



### Calibration Chart

Brüel & Kjær

Type 4231

Serial No. 3004068

**Sound Pressure Level:** 94.00 or 114.00 dB  $\pm$  0.20 dB  
(re 20  $\mu$ Pa at reference conditions)

**Frequency:** 1000 Hz  $\pm$  0.1%

**Distortion:** < 1%

**Reference Conditions:**

Temperature: 23°C  
Pressure: 101.325 kPa  
Humidity: 50% RH  
Load: 0.25 cm<sup>3</sup> (½" Brüel & Kjær Mic.)

Date: 16/07/12 Signed: R Khan



### Sound Calibrator Type 4231

Brüel & Kjær

**Levels for Brüel & Kjær ½" Microphones:**  
Equivalent Free Field: 93.85 dB or 113.85 dB  
Equivalent Diffuse Field: 94.00 dB or 114.00 dB  
Pressure Field: 94.00 dB or 114.00 dB

**Frequency:** 1000 Hz

**Conforms to:**

ANSI S1.40-1984 and IEC 60942 (2003) Class 1 & LS

**Ambient Conditions:**

Temperature: -10° to 50°C, Class LS +16° to 30°C  
Pressure: 65 kPa to 108 kPa  
Humidity: 25% to 90% RH

For further information refer to the User Manual

BC0210-12



# Certificate of Calibration

## 校正證書

Certificate No. : C126606  
證書編號

**ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC12-2838)**

Description / 儀器名稱 : Integrating Sound Level Meter  
Manufacturer / 製造商 : Brüel & Kjær  
Model No. / 型號 : 2238  
Serial No. / 編號 : 2684502  
Supplied By / 委託者 : Atkins China Limited  
13/F, Wharf T&T Centre, Harbour City, Tsim Sha Tsui, Kowloon

**TEST CONDITIONS / 測試條件**

Temperature / 溫度 :  $(23 \pm 2)^{\circ}\text{C}$       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** : 15 November 2012


**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
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By  
測試

  
K C Lee

Certified By  
核證

  
C C Cheung

Date of Issue : 15 November 2012  
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.

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室書面批准。

# Certificate of Calibration

## 校正證書

Certificate No. : C126606  
證書編號

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

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C120016
CL281	Multifunction Acoustic Calibrator	DC110233

- Test procedure : MA101N.

- Results :

### 6.1 Sound Pressure Level

#### 6.1.1 Reference Sound Pressure Level

##### 6.1.1.1 Before Self-calibration

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

##### 6.1.1.2 After Self-calibration

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

##### 6.1.2 Linearity

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

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

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# Certificate of Calibration

## 校正證書

Certificate No. : C126606

證書編號

### 6.2 Time Weighting

#### 6.2.1 Continuous Signal

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

#### 6.2.2 Tone Burst Signal (2 kHz)

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

### 6.3 Frequency Weighting

#### 6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L <sub>AFP</sub>	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

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# Certificate of Calibration

## 校正證書

Certificate No. : C126606  
證書編號

### 6.3.2 C-Weighting

Range (dB)	UUT Setting			Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L <sub>CFP</sub>	C	F	94.00	31.5 Hz	91.3	-3.0 ± 1.5
					63 Hz	93.3	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
					12.5 kHz	88.0	-6.2 (+3.0 ; -6.0)

### 6.4 Time Averaging

Range (dB)	UUT Setting			Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L <sub>Acq</sub>	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						1/10 <sup>2</sup>		90	89.9	± 0.5
						1/10 <sup>3</sup>		80	79.7	± 1.0
						1/10 <sup>4</sup>		70	69.7	± 1.0
			60 sec.							
			5 min.							

