dB (Ref. 94 dB)}$ 114 dB : 1 kHz  $: \pm 0.10 \text{ dB (Ref. 94 dB)}$ 

#### Note:

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.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory

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<sup>-</sup> The uncertainties are for a confidence probability of not less than 95 %.



## **CALIBRATION CERTIFICATE**

Certificate Information

Date of Issue

28-Oct-2015

Certificate Number | MLCN151848S

**Customer Information** 

Company Name

Address

Wilson Accoustics Limited

Unit 601, Block A, Shatin Industrial Centre,

Yuen Shun Circuit, Shatin, N. T., Hong Kong

Equipment-under-Test (EUT)

**Description** 

Hand-held Analyzer

Manufacturer

Brüel & Kjær

**Model Number** 

Type 2250-L

Serial Number

3004555

**EUT** 

Calibration Particular

**Date of Calibration** 

**Equipment Number** 

28-Oct-2015

Calibration Equipment

4231(MLTE008) / PA140064 / 29-Apr-2016

**Calibration Procedure** 

MLCG00, MLCG15

**Calibration Conditions** 

Temperature Laboratory

 $23 \, ^{\circ}\text{C} \pm 5 \, ^{\circ}\text{C}$ 

Relative Humidity

 $55\% \pm 25\%$ 

Stabilizing Time Warm-up Time

Over 3 hours 10 minutes

**Power Supply** 

Internal battery

**Calibration Results** 

Calibration data were detailed in the continuation pages.

### Approved By & Date

K.O. Lo

28-Oct-2015

### Statements

- Calibration equipment used for this calibration are traceable to national / international standards.
- The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement.
- MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT.
- The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited.

Page 1 of 2



### Certificate No. MLCN151848S

Calibrati	on Data			•			
Parameter	Range (dB)	Frequency Weighting	Response	EUT Reading	Standard Reading	EUT Error	Calibration Uncertainty
SPL	Auto	A	F	94.0 dB	94.0 dB	0.0 dB	0.2 dB
	20 - 140	(1 kHz Input)	S	94.0 dB	94.0 dB	0.0 dB	0.2 dB
			I	94.0 dB	94.0 dB	0.0 dB	0.2 dB
		Z	F	94.0 dB	94.0 dB	0.0 dB	0.2 dB
		(1 kHz Input)	S	94.0 dB	94.0 dB	0.0 dB	0.2 dB
			I	94.0 dB	94.0 dB	0.0 dB	0.2 dB
		Α	F	114.0 dB	114.0 dB	0.0 dB	0.2 dB
		(1 kHz Input)	S	114.0 dB	114.0 dB	0.0 dB	0.2 dB
			I	114.0 dB	114.0 dB	0.0 dB	0.2 dB
		Z	F	114.0 dB	114.0 dB	0.0 dB	0.2 dB
		(1 kHz Input)	S	114.0 dB	114.0 dB	0.0 dB	0.2 dB
			I	114.0 dB	114.0 dB	0.0 dB	0.2 dB

- END -

Calibrated By:

Date:

Dan

28-Oct-2015

Checked By:

K.O. Lo

Date:

28-Oct-2015

Page 2 of 2



#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

## Certificate of Calibration

校正證書

Certificate No.: C153871

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號: IC15-1591)

Date of Receipt / 收件日期: 16 July 2015

Description / 儀器名稱

Integrating Sound Level Meter

Manufacturer / 製造商

Brüel & Kjær

Model No. / 型號

2238

Serial No. / 編號

2800932

Supplied By / 委託者

Atkins China Limited

19/F., Tower 1, The Gateway Harbour City,

Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 温度 :

 $(23 \pm 2)^{\circ}$ C

Relative Humidity / 相對濕度 :

Line Voltage / 電壓 :

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期

18 July 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

All results are within 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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By

測試

Project Engineer

Certified By

核證

K M Wu

Date of Issue 簽發日期

21 July 2015

Engineer

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

c/o 4/F, Tsing Shan Wan Exchange Building, 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青山灣機樓四樓 Tel/電話: 2927 2606

