Appendix 9.1
Baseline Noise Monitoring Survey

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Noise Monitoring Locations

RPS has undertaken a noise monitoring survey in relation to the planning application for the Proposed Development, comprising of 6 no. two storey data centre buildings, an administration / management building, car parking, landscaping, gas storage and gas turbines, energy storage and other associated works.

To be representative of existing noise-sensitive receptors, RPS have undertaken unattended noise monitoring at three noise monitoring locations (NMLs) from 2nd February to 9th February 2023 and at two noise monitoring locations from 12th to 20th June 2023.

The five noise monitoring locations (NML1 – NML5) are shown in Figure 9.A.1, with survey dates and Irish Grid co-ordinates for each NML detailed in Table 9A.1.

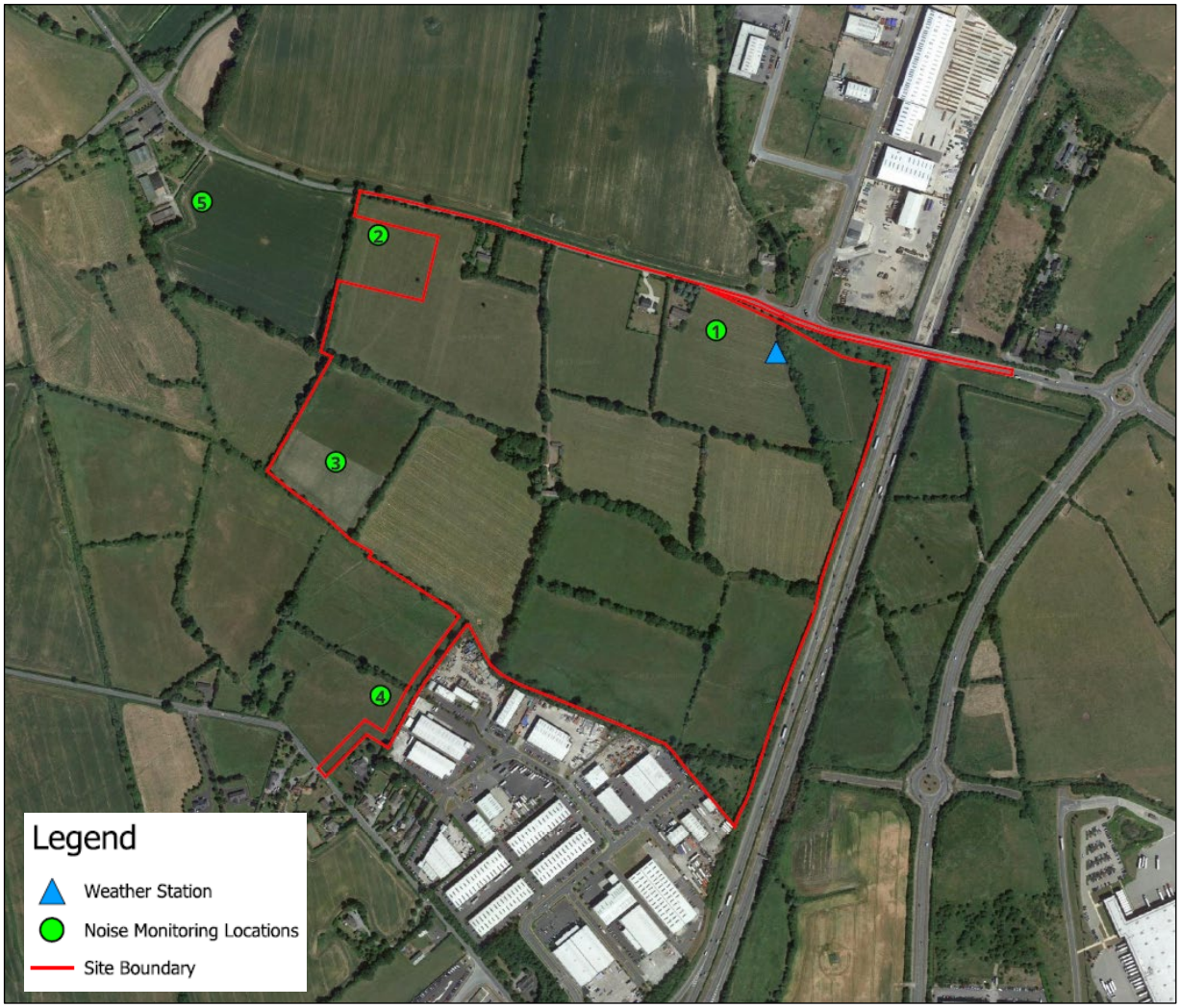


Figure 9.A.1: Background Noise Monitoring Locations

The details of the unattended noise monitoring surveys including a description of the noise monitoring locations, date, time and sound level meter used are summarised in Table 9A.1.

Table 9A.1: Unattended Noise Monitoring Summary

Noise Monitoring Location	Description of Noise Monitoring Location	Survey Dates	IG Easting	IG Northing
NML 1	In a field at the northern side of the site boundary, to the east of 2 houses on Carragh Road.	02/02/2023 – 09/02/2023	286636	219803
NML 2	In a field at the north western corner of the site boundary, close to Carragh Road.	02/02/2023 – 09/02/2023	286194	219927
NML 3	In a field at the south western boundary of the site	02/02/2023 – 09/02/2023	286139	219631
NML4	In a field to the south west of the site boundary, adjacent a residential property located on the L2030 Newhall Road	12/06/2023 – 20/06/2023	286197	219325
NML5	In a field to the west of the site boundary, adjacent a farming/residential property on the R409 Road	12/06/2023 – 20/06/2023	285964	219971

Methodology

Noise Data

The sound level meter specifications for the noise survey equipment used at NML1 – NML5 are detailed in Table 9A.2 – Table 9.A.6.

The baseline noise monitoring survey at NML 1 was carried out using a Norsonic 140 Class 1 Sound Level Analyser in conjunction with the following:

- Norsonic 1211 Outdoor Microphone System and Storage Case;
- Norsonic 1212 – Microphone Dehumidifier Unit;
- CA 1317 – Weather Protection Kit – Type L; and
- Brüel & Kjær 4231 Calibrator.

Table 9A.2: NML1 SLM Instrument Records

Norsonic 140 Sound Level Meter				
Equipment	**Model / Type**	**Serial Number**	**Calibration Certificate Number**	**Last Calibration Date**
Sound Level Meter	Norsonic 140	1402992	UCRT21/2344	01/11/2021
Preamplifier	Norsonic 1209	12364	UCRT21/2344	01/11/2021
Microphone	GRAS 40AF	102675	UCRT21/2344	01/11/2021
Calibrator	Brüel & Kjær 4231	2445560	UCRT22/2199	10/10/2022

The baseline noise monitoring survey at NML 2 was carried out a Rion NL-52 Class 1 Sound Level Analyser in conjunction with the following:

- Outdoor kit enhanced NL-32;
- Rion WS-03SO1 Windscreen head assembly (inc WS-03051);
- Rion EC-04 2m Extension Cable (7 Pin); and
- Brüel & Kjær 4231 Calibrator.

Table 9A.3: NML2 SLM Instrument Records

Equipment	**Model / Type**	**Serial Number**	**Calibration Certificate Number**	**Last Calibration Date**
Sound Level Meter	Rion NL- 52	00687041	UCRT21/1244	19/02/2021
Preamplifier	Rion NH-25	87196	UCRT21/1244	19/02/2021
Microphone	Rion UC-59	13559	UCRT21/1244	19/02/2021
Calibrator	Brüel & Kjær 4231	2445560	UCRT22/2199	10/10/2022

The baseline noise monitoring survey at NML 3 was carried out using a Norsonic 140 Class 1 Sound Level Analyser in conjunction with the following:

- Norsonic 1211 Outdoor Microphone System and Storage Case;
- Norsonic 1212 – Microphone Dehumidifier Unit;
- CA 1317 – Weather Protection Kit – Type L; and
- Brüel & Kjær 4231 Calibrator.

Table 9.A.4: NML3 SLM Instrument Records

Norsonic 140 Sound Level Meter				
Equipment	**Model / Type**	**Serial Number**	**Calibration Certificate Number**	**Last Calibration Date**
Sound Level Meter	Norsonic 140	1407884	4712339005	16/09/2022
Preamplifier	Norsonic 1209	23500	4712339005	16/09/2022
Microphone	Norsonic 1225	505496	4712339005	16/09/2022
Calibrator	Brüel & Kjær 4231	2445560	UCRT22/2199	10/10/2022

The baseline noise monitoring survey at NML4 was carried out using a SoundExpert® LxT Sound Level Analyser in conjunction with the following:

- PCB Microphone; and
- Larson Davis Calibrator.

Table 9.A.5: NML4 SLM Instrument Records

SoundExpert® LxT Sound Level Meter				
Equipment	**Model / Type**	**Serial Number**	**Calibration Certificate Number**	**Last Calibration Date**
Sound Level Meter	SoundExpert® LxT	LXT4832	36214	02/09/2021
Preamplifier	Larson Davis PRMLxT1L	055819	36214	
Microphone	PCB 377B02	316329	36214	
Calibrator	Larson Davis CAL200	9175	36214	

The baseline noise monitoring survey at NML5 was carried out using a SoundExpert® LxT Sound Level Analyser in conjunction with the following:

- PCB Microphone; and
- Larson Davis Calibrator.

Table 9.A.6: NML5 SLM Instrument Records

SoundExpert® LxT Sound Level Meter				
Equipment	**Model / Type**	**Serial Number**	**Calibration Certificate Number**	**Last Calibration Date**
Sound Level Meter	SoundExpert® LxT	LXT5662	36205	02/09/2021
Preamplifier	Larson Davis PRMLxT1L	055659	36205	
Microphone	PCB 377B02	175331	36205	
Calibrator	CAL200	9175	36205	

The noise monitoring instrumentation conforms to the requirements for integrating averaging sound level meters (Type 1) as specified in BS EN 60804. The sound level meter was accurately calibrated before and after use. The microphone was placed at a height of 1.2 - 1.5m above ground level. The sound level meter was accurately calibrated before and after use with no drift observed. Noise measurements were undertaken in 15-minute durations. noise measurements were undertaken in 15 minute durations.

Weather conditions throughout the noise monitoring surveys were suitable for the surveys to be completed, typically with dry and still conditions throughout.

The following acoustic parameters were recorded during the survey periods:

L_{Aeq} The continuous equivalent A-weighted sound pressure level. This is an “average” of the sound pressure level

L_{Amax} This is the maximum A-weighed sound level measured during the sample period

L_{Amin} This is the minimum A-weighted sound level measured during the sample period

L_{A10} This is the A-weighted sound level that is exceeded for noise for 10% of the sample period

L_{A90} This is the A-weighted sound level that is exceeded for 90% of the sample period

The calibration certificates of the sound level meters used in the noise monitoring survey are shown in Figure 9.A.2 - Figure 9.A.4 and photographs from the noise monitoring survey are displayed in Table 9.A.7 - Table 9.A.11

Meteorological Data

In addition to the noise monitoring equipment a weather station was also deployed to record rainfall and wind speed in 15-minute measurements for the same periods as the noise measurements.

The following meteorological weather station was employed at a single location during each of the unattended noise surveys.

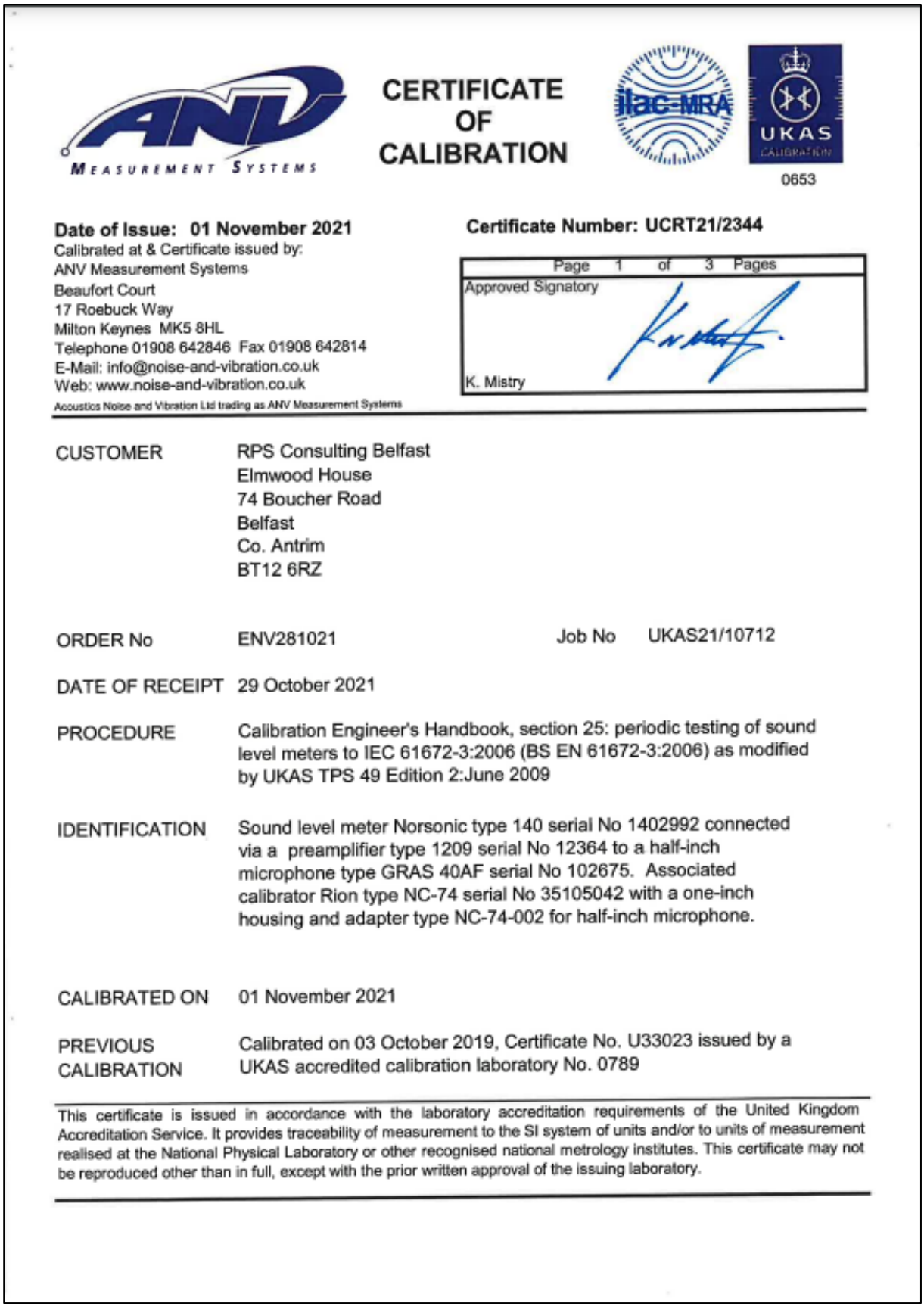
- Davis Vantage Pro 2;
- Weatherlink Data Logger;
- Outdoor enhanced weather case; and
- Stainless steel pole.

