

**Kronospan Chirk,
Maesgwyn Farm, Wrexham LL14 5NT
Environment Agency Permit : BW9999IG**

Noise Impact Assessment

Report ref.

CJA4831/23241/Rev 2

Issued to

Chelsey Barker, Kronospan

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1. SYNOPSIS

This noise impact assessment (NIA) report has been prepared by Spectrum Acoustic Consultants Ltd on behalf of Kronospan Ltd, Chirk, at the request of Natural Resources Wales (NRW) in line with Agency [guidelines](#).

The intention of this NIA is as follows:

- I. to quantify existing operational environmental noise levels through measurement at noise sensitive receptors (NSRs) over a 14 day period in January 2024 (15/01/24 – 31/01/24)
- II. to undertake near-field noise measurements close to noise generating equipment and processes in order to create a 3D noise model and predict environmental noise generated by the site at NSRs in support of measured environmental noise levels and to help identify the major noise sources
- III. to use narrow band analysis of audio recordings in order to identify the presence and prominence of tonal noise
- IV. to establish indicative background noise levels at NSRs during partial shutdowns of the Kronospan site
- V. to use the measured operational noise levels and indicative background noise levels to undertake a BS4142 assessment of the plant
- VI. to rank order the significance of noise sources at noise sensitive receptors in order to identify the likely main contributing sources for further investigation

It should be noted that it has not been possible to obtain background noise measurements to date during a full shut-down. It was therefore agreed with NRW to obtain measurements during partial shutdowns and this has been done. Results from these measurements are detailed in Ref. 1 and are referenced in this assessment.

Updates and revisions in this Rev 1 report from the Rev 0 report, incorporating comments from NRW and Kronospan, include the following:

- I. identification of which buildings do and do not generate noise and inclusion in noise model where appropriate (see section 4.1)
- II. detailed information on HGV and Fork-Lift Truck (FLT) daytime and night-time movements and inclusion in noise model (see Appendix H)
- III. general updates and improvements to noise model
- IV. calculation methodology used for sound power level factors with reference to ISO 3744 (see Appendix E)
- V. noise measurements during partial shut-downs now undertaken (reported separately) and referenced in this report (Ref. 9)
- VI. BS4142 assessment now included
- VII. consideration of major contributing noise sources with respect to BAT now included



2. REFERENCES AND ABBREVIATIONS

Ref. No.	Title	Author	Date	Rev
1	Noise and vibration management: environmental permits (published on-line)	Environment Agency	31/01/22	n/a
2	Method implementation document for BS4142 (MID) for BS4142 (published on-line)	Environment Agency	22/12/23	n/a
3	Assessment of Noise at Kronospan Manufacturing Facility Report No. : R21.0702/DRK	NVC	July 2021	n/a
4	Baseline Noise Survey at Nearest Receptors to Kronospan Manufacturing Facility	NVC	August 2021	n/a
5	BS 4142:2014+A1:2019 <i>Methods for rating and assessing industrial and commercial sound</i>	EH/1/3	2014	n/a
6	ISO 1996-2:2007 <i>Acoustics – Description, measurement and assessment of environmental noise – Part 2: Determination of environmental noise levels</i>	ISO/TC43	2007	n/a
7	BS EN ISO 3746:2010 <i>Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Survey method using an enveloping measurement surface over a reflecting plane</i>	EC	2010	n/a
8	ISO 9613-2:2024 <i>Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation</i>	ISO/TC 43	2024	n/a
9	Baseline environmental noise measurements during partial shutdowns in 2024	Spectrum	18/02/2025	0

Table 2.1: References (cont'd)

Abbreviation	Full Text
EA	Environment Agency
FLT	Fork-Lift Truck
HGV	Heavy Goods Vehicle
LpA	A weighted Sound pressure level (dB re 2×10^{-5} Pa)
LwA	A weighted sound power level (dB re 10^{-12} W)
NIA	Noise Impact Assessment
NRW	Natural Resources Wales
NSR	Noise sensitive receptor

Table 2.2: Abbreviations

3. INTRODUCTION

3.1 OVERVIEW OF THE KRONOSPAN CHIRK FACILITY

Kronospan's Chirk site, opened in 1970, is the UK's longest established manufacturer of wood-based panels, and the only laminate flooring producer in the UK.

