Awel y Môr Offshore Wind Farm

Category 6: Environmental Statement

Volume 5, Annex 10.1: Calibration Certificates.

Date: April 2022

Revision: A

Application Reference: 6.5.10.1

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A	March 2022	ES	SLR	RWE	RWE

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RWE Renewables UK
Swindon Limited
Windmill Hill Business Park
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Swindon

AWEL Y MÔR OFFSHORE WIND FARM PROJECT

SLR Ref: 406.05356.00009
Version No: 1
March 2022

BASIS OF REPORT

CONTENTS

1.0 Sound Level Meter and Calibrator Calibration Certificates

Presented below are the cover sheets for the calibration certificates for all the sound level meters and acoustic calibrators used throughout the project, all of which are traceable to national standards. Full certificates are available on request.

1.1 Cirrus CR:171B G079816 and CR:515 81268

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **07/01/21** CERTIFICATE NUMBER **151030**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 15

Approved signatory
T.Goodrich
Electronically signed:
[redacted]

Sound level meter : IEC 61672-3:2013

Customer information

Name: SLR Consulting Ltd Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham Postcode: NG6 8WR Country: United Kingdom

Instrument information

Manufacturer:	Cirrus Research plc	Notes:
Model:	CR:171B	
Serial number:	G079816	
Class:	1	
Firmware version:	V3.2.3046	

Test summary

Date of receipt: 07/01/21 Date of calibration: 07/01/21

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to determine that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Notes

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **23/03/20** CERTIFICATE NUMBER **140471**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 2

Approved signatory
T.Goodrich
Electronically signed:
[redacted]

Sound Calibrator : IEC 60942:2003

Customer information

Name: SLR Consulting Ltd
Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham
Postcode: NG6 8WR
Country: United Kingdom

Instrument information

Manufacturer: Cirrus Research plc
Notes:
Model: CR:515
Serial number: 81268
Class: 1
Pattern approval: Yes
Source of pattern approval: PTB-1.61-4028829

Test summary

Date of receipt: 18/03/20
Date of calibration: 23/03/20

As public evidence was available, from a testing organization responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

Notes

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. UKAS is one of the signatories to the Multilateral Agreement of the European co-opeation for Accreditation (EA) for the mutual recognition of calibration certificates issued by accredited laboratories. The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. 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.

1.2 Cirrus CR:171B G080288 and CR:515 83349

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **22/06/20** CERTIFICATE NUMBER **142643**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 15

Approved signatory
C.Scott
Electronically signed:

[redacted]

Sound level meter : IEC 61672-3:2013

Customer information

Name: SLR Consulting Ltd Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham Postcode: NG6 8WR Country: United Kingdom

Instrument information

Manufacturer:	Cirrus Research plc	Notes:
Model:	CR:171B	
Serial number:	G080288	
Class:	1	
Firmware version:	V3.2.2690	

Test summary

Date of receipt: 22/06/20 Date of calibration: 22/06/20

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to determine that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Notes

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. UKAS is one of the signatories to the Multilateral Agreement of the European co-opeation for Accreditation (EA) for the mutual recognition of calibration certificates issued by accredited laboratories. The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. 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.

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **22/06/20** CERTIFICATE NUMBER **142631**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
C.Scott
Electronically signed:
[redacted]

Sound Calibrator : IEC 60942:2003

Customer information

Name: SLR Consulting Ltd
Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham
Postcode: NG6 8WR
Country: United Kingdom

Instrument information

Manufacturer: Cirrus Research plc
Notes:
Model: CR:515
Serial number: 83349
Class: 1
Pattern approval: Yes
Source of pattern approval: PTB-1.61-4028829

Test summary

Date of receipt: 22/06/20
Date of calibration: 22/06/20

As public evidence was available, from a testing organization responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

Notes

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. UKAS is one of the signatories to the Multilateral Agreement of the European co-opeation for Accreditation (EA) for the mutual recognition of calibration certificates issued by accredited laboratories. The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. 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.