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

- Uncertainties of Applied Value :

94 dB : 31.5 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)
Burst equivalent level	: ± 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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輝創工程有限公司

Sun Creation Engineering Limited

Calibration and Testing Laboratory

# Certificate of Calibration 校正證書

Certificate No. : C125261  
證書編號

ITEM TESTED / 送檢項目 ( Job No. / 序引編號 : IC12-2206 )

Description / 儀器名稱 : Integrating Sound Level Meter  
Manufacturer / 製造商 : Bruel & Kjaer  
Model No. / 型號 : 2238  
Serial No. / 編號 : 2684503  
Supplied By / 委託者 : Atkins China Limited  
13/F., Wharf T&T Centre, Harbour City, Tsim Sha Tsui,  
Kowloon

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C

Relative Humidity / 相對濕度 : (55 ± 20)%

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 7 September 2012

TEST RESULTS / 測試結果

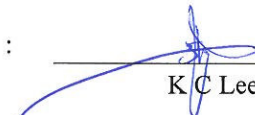
The results apply to the particular unit-under-test only.  
All results are within manufacturer's specification.  
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Rohde & Schwarz Laboratory, Germany
- Fluke Precision Measurement Ltd., UK
- Fluke Everett Service Center, USA
- Agilent Technologies, USA

Tested By

測試

  
K C Lee

Certified By

核證

  
C C Cheung

Date of Issue

簽發日期

10 September 2012

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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# Certificate of Calibration

## 校正證書

Certificate No. : C125261

證書編號

- 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.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C120016
CL281	Multifunction Acoustic Calibrator	DC110233

- Test procedure : MA101N.

- Results :

- Sound Pressure Level

- Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.0	± 0.7

- Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

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

- Time Weighting

- Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L <sub>AFP</sub>	A	F	94.00	1	94.0	Ref.
	L <sub>ASP</sub>		S			94.0	± 0.1
	L <sub>AIP</sub>		I			94.0	± 0.1

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# Certificate of Calibration

## 校正證書

Certificate No. : C125261  
證書編號

### 5.2.2 Tone Burst Signal (2 kHz)

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

### 5.3 Frequency Weighting

#### 5.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L <sub>AFP</sub>	A	F	94.00	31.5 Hz	54.7	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

#### 5.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L <sub>CFP</sub>	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	90.9	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

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# Certificate of Calibration

## 校正證書

Certificate No. : C125261

證書編號

### 5.4 Time Averaging

UUT Setting				Applied Value					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	99.9	± 0.5
			60 sec.					90	89.9	± 0.5
			60 sec.					80	79.7	± 1.0
			5 min.					70	69.8	± 1.0

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

- Uncertainties of Applied Value :

94 dB : 31.5 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)
Burst equivalent level	: ± 0.2 dB (Ref. 110 dB continuous sound level)

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

#### Note :

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Sun Creation Engineering Limited - Calibration & Testing Laboratory

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Website/網址: www.suncreation.com

ENVIROTECH SERVICES CO.

**High-Volume TSP Sampler**  
**5-Point Calibration Record**

Location : ANS5(Ma Wan Chung Village)  
Calibrated by : K.F.Ho  
Date : 02/02/2013

**Sampler**

Model : TE-5170  
Serial Number : S/N3640

**Calibration Orifice and Standard Calibration Relationship**

Serial Number : 1378  
Service Date : 22 Feb 2012  
Slope (m) : 1.99405  
Intercept (b) : -0.00397  
Correlation Coefficient(r) : 0.99984

**Standard Condition**

Pstd (hpa) : 1013  
Tstd (K) : 298.18

**Calibration Condition**

Pa (hpa) : 1015  
Ta(K) : 299

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.8	3.320	1.667	59	59.6
2   13 holes	8.6	2.963	1.488	52	52.5
3   10 holes	6.6	2.595	1.304	46	46.5
4   7 holes	4.3	2.095	1.053	38	38.4
5   5 holes	2.6	1.629	0.819	29	29.3

**Sampler Calibration Relationship**

Slope(m):31.351 Intercept(b):4.579 Correlation Coefficient(r):0.9992

Checked by: Magnum Fan

Date: 03/02/2013

ENVIROTECH SERVICES CO.