The site covers approximately 100 acres, employs over 600 people and normally operates 24hrs/day and 7 days/week. There are roads and residential housing to the East and mixed industrial and residential to the South, farmland to the North and farmland with some residential properties to the West.



Figure 3.1: Kronospan Chirk Location and site boundary



3.2 DESCRIPTION OF ACTIVITIES UNDERTAKEN AT THE SITE

Activities undertaken at the site include the following:

- Deliveries of wood and recycled wood fibre (RCF) materials for processing via articulated lorry
- Chipping machinery to reduce the size of recycled material for processing
- Sawmill for cutting logs
- Particleboard and MDF preproduction and production buildings
- Boilers and power generation units
- Formalin and Resin production units
- Particleboard and MDF press and finish buildings
- Melamine facing building
- Kronoplus flooring and worktop manufacturing building
- Warehouse and Despatch buildings
- Stores

The site incorporates a wide variety of noise sources associated with the above activities, including the following:

- Delivery and collection by HGVs (see Appendix H)
- Forklift trucks for loading and unloading product as well as general site use (see Appendix H)
- Chipping and cutting machinery
- Fans and motors for various functions, including the moving of product via duct systems and hoppers
- Filter boxes (noise from associated pulse cleaners)
- Boilers and gas engine power generators
- Production line equipment (internal)

The site generally operates continuously 24 hrs/day and 7 days/week.

3.3 ACTIVITIES NOT UNDERTAKEN DURING THE NIGHT-TIME PERIOD

Although the plant operates over 24 hrs/day, some activities are stopped overnight, as follows:

- The sawmill and T&G stop production from Thursday night to Sunday evening
- Tipper skips are not allowed to be emptied between 7pm – 7 am
- All doors should be closed between 7pm-7am
- No planned maintenance is carried out during night-time hours, only breakdown maintenance

3.4 ASSESSMENT OBJECTIVES

This report has been prepared at the request of NRW as a means of updating previous noise impact assessments and establishing the following:

- current environmental noise levels,
- the noise level contribution generated by the Kronospan Chirk site,
- the dominant noise sources
- the character of the noise produced
- BS4142 assessment
- BAT assessment



This will serve to inform NRW and also to assist Kronospan in continuing to effectively focus their efforts to minimise the environmental noise impact of the site and to identify and address potential causes of disturbance, in line with NRW requirements.

The structure of this report is intended to follow that suggested by Agency guidelines (Ref. 1).

3.5 HISTORY OF NOISE COMPLAINTS ASSOCIATED WITH THE SITE

When noise complaints are received they are investigated by a Kronospan representative familiar with the site and associated noise sources.

If the address or area from which the complaint is received is provided, a Kronospan representative will visit the address or local area in order to try and identify the source of the disturbance by its characteristics so that it can be further investigated and appropriate action taken.

Noise complaints made direct to Kronospan are logged and available to NRW upon request.

3.6 PREVIOUS KRONOSPAN CHIRK NOISE IMPACT ASSESSMENTS

The most recent previous NIA of the Kronospan Chirk site were undertaken by others in 2021 (Ref. 3 and Ref. 4).

4. KRONOSPAN SOUNDSCAPE AND ASSESSMENT LOCATIONS

This section describes the soundscape on and around the Kronospan site and details the noise sensitive receptors (NSR) used in the assessment.

4.1 KRONOSPAN SOUNDSCAPE

The distribution of noise sources around the site by significance is indicated on Figure 4.1 below, colour coded as green (warehousing-low noise), amber (mixed storage and machinery areas within buildings-some noise) and red (external machinery-significant noise).