E-mail/電郵: callab@suncreation.com Fax/傳真: 2744 8986



## Sun Creation Engineering Limited

### Calibration and Testing Laboratory

# Certificate of Calibration

Certificate No.: C153871

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 B & K Acoustic Calibrator 4231, S/N: 3004068 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

C150014

CL281

Multifunction Acoustic Calibrator

DC130171

5. Test procedure: MA101N.

6. Results:

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

	UUT	Setting		Applie	d Value	UUT	IEC 60651	
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.	
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)	
50 - 130	L <sub>AFP</sub>	Α	F	94.00	1	94.1	± 0.7	

6.1.2 Linearity

	UU	Γ Setting		Applie	UUT	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	$L_{AFP}$	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.1

IEC 60651 Type 1 Spec. :  $\pm$  0.4 dB per 10 dB step and  $\pm$  0.7 dB for overall different.

#### 6.2 Time Weighting

6.2.1 Continuous Signal

	UUT	Setting		Applied Value		UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)	Type 1 Spec. (dB)
50 - 130	$L_{AFP}$	A	F	94.00	1	94.1	Ref.
	$L_{ASP}$		S			94.1	± 0.1
	$L_{AIP}$		I			94.1	± 0.1

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory

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E-mail/電郵: callab@suncreation.com



Sun Creation Engineering Limited

Calibration and Testing Laboratory

## Certificate of Calibration

Certificate No.: C153871

證書編號

6.2.2 Tone Burst Signal (2 kHz)

	UUT	Setting		App	lied Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration	Reading (dB)	Type 1 Spec. (dB)
30 - 110	$L_{AFP}$	A	F	106.0	Continuous	106.0	Ref.
	L <sub>AFMax</sub>				200 ms	105.0	$-1.0 \pm 1.0$
	$L_{ASP}$		S		Continuous	106.0	Ref.
	L <sub>ASMax</sub>				500 ms	102.0	$-4.1 \pm 1.0$

#### 6.3 Frequency Weighting

A-Weighting 6.3.1

	UUT	Setting		Appli	ed Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)
50 - 130	L <sub>AFP</sub>	A	F	94.00	31.5 Hz	54.8	$-39.4 \pm 1.5$
					63 Hz	67.9	$-26.2 \pm 1.5$
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	$-8.6 \pm 1.0$
					500 Hz	90.8	$-3.2 \pm 1.0$
					1 kHz	94.1	Ref.
					2 kHz	95.3	$+1.2 \pm 1.0$
					4 kHz	95.1	$+1.0 \pm 1.0$
					8 kHz	92.9	-1.1 (+1.5; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0; -6.0)

6.3.2 C-Weighting

	UUT	Setting		Appli	ed Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)
50 - 130	$L_{CFP}$	С	F	94.00	31.5 Hz	91.2	$-3.0 \pm 1.5$
					63 Hz	93.3	$-0.8 \pm 1.5$
					125 Hz	93.9	$-0.2 \pm 1.0$
					250 Hz	94.1	$0.0 \pm 1.0$
					500 Hz	94.1	$0.0 \pm 1.0$
					1 kHz	94.1	Ref.
					2 kHz	93.9	$-0.2 \pm 1.0$
					4 kHz	93.2	$-0.8 \pm 1.0$
					8 kHz	91.0	-3.0 (+1.5; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0; -6.0)

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**Calibration and Testing Laboratory** 

## Certificate of Calibration

校正證書

Certificate No.: C153871

證書編號

6.4 Time Averaging

	UUT Setting				Aj	UUT	IEC 60804			
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
30 - 110	L <sub>Aeq</sub>	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						1/10 <sup>2</sup>		90	90.2	± 0.5
			60 sec.			$1/10^{3}$		80	79.7	± 1.0
			5 min.			1/104		70	69.8	± 1.0

Remarks: - UUT Microphone Model No.: 4188 & S/N: 2793199

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value : 94 dB : 31.5 Hz - 125 Hz :  $\pm$  0.35 dB