The noise surveys were conducted in accordance with BS7445: Description and Measurement of Environmental Noise. Measurements were made at a height of 1.2 – 1.5m above ground level. All measurements were conducted under the appropriate weather conditions as described in BS7445.

Photographs of the weather station type used in the noise monitoring survey can be found in Table 9.A.9.

Subjective Survey Notes

The background noise monitoring locations were situated in a rural environment, with all NMLs within approximately 500m of the M7 motorway. It was noted during set up and collection of all noise monitoring surveys that the dominant noise source was road traffic noise, most notably from the M7 motorway, with noise contributions also from local roads.



CERTIFICATE OF CALIBRATION

0653

Date of Issue: 01 November 2021

Certificate Number: UCRT21/2344

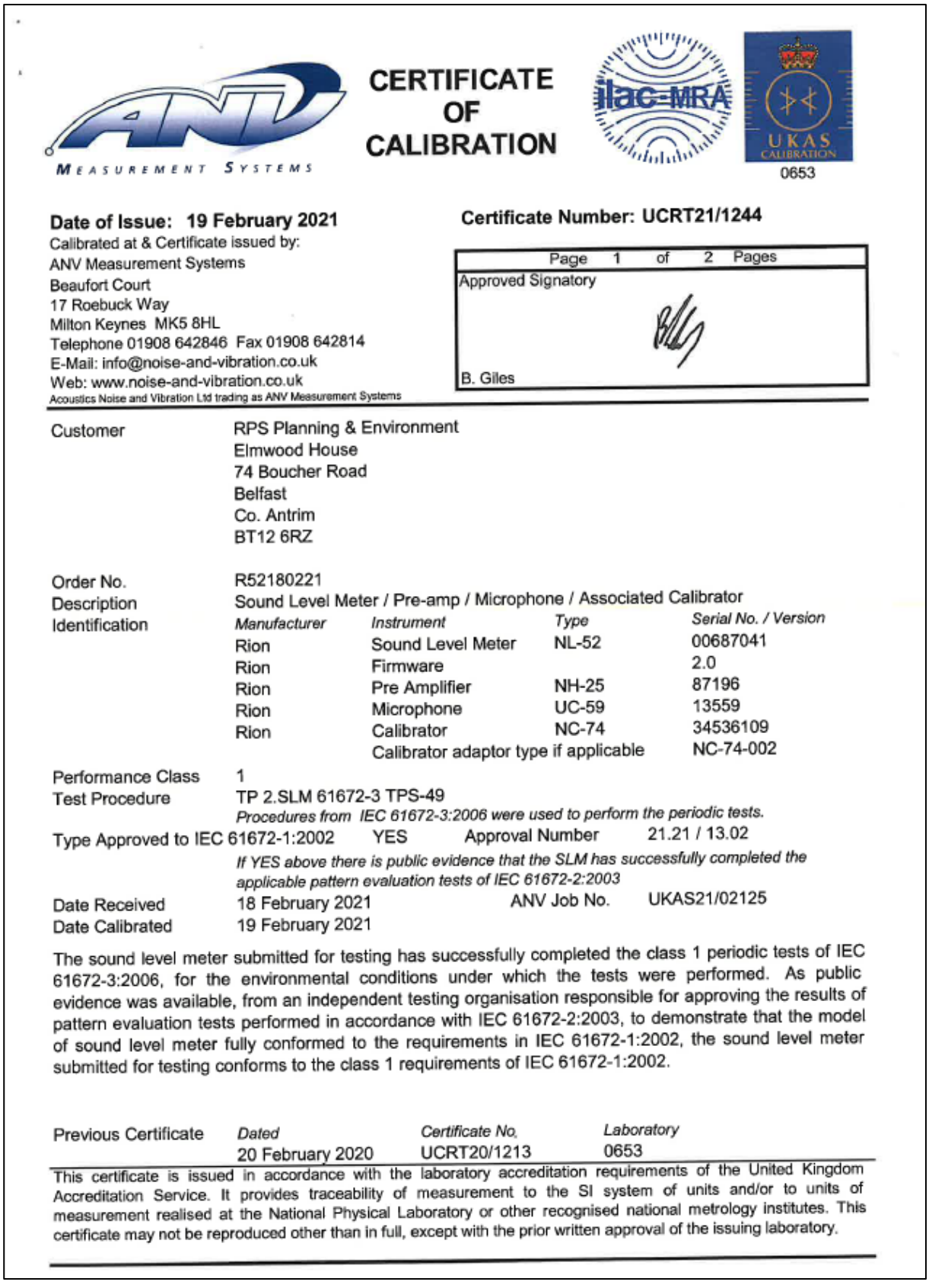
Calibrated at & Certificate issued by:
ANV Measurement Systems
Beaufort Court
17 Roebuck Way
Milton Keynes MK5 8HL
Telephone 01908 642846 Fax 01908 642814
E-Mail: info@noise-and-vibration.co.uk
Web: www.noise-and-vibration.co.uk
Acoustics Noise and Vibration Ltd trading as ANV Measurement Systems

Approved Signatory

K. Mistry

CUSTOMER	RPS Consulting Belfast Elmwood House 74 Boucher Road Belfast Co. Antrim BT12 6RZ
ORDER No	ENV281021
Job No	UKAS21/10712
DATE OF RECEIPT	29 October 2021
PROCEDURE	Calibration Engineer's Handbook, section 25: periodic testing of sound level meters to IEC 61672-3:2006 (BS EN 61672-3:2006) as modified by UKAS TPS 49 Edition 2:June 2009
IDENTIFICATION	Sound level meter Norsonic type 140 serial No 1402992 connected via a preamplifier type 1209 serial No 12364 to a half-inch microphone type GRAS 40AF serial No 102675. Associated calibrator Rion type NC-74 serial No 35105042 with a one-inch housing and adapter type NC-74-002 for half-inch microphone.
CALIBRATED ON	01 November 2021
PREVIOUS CALIBRATION	Calibrated on 03 October 2019, Certificate No. U33023 issued by a UKAS accredited calibration laboratory No. 0789

Figure 9.A.2: Calibration Certificate of Norsonic 140 at NML 1



MEASUREMENT SYSTEMS

CERTIFICATE OF CALIBRATION

0653

Date of Issue: 19 February 2021

Certificate Number: UCRT21/1244

Page 1 of 2 Pages

Approved Signatory

B. Giles

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

Customer: RPS Planning & Environment
Elmwood House
74 Boucher Road
Belfast
Co. Antrim
BT12 6RZ

Order No. R52180221

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

Identification:

Manufacturer	*Instrument*	*Type*	*Serial No. / Version*
Rion	Sound Level Meter	NL-52	00687041
Rion	Firmware		2.0
Rion	Pre Amplifier	NH-25	87196
Rion	Microphone	UC-59	13559
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

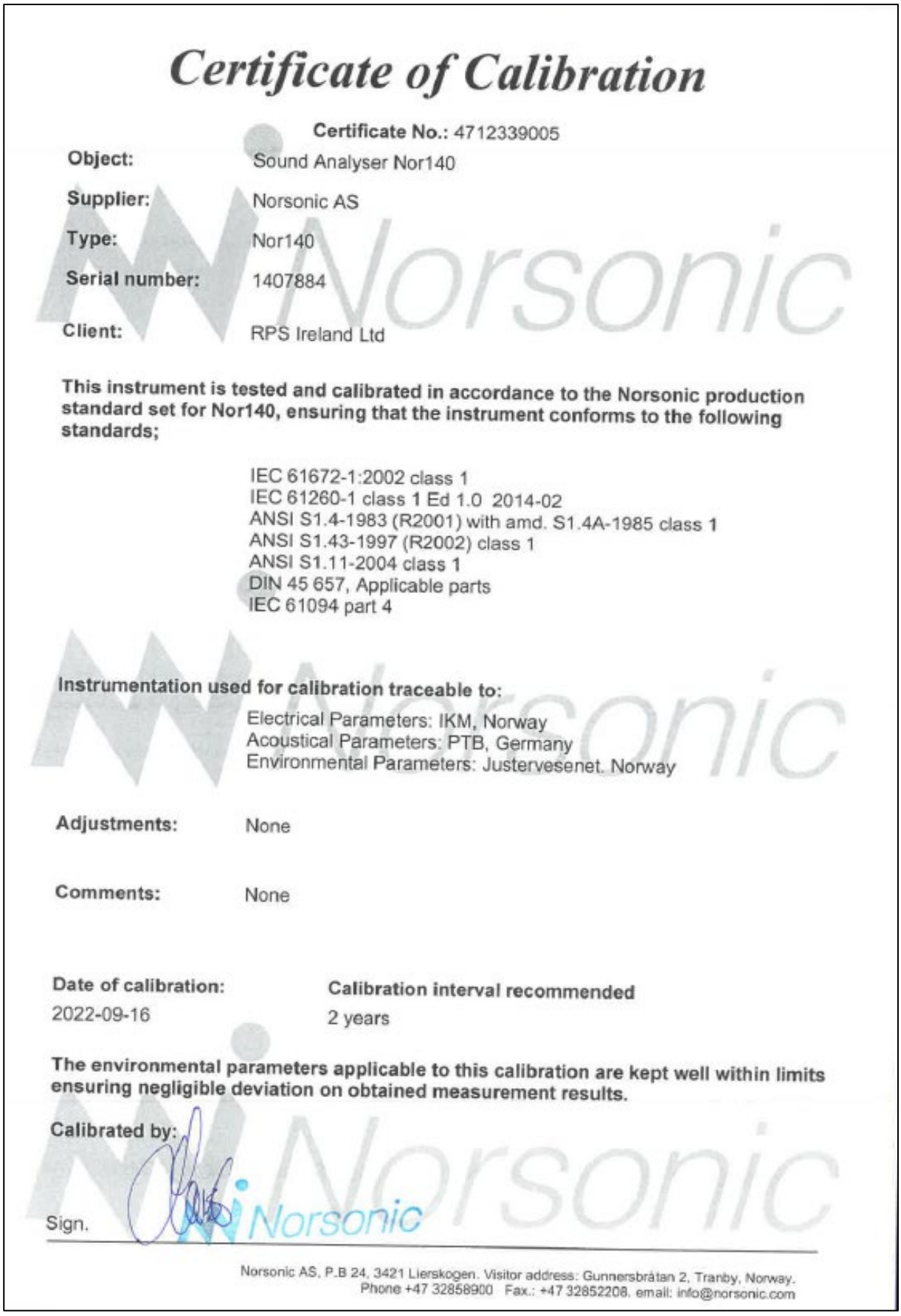
Date Received 18 February 2021 ANV Job No. UKAS21/02125

Date Calibrated 19 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*
	20 February 2020	UCRT20/1213	0653

Figure 9.A.3: Calibration Certificate of Rion NL-52 at NML 2



Certificate of Calibration

Certificate No.: 4712339005

Object:	Sound Analyser Nor140
Supplier:	Norsonic AS
Type:	Nor140
Serial number:	1407884
Client:	RPS Ireland Ltd

This instrument is tested and calibrated in accordance to the Norsonic production standard set for Nor140, ensuring that the instrument conforms to the following standards;

IEC 61672-1:2002 class 1
IEC 61260-1 class 1 Ed 1.0 2014-02
ANSI S1.4-1983 (R2001) with amd. S1.4A-1985 class 1
ANSI S1.43-1997 (R2002) class 1
ANSI S1.11-2004 class 1
DIN 45 657, Applicable parts
IEC 61094 part 4

Instrumentation used for calibration traceable to:

Electrical Parameters: IKM, Norway
Acoustical Parameters: PTB, Germany
Environmental Parameters: Justervesenet, Norway