1.3 Cirrus CR:171B G300561 and CR:515 87922

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **08/05/19** CERTIFICATE NUMBER **128673**

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 2

Test engineer:
D.Swalwell
Electronically signed:
[redacted]

Microphone

Microphone capsule

Manufacturer: Cirrus Research plc

Model: MK:224

Serial Number: 211655D

Calibration procedure

Date of calibration: 06 March 2019

Open circuit: 45.6 mV/Pa

Sensitivity at 1 kHz: -26.8 dB rel 1 V/Pa

The microphone capsule detailed above has been calibrated to the published data as described in the operating manual of the associated sound level meter (where applicable).

The frequency response was measured using an electrostatic actuator in accordance with BS EN 61094-6:2005 with the free-field response derived via standard correction data traceable to a National Measurement Institute.

The absolute sensitivity at 1 kHz was measured using an acoustic calibrator conforming to IEC 60942:2003 Class 1.

Environmental conditions

Pressure: 97.80 kPa

Temperature: 21.0 °C

Humidity: 41.0 %

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **20/07/20** CERTIFICATE NUMBER **143803**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
T.Goodrich
Electronically signed:

[redacted]

Sound Calibrator : IEC 60942:2003

Customer information

Name: SLR Consulting Ltd Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham Postcode: NG6 8WR Country: United Kingdom

Instrument information

Manufacturer: Cirrus Research plc Notes:

Model: CR:515

Serial number: 87922

Class: 1

Pattern approval: Yes

Source of pattern approval: PTB-1.61-4028829

Test summary

Date of receipt: 20/07/20

Date of calibration: 20/07/20

As public evidence was available, from a testing organization responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

Notes

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. UKAS is one of the signatories to the Multilateral Agreement of the European co-opeation for Accreditation (EA) for the mutual recognition of calibration certificates issued by accredited laboratories. The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. 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.

1.4 Cirrus CR:171B G301839 and CR:515 93674

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **09 November 2020** CERTIFICATE NUMBER **148650**

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 2

Approved signatory
M.McDonald
Electronically signed:

[redacted]

Sound Level Meter : IEC 61672-3:2013

Instrument information

Manufacturer:	Cirrus Research plc	Notes:
Model:	CR:171B	
Serial number:	G301839	
Class:	1	
Firmware version:	5.5.3021	

Test summary

The calibration was performed respecting the requirements of ISO/IEC 17025:2017.
Periodic tests were performed in accordance with procedures from IEC 61672-3:2013.

The sound level meter submitted for testing successfully completed the periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to determine that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Notes

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **09 November 2020** CERTIFICATE NUMBER **148649**

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 2

Approved signatory
M.Berezovskis
Electronically signed:
[redacted]

Sound Calibrator : IEC 60942:2003

Instrument information

Manufacturer: Cirrus Research plc **Notes:**
Model: CR:515
Serial number: 93674
Class: 1

Test summary

The sound calibrator detailed above has been calibrated to the published data as described in the operating manual and in the half-inch configuration. The procedures and techniques used are as described in IEC 60942:2003 Annex B – Periodic Tests and three determinations of the sound pressure level, frequency and total distortion were made.

The sound pressure level was measured using a WS2F condenser microphone type MK:224 manufactured by Cirrus Research plc.

The results have been corrected to the reference pressure of 101.33 kPa using the manufacturer's data.

The manufacturer's product information indicates that this model of sound calibrator has been formally pattern approved to IEC 60942:2003 Annex A to Class 1. This has been confirmed with the PhysikalischTechnische Bundesanstalt (PTB).

As public evidence was available, from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

Notes:

1.5 Cirrus CR:171B G302667 and CR:515 94806

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **09/03/21** CERTIFICATE NUMBER **153990**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 15

Approved signatory
C.Scott
Electronically signed:
[redacted]

Sound level meter : IEC 61672-3:2013

Customer information

Name: SLR Consulting Ltd Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham Postcode: NG6 8WR Country: United Kingdom

Instrument information

Manufacturer:	Cirrus Research plc
Model:	CR:171B
Serial number:	G302667
Class:	1
Firmware version:	V3.2.3046

Notes:

Test summary

Date of receipt: 09/03/21 Date of calibration: 09/03/21

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013.