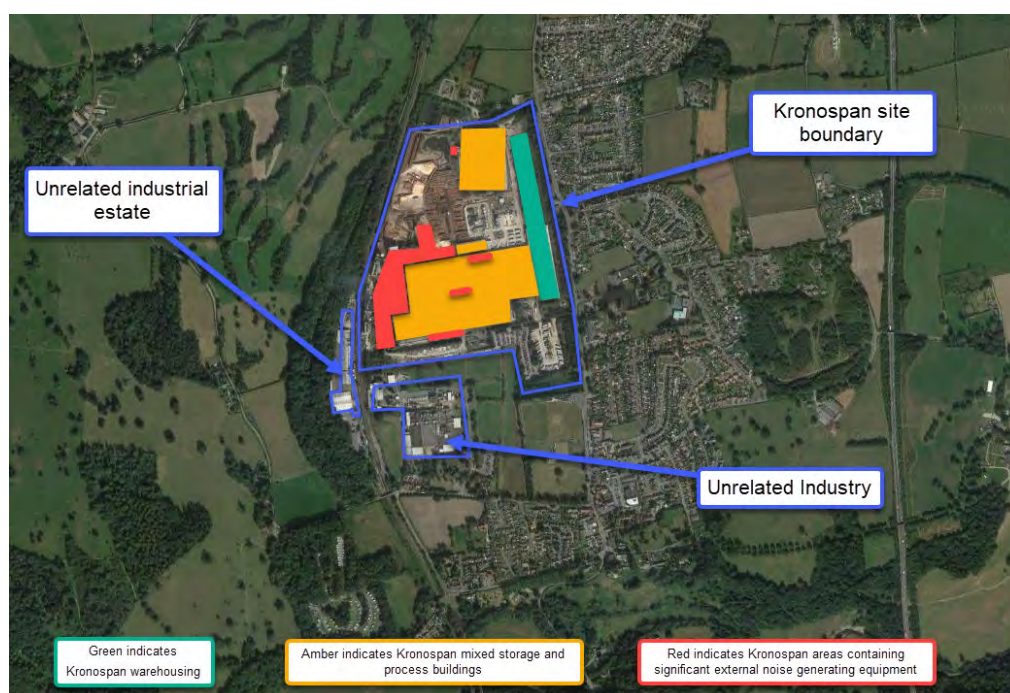


Figure 4.1: Location of main noise generating areas within the Kronospan site

Further details of the building names, usage, internal noise levels (for process areas), and building construction are included in Appendix A. This information informs the noise model by enabling calculation of radiated noise from building walls and roofs and also indicates where quiet warehousing areas effectively provide acoustic screening towards noise sensitive receptors.

Predicted environmental noise contours based on site noise measurements are included in Appendices F and G.

4.2 ASSESSMENT LOCATIONS

This NIA considers 4 main NSRs in different directions from the Kronospan Chirk site (to the NE, SE, NW and SW), as shown in Figure 4.2 below.

These assessment locations were selected as they are situated in opposing directions from the site and are representative of the nearest NSRs in each direction.

Additional measurement locations are referenced where appropriate (e.g. where additional measurements have been taken that inform the wider assessment and noise modelling (see Appendix G).