Adjustments: None

Comments: None

Date of calibration:	**Calibration interval recommended**
2022-09-16	2 years

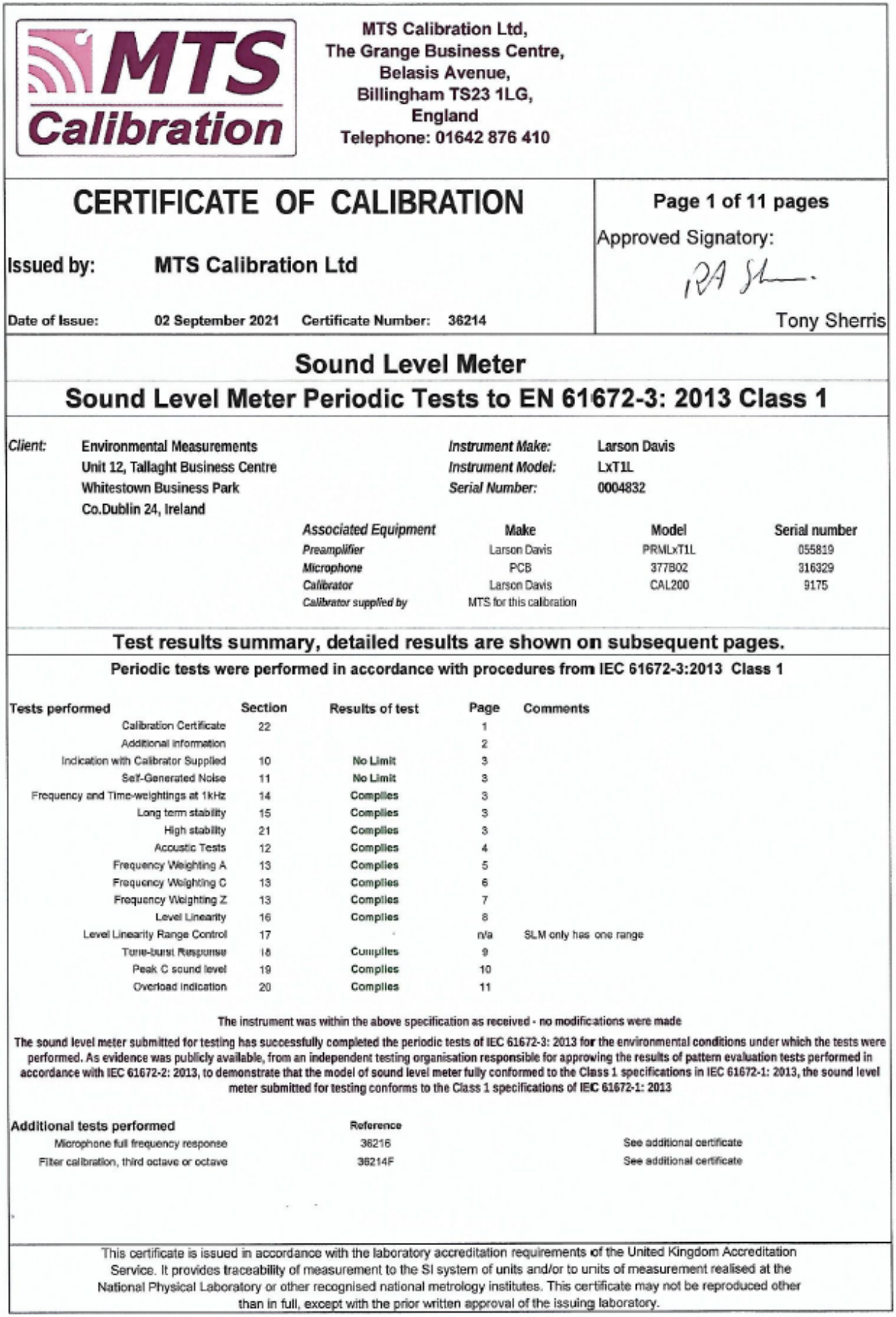
The environmental parameters applicable to this calibration are kept well within limits ensuring negligible deviation on obtained measurement results.

Calibrated by:

Sign.

Norsonic AS, P.B 24, 3421 Lierskogen. Visitor address: Gunnersbråtan 2, Tranby, Norway.
Phone +47 32858900 Fax.: +47 32852208. email: info@norsonic.com

Figure 9.A.4: Calibration Certificate of Norsonic 140 (NML 3)



MTS Calibration Ltd,
The Grange Business Centre,
Belasis Avenue,
Billingham TS23 1LG,
England
Telephone: 01642 876 410

CERTIFICATE OF CALIBRATION

Page 1 of 11 pages

Approved Signatory:

Tony Sherris

Issued by: MTS Calibration Ltd

Date of Issue: 02 September 2021 **Certificate Number:** 36214

Sound Level Meter

Sound Level Meter Periodic Tests to EN 61672-3: 2013 Class 1

Client: Environmental Measurements
Unit 12, Tallaght Business Centre
Whitestown Business Park
Co.Dublin 24, Ireland

Instrument Make: Larson Davis
Instrument Model: LxT1L
Serial Number: 0004832

Associated Equipment	Make	Model	Serial number
Preamplifier	Larson Davis	PRMLxT1L	055819
Microphone	PCB	377B02	316329
Calibrator	Larson Davis	CAL200	9175
Calibrator supplied by	MTS for this calibration		

Test results summary, detailed results are shown on subsequent pages.

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 Class 1

Tests performed	Section	Results of test	Page	Comments
Calibration Certificate	22		1	
Additional information			2	
Indication with Calibrator Supplied	10	No Limit	3	
Self-Generated Noise	11	No Limit	3	
Frequency and Time-weightings at 1kHz	14	Complies	3	
Long term stability	15	Complies	3	
High stability	21	Complies	3	
Acoustic Tests	12	Complies	4	
Frequency Weighting A	13	Complies	5	
Frequency Weighting C	13	Complies	6	
Frequency Weighting Z	13	Complies	7	
Level Linearity	16	Complies	8	
Level Linearity Range Control	17	-	n/a	SLM only has one range
Tone-burst Response	18	Complies	9	
Peak C sound level	19	Complies	10	
Overload indication	20	Complies	11	

The instrument was within the above specification as received - no modifications were made

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

Additional tests performed	Reference	
Microphone full frequency response	36216	See additional certificate
Filter calibration, third octave or octave	36214F	See additional certificate

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. 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.

Figure 9.A.5: Calibration Certificate of SoundExpert® LxT (NML 4)

MTS Calibration Ltd,
The Grange Business Centre,
Belasis Avenue,
Billingham TS23 1LG,
England
Telephone: 01642 876 410

CERTIFICATE OF CALIBRATION

Page 1 of 11 pages

Approved Signatory:

Tony Sherris

Issued by: MTS Calibration Ltd

Date of Issue: 02 September 2021 **Certificate Number:** 36205

Sound Level Meter

Sound Level Meter Periodic Tests to EN 61672-3: 2013 Class 1

Client: Environmental Measurements
Unit 12, Tallaght Business Centre
Whitestown Business Park
Co.Dublin 24, Ireland

Instrument Make: Larson Davis
Instrument Model: LxT1L
Serial Number: 0005662

Associated Equipment	Make	Model	Serial number
Preamplifier	Larson Davis	PRMLxT1L	055659
Microphone	PCB	377B02	175331
Calibrator	Larson Davis	CAL200	9175
Calibrator supplied by	MTS for this calibration		

Test results summary, detailed results are shown on subsequent pages.

Periodic tests were performed in accordance with procedures from IEC 61672-3:2013 Class 1

Tests performed	Section	Results of test	Page	Comments
Calibration Certificate	22		1	
Additional information			2	
Indication with Calibrator Supplied	10	No Limit	3	
Self-Generated Noise	11	No Limit	3	
Frequency and Time-weightings at 1kHz	14	Complies	3	
Long term stability	15	Complies	3	
High stability	21	Complies	3	
Acoustic Tests	12	Complies	4	
Frequency Weighting A	13	Complies	5	
Frequency Weighting C	13	Complies	6	
Frequency Weighting Z	13	Complies	7	
Level Linearity	16	Complies	8	
Level Linearity Range Control	17		n/a	SLM only has one range
Tone burst Response	18	Complies	9	
Peak C sound level	19	Complies	10	
Overload indication	20	Complies	11	

The instrument was within the above specification as received - no modifications were made

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

Additional tests performed	Reference	
Microphone full frequency response	36207	See additional certificate
Filter calibration, third octave or octave	36206F	See additional certificate

Figure 9.A.6: Calibration Certificate of SoundExpert® LxT (NML5)

Table 9.A.7: Photographs of Norsonic 140 Sound Level Meter at NML 1 from Northern, Southern, Easterly and Westerly Directions (02/02/2023)

North	East
	
South	**West**
	

Table 9.A.8: Photographs of Norsonic 140 Sound Level Meter at NML 2 from Northern, Southern, Easterly and Westerly Directions (02/02/2023)

North	East
	
South	**West**
	

Table 9.A.9: Photographs of Norsonic 140 Sound Level Meter and the Weather Station at NML 3 from Northern, Southern, Easterly and Westerly Directions (02/02/2023)

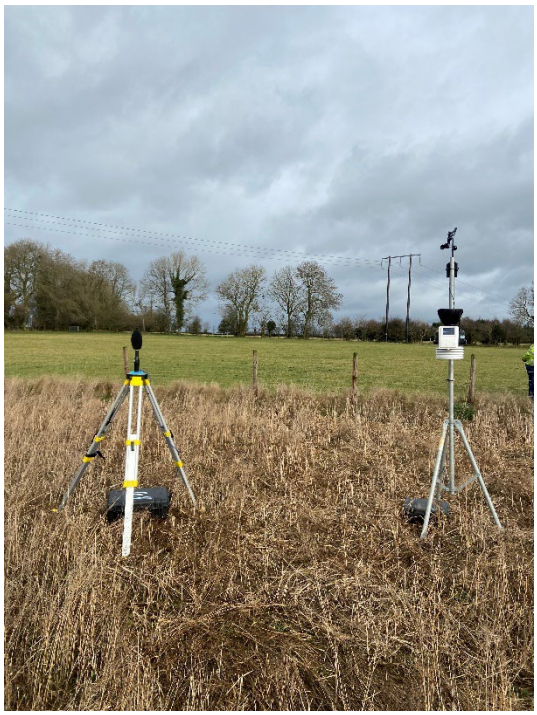
North	East
	
South	**West**
	

Table 9.A.10: Photographs of SoundExpert® LxT Sound Level Meter at NML 4 (12/06/2023)

SoundExpert® LxT at NML4


Table 9.A.11: Photographs of SoundExpert® LxT Sound Level Meter and Weather Station at NML 5 (12/06/2023)

SoundExpert® LxT at NML5


Noise Monitoring Survey Results

The unattended noise monitoring survey was undertaken at NML 1 – NML 5 from 2nd February 2023 to 20th June 2023 to include daytime and night time noise data, recorded in 15-minute intervals.

Recorded noise data was analysed and visualised using RPS in house software. The software is written in Python and uses advanced statistical and visualisation libraries.

The approach to analysing the recorded noise data involved compiling all observations into a single dataset for the noise monitoring location using their respective time stamps before reading into the software.

The main steps the software takes are described below:

- Total precipitation and average wind speed are used to remove instances of noise data where total precipitation, or the average wind speed exceeded 0mm and 5m/s respectively;
- Before any further analysis, all monitoring data is visualised, and any dubious records are highlighted and removed;
- Data was divided into 2 sets daytime (07:00 – 23:00hrs) and night-time (23:00- 07:00hrs)
- For day and night-time periods the noise monitoring parameter distributions were plotted for L_{Aeq} and L_{A90}.

Complete noise and weather graphs were plotted for the noise monitoring results at NML 1 – NML 5 including L_{A90} and L_{Aeq} and shown in Figure 9.A.7 - Figure 9.A.16.

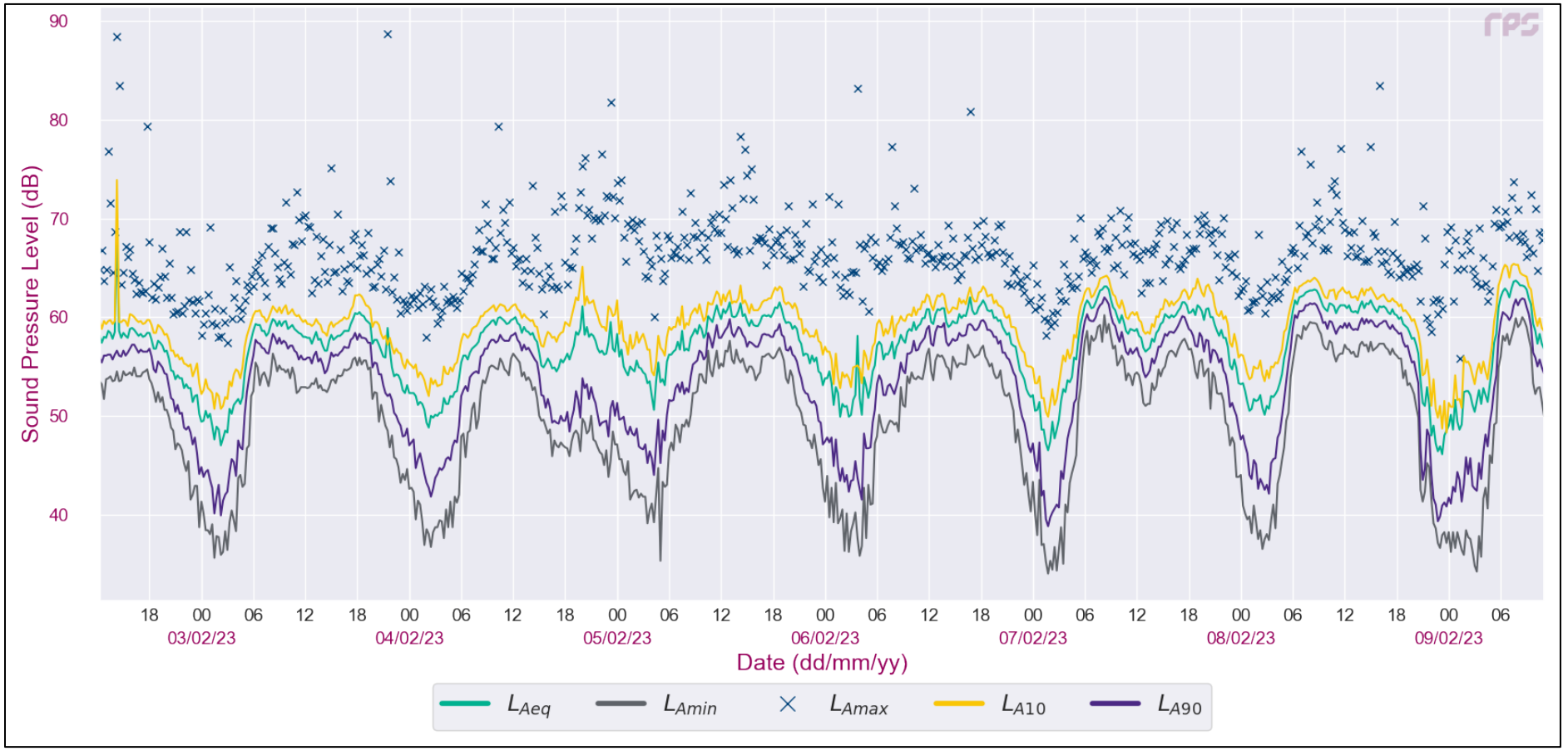


Figure 9.A.7: NML1 Complete Noise Data (02/02/2023 – 09/02/2023)

