Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**1-Mar-23**	to	**2-Mar-23**	Next Verification Test Date:	**1-Mar-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	0Z4545				
Our Report Refrence No.:	RPT-23-HVS-0002				
Calibration Location:	Emax				

Standard Equipment Information

Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1086	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

Equipement Vertification Result

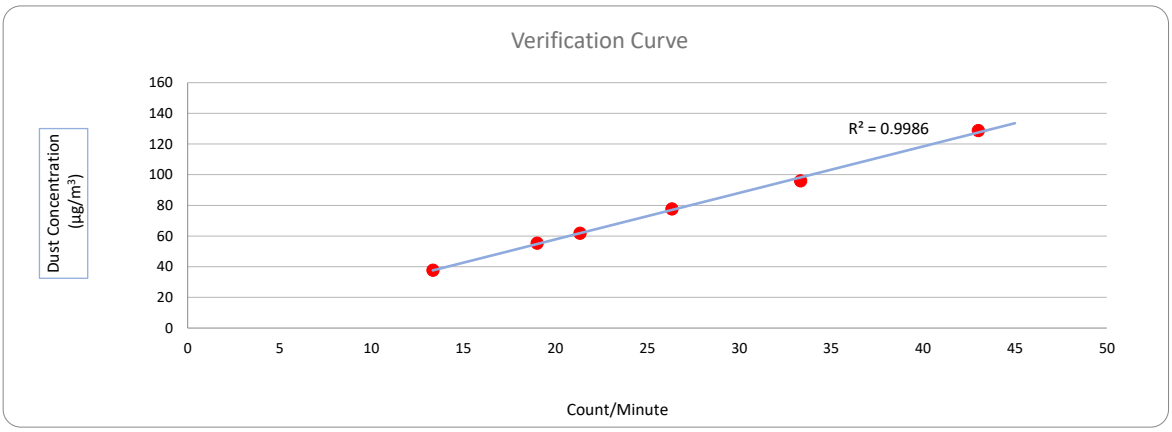
Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	1/3/2023	5013.27	5016.34	184.20	4851	26	78
2	1/3/2023	5016.34	5019.34	180.00	6000	33	96
3	1/3/2023	5019.34	5022.34	180.00	7740	43	129
4	2/3/2023	5022.34	5025.34	180.00	3840	21	62
5	2/3/2023	5025.34	5028.34	180.00	2400	13	38
6	2/3/2023	5028.34	5031.34	180.00	3420	19	55

Linear Regression of y on x

Slope, K factor: **3.0313** Intercept: **-2.8495** *Correlation Coefficient,R: **0.9993**

Verification Test Result: Strong Correlation, Results were accepted.

* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



Operated By: Andy Li — Date: 05-03-2023
Project Technician, Environmental

Checked By: Tandy Tse — Date: 05-03-2023
Senior Consultant, Environmental

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**1-Mar-23**	to	**2-Mar-23**	Next Verification Test Date:	**1-Mar-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	882106				
Our Report Refrence No.:	RPT-23-HVS-0008				
Calibration Location:	Emax				

Standard Equipment Information

Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment Serial no.:	1087	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

Equipement Vertification Result

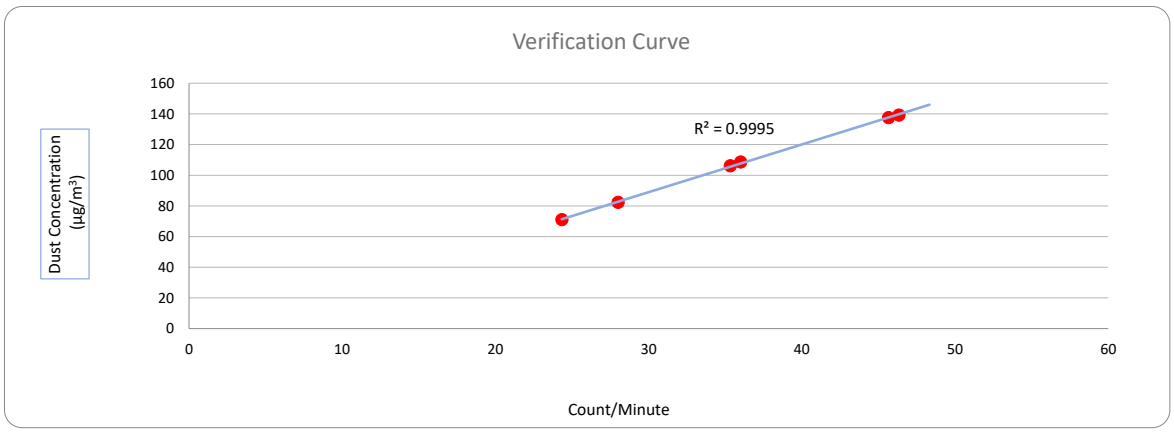
Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	1/3/2023	5013.27	5016.34	184.20	8535	46	139
2	1/3/2023	5016.34	5019.34	180.00	6480	36	109
3	1/3/2023	5019.34	5022.34	180.00	8220	46	137
4	2/3/2023	5022.34	5025.34	180.00	5040	28	82
5	2/3/2023	5025.34	5028.34	180.00	4380	24	71
6	2/3/2023	5028.34	5031.34	180.00	6360	35	106