The sound level meter submitted for testing successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full specifications of IEC 61672-1:2013 because (a) evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to determine that the model of sound level meter fully conformed to the class 1 specifications in IEC 61672-1:2013 or correction data for acoustical test of frequency weighting were not provided in the Instruction Manual and (b) because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Notes

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **09/03/21** CERTIFICATE NUMBER **153988**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Approved signatory
C.Scott
Electronically signed:
[redacted]

Sound Calibrator : IEC 60942:2003

Customer information

Name: SLR Consulting Ltd Address: Aspect House
Aspect Business Park
Bennerley Road
Nottingham
Postcode: NG6 8WR
Country: United Kingdom

Instrument information

Manufacturer: Cirrus Research plc Notes:
Model: CR:515
Serial number: 94806
Class: 1
Pattern approval: Yes
Source of pattern approval: PTB-1.61-4028829

Test summary

Date of receipt: 09/03/21
Date of calibration: 09/03/21

As public evidence was available, from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

Notes

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. UKAS is one of the signatories to the Multilateral Agreement of the European co-opeation for Accreditation (EA) for the mutual recognition of calibration certificates issued by accredited laboratories. The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. 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.

1.6 Cirrus CR:171C G061698 and CR515 59336

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **14/02/19** CERTIFICATE NUMBER **126191**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 15

Approved signatory
C.Scott
Electronically signed:
[redacted]

Sound level meter : IEC 61672-3:2013

Customer information

Name: SLR Consulting Ltd Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham Postcode: NG6 8WR Country: United Kingdom

Instrument information

Manufacturer:	Cirrus Research plc	Notes:
Model:	CR:171C	
Serial number:	G061698	
Class:	1	
Firmware version:	292385	

Test summary

Date of receipt: 14/02/19 Date of calibration: 14/02/19

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013.

The sound level meter submitted for testing successfully completed the class 1 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 specifications in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 specifications in IEC 61672-1:2013

Notes

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. UKAS is one of the signatories to the Multilateral Agreement of the European co-opeation for Accreditation (EA) for the mutual recognition of calibration certificates issued by accredited laboratories. The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. 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.

CERTIFICATE OF CALIBRATION

ISSUED BY **Cirrus Research plc**

DATE OF ISSUE **21/12/20** CERTIFICATE NUMBER **150519**

10148

Cirrus Research plc
Acoustic House
Bridlington Road
Hunmanby
North Yorkshire
YO14 0PH
United Kingdom

Page 1 of 2

Approved signatory
C.Scott
Electronically signed:
[redacted]

Sound Calibrator : IEC 60942:2003

Customer information

Name: SLR Consulting Ltd Address: Aspect House, Aspect Business Park, Bennerley Road, Nottingham Postcode: NG6 8WR Country: United Kingdom

Instrument information

Manufacturer: Cirrus Research plc Notes:

Model: CR:515

Serial number: 59336

Class: 1

Pattern approval: Yes
Source of pattern approval: PTB-1.61-4028829

Test summary

Date of receipt: 21/12/20

Date of calibration: 21/12/20

As public evidence was available, from a testing organization responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

Notes

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. UKAS is one of the signatories to the Multilateral Agreement of the European co-opeation for Accreditation (EA) for the mutual recognition of calibration certificates issued by accredited laboratories. The United Kingdom Accreditation Service (UKAS) is one of the signatories to the International Laboratory Accreditation Co-operation (ILAC) Arrangement for the mutual recognition of calibration certificates. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory. The results within this certificate relate only to the items calibrated. 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.

1.7 Rion NL-52 00331823 and NC-74 34336013

MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

0653

Date of Issue: 04 February 2021 **Certificate Number: UCRT21/1177**

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

Page 1 of 2 Pages

Approved Signatory [redacted]

K. Mistry

Customer	SLR Consulting Limited 15 Middle Pavement Nottingham NG1 7DX

Order No.	403-12242			
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator			
Identification	*Manufacturer*	*Instrument*	*Type*	*Serial No. / Version*
	Rion	Sound Level Meter	NL-52	00331823
	Rion	Firmware		2.0
	Rion	Pre Amplifier	NH-25	21774
	Rion	Microphone	UC-59	18250
	Rion	Calibrator	NC-74	34536109
		Calibrator adaptor type if applicable		NC-74-002
Performance Class	1			
Test Procedure	TP 2.SLM 61672-3 TPS-49			
	Procedures from IEC 61672-3:2006 were used to perform the periodic tests.			
Type Approved to IEC 61672-1:2002	YES	Approval Number	21.21 / 13.02	
	If YES above there is public evidence that the SLM has successfully completed the applicable pattern evaluation tests of IEC 61672-2:2003			
Date Received	03 February 2021	ANV Job No.	UKAS21/02076	
Date Calibrated	04 February 2021			

The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2006, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent testing organisation responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2003, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2002, the sound level meter submitted for testing conforms to the class 1 requirements of IEC 61672-1:2002.