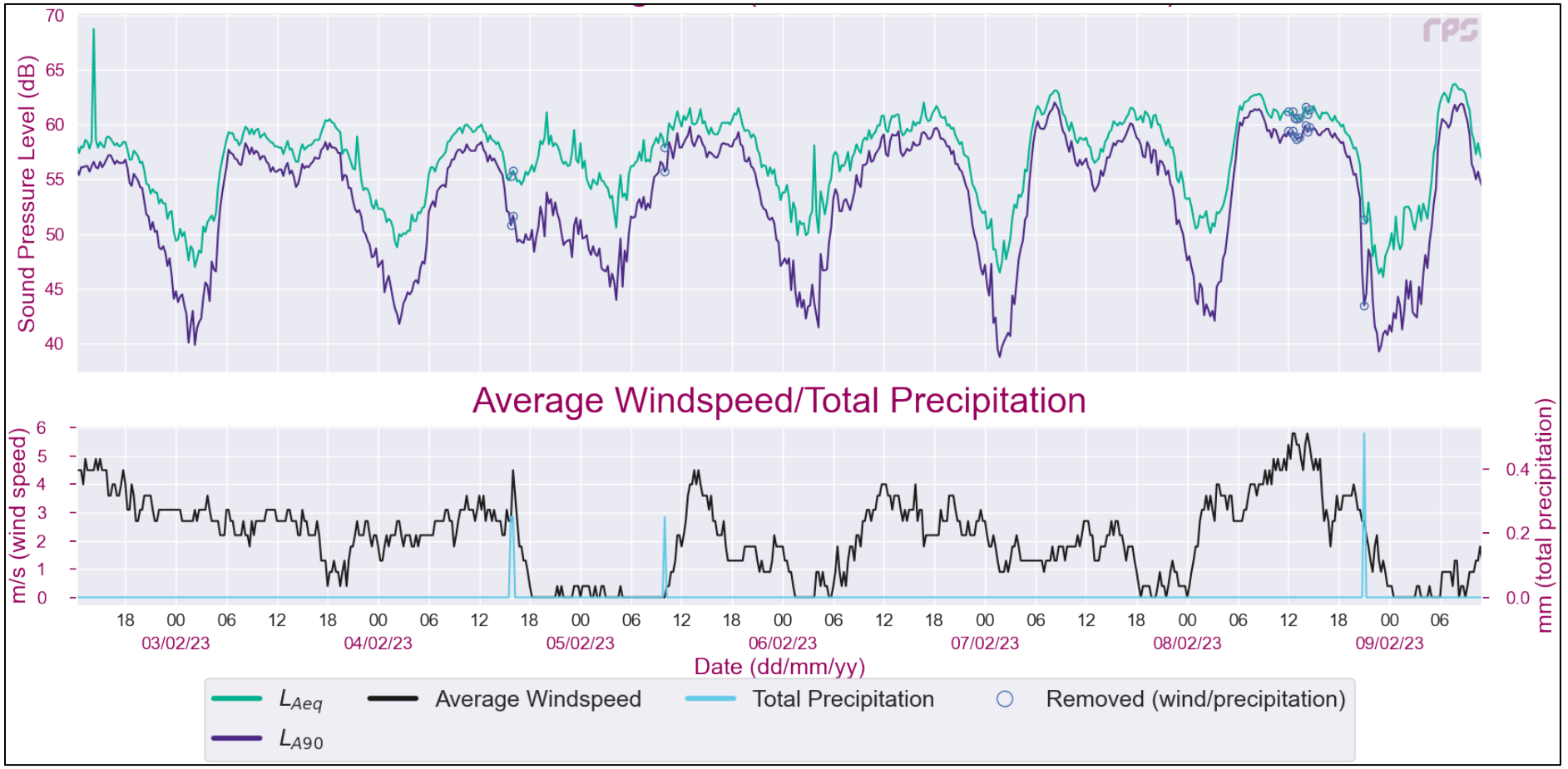


Figure 9.A.8: NML1 Complete Weather Data (02/02/2023 – 09/02/2023)

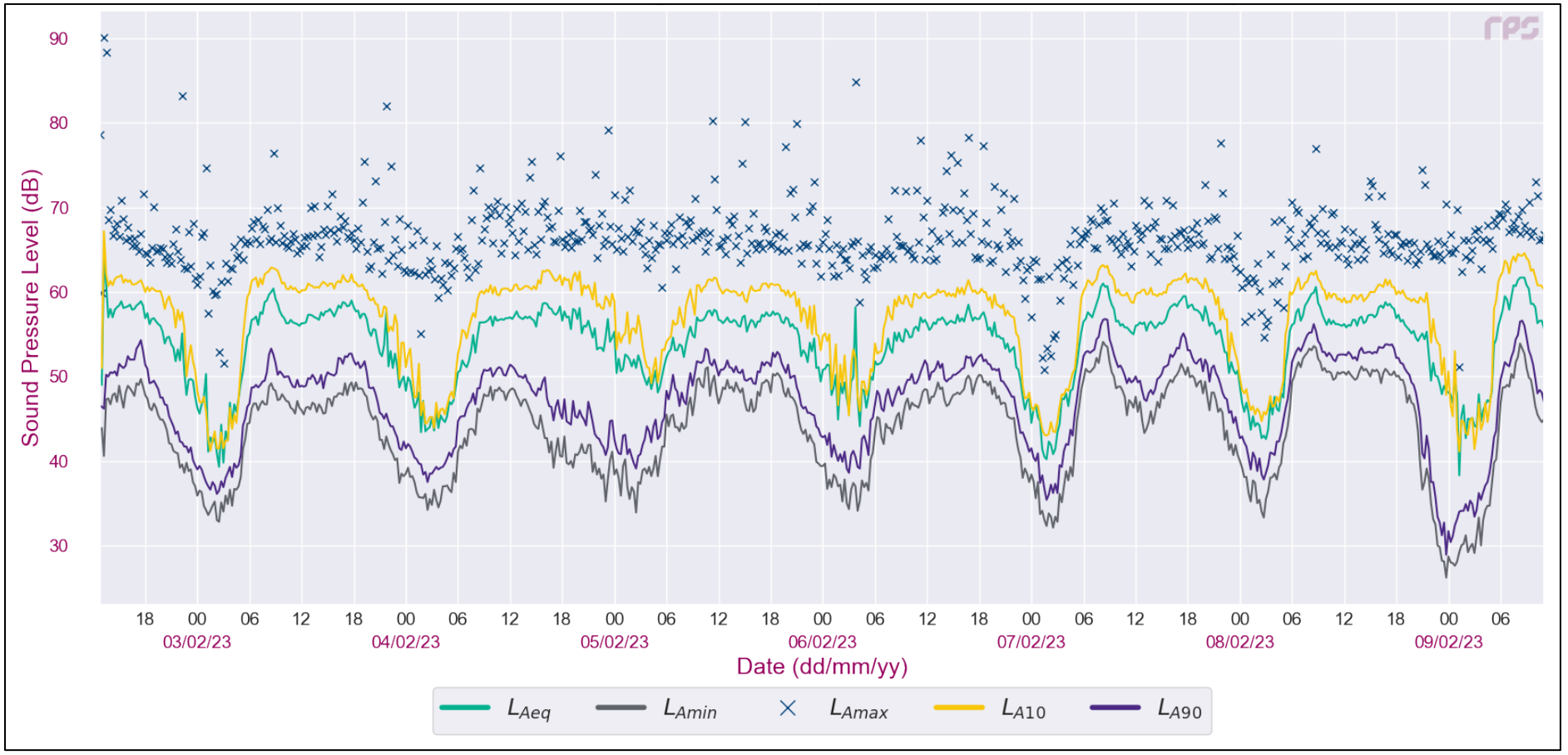


Figure 9.A.9: NML2 Complete Noise Data (02/02/2023 – 09/02/2023)

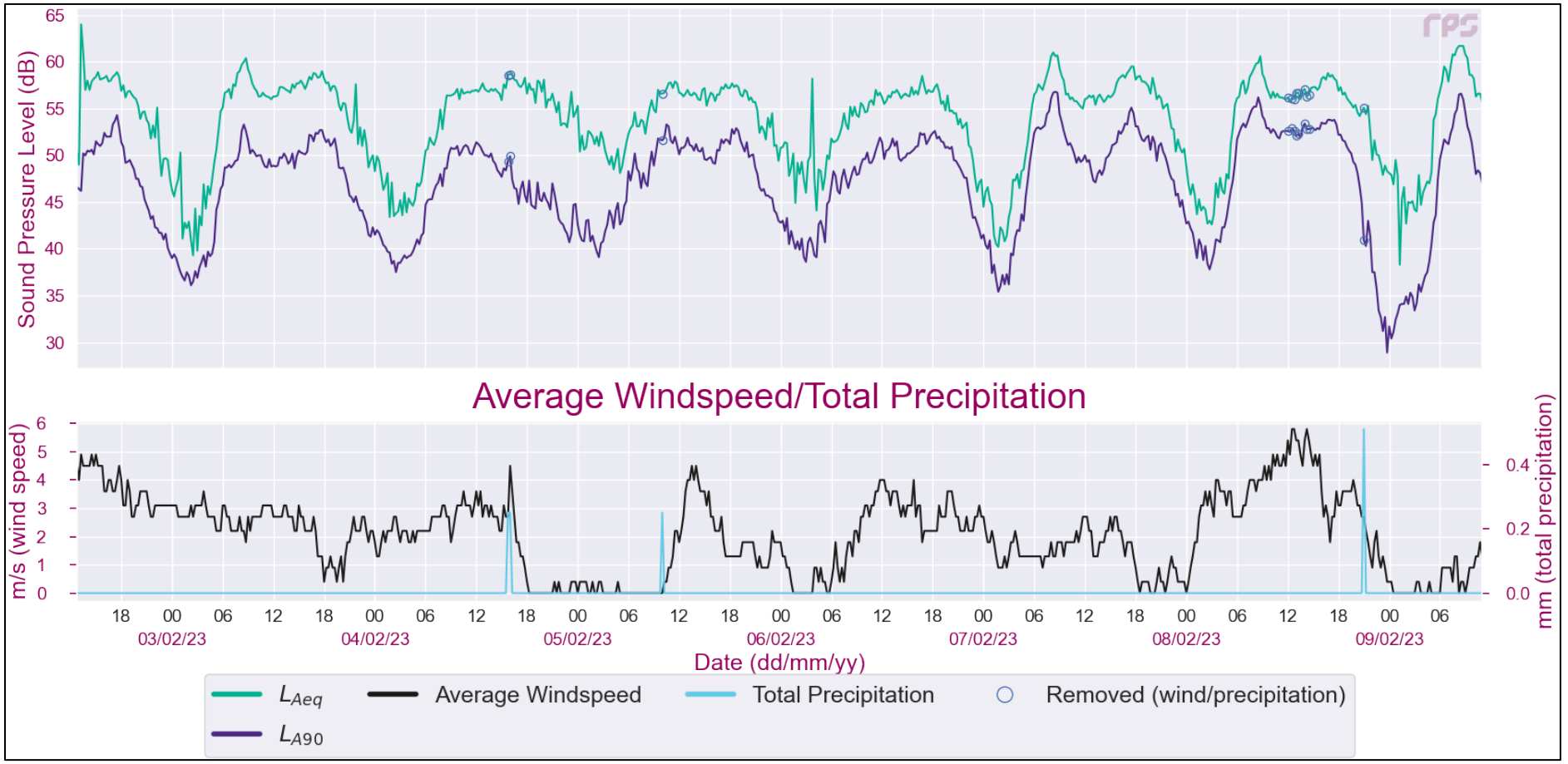


Figure 9.A.10: NML2 Complete Weather Data (02/02/2023 – 09/02/2023)

