Appendix 10-3

CALIBRATION CERTIFICATES

APPENDIX 10-3 CALIBRATION CERTIFICATES

ANV MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

ilac-MRA UKAS CALIBRATION 0653

Date of Issue: 13 January 2023 **Certificate Number: UCRT23/1053**

Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
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Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

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Approved Signatory

K. Mistry

Customer	AWN Consulting Limited The Tecpro Building IDA Business and Technology Park Clonshaugh Dublin D17 XD90, Ireland			
Order No.	DOD/22/Cal045			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00564809
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	64934
	Rion	Microphone	UC-59	09447
	Brüel & Kjær	Calibrator	4231	2263026
		Calibrator adaptor type if applicable		UC 0210
Performance Class	1			
Test Procedure	TP 10. SLM 61672-3:2013 *Procedures from IEC 61672-3:2013 were used to perform the periodic tests.*			
Type Approved to IEC 61672-1:2013	Yes *If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013*			
Date Received	09 January 2023	ANV Job No.	UKAS23/01009	
Date Calibrated	13 January 2023			

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	15 September 2020	UCRT20/1868	0653

CERTIFICATE OF CALIBRATION	Certificate Number UCRT23/1053
UKAS Accredited Calibration Laboratory No. 0653	Page 2 of 2 Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM Instruction manual title	NL-52/NL-42 Description for IEC 61672-1		
SLM Instruction manual ref / Issue	No. 56034 21-03	Source	Rion
Date provided or Internet download date	19 March 2021		

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES		
Specified or equivalent Calibrator	Equivalent		
Customer or Lab Calibrator	Customers Calibrator		
Calibrator adaptor type if applicable	UC 0210		
Calibrator cal. date	10 January 2023		
Calibrator cert. number	UCRT23/1036		
Calibrator cal cert issued by Lab	0653		
Calibrator SPL @ STP	93.96	dB	Calibration reference sound pressure level
Calibrator frequency	999.97	Hz	Calibration check frequency
Reference level range	Single	dB	

Accessories used or corrected for during calibration - Extension Cable & Wind Shield WS-15
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.

Environmental conditions during tests	Start	End	
Temperature	23.19	22.90	± 0.30 °C
Humidity	46.5	44.5	± 3.00 %RH
Ambient Pressure	99.66	99.71	± 0.03 kPa

Indication at the Calibration Check Frequency				
Initial indicated level	94.0	dB	Adjusted indicated level	94.0 dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±				0.10 dB

Self Generated Noise				
Microphone installed -	Less Than	16.9	dB	A Weighting
Microphone replaced with electrical input device -				UR = Under Range Indicated

Weighting	A			C			Z		
	12.1	dB	UR	16.2	dB	UR	22.4	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Additional Comments: The results on this certificate only relate to the items calibrated as identified above.

Prior to calibration the meter was realigned (1.0 dB drift).

..... END .....

Calibrated by: PB R 1

CERTIFICATE OF CALIBRATION

0653

Date of Issue: 13 June 2023

Certificate Number: UCRT23/1774

Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

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Approved Signatory

K. Mistry

Customer	AWN Consulting Limited The Tecpro Building IDA Business and Technology Park Clonshaugh Dublin D17 XD90 Ireland			
Order No.	AWN200423			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00186668
	Rion	Firmware		2.1
	Rion	Pre Amplifier	NH-25	76701
	Rion	Microphone	UC-59	12813
	Rion	Calibrator	NC-74	34536109
		Calibrator adaptor type if applicable		NC-74-002
Performance Class	1			
Test Procedure	TP 10. SLM 61672-3:2013 *Procedures from IEC 61672-3:2013 were used to perform the periodic tests.*			
Type Approved to IEC 61672-1:2013	Yes *If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013*			
Date Received	13 June 2023	ANV Job No.	UKAS23/06399	
Date Calibrated	13 June 2023			

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	03 May 2022	UCRT22/1600	0653

CERTIFICATE OF CALIBRATION	Certificate Number UCRT23/1774
UKAS Accredited Calibration Laboratory No. 0653	Page 2 of 2 Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	NL-52/NL-42 Description for IEC 61672-1			
SLM instruction manual ref / issue	No. 56034 21-03	Source	Rion	
Date provided or internet download date	19 March 2021			
	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections	
Uncertainties provided	Yes	Yes	Yes	
Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES			
Specified or equivalent Calibrator	Specified			
Customer or Lab Calibrator	Lab Calibrator			
Calibrator adaptor type if applicable	NC-74-002			
Calibrator cal. date	30 May 2023			
Calibrator cert. number	UCRT23/1727			
Calibrator cal cert issued by Lab	0653			
Calibrator SPL @ STP	94.02	dB	Calibration reference sound pressure level	
Calibrator frequency	1001.99	Hz	Calibration check frequency	
Reference level range	Single	dB		
Accessories used or corrected for during calibration -	Extension Cable & Wind Shield WS-15			
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.				