Linear Regression of y on x

Slope, K factor: **3.1109** Intercept: **-4.3817** *Correlation Coefficient,R: **0.9998**

Verification Test Result: Strong Correlation, Results were accepted.

* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



Operated By: Andy Li
Project Technician, Environmental
Date: 05-03-2023

Checked By: Tandy Tse
Senior Consultant, Environmental
Date: 05-03-2023

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**1-Mar-23**	to	**2-Mar-23**	Next Verification Test Date:	**1-Mar-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	942532				
Our Report Refrence No.:	RPT-23-HVS-0005				
Calibration Location:	Emax				

Standard Equipment Information

Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment Serial no.:	1855	3465
Last Calibration Date:	1-Mar-23	28-Jun-22
Next Calibration Date:	30-Apr-23	27-Jun-23

Equipement Vertification Result

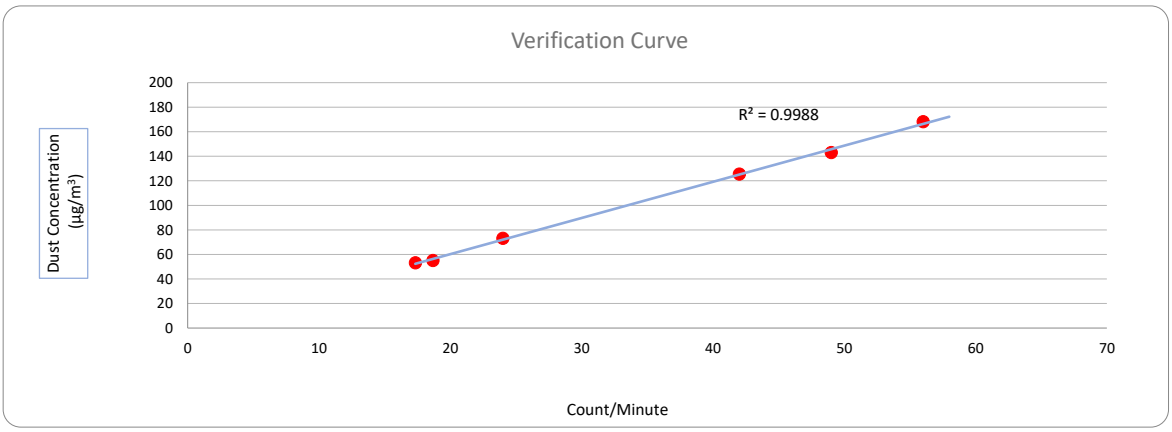
Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	1/3/2023	5013.27	5016.34	184.20	7736	42	125
2	1/3/2023	5016.34	5019.34	180.00	8820	49	143
3	1/3/2023	5019.34	5022.34	180.00	10080	56	168
4	2/3/2023	5022.34	5025.34	180.00	3120	17	53
5	2/3/2023	5025.34	5028.34	180.00	3360	19	55
6	2/3/2023	5028.34	5031.34	180.00	4320	24	73

Linear Regression of y on x

Slope, K factor: **2.9474** Intercept: **1.2739** *Correlation Coefficient,R: **0.9994**

Verification Test Result: Strong Correlation, Results were accepted.

* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.



Operated By: Andy Li
Project Technician, Environmental
Date: 05-03-2023

Checked By: Tandy Tse
Senior Consultant, Environmental
Date: 05-03-2023

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**28-Nov-23**	to	**30-Nov-23**	Next Verification Test Date:	**28-Nov-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	851816				
Our Report Refrence No.:	RPT-23-HVS-0067				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