**High-Volume TSP Sampler**  
**5-Point Calibration Record**

Location : ANS6(Dragonair Building)  
Calibrated by : K.F.Ho  
Date : 02/02/2013

**Sampler**

Model : TE-5170  
Serial Number : S/N3639

**Calibration Orifice and Standard Calibration Relationship**

Serial Number : 1378  
Service Date : 22 Feb 2012  
Slope (m) : 1.99405  
Intercept (b) : -0.00397  
Correlation Coefficient(r) : 0.99984

**Standard Condition**

Pstd (hpa) : 1013  
Tstd (K) : 298.18

**Calibration Condition**

Pa (hpa) : 1016  
Ta(K) : 294

Resistance Plate	dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1   18 holes	10.9	3.289	1.601	60	59.8
2   13 holes	8.6	2.921	1.423	53	52.8
3   10 holes	6.8	2.598	1.267	47	46.8
4   7 holes	4.7	2.160	1.055	38	37.9
5   5 holes	2.8	1.667	0.817	29	28.9

**Sampler Calibration Relationship**

Slope(m):35.222 Intercept(b): -0.154 Correlation Coefficient(r): 0.9992

Checked by: Magnum Fan

Date: 03/02/2013





TISCH ENVIRONMENTAL, INC.  
 145 SOUTH MIAMI AVE.  
 VILLAGE OF CLEVELAND, OH 45002  
 513.467.9000  
 877.263.7610 TOLL FREE  
 513.467.9009 FAX  
 WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Feb 22, 2012 Rootsmeter S/N 0438320 Ta (K) - 295  
 Operator Tisch Orifice I.D. - 1378 Pa (mm) - 740.41

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3940	3.2	2.00
2	NA	NA	1.00	0.9740	6.4	4.00
3	NA	NA	1.00	0.8720	8.0	5.00
4	NA	NA	1.00	0.8340	8.8	5.50
5	NA	NA	1.00	0.6870	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9799	0.7029	1.4029	0.9957	0.7142	0.8927
0.9756	1.0017	1.9841	0.9914	1.0178	1.2624
0.9734	1.1163	2.2183	0.9891	1.1343	1.4114
0.9724	1.1660	2.3265	0.9881	1.1848	1.4803
0.9671	1.4077	2.8059	0.9827	1.4304	1.7853
Qstd slope (m) = 1.99405			Qa slope (m) = 1.24864		
intercept (b) = -0.00397			intercept (b) = -0.00252		
coefficient (r) = 0.99984			coefficient (r) = 0.99984		
y axis = SQRT[H2O(Pa/760)(298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

Vstd = Diff. Vol [(Pa-Diff. Hg)/760] (298/Ta)  
 Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa]  
 Qa = Va/Time

For subsequent flow rate calculations:

Qstd = 1/m{ [SQRT(H2O(Pa/760)(298/Ta))] - b}  
 Qa = 1/m{ [SQRT H2O(Ta/Pa)] - b}

## EQUIPMENT CALIBRATION RECORD

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

Operator: \_\_\_\_\_

### Standard Equipment

Equipment : MFC High Volume Air Sampler  
 Venue : Wah Ming House, Wah Fu Estate  
 Model No.: TE-5170 Total Suspended Particulated  
 Serial No.: 2100