Environmental conditions during tests	Start	End	
Temperature	24.08	24.03	± 0.30 °C
Humidity	41.0	35.8	± 3.00 %RH
Ambient Pressure	100.41	100.43	± 0.03 kPa

Indication at the Calibration Check Frequency					
Initial indicated level	94.0	dB	Adjusted indicated level	94.0	dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±				0.10	dB

Self Generated Noise									
Microphone installed -	Less Than	19.2	dB	A Weighting					
Microphone replaced with electrical input device -				UR = Under Range indicated					
Weighting	A			C			Z		
	14.5	dB	UR	16.5	dB	UR	22.0	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k=2, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Additional Comments The results on this certificate only relate to the items calibrated as identified above.

Prior to calibration the instrument's main PCB was replaced and the meter was realigned.

..... END .....

Calibrated by: K. Zablocki R 1

CERTIFICATE OF CALIBRATION

0653

Date of Issue: 01 February 2022 **Certificate Number: UCRT22/1142**

Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

Customer	AWN Consulting Limited The Tecpro Building IDA Business and Technology Park Clonshaugh Dublin D17 XD90			
Order No.	DOD/22/Cal/038			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00998409
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	98623
	Rion	Microphone	UC-59	15915
	Brüel & Kjær	Calibrator	4231	3010472
		Calibrator adaptor type if applicable		UC 0210
Performance Class	1			
Test Procedure	TP 10. SLM 61672-3:2013 *Procedures from IEC 61672-3:2013 were used to perform the periodic tests.*			
Type Approved to IEC 61672-1:2013	Yes *If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013*			
Date Received	26 January 2022	ANV Job No.	UKAS22/01059	
Date Calibrated	01 February 2022			

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	07 May 2020	UCRT20/1406	0653

CERTIFICATE OF CALIBRATION	Certificate Number UCRT22/1142
UKAS Accredited Calibration Laboratory No. 0653	Page 2 of 2 Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	NL-52/NL-42 Description for IEC 61672-1			
SLM instruction manual ref / issue	No. 56034 21-03	Source	Rion	
Date provided or internet download date	19 March 2021			

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES		
Specified or equivalent Calibrator	Equivalent		
Customer or Lab Calibrator	Customers Calibrator		
Calibrator adaptor type if applicable	UC 0210		
Calibrator cal. date	01 February 2022		
Calibrator cert. number	UCRT22/1136		
Calibrator cal cert issued by Lab	0653		
Calibrator SPL @ STP	94.03	dB	Calibration reference sound pressure level
Calibrator frequency	999.97	Hz	Calibration check frequency
Reference level range	Single	dB	

Accessories used or corrected for during calibration - Extension Cable & Wind Shield WS-15
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.

Environmental conditions during tests	Start	End	
Temperature	24.53	24.56	± 0.30 °C
Humidity	40.6	39.9	± 3.00 %RH
Ambient Pressure	100.99	100.98	± 0.03 kPa

Indication at the Calibration Check Frequency				
Initial indicated level	94.1	dB	Adjusted indicated level	94.0 dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±				0.10 dB

Self Generated Noise				
Microphone installed -	Less Than	18.8	dB	A Weighting
Microphone replaced with electrical input device -				UR = Under Range indicated

Weighting	A			C			Z		
	11.2	dB	UR	14.8	dB	UR	21.3	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Additional Comments The results on this certificate only relate to the items calibrated as identified above.