 $\begin{array}{lll} 250 \; Hz - 500 \; Hz & : \pm 0.30 \; dB \\ 1 \; kHz & : \pm 0.20 \; dB \\ 2 \; kHz - 4kHz & : \pm 0.35 \; dB \\ 8 \; kHz & : \pm 0.45 \; dB \\ \end{array}$ 

 $\begin{array}{ccc} 12.5 \text{ kHz} & : \pm 0.70 \text{ dB} \\ 104 \text{ dB} : 1 \text{ kHz} & : \pm 0.10 \text{ dB (Ref. 94 dB)} \\ 114 \text{ dB} : 1 \text{ kHz} & : \pm 0.10 \text{ dB (Ref. 94 dB)} \end{array}$ 

Burst equivalent level  $: \pm 0$ .

: ± 0.2 dB (Ref. 110 dB continuous sound level)

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

#### Note:

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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#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

校正證書

Certificate No.: C155032

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號: IC15-2021)

Date of Receipt / 收件日期: 2 September 2015

Description / 儀器名稱

Integrating Sound Level Meter

Manufacturer / 製造商

Brüel & Kiær

Model No. / 型號

2238

Serial No. / 編號

2381580

Supplied By / 委託者

Atkins China Limited

19/F., Tower 1, The Gateway Harbour City,

Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 温度 :

 $(23 \pm 2)^{\circ}$ C

Relative Humidity / 相對濕度 :

 $(55 \pm 20)\%$ 

Line Voltage / 電壓

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期

9 September 2015

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

All results are within 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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By

測試

HT Wong

Technical Officer

Certified By

核證

K C Lee Project Engineer Date of Issue

11 September 2015

簽發日期

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory

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Page 1 of 4



#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

Certificate No.: C155032

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to 1. warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment:

Equipment ID

Description

Certificate No.

CL280 CL281

40 MHz Arbitrary Waveform Generator

C150014

Multifunction Acoustic Calibrator

DC130171

- 5. Test procedure: MA101N.
- 6. Results:
- Sound Pressure Level 6.1
- 6.1.1 Reference Sound Pressure Level

#### 6.1.1.1 Before Self-calibration

	UUT	Setting	Applied	UUT		
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	$L_{AFP}$	A	F	94.00	1	94.2

#### 6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
50 - 130	$L_{AFP}$	Α	F	94.00	1	94.0	± 0.7

#### 6.1.2 Linearity

UUT Setting				Applied	d Value	UUT	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level Freq. (dB) (kHz)		Reading (dB)	
50 - 130	$L_{AFP}$	A	F	94.00 104.00	1	94.0 (Ref.) 104.0	
		1		114.00		114.0	

IEC 60651 Type 1 Spec. :  $\pm$  0.4 dB per 10 dB step and  $\pm$  0.7 dB for overall different.

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#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration

校正證書

Certificate No.: C155032

證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

	UUT Setting				Applied Value		IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level Freq. (dB) (kHz)		Reading (dB)	Type 1 Spec. (dB)
50 - 130	$L_{AFP}$	A	F	94.00	1	94.0	Ref.
	$L_{ASP}$		S			94.1	± 0.1
	$L_{AIP}$		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

	UUT	Setting		Applied Value		UUT	IEC 60651
Range	Parameter	Frequency	1 -			Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)	Duration	(dB)	(dB)
30 - 110	$L_{AFP}$	Α	F	106.0	Continuous	106.0	Ref.
	L <sub>AFMax</sub>				200 ms	105.0	$-1.0 \pm 1.0$
	L <sub>ASP</sub>		S		Continuous	106.0	Ref.
	L <sub>ASMax</sub>				500 ms	102.0	$-4.1 \pm 1.0$

#### 6.3 Frequency Weighting

6.3.1 A-Weighting

	UUT	Setting		Appli	ed Value	UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
50 - 130	$L_{AFP}$	Α	F	94.00	31.5 Hz	54.8	$-39.4 \pm 1.5$
	-				63 Hz	67.9	-26.2 ± 1.5
=					125 Hz	77.8	$-16.1 \pm 1.0$
				(5)	250 Hz	85.3	$-8.6 \pm 1.0$
					500 Hz	90.7	$-3.2 \pm 1.0$
					1 kHz	94.0	Ref.
					2 kHz	95.2	$+1.2 \pm 1.0$
					4 kHz	95.0	$+1.0 \pm 1.0$
					8 kHz	92.9	-1.1 (+1.5; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0; -6.0)