Previous Certificate	*Dated*	*Certificate No.*	*Laboratory*
	08 October 2020	UCRT20/1979	0653

CERTIFICATE OF CALIBRATION

0653

Date of Issue: 20 August 2020

Certificate Number: UCRT20/1793

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

Page 1 of 2 Pages

Approved Signatory [redacted]

B. Giles

Customer	SLR Consulting Limited 15 Middle Pavement Nottingham NG1 7DX
Order No.	403-12010
Test Procedure	Procedure TP 1 Calibration of Sound Calibrators
Description	Acoustic Calibrator

Identification	*Manufacturer*	*Instrument*	*Model*	*Serial No.*
	Rion	Calibrator	NC-74	34336013

The calibrator has been tested as specified in Annex B of IEC 60942:2003. As public evidence was available from a testing organisation (PTB) responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2003.

ANV Job No.	UKAS20/08453	
Date Received	19 August 2019	
Date Calibrated	20 August 2020	
Previous Certificate	*Dated*	30 July 2019
	Certificate No.	UCRT19/1842
	Laboratory	0653

1.1 Rion NL-52 00710358, NL-52 00710359 and NC-74 34713324

RW1

ANV MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

UKAS CALIBRATION 0653

Date of Issue: 05 October 2021

Certificate Number: UCRT21/2222

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

Page 1 of 2 Pages

Approved Signatory [redacted]

B. Giles

Customer	SLR Consulting Limited 2nd and 3rd Floors 15 Middle Pavement Nottingham NG1 7DX
Order No.	422-17278
Description	Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	*Instrument*	*Type*	*Serial No. / Version*
Rion	Sound Level Meter	NL-52	00710358
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	10900
Rion	Microphone	UC-59	19632
Rion	Calibrator	NC-75	34713324
	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 05 October 2021 ANV Job No. UKAS21/10653

Date Calibrated 05 October 2021

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*
	Initial Calibration		

1LW2

ANV MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

ilac-MRA UKAS CALIBRATION 0653

Date of Issue: 05 October 2021

Certificate Number: UCRT21/2223

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 [redacted]

B. Giles

Customer: SLR Consulting Limited, 2nd and 3rd Floors, 15 Middle Pavement, Nottingham, NG1 7DX

Order No. 422-17278

Description: Sound Level Meter / Pre-amp / Microphone / Associated Calibrator

Identification

Manufacturer	*Instrument*	*Type*	*Serial No. / Version*
Rion	Sound Level Meter	NL-52	00710359
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	10901
Rion	Microphone	UC-59	19633
Rion	Calibrator	NC-75	34713324
	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: 05 October 2021 ANV Job No. UKAS21/10653

Date Calibrated: 05 October 2021

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*
	Initial Calibration		

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ANV MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

ilac-MRA UKAS CALIBRATION 0653

Date of Issue: 05 October 2021

Certificate Number: UCRT21/2215

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Approved Signatory

[redacted]

B. Bogdan

Customer	SLR Consulting Limited 2nd and 3rd Floors 15 Middle Pavement Nottingham NG1 7DX
Order No.	422-17278
Test Procedure	Procedure TP 14 Calibration of Sound Calibrators (60942:2017)
Description	Acoustic Calibrator

Identification	*Manufacturer*	*Instrument*	*Model*	*Serial No.*
	Rion	Calibrator	NC-75	34713324
Public evidence of Type Approval		Yes	Approved by PTB	

The calibrator has been tested as specified in Annex B of IEC 60942:2017. As public evidence was available, from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2017, the sound calibrator tested is considered to conform to all the class 1 requirements of IEC 60942:2017.

ANV Job No.	UKAS21/10653
Date Received	05 October 2021
Date Calibrated	05 October 2021
Previous Certificate	*Dated* Initial Calibration *Certificate No.* *Laboratory*

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