None

END

Calibrated by: B. Bogdan R 3

CERTIFICATE OF CALIBRATION

0653

Date of Issue: 04 September 2023 **Certificate Number: UCRT23/2135**

Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

Customer	AWN Consulting Limited The Tecpro Building 17, Clonshaugh Business & Technology Park Dublin			
Order No.	AWN160823			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00575782
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	65810
	Rion	Microphone	UC-59	19108
	Rion	Calibrator	NC-75	34724227
		Calibrator adaptor type if applicable		NC-75-022
Performance Class	1			
Test Procedure	TP 10. SLM 61672-3:2013 *Procedures from IEC 61672-3:2013 were used to perform the periodic tests.*			
Type Approved to IEC 61672-1:2013	Yes *If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013*			
Date Received	01 September 2023	ANV Job No.	UKAS23/09603	
Date Calibrated	04 September 2023			

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	12 July 2021	UCRT21/1841	0653

CERTIFICATE OF CALIBRATION	Certificate Number UCRT23/2135
UKAS Accredited Calibration Laboratory No. 0653	Page 2 of 2 Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	NL-52/NL-42 Description for IEC 61672-1		
SLM instruction manual ref / issue	No. 56034 21-03	Source	Rion
Date provided or internet download date	19 March 2021		

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES	
Specified or equivalent Calibrator	Specified	
Customer or Lab Calibrator	Lab Calibrator	
Calibrator adaptor type if applicable	NC-75-022	
Calibrator cal. date	04 September 2023	
Calibrator cert. number	UCRT23/2130	
Calibrator cal cert issued by Lab	0653	
Calibrator SPL @ STP	94.03 dB	Calibration reference sound pressure level
Calibrator frequency	999.99 Hz	Calibration check frequency
Reference level range	Single dB	

Accessories used or corrected for during calibration - Extension Cable & Wind Shield WS-15
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.

Environmental conditions during tests	Start	End	
Temperature	24.52	24.65	± 0.30 °C
Humidity	40.8	41.8	± 3.00 %RH
Ambient Pressure	101.16	101.12	± 0.03 kPa

Indication at the Calibration Check Frequency				
Initial indicated level	94.1 dB	Adjusted indicated level	94.0	dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±			0.10	dB

Self Generated Noise				
Microphone installed -	Less Than	23.7 dB	A Weighting	
Microphone replaced with electrical input device -		UR = Under Range indicated		

Weighting	A			C			Z		
	12.5	dB	UR	17.4	dB	UR	24.6	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Additional Comments The results on this certificate only relate to the items calibrated as identified above.

None

END

Calibrated by: K. Zablocki R 1

CERTIFICATE OF CALIBRATION

0653

Date of Issue: 13 June 2023

Certificate Number: UCRT23/1773

Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
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Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

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Approved Signatory

K. Mistry

Customer	AWN Consulting Limited The Tecpro Building IDA Business and Technology Park Clonshaugh Dublin D17 XD90 Ireland			
Order No.	AWN200423			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00186667
	Rion	Firmware		2.1
	Rion	Pre Amplifier	NH-25	76817
	Rion	Microphone	UC-59	21140
	Rion	Calibrator	NC-74	34536109
		Calibrator adaptor type if applicable		NC-74-002
Performance Class	1			
Test Procedure	TP 10. SLM 61672-3:2013 *Procedures from IEC 61672-3:2013 were used to perform the periodic tests.*			
Type Approved to IEC 61672-1:2013	Yes *If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013*			
Date Received	13 June 2023	ANV Job No.	UKAS23/06399	
Date Calibrated	13 June 2023			

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	12 May 2022	UCRT22/1645	0653

CERTIFICATE OF CALIBRATION	Certificate Number UCRT23/1773
UKAS Accredited Calibration Laboratory No. 0653	Page 2 of 2 Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	NL-52/NL-42 Description for IEC 61672-1			
SLM instruction manual ref / issue	No. 56034 21-03	Source	Rion	
Date provided or internet download date	19 March 2021			

	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections
Uncertainties provided	Yes	Yes	Yes

Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES		
Specified or equivalent Calibrator	Specified		
Customer or Lab Calibrator	Lab Calibrator		
Calibrator adaptor type if applicable	NC-74-002		
Calibrator cal. date	30 May 2023		
Calibrator cert. number	UCRT23/1727		
Calibrator cal cert issued by Lab	0653		
Calibrator SPL @ STP	94.02	dB	Calibration reference sound pressure level
Calibrator frequency	1001.99	Hz	Calibration check frequency
Reference level range	Single	dB	

Accessories used or corrected for during calibration - Extension Cable & Wind Shield WS-15
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.