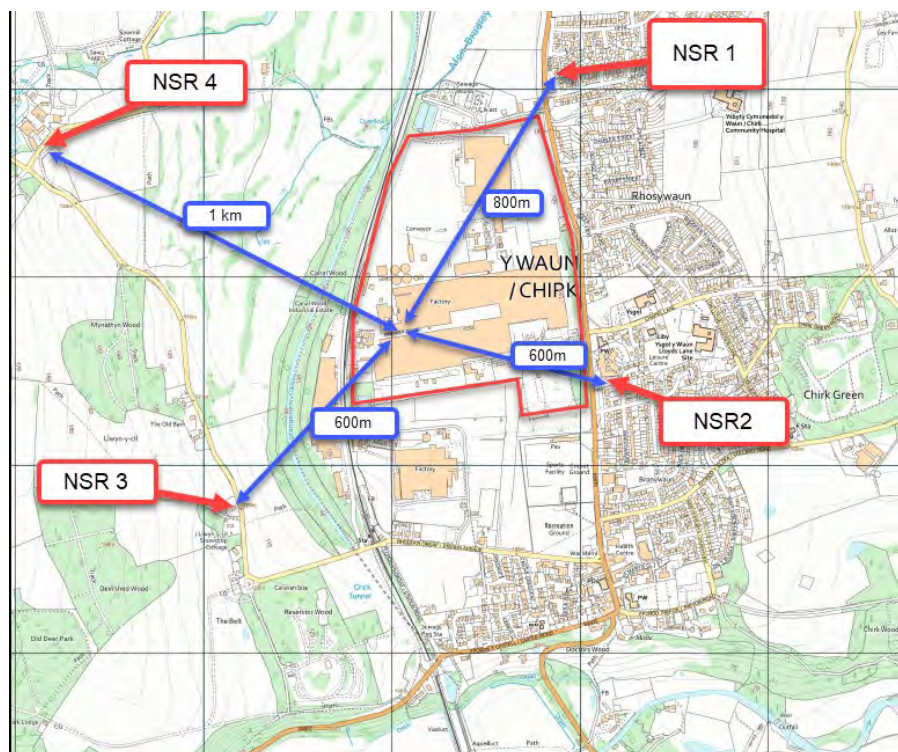


Figure 4.2: Assessment locations relative to main noise generating area

The assessment locations are described below with photographs of the installed measurement equipment in Appendix B. The locations can be identified using the following link [Grid Reference Finder](#)

NSR	Location description	X (Easting), Y (Northing)
NSR 1	Residential location at 3 Wern approximately 800m NE of the main external plant area across flat urban terrain	328934, 339036
NSR 2	Maes-Y-Waun (assisted living residence) approximately 600m SE of the centre of the main external plant area across flat urban terrain	329065 , 338220
NSR 3	Lwyn-y-cil road at residential property approximately 600m SW of the main external plant area up gently rising farm land	328091 , 337894
NSR 4	New Hall Farm approximately 1km NW of the main external plant area up gently rising farmland	327619 , 338875

Table 4.2: Assessment location details



5. OPERATIONAL NOISE SURVEYS (JANUARY 2024)

Environmental and on-site noise measurements were undertaken on and around the Kronospan site between 15/01/24 and 31/01/24.

The environmental noise measurements were undertaken in order to establish current operational noise levels at noise sensitive receptors (NSR) and the on-site noise measurements were undertaken to assist in creating a 3D noise model of the site in order to assist in rank ordering the significance of different noise sources at each NSR.

5.1 INSTRUMENTATION

Noise monitoring equipment used during the survey was as follows:

- Bruel & Kjaer Type 2250 Sound Level Meter s/n 3010857
- Bruel & Kjaer Type 4189 Microphone s/n 3060877
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 2291483

- Bruel & Kjaer Type 2250 Sound Level Meter s/n 3024396
- Bruel & Kjaer Type 4189 Microphone s/n 3349664
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 3021281

- Bruel & Kjaer Type 2250 Sound Level Meter s/n 3024398
- Bruel & Kjaer Type 4189 Microphone s/n 3147720
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 3021283

- Bruel & Kjaer Type 2250 Sound Level Meter s/n 3027942
- Bruel & Kjaer Type 4189 Microphone s/n 3196081
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 2229957

- Bruel & Kjaer Type 2270 Sound Level Meter s/n 3003731
- Bruel & Kjaer Type 4189 Microphone s/n 2888222
- Bruel & Kjaer Type 4231 Acoustic Calibrator s/n 3009564

Before and after the survey, each sound level meter was field-calibrated in accordance with the manufacturer's guidelines, and drift was less than 0.1 dB. Each field calibrator is laboratory calibrated annually, and the meter and microphone are laboratory calibrated at 2 yearly intervals, all in accordance with UKAS procedures by a UKAS-accredited laboratory.