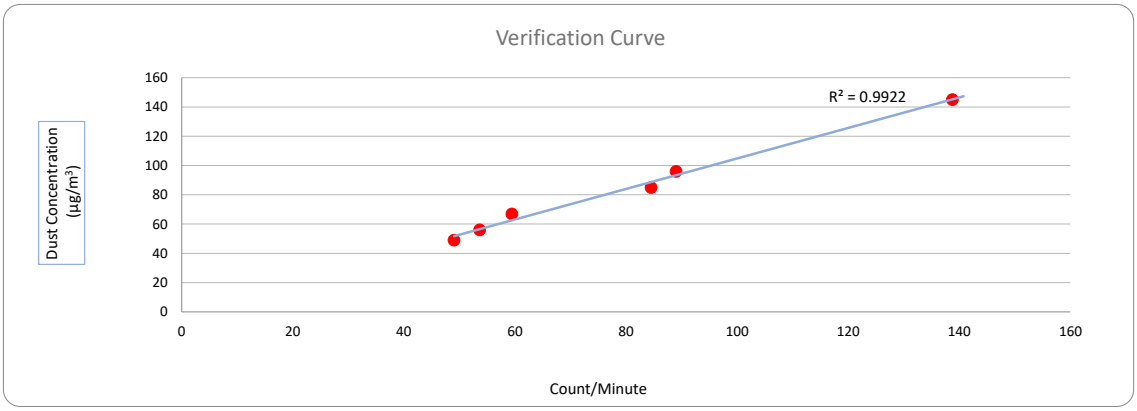
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	4166
Last Calibration Date:	4-Nov-23	19-Jun-23
Next Calibration Date:	3-Jan-24	19-Jun-24

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/2023	8789.68	8792.68	180.00	16023	89	96
2	28/11/2023	8792.68	8795.68	180.00	15213	85	85
3	28/11/2023	8795.68	8798.68	180.00	8823	49	49
4	30/11/2023	8798.68	8801.68	180.00	10698	59	67
5	30/11/2023	8801.68	8804.68	180.00	24980	139	145
6	30/11/2023	8804.68	8807.68	180.00	9653	54	56

Linear Regression of y on x

Slope, K factor:	**1.0418**	Intercept:	**0.6307**	*Correlation Coefficient,R:	**0.9961**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Project Technician, Environmental — Date: 30-11-2023

Checked By: Tandy Tse — Senior Consultant, Environmental — Date: 30-11-2023

Sibata LD-5R K-Factor Verification Test by Total Suspended Particulates HVS Test Report

Information of Calibrated Equipement

Verification Test Date:	**28-Nov-23**	to	**30-Nov-24**	Next Verification Test Date:	**28-Nov-24**
Unit-under-Test- Model No.:	Sibata LD-5R				
Unit-under-Test Serial No.:	882150				
Our Report Refrence No.:	RPT-23-HVS-0070				
Calibration Location:	AM2, location near the Leachate Treatment Works within the NENTX Landfill				

Standard Equipment Information

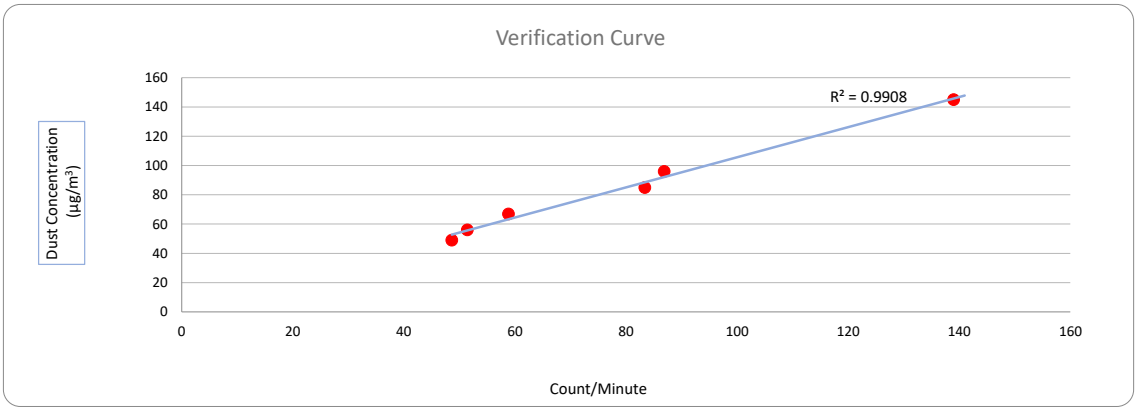
Verification Equipment Type:	Tisch TSP HVS	Tisch HVS Calibrator
Standard Equipment Model No.:	TE-5170X	TE-5025A
Equipment serial no.:	1106	4166
Last Calibration Date:	4-Nov-23	19-Jun-23
Next Calibration Date:	3-Jan-24	19-Jun-24