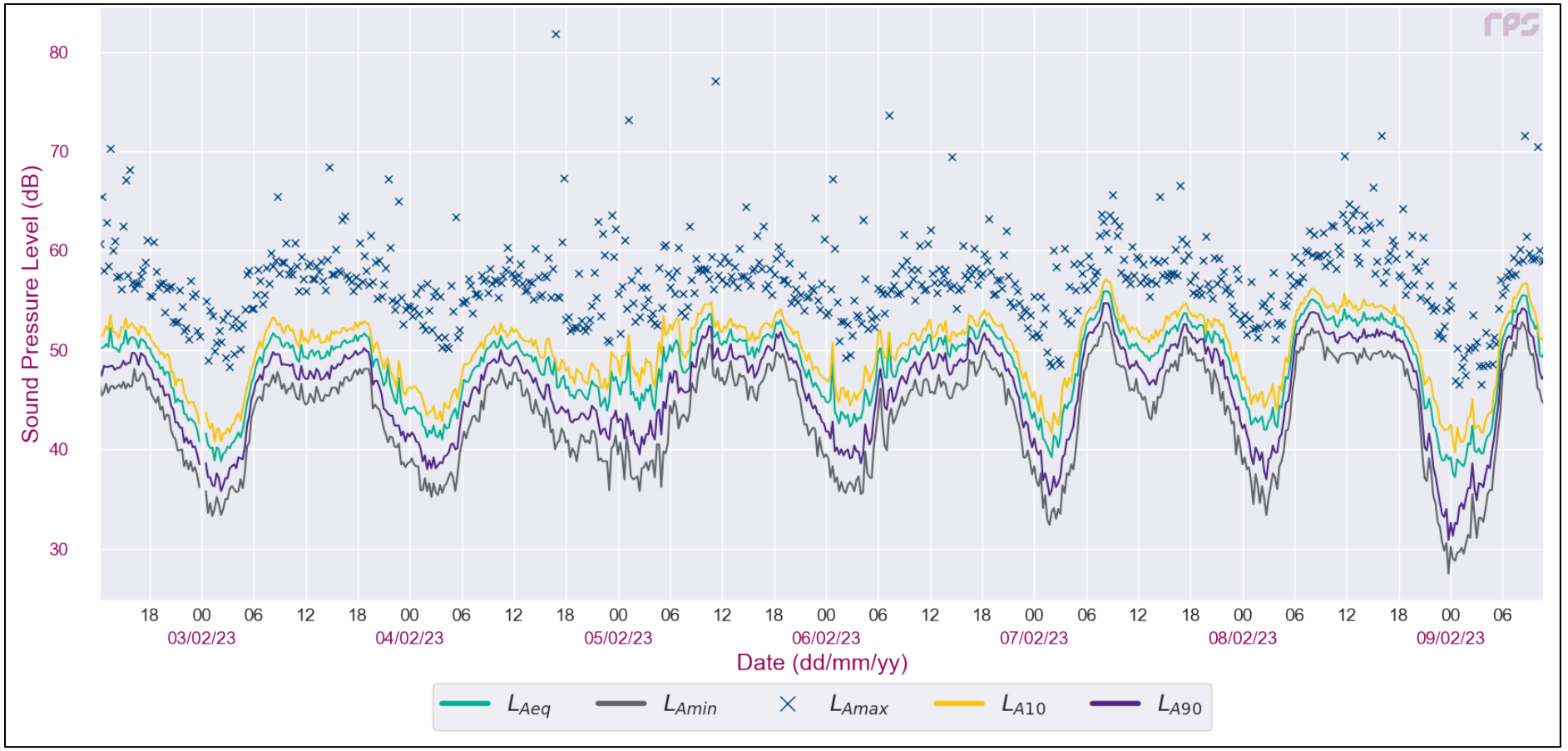


Figure 9.A11: NML3 Complete Noise Data (02/02/2023 – 09/02/2023)

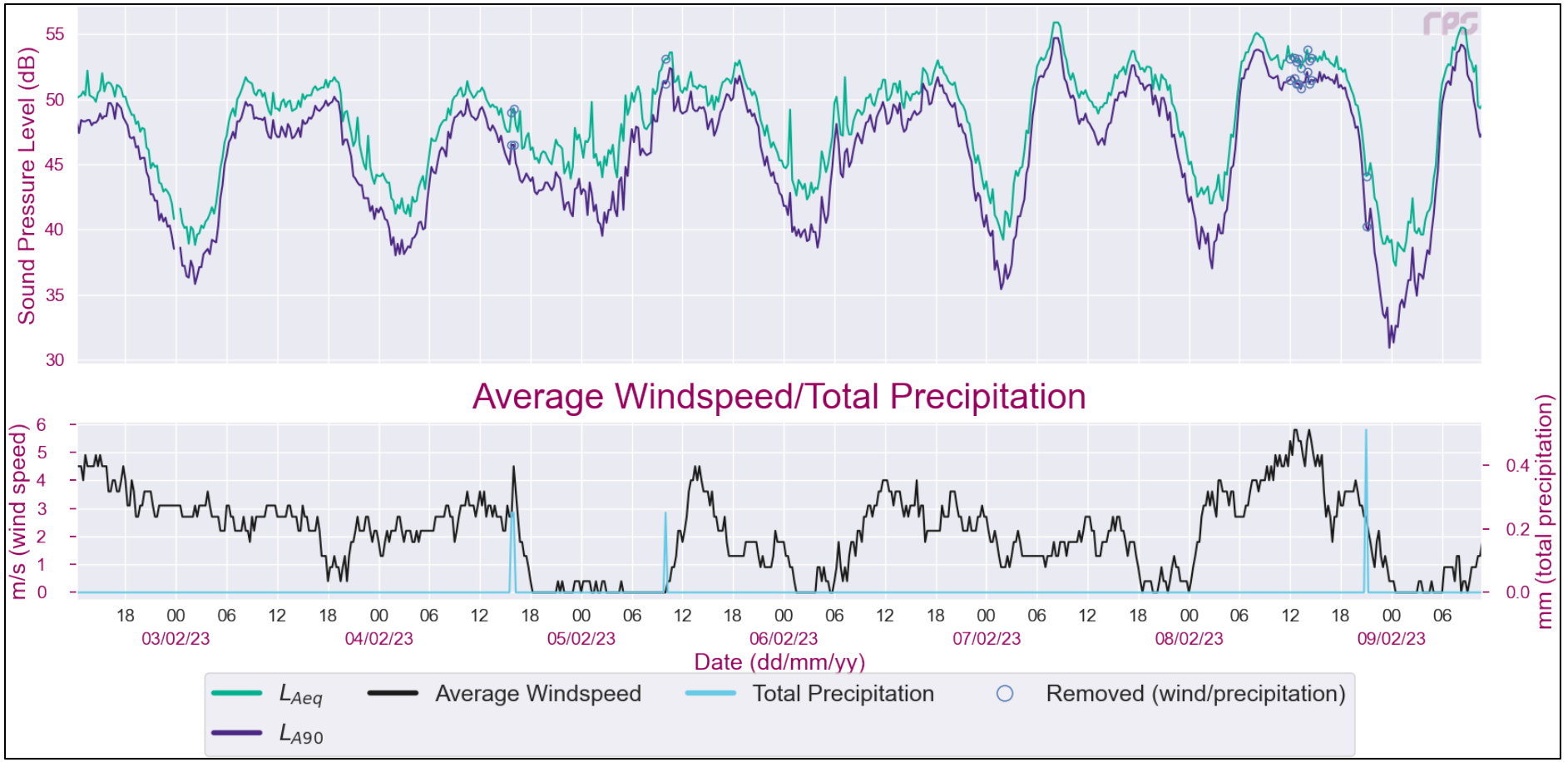


Figure 9.A.12: NML3 Complete Weather Data (02/02/2023 – 09/02/2023)

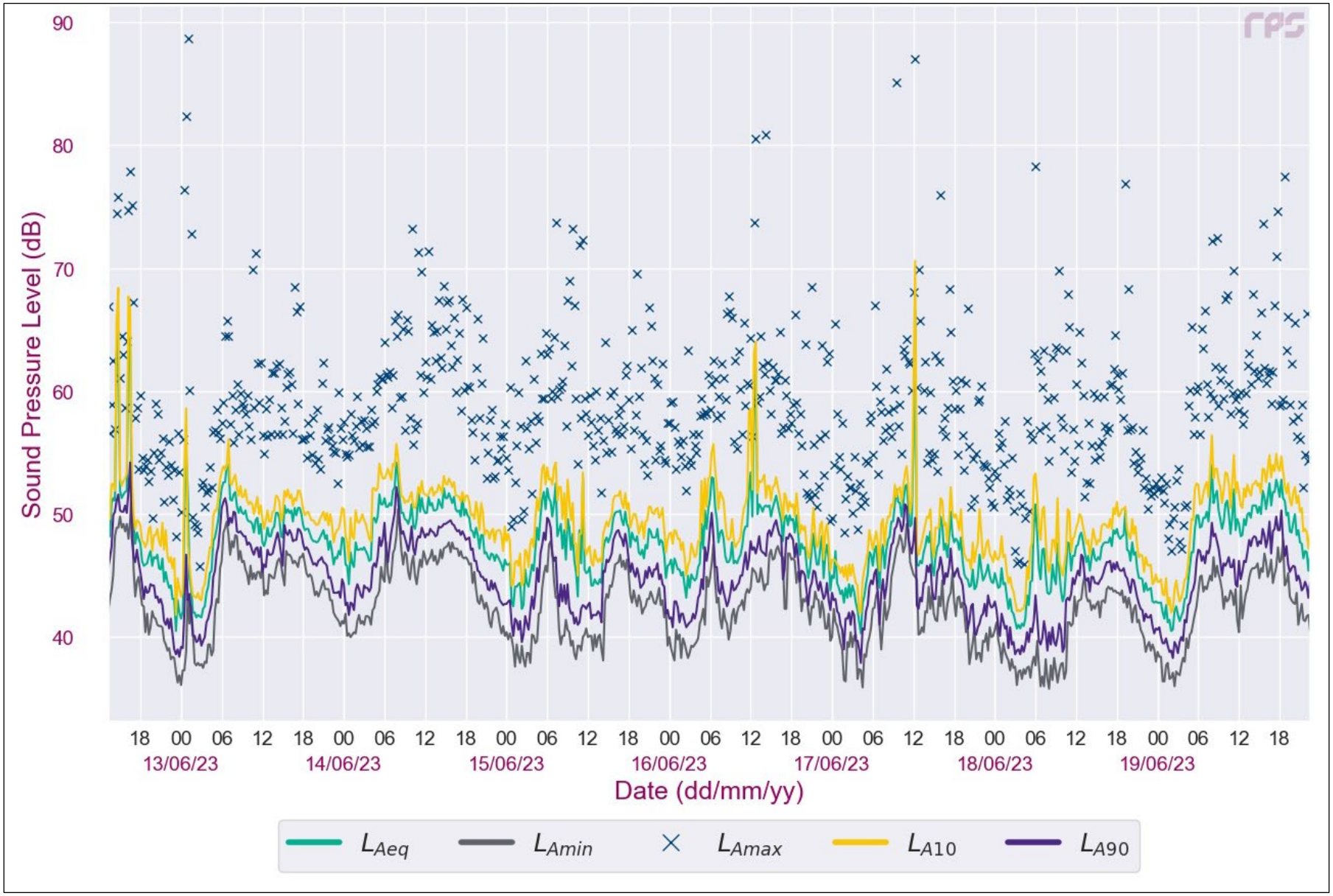


Figure 9.A.13: NML4 Complete Noise Data (12/06/2023 – 20/06/2023)

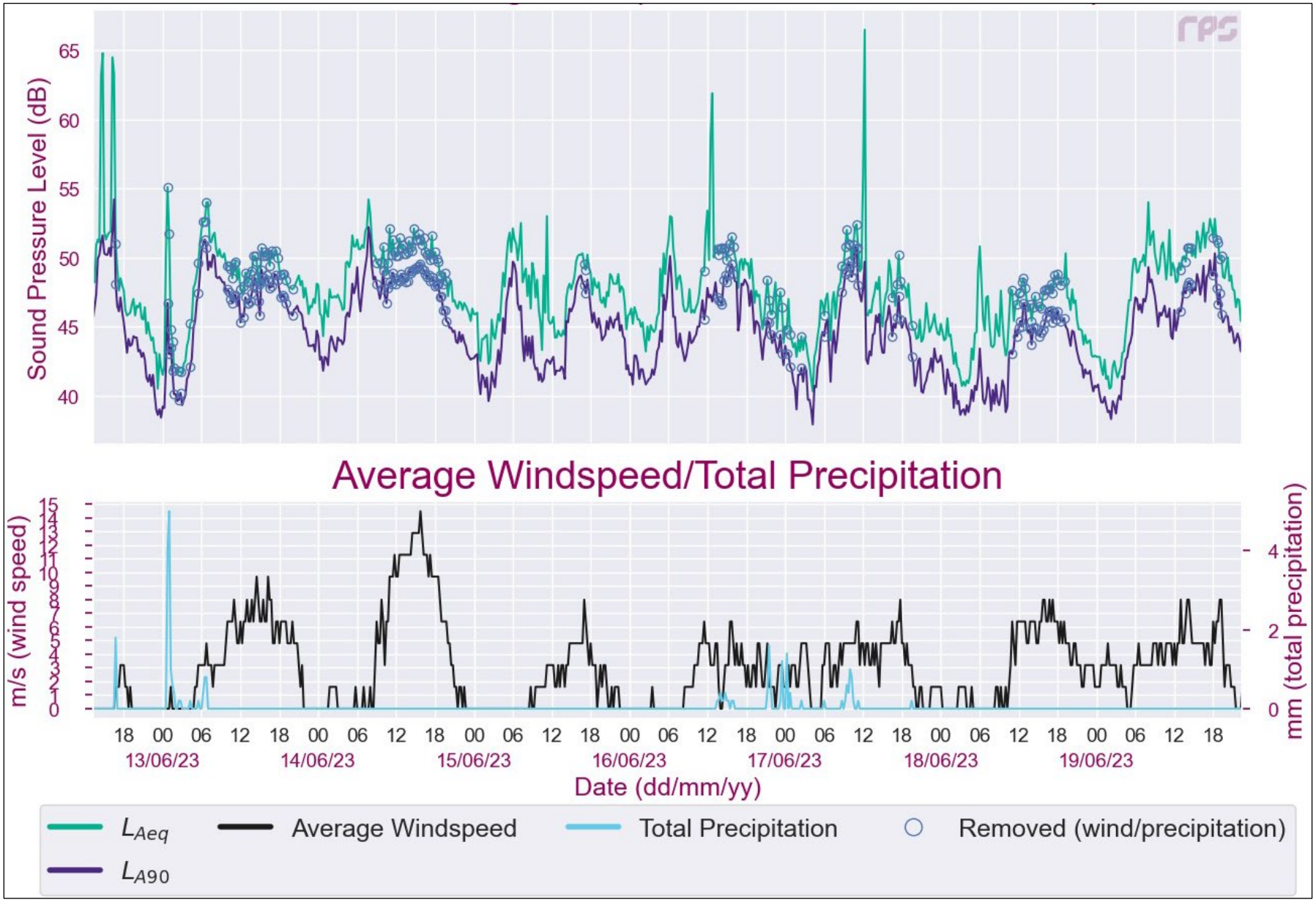


Figure 9.A.14: NML4 Complete Weather Data (12/06/2023 – 20/06/2023)