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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#### Sun Creation Engineering Limited

**Calibration and Testing Laboratory** 

# Certificate of Calibration

Certificate No.: C155032

證書編號

6.3.2 C-Weighting

C- Weighting		Setting		Applie	ed Value	UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
50 - 130	L <sub>CFP</sub>	С	F	94.00	31.5 Hz	91.1	$-3.0 \pm 1.5$
					63 Hz	93.2	$-0.8 \pm 1.5$
			1		125 Hz	93.8	$-0.2 \pm 1.0$
			8		250 Hz	94.0	$0.0 \pm 1.0$
					500 Hz	94.0	$0.0 \pm 1.0$
		ļ.			1 kHz	94.0	Ref.
					2 kHz	93.8	$-0.2 \pm 1.0$
					4 kHz	93.2	$-0.8 \pm 1.0$
					8 kHz	91.0	-3.0 (+1.5; -3.0)
		2			12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

	UUT	Setting			Aj	UUT	IEC 60804			
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
30 - 110	L <sub>Aeq</sub>	Α	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
Access Sufficient	,,,,,		7			1/10 <sup>2</sup>		90	90.0	± 0.5
			60 sec.			1/103		80	79.2	± 1.0
			5 min.			1/104		70	69.2	± 1.0

Remarks: - UUT Microphone Model No.: 4188 & S/N: 2379759

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

94 dB : 31.5 Hz - 125 Hz :  $\pm 0.35 \text{ dB}$ - Uncertainties of Applied Value :

250 Hz - 500 Hz :  $\pm$  0.30 dB  $: \pm 0.20 \text{ dB}$ 1 kHz 2 kHz - 4 kHz  $: \pm 0.35 \text{ dB}$ 8 kHz  $: \pm 0.45 \text{ dB}$ 

 $\pm 0.70 \text{ dB}$ 12.5 kHz

104 dB: 1 kHz  $\pm 0.10 \text{ dB (Ref. 94 dB)}$ 114 dB: 1 kHz  $\pm 0.10 \text{ dB (Ref. 94 dB)}$  $:\pm 0.2 \text{ dB}$  (Ref. 110 dB) Burst equivalent level

continuous sound level)

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

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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#### Sun Creation Engineering Limited

Calibration and Testing Laboratory

## Certificate of Calibration

校正證書

Certificate No.: C154626

Date of Receipt / 收件日期: 18 August 2015

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號: IC15-1823)

Description / 儀器名稱

Integrating Sound Level Meter

Manufacturer / 製造商

Brüel & Kjær

Model No. / 型號

2238

Serial No. / 編號

2684503

Supplied By / 委託者

Atkins China Limited

19/F., Tower 1, The Gateway Harbour City,

Tsim Sha Tsui, Kowloon

TEST CONDITIONS / 測試條件

Temperature / 温度 :

 $(23 \pm 2)^{\circ}$ C

Relative Humidity / 相對濕度 :

 $(55 \pm 20)\%$ 

Line Voltage / 電壓 :

TEST SPECIFICATIONS / 測試規節

Calibration check

DATE OF TEST/測試日期

24 August 2015

#### TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

All results are within 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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By

測試

HT Wong Technical Officer

Certified By

核證

K C Lee Project Engineer Date of Issue 簽發日期

24 August 2015

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#### Sun Creation Engineering Limited

**Calibration and Testing Laboratory** 

## Certificate of Calibration

校正證書

Certificate No.: C1

C154626

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 laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment:

Equipment ID

Description

Certificate No.