Previous Calibration Date 10/21/2011

### Calibration Result

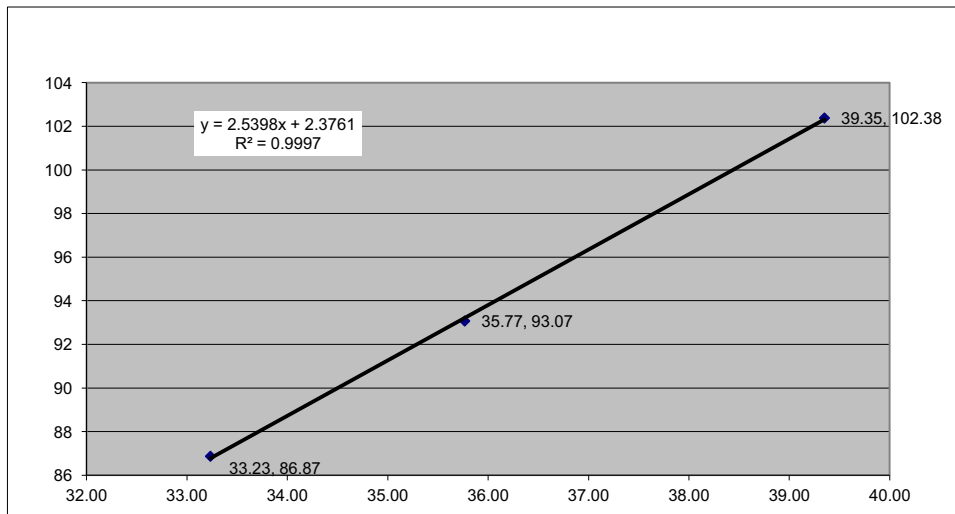
Sensitivity Adjustment Scale Setting (Before Calibration) : 622 CPM  
 Sensitivity Adjustment Scale Setting (After Calibration) : 622 CPM

Hour	Date (dd-mmm-yy)	Time		Ambient Condition		Concentration (obtained by High Volume Sampler) (ug/m3) Y-axis	Total Count for 60mins (obtained by Laser Dust Monitor)	Count per Minute X-axis
				Temp (C)	R.H. (%)			
1	15-Oct-12	13:12	14:12	26.3	74%	86.87	1994	33.23
2	15-Oct-12	14:16	15:16	26.3	74%	93.07	2146	35.77
3	15-Oct-12	15:33	16:33	26.3	74%	102.38	2361	39.35

Be Linear Regression of Y or X

Slope (K-factor): 2.5398  
 Correlation coefficient : 0.9997

Remark: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Recorded by: Ruby Law

Signature: *Ruby Law*

Date: 10/21/2012

Checked by: Keith Chau

Signature: *Keith Chau*

Date: 10/21/2012

## EQUIPMENT CALIBRATION RECORD

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

Operator: \_\_\_\_\_

### Standard Equipment

Equipment : MFC High Volume Air Sampler  
 Venue : Wah Ming House, Wah Fu Estate  
 Model No.: TE-5170 Total Suspended Particulated  
 Serial No.: 276018

Previous Calibration Date N/A

### Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration) : 799 CPM  
 Sensitivity Adjustment Scale Setting (After Calibration) : 799 CPM

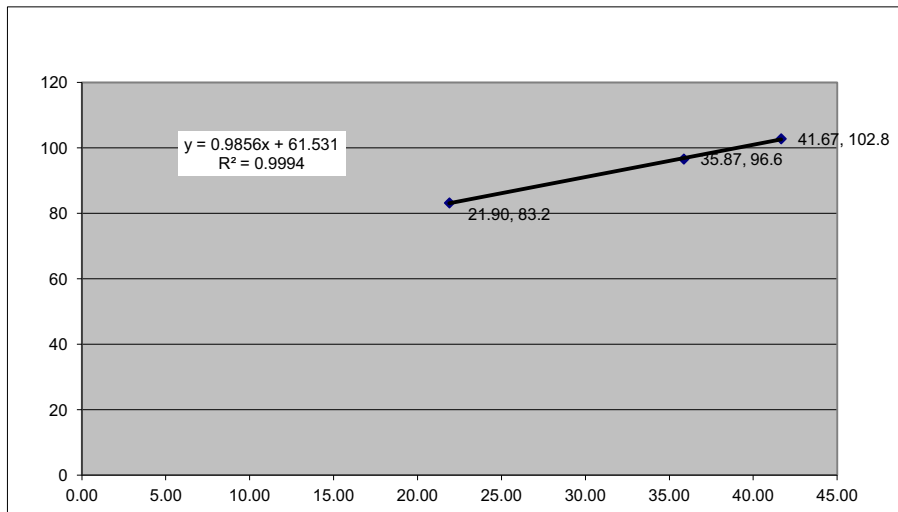
Hour	Date (dd-mmm-yy)	Time		Ambient Condition		Concentration (ug/m3) Y-axis	Total Count	Count/Minute X-axis
				Temp (C)	R.H. (%)			
1	16-Oct-12	13:14	14:14	26.2	74%	83.2	1314	21.90
2	16-Oct-12	14:22	15:22	26.2	74%	96.6	2152	35.87
3	16-Oct-12	15:30	16:30	26.2	74%	102.8	2500	41.67