Environmental conditions during tests	Start	End	
Temperature	23.69	23.80	± 0.30 °C
Humidity	35.1	36.7	± 3.00 %RH
Ambient Pressure	100.41	100.42	± 0.03 kPa

Indication at the Calibration Check Frequency			
Initial indicated level	94.0 dB	Adjusted indicated level	94.0 dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±			0.10 dB

Self Generated Noise					
Microphone installed -	Less Than	18.4	dB	A Weighting	
Microphone replaced with electrical input device -				UR = Under Range indicated	

Weighting	A			C			Z		
	11.8	dB	UR	15.7	dB	UR	22.3	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Additional Comments The results on this certificate only relate to the items calibrated as identified above.

Prior to calibration the instrument's main PCB was replaced and the meter was realigned.

..... END .....

Calibrated by: C. Hirlav

R 3

ANV MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

ilac-MRA UKAS CALIBRATION 0653

Date of Issue: 16 March 2022

Certificate Number: UCRT22/1378

Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

Customer	AWN Consulting Limited The Tecpro Building IDA Business and Technology Park Clonshaugh Dublin D17 XD90 Ireland			
Order No.	2201			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00998413
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	98627
	Rion	Microphone	UC-59	15920
	Rion	Calibrator	NC-74	34536109
		Calibrator adaptor type if applicable		NC-74-002
Performance Class	1			
Test Procedure	TP 10. SLM 61672-3:2013 *Procedures from IEC 61672-3:2013 were used to perform the periodic tests.*			
Type Approved to IEC 61672-1:2013	Yes *If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2013*			
Date Received	16 March 2022	ANV Job No.	UKAS22/03189	
Date Calibrated	16 March 2022			

The sound level meter submitted for testing has successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As evidence was publicly available, from an independent testing organisation responsible for approving the results of pattern-evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications of IEC 61672-1:2013.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	22 January 2020	UCRT20/1095	0653

CERTIFICATE OF CALIBRATION	Certificate Number UCRT22/1378
UKAS Accredited Calibration Laboratory No. 0653	Page 2 of 2 Pages

Sound Level Meter Instruction manual and data used to adjust the sound levels indicated.

SLM instruction manual title	NL-52/NL-42 Description for IEC 61672-1			
SLM instruction manual ref / issue	No. 56034 21-03	Source	Rion	
Date provided or internet download date	19 March 2021			
	Case Corrections	Wind Shield Corrections	Mic Pressure to Free Field Corrections	
Uncertainties provided	Yes	Yes	Yes	
Total expanded uncertainties within the requirements of IEC 61672-1:2013	YES			
Specified or equivalent Calibrator	Specified			
Customer or Lab Calibrator	Lab Calibrator			
Calibrator adaptor type if applicable	NC-74-002			
Calibrator cal. date	17 February 2022			
Calibrator cert. number	UCRT22/1246			
Calibrator cal cert issued by Lab	0653			
Calibrator SPL @ STP	94.03	dB	Calibration reference sound pressure level	
Calibrator frequency	1002.04	Hz	Calibration check frequency	
Reference level range	Single	dB		
Accessories used or corrected for during calibration -	Extension Cable & Wind Shield WS-15			
Note - The Extension Cable was used between the SLM and the pre-amp for this calibration.				

Environmental conditions during tests	Start	End	
Temperature	23.81	23.91	± 0.30 °C
Humidity	36.9	36.0	± 3.00 %RH
Ambient Pressure	100.50	100.50	± 0.03 kPa

Indication at the Calibration Check Frequency				
Initial indicated level	94.3	dB	Adjusted indicated level	94.0 dB
Uncertainty of calibrator used for Indication at the Calibration Check Frequency ±			0.10	dB
Self Generated Noise				
Microphone installed -	Less Than	16.6	dB A Weighting	
Microphone replaced with electrical input device -			UR = Under Range indicated	

Weighting	A			C			Z		
	12.2	dB	UR	16.1	dB	UR	21.9	dB	UR

Self Generated Noise reported for information only and not used to assess conformance to a requirement

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k = 2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Additional Comments The results on this certificate only relate to the items calibrated as identified above.

None

..... END .....

Calibrated by: A.Hutton R 1