CL280 CL281 40 MHz Arbitrary Waveform Generator

C150014

Multifunction Acoustic Calibrator

DC130171

- 5. Test procedure: MA101N.
- 6. Results:
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level

#### 6.1.1.1 Before Self-calibration

	UUT	Setting	Applied	d Value	UUT	
Range	Parameter	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
50 - 130	$L_{AFP}$	A	F	94.00	1	94.2

#### 6.1.1.2 After Self-calibration

UUT Setting				Applie	d Value	UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.1	$\pm 0.7$

#### 6.1.2 Linearity

UUT Setting				Applied	UUT	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	Reading (dB)
50 - 130	$L_{AFP}$	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.0

IEC 60651 Type 1 Spec. :  $\pm$  0.4 dB per 10 dB step and  $\pm$  0.7 dB for overall different.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Sun Creation Engineering Limited Calibration and Testing Laboratory

## Certificate of Calibration

校正證書

Certificate No.: C154626

證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT	IEC 60651
Range	Parameter	Frequency	Time	Level	Freq.	Reading	Type 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
50 - 130	$L_{AFP}$	Α	F	94.00	1	94.1	Ref.
	L <sub>ASP</sub>		S			94.1	± 0.1
	LAIP		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

	UUT	Setting		App	lied Value	UUT	IEC 60651
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration	Reading (dB)	Type 1 Spec. (dB)
30 - 110	L <sub>AFP</sub>	A	F	106.0	Continuous	106.0	Ref.
	L <sub>AFMax</sub>				200 ms	105.0	$-1.0 \pm 1.0$
	L <sub>ASP</sub>		S		Continuous	106.0	Ref.
	L <sub>ASMax</sub>				500 ms	102.0	$-4.1 \pm 1.0$

#### 6.3 Frequency Weighting

6.3.1 A-Weighting

	UUT	Setting		Appli	ed Value	UUT	IEC 60651	
Range	Parameter			Freq.	Reading	Type 1 Spec.		
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)	
50 - 130	$L_{AFP}$	Α	F	94.00	31.5 Hz	54.8	$-39.4 \pm 1.5$	
					63 Hz	67.9	$-26.2 \pm 1.5$	
					125 Hz	77.9	$-16.1 \pm 1.0$	
					250 Hz	85.4	$-8.6 \pm 1.0$	
					500 Hz	90.8	$-3.2 \pm 1.0$	
					1 kHz	94.1	Ref.	
					2 kHz	95.3	$+1.2 \pm 1.0$	
					4 kHz	95.1	$+1.0 \pm 1.0$	
					8 kHz	92.9	-1.1 (+1.5; -3.0)	
		managagan para			12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)	

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#### Sun Creation Engineering Limited

**Calibration and Testing Laboratory** 

## Certificate of Calibration

校正證書

Certificate No.: C154626

證書編號

6.3.2 C-Weighting

UUT Setting				Appli	ed Value	UUT	IEC 60651	
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Type 1 Spec. (dB)	
50 - 130	L <sub>CFP</sub>	C	F	94.00	31.5 Hz	91.1	$-3.0 \pm 1.5$	
					63 Hz	93.3	$-0.8 \pm 1.5$	
					125 Hz	93.9	$-0.2 \pm 1.0$	
					250 Hz	94.1	$0.0 \pm 1.0$	
					500 Hz	94.1	$0.0 \pm 1.0$	
					1 kHz	94.1	Ref.	
					2 kHz	93.9	$-0.2 \pm 1.0$	
					4 kHz	93.3	$-0.8 \pm 1.0$	
					8 kHz	91.0	-3.0 (+1.5; -3.0)	
		900 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 - 1000 -			12.5 kHz	87.9	-6.2 (+3.0; -6.0)	

6.4 Time Averaging

UUT Setting					A	UUT	IEC 60804			
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)	Reading (dB)	Type 1 Spec. (dB)
30 - 110	L <sub>Acq</sub>	Α	10 sec.	4	1	1/10 1/10 <sup>2</sup>	110.0	100 90	100.0 90.1	± 0.5 ± 0.5
			60 sec.			1/103	]	80	79.8	± 1.0
			5 min.		THE REAL PROPERTY AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF T	1/104		70	69.8	± 1.0

emarks: - UUT Microphone Model No.: 4188 & S/N: 2682524

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value : 94 dB : 31.5 Hz - 125 Hz :  $\pm$  0.35 dB

104 dB : 1 kHz :  $\pm 0.10 \text{ dB}$  (Ref. 94 dB) 114 dB : 1 kHz :  $\pm 0.10 \text{ dB}$  (Ref. 94 dB) Burst equivalent level :  $\pm 0.2 \text{ dB}$  (Ref. 110 dB)

continuous sound level)

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

#### Note

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.