Be Linear Regression of Y or X

Slope (K-factor): 0.9856

Correlation coefficient : 0.9994

Remark: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Recorded by: Ruby Law

Signature: 

Date: 10/21/2012

Checked by: Keith Chau

Signature: 

Date: 10/21/2012



# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

**Work Order:** HK1300554  
**Date of Issue:** 09/01/2013  
**Client:** AECOM ASIA COMPANY LIMITED



**Description:** YSI Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2-M  
**Serial No.:** 12D100972  
**Equipment No.:** W.026.36  
**Date of Calibration:** 08 January, 2013

**Date of next Calibration:** 08 April, 2013

**Parameters:**

**Conductivity**

**Method Ref: APHA (21st edition), 2510B**

Expected Reading (uS/cm)	Displayed Reading (uS/cm )	Tolerance (%)
146.9	155.0	5.5
6667	6527	-2.1
12890	12050	-6.5
58670	55650	-5.1
Tolerance Limit (±%)		10.0

**Dissolved Oxygen**

**Method Ref: APHA (21st edition), 4500O: G**

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
4.33	4.26	-0.07
5.98	5.93	-0.05
8.65	8.83	0.18
Tolerance Limit (±mg/L)		0.20

**pH Value**

**Method Ref: APHA 21st Ed. 4500H:B**

Expected Reading (pH Unit)	Displayed Reading (pH Unit)	Tolerance (pH unit)
4.0	4.18	0.18
7.0	7.18	0.18
10.0	9.94	-0.06
Tolerance Limit (±pH unit)		0.20

**Salinity**

**Method Ref: APHA (21st edition), 2520B**

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	--
10	9.55	-4.5
20	19.72	-1.4
30	30.65	2.2
Tolerance Limit (±%)		10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

  
 Mr. Fung Lim Chee, Richard  
 General Manager  
 Greater China & Hong Kong

# REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION



**Work Order:** HK1300554  
**Date of Issue:** 09/01/2013  
**Client:** AECOM ASIA COMPANY LIMITED

**Description:** YSI Sonde  
**Brand Name:** YSI  
**Model No.:** 6820 V2-M  
**Serial No.:** 12D100972  
**Equipment No.:** W.026.36  
**Date of Calibration:** 08 January, 2013

**Date of next Calibration:** 08 April, 2013

**Parameters:**

**Temperature**

**Method Ref: Section 6 of International Accreditation New Zealand Technical**

**Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.**

Reading of Ref. thermometer (°C)	Displayed Reading (°C)	Tolerance (°C)
18.0	17.85	-0.1
28.5	28.56	0.1
40.0	39.75	-0.3
Tolerance Limit (±°C)		2.0

**Turbidity**

**Method Ref: APHA (21st edition), 2130B**

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.0	--
4	3.7	-7.5
10	10.2	2.0
20	20.6	3.0
50	48.7	-2.6
100	100.1	0.1
Tolerance Limit (±%)		10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Mr. Fung Lim Chee, Richard  
 General Manager -  
 Greater China & Hong Kong