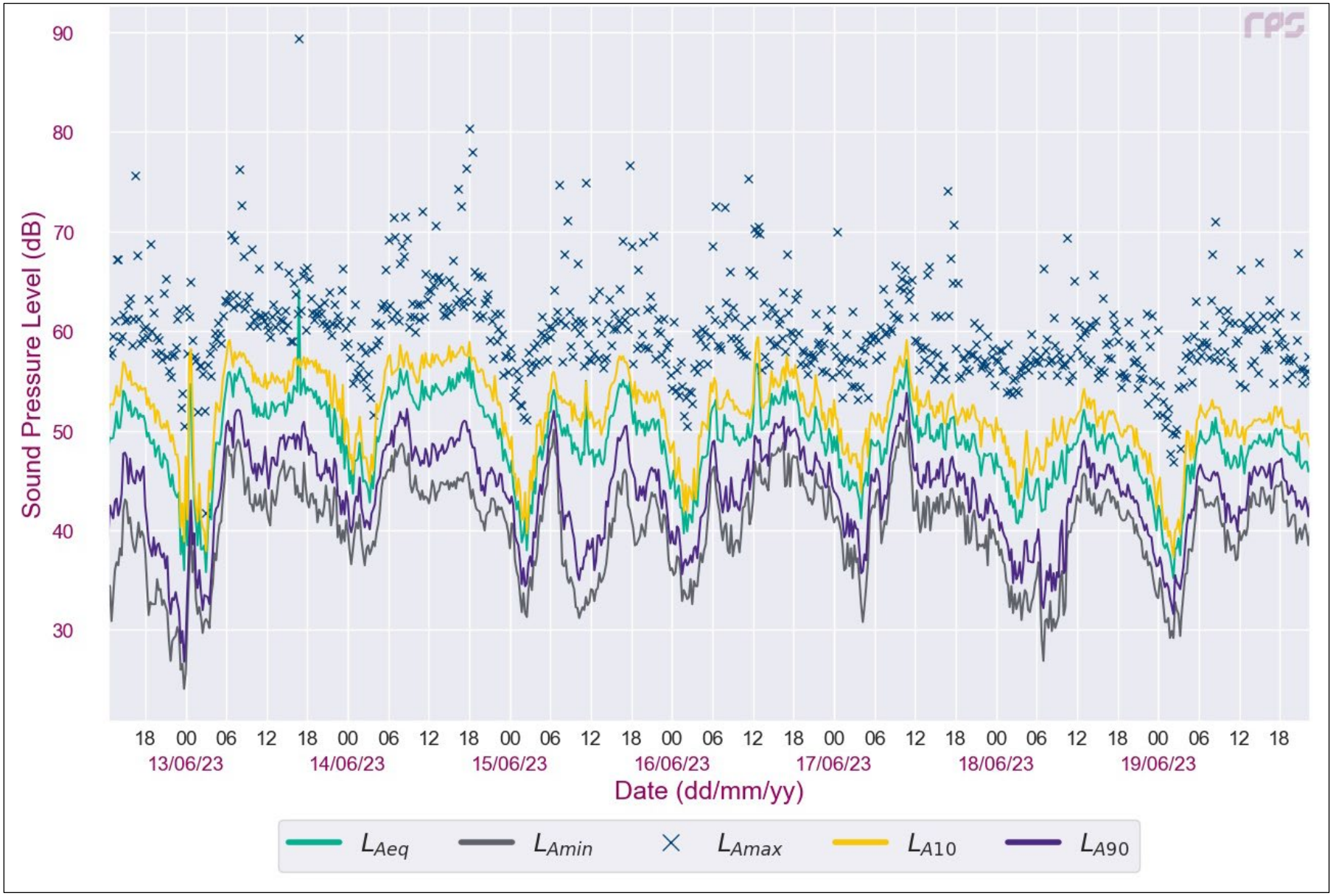


Figure 9.A.15: NML5 Complete Noise Data (12/06/2023 – 20/06/2023)

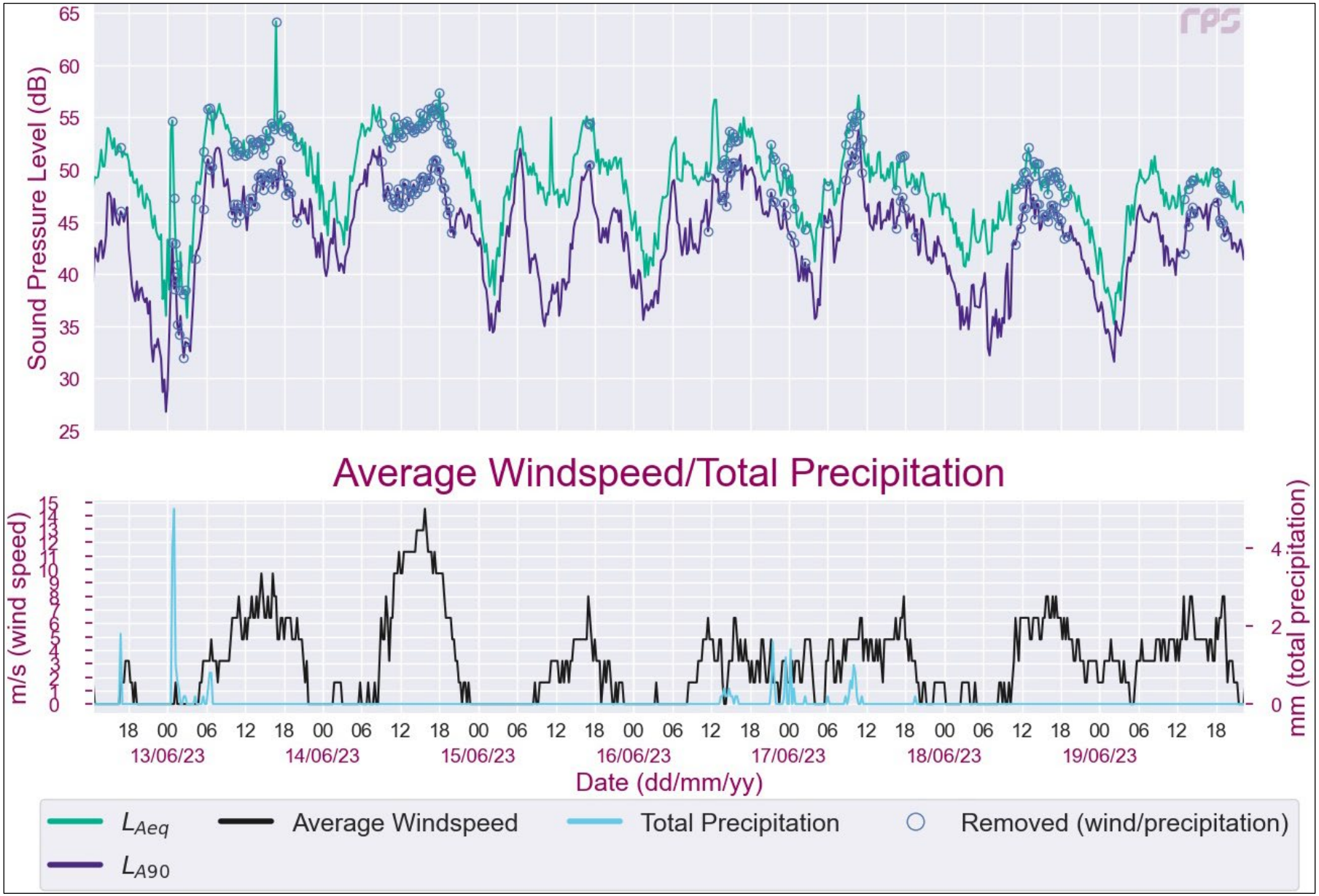


Figure 9.A.16: NML5 Complete Weather Data (12/06/2023 – 20/06/2023)

Survey Results Statistical Analysis

Noise monitoring results from NML1 – NML 5 were statistically analysed to determine the appropriate 'typical' background sound levels from both daytime and night-time noise monitoring periods.

Figure 9.A.17 and Figure 9.A.18 below show histograms of L_{Aeq} and L_{A90} results, for daytime and night-time data, from the noise monitoring survey at NML1.

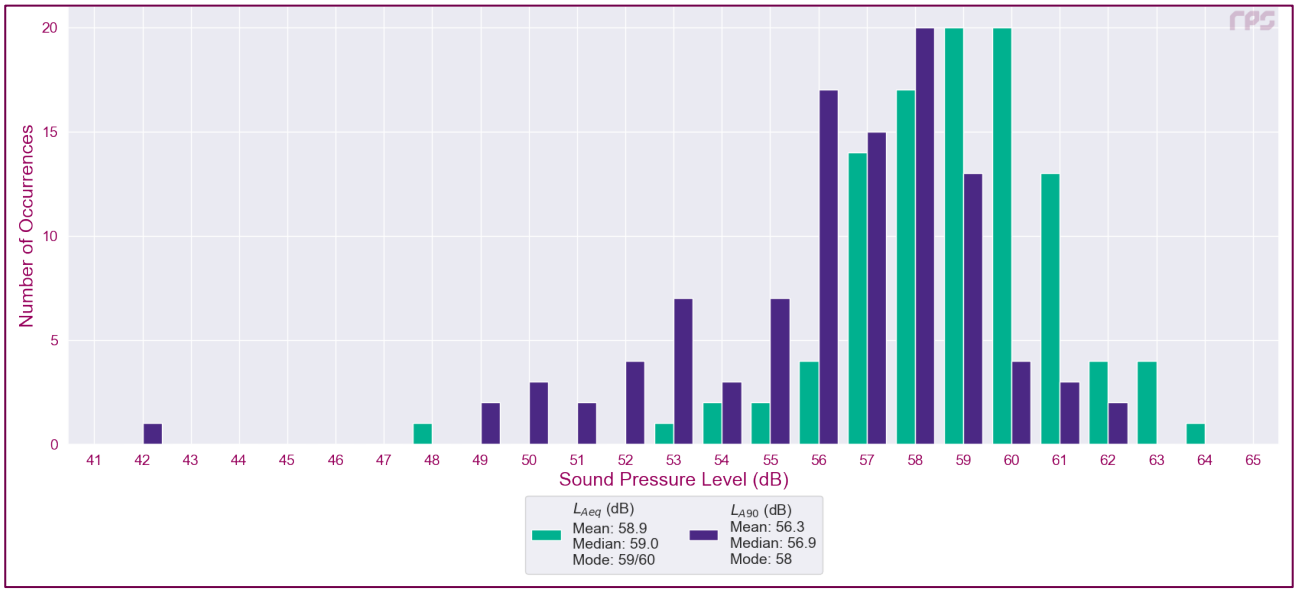


Figure 9.A.17: Histogram of Daytime $L_{Aeq,\ 1hr}$ and $L_{A90\ 1hr}$ at Noise Monitoring Location 1 (02/02/2023 – 09/02/2023)

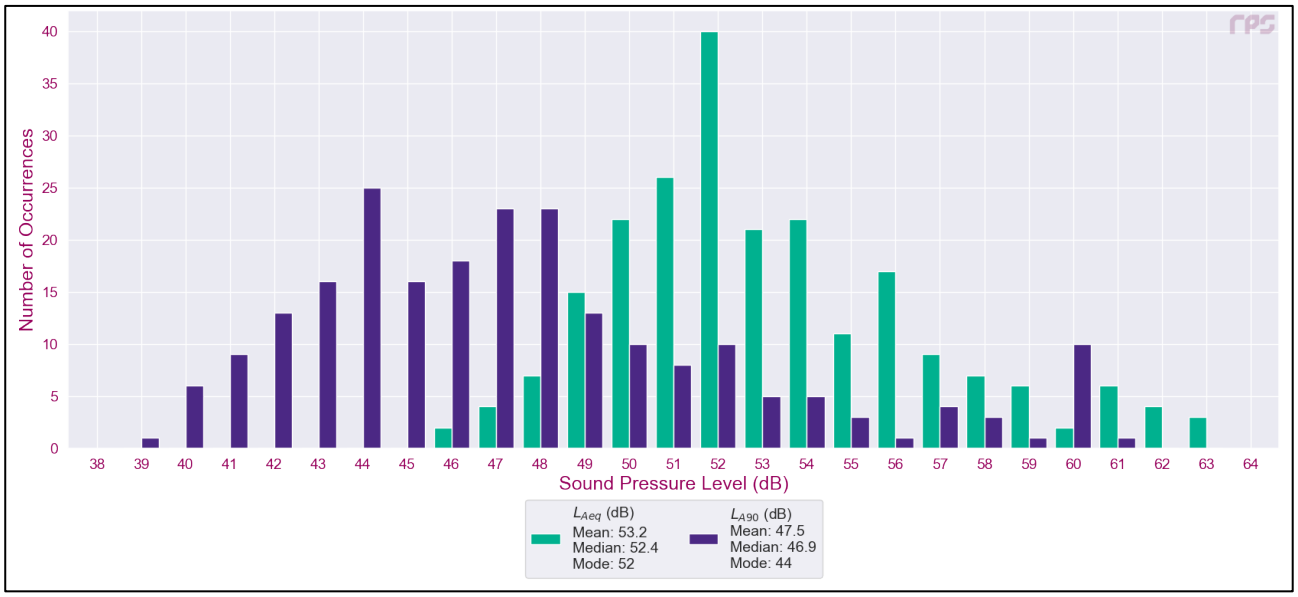


Figure 9.A.18: Histogram of Night-time $L_{Aeq,\ 15mins}$ and $L_{A90\ 15mins}$ at Noise Monitoring Location 1 (02/02/2023 – 09/02/2023)

Figure 9.A.19 and Figure 9.A.20 below show histograms of L_{Aeq} and L_{A90} results, for daytime and night-time data, from the noise monitoring survey at NML2.