The test equipment used for calibration are traceable to the Nation Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Sun Creation Engineering Limited - Calibration & Testing Laboratory

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c/o 香港新界屯門興安里一號青山灣機樓四樓

Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com



## **CALIBRATION CERTIFICATE**

Certificate Information

**Date of Issue** 7-Mar-2015 Certificate Number | MLCN150354S

**Customer Information** 

Company Name

Address

Wilson Accoustics Limited

Unit 601, Block A, Shatin Industrial Centre,

Yuen Shun Circuit, Shatin, N. T., Hong Kong

Equipment-under-Test (EUT)

Description

Hand-held Analyzer

Manufacturer

Brüel & Kjær

**Model Number** 

Type 2250-L 2675655

Serial Number

**Equipment Number** 

Calibration Particular

**Date of Calibration** 

7-Mar-2015

Calibration Equipment

4231(MLTE008) / PA140064 / 29-Apr-2016

**Calibration Procedure** 

MLCG00, MLCG15

**Calibration Conditions** 

Temperature Laboratory

23 °C ± 5 °C

**EUT** 

**Relative Humidity** 

 $55\% \pm 25\%$ Over 3 hours

Stabilizing Time Warm-up Time

10 minutes

Power Supply

Internal battery

Calibration Results

Calibration data were detailed in the continuation pages.

### Approved By & Date

K.O. Lo

7-Mar-2015

### Statements

- Calibration equipment used for this calibration are traceable to national / international standards.
- The results on this Calibration Certificate only relate to the values measured at the time of the calibration and the uncertainties quoted will not include allowance for the EUT long term drift, variation with environmental changes, vibration and shock during transportation, overloading, mishandling, misuse, and the capacity of any other laboratory to repeat the measurement.
- MaxLab Calibration Centre Limited shall not be liable for any loss or damage resulting from the use of the EUT.
- The copy of this Certificate is owned by MaxLab Calibration Centre Limited. No part of this Certificate may be reproduced without the prior written approval of MaxLab Calibration Centre Limited.

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Certificate No. MLCN150354S

Calibration Data											
Parameter	Range (dB)	Frequency Weighting	Response	EUT Readi		Standa Readi		EUT	Error	Calibration Uncertainty	
SPL	Auto	A	F	93.9	dB	94.0	dB	-0.1	dB	0.2	dF
	20 - 140	(1 kHz Input)	S	93.9	dB	94.0	dB	-0.1	dB	0.2	dF
			I	93.9	dB	94.0	dB	-0.1	dB	0.2	dl
		Z	F	93.9	dB	94.0	dB	-0.1	dB	0.2	dl
		(1 kHz Input)	S	93.9	dB	94.0	dB	-0.1	dB	0.2	dl
	1		I	93.9	dB	94.0	dB	-0.1	dB	0.2	dl
		A	F	113.9	dB	114.0	dB	-0.1	dB	0.2	dl
		(1 kHz Input)	S	113.9	dB	114.0	dB	-0.1	dB	0.2	dl
			I	113.9	dB	114.0	dB	-0.1	dB	0.2	dl
		Z	F	113.9	dB	114.0	dB	-0.1	dB	0.2	d]
		(1 kHz Input)	S	113.9	dB	114.0	dB	-0.1	dB	0.2	d]
			I	113.9	dB	114.0	dB	-0.1	dB	0.2	d

- END -

Calibrated By:

Date:

Dan

7-Mar-2015

Checked By:

K.O. Lo

Date:

7-Mar-2015

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