Equipement Vertification Result

Verification Test No.	Date	Duration			Results from Calibrated Equipement		Results from Standard Equipment
		Start-time	End-time	Elapsed Time (in min)	Total Counts	Counts/ Minute x-axis	Dust Concentration (µg/m^3) y-axis
1	28/11/2023	8789.68	8792.68	180.00	15634	87	96
2	28/11/2023	8792.68	8795.68	180.00	15012	83	85
3	28/11/2023	8795.68	8798.68	180.00	8753	49	49
4	30/11/2023	8798.68	8801.68	180.00	10587	59	67
5	30/11/2023	8801.68	8804.68	180.00	25017	139	145
6	30/11/2023	8804.68	8807.68	180.00	9256	51	56

Linear Regression of y on x

Slope, K factor:	**1.0289**	Intercept:	**2.7296**	*Correlation Coefficient,R:	**0.9954**
Verification Test Result:	Strong Correlation, Results were accepted.			* If the Correlation Coefficient, R is <0.5. Checking and Re-verification are required.	



Operated By: Andy Li — Date: 30-11-2023
Project Technician, Environmental

Checked By: Tandy Tse — Date: 30-11-2023
Senior Consultant, Environmental

(A+A)*L Acoustics and Air Testing Laboratory Co. Ltd.
聲學及空氣測試實驗室有限公司

Certificate of Calibration

for

Description:	***Sound Level Calibrator***
Manufacturer:	***RION***
Type No.:	***NC-75***
Serial No.:	***34724245***

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit E, 12/F, Ford Glory Plaza,*
	Nos. 37-39 Wing Hong Street,
	Cheung Sha Wan, Kowloon,
	Hong Kong

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

☑ **Within**
☐ **Outside**

the allowable tolerance.

The test equipments used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 27 July 2023

Date of calibration: 3 August 2023

Date of NEXT calibration: 2 August 2024

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **3 August 2023**

Certificate No.: APJ23-049-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 Precautions:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

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

2. *Calibration Specifications:*

Calibration check

3. *Calibration Conditions:*

Air Temperature:	22.6 °C
Air Pressure:	1006 hPa
Relative Humidity:	52.9 %

4. *Calibration Equipment:*

Test Equipment	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	HOKLAS
Sound Level Meter	RION NA-28	30721812	AV220120	HOKLAS

5. *Calibration Results*

5.1 Sound Pressure Level

Nominal value dB	Accept lower level dB	Accept upper level dB	Measured value dB
94.0	93.6	94.4	94.0

Note:
The values given in this certification only related to the values measured at the time of the calibration.

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Certificate of Calibration

for

Description:	*Sound Level Meter*
Manufacturer:	*NTi Audio*
Type No.:	*XL2 (Serial No.: A2A-09696-E0)*
Microphone:	*ACO 7052 (Serial No.:68914)*
Preamplifier:	*NTi Audio MA220 (Serial No.:10390)*

Submitted by:

Customer:	*Acuity Sustainability Consulting Limited*
Address:	*Unit E, 12/F, Ford Glory Plaza,*
	Nos. 37-39 Wing Hong Street,
	Cheung Sha Wan, Kowloon, Hong Kong

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

☑ **Within (31.5Hz – 4kHz)**
☐ **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: 30 March 2023

Date of calibration: 04 April 2023

Date of NEXT calibration: 03 April 2024

Calibrated by: _____
Calibration Technician

Certified by: _____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: 04 April 2023

Certificate No.: APJ22-164-CC002

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:	21.5 °C
Air Pressure:	1005 hPa
Relative Humidity:	71.4 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV220061	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	94.1	±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	94.1	Ref
			104		104.1	±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	94.1	Ref
		Slow			94.1	±0.3

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Frequency Response

Linear Response

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	dB SPL	Fast	94	31.5	94.3	±2.0
				63	94.3	±1.5
				125	94.3	±1.5
				250	94.2	±1.4
				500	94.2	±1.4
				1000	94.1	Ref
				2000	93.8	±1.6
				4000	93.1	±1.6

A-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	31.5	55.0	-39.4 ±2.0
				63	68.2	-26.2 ±1.5
				125	78.2	-16.1 ±1.5
				250	85.6	-8.6 ±1.4
				500	91.0	-3.2 ±1.4
				1000	94.1	Ref
				2000	95.0	+1.2 ±1.6
				4000	94.1	+1.0 ±1.6

C-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	dBC SPL	Fast	94	31.5	91.3	-3.0 ±2.0
				63	93.5	-0.8 ±1.5
				125	94.1	-0.2 ±1.5
				250	94.2	-0.0 ±1.4
				500	94.2	-0.0 ±1.4
				1000	94.1	Ref
				2000	93.6	-0.2 ±1.6
				4000	92.3	-0.8 ±1.6

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

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

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	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
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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