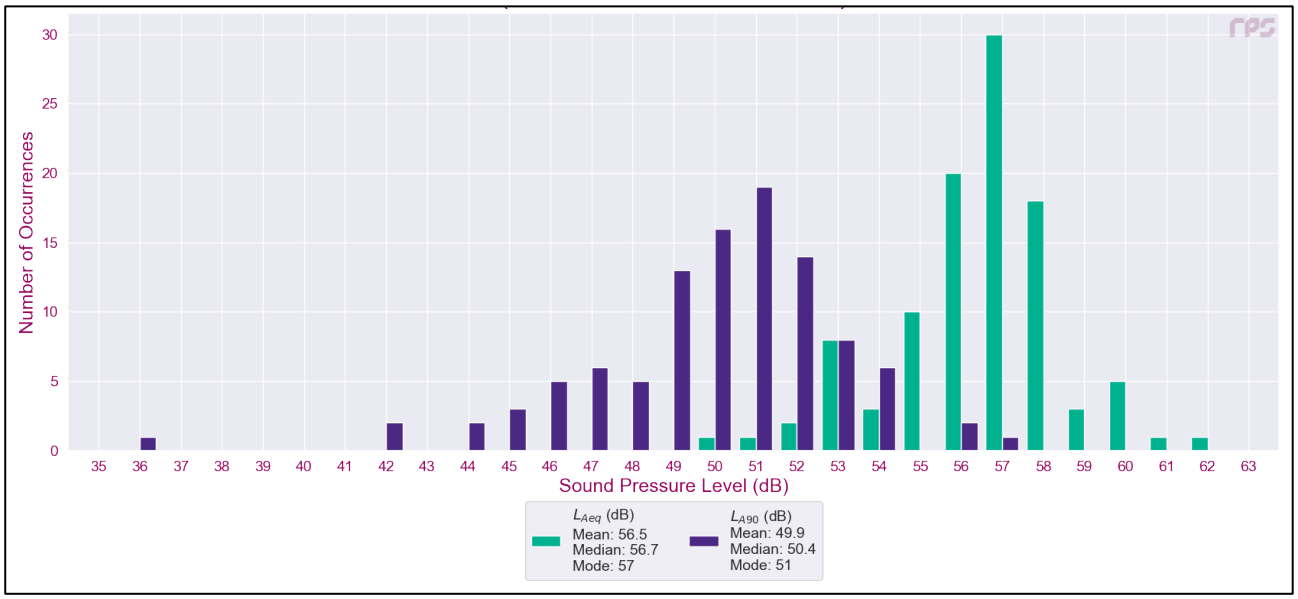


Figure 9.A.19: Histogram of Daytime $L_{Aeq,\ 1hr}$ and $L_{A90\ 1hr}$ at Noise Monitoring Location 2 (02/02/2023 – 09/02/2023)

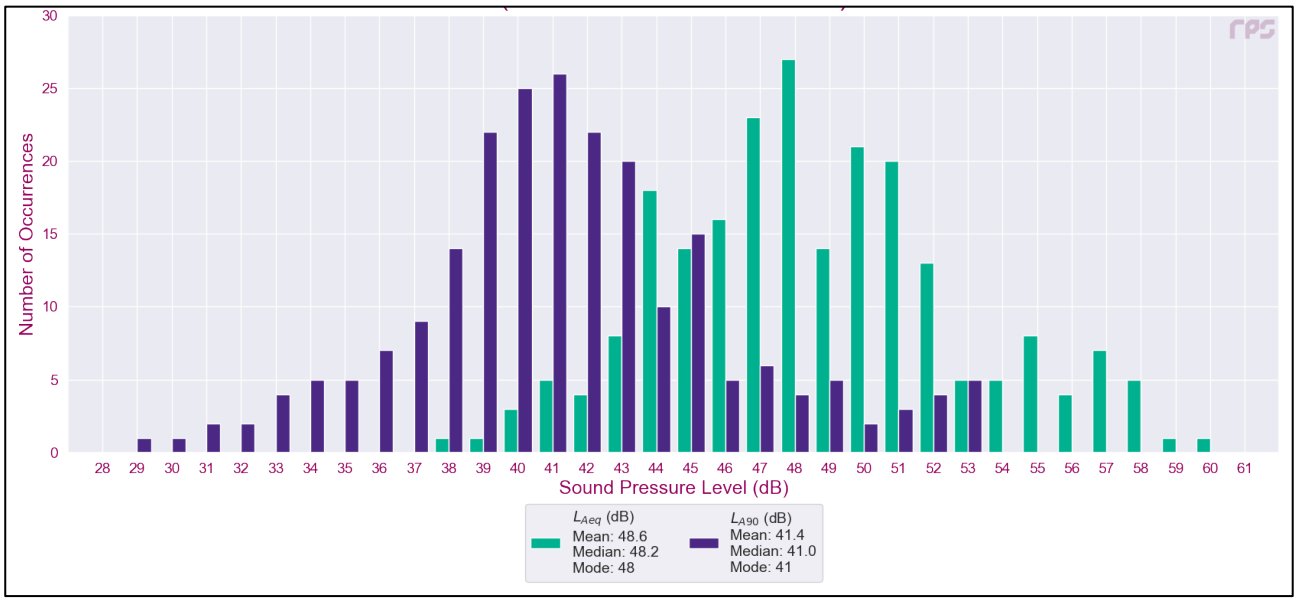


Figure 9.A.20: Histogram of Night-time $L_{Aeq,\ 15mins}$ and $L_{A90\ 15mins}$ at Noise Monitoring Location 2 (02/02/2023 – 09/02/2023)

Figure 9.A.21 and Figure 9.A.22 below show histograms of L_{Aeq} and L_{A90} results, for daytime and night-time data, from the noise monitoring survey at NML3.

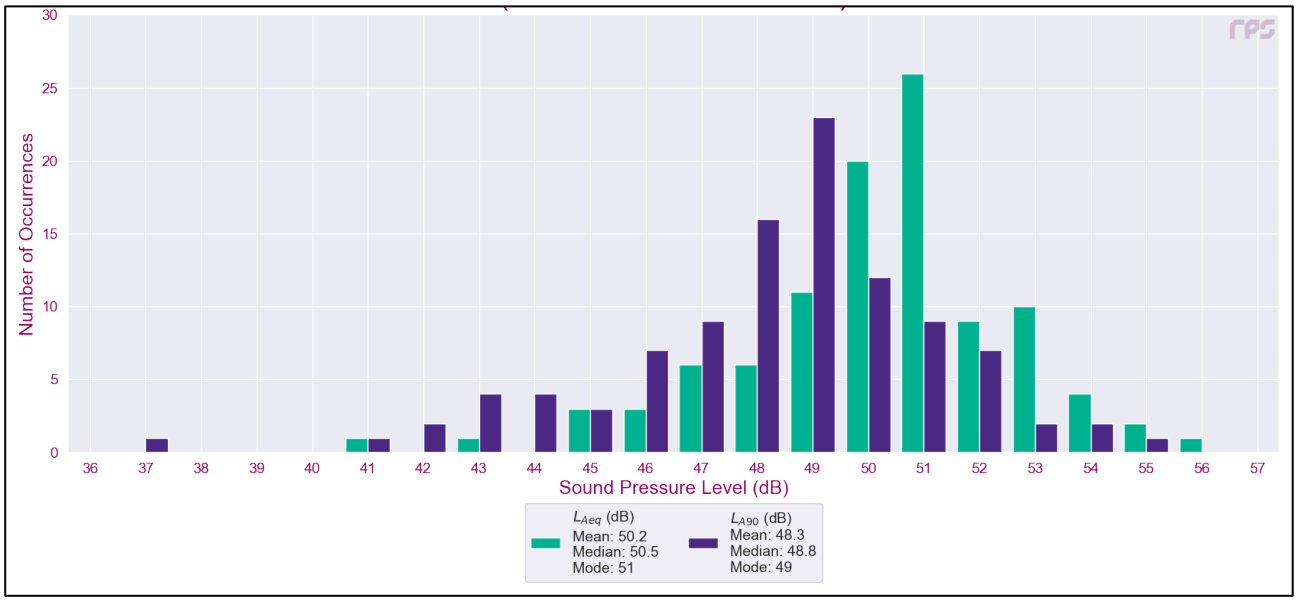


Figure 9.A.21: Histogram of Daytime $L_{Aeq,\ 1hr}$ and $L_{A90\ 1hr}$ at Noise Monitoring Location 3 (02/02/2023 – 09/02/2023)

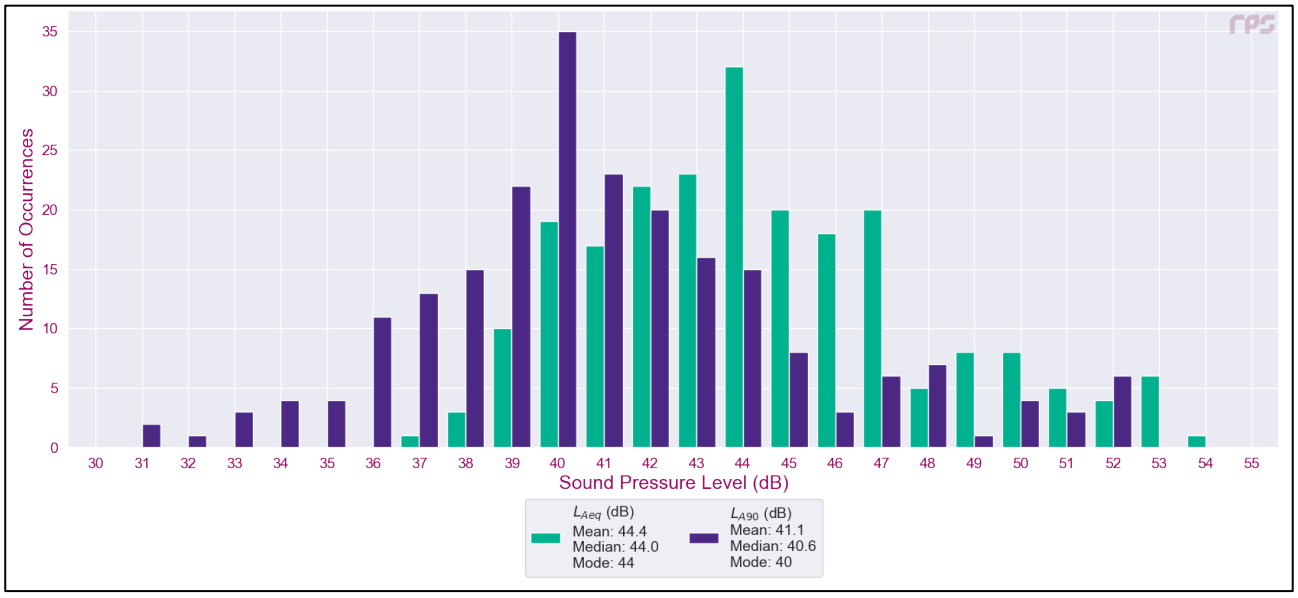


Figure 9.A.22: Histogram of Night-time $L_{Aeq,\ 15mins}$ and $L_{A90\ 15mins}$ at Noise Monitoring Location 3 (02/02/2023 – 09/02/2023)

Figure 9.A.23 and Figure 9.A.24 below show histograms of L_{Aeq} and L_{A90} results, for daytime and night-time data, from the noise monitoring survey at NML4.

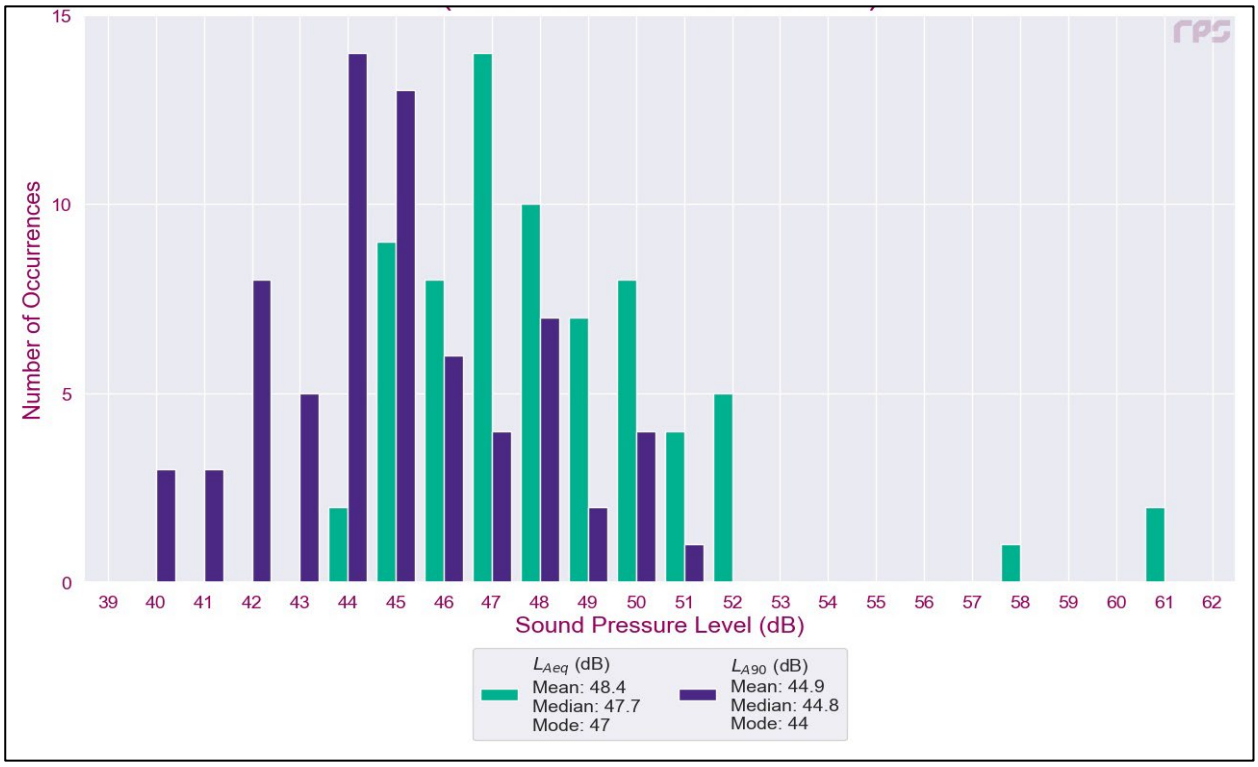


Figure 9.A.23: Histogram of Daytime $L_{Aeq,\ 1hr}$ and $L_{A90\ 1hr}$ at Noise Monitoring Location 4 (12/06/2023 – 20/06/2023)

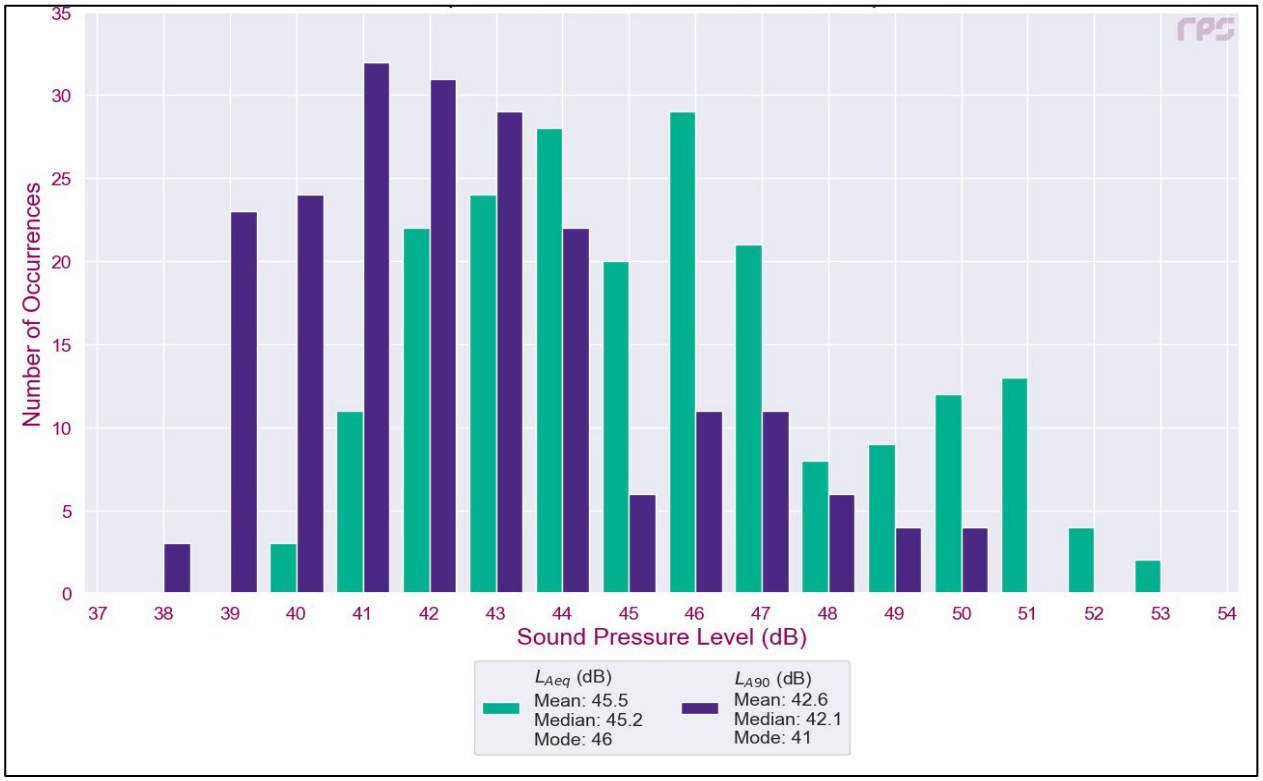


Figure 9.A.24: Histogram of Night-time $L_{Aeq,\ 15mins}$ and $L_{A90\ 15mins}$ at Noise Monitoring Location 4 (12/06/2023 – 20/06/2023)

Figure 9.A.25 and Figure 9.A.26 below show histograms of L_{Aeq} and L_{A90} results, for daytime and night-time data, from the noise monitoring survey at NML5.

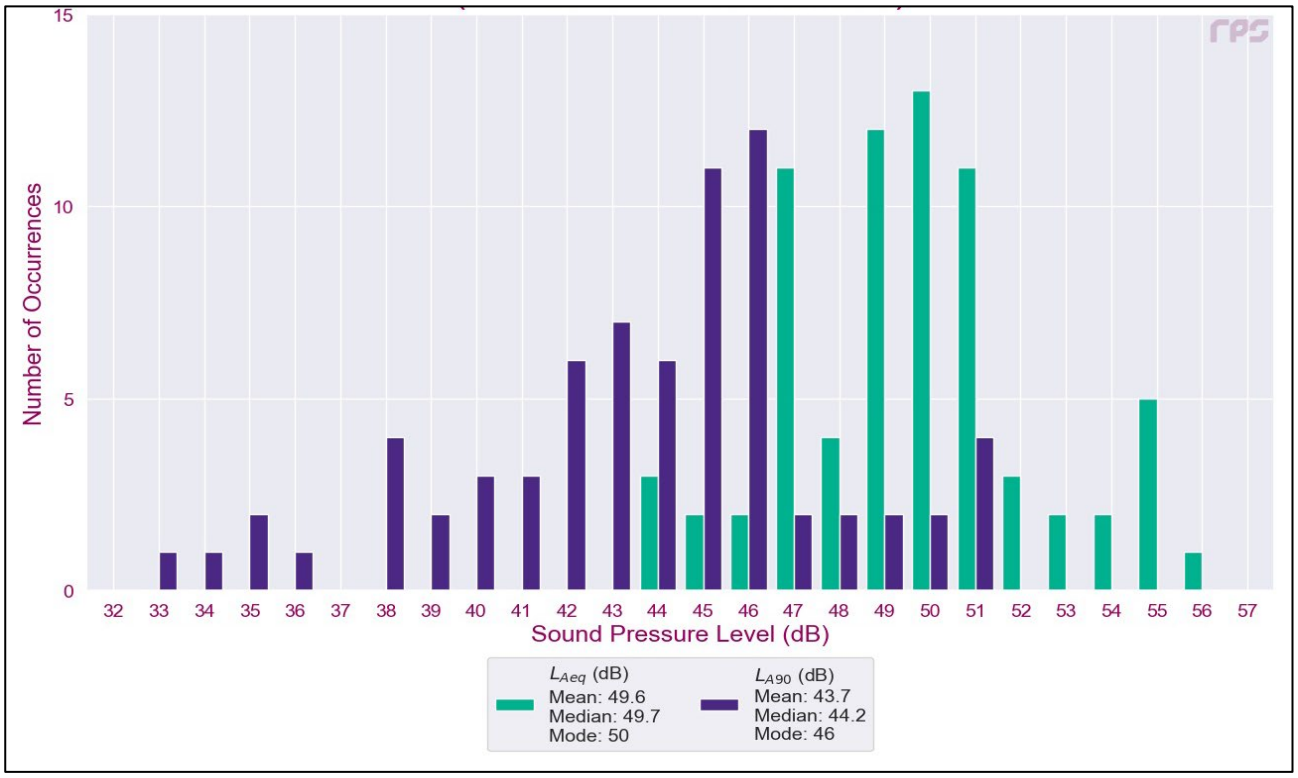


Figure 9.A.25: Histogram of Daytime $L_{Aeq,\ 1hr}$ and $L_{A90\ 1hr}$ at Noise Monitoring Location 5 (12/06/2023 – 20/06/2023)

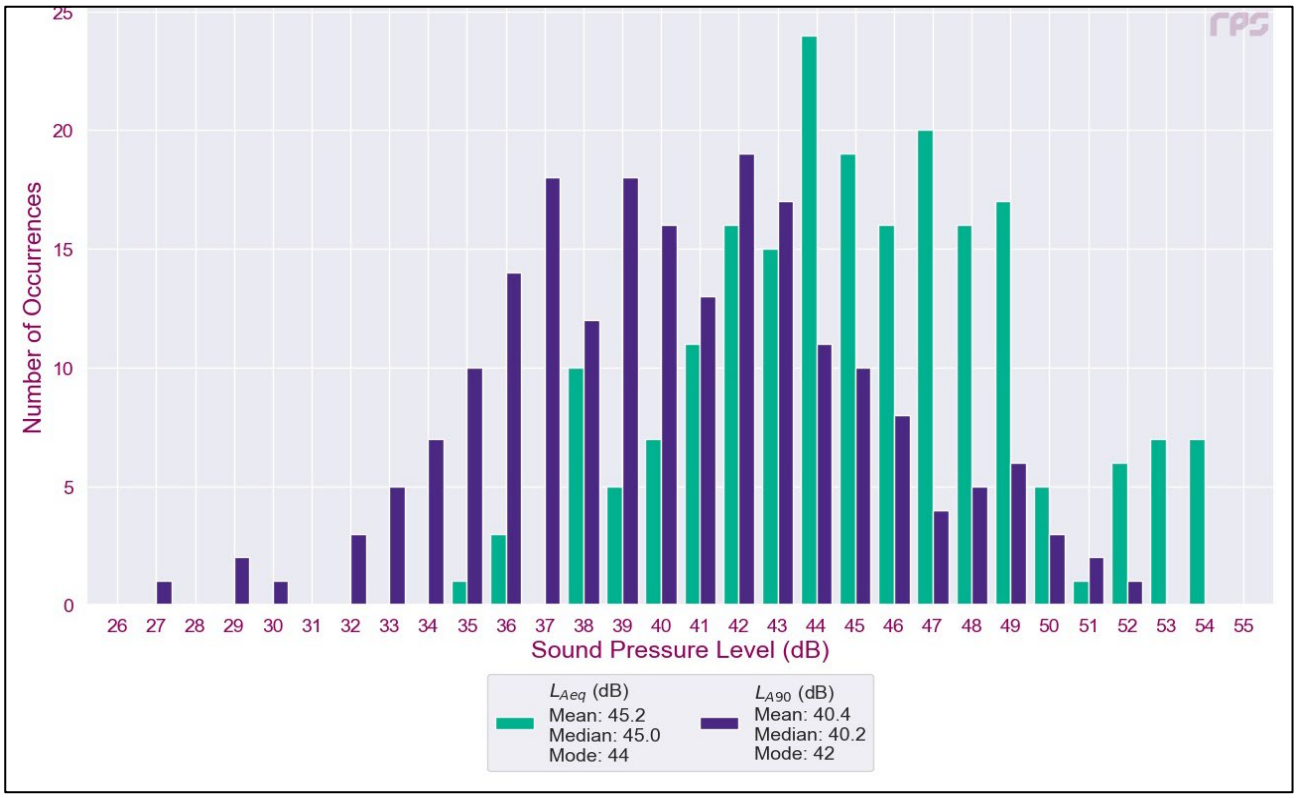


Figure 9.A.26: Histogram of Night-time $L_{Aeq,\ 15mins}$ and $L_{A90\ 15mins}$ at Noise Monitoring Location 5 (12/06/2023 – 20/06/2023)

Background Noise Summary

The histograms of typical background (L_{A90}) and ambient (L_{Aeq}) noise levels for daytime and night-time have been analysed to determine representative values for each noise monitoring location, which are summarised below in Table 9.A.12.

Table 9.A.12: Typical L_{A90} and L_{Aeq} Noise Levels at NML1 - 5

Noise Monitoring Location	L_{A90} Analysis		L_{Aeq} Analysis	
	Daytime (dB)	Night-time (dB)	Daytime (dB)	Night-time (dB)
1	58	44	59	52
2	51	41	57	48
3	49	40	51	44
4	44	41	47	46
5	46	42	50	44