Calibration certificates are included in Appendix C for reference.

Wind (speed and direction) and rainfall were measured at NSR-1 and NSR-4 using the equipment detailed below.

Davis Vantage Pro 2 Weather Station
Vaisala Weather Station

The Davis weather station was damaged part way through the survey, so Data from the Vaisala weather station was used in preference.



5.2 MEASUREMENT RESULTS

5.2.1 Measured environmental noise levels at NSRs

Environmental noise measurement locations are shown in Figure 4.2 and Appendix B. Measurement data is included in Appendix I.

Measurement periods including rainfall and for one hour after rainfall ceased have been removed from the data and analyses and are not shown.

Measurement periods during which the maximum wind speed exceeded 5 m/s are highlighted and are excluded from analyses.

The filtered data has been analysed and the results are summarised below for the daytime (07:00 – 23:00) and night-time (23:00 – 07:00) periods.

Since all locations are potentially subject to the influence of traffic noise due to their close proximity to roads, a further analysis over the late night period of 23:45hrs-04:00hrs has been included, since the night-time period of 23:00 hrs – 07:00 hrs generally includes significant morning traffic noise and potentially bird song which would tend to influence the ambient noise level (confirmed by hourly 10 sec audio recordings made at each measurement location).

5.2.2 Summary of measured environmental noise data from NSR 1 (3 Wern)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	62	53	72
Mean	60	52	72
Mean - 1 s.d.	57	49	-
Log Average	60	-	-

Table 7.1.1 (a): Daytime period (07:00 to 23:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	52	50	70
Mean	53	46	69
Mean - 1 s.d.	49	42	-
Log Average	55	-	-

Table 7.1.1 (b): Night-time period (23:00 to 07:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	52	47	69
Mean	51	45	67
Mean - 1 s.d.	49	41	-
Log Average	52	-	-

Table 7.1.1 (c): Night-time period (23:45 to 04:00)

5.2.3 Summary of measured environmental noise data from NSR 2 (Maes-Y-Waun)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	57	51	69
Mean	56	49	70
Mean - 1 s.d.	54	47	-
Log Average	56	-	-

Table 7.1.2 (a): Daytime period (07:00 to 23:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	50	48	68/70
Mean	50	45	69
Mean - 1 s.d.	47	42	-
Log Average	52	-	-

Table 7.1.2 (b): Night-time period (23:00 to 07:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	48	43	66
Mean	49	45	67
Mean - 1 s.d.	46	41	-
Log Average	50	-	-

Table 7.1.2 (c): Night-time period (23:45 to 04:00)

5.2.4 Summary of measured environmental noise data from NSR 3 (Lwyn-Y Cil Road)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	54	46	76
Mean	53	46	73
Mean - 1 s.d.	49	44	-
Log Average	55	-	-

Table 7.1.3 (a): Daytime period (07:00 to 23:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	46	45	50
Mean	47	45	56
Mean - 1 s.d.	45	43	-
Log Average	48	-	-

Table 7.1.3 (b): Night-time period (23:00 to 07:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	46	45	50
Mean	47	45	54
Mean - 1 s.d.	44	43	-
Log Average	47	-	-

Table 7.1.3 (c): Night-time period (23:45 to 04:00)

5.2.5 Summary of measured environmental noise data from NSR 4 (New Hall Farm)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	48	45	64
Mean	47	41	66
Mean - 1 s.d.	43	36	-
Log Average	49	-	-

Table 7.1.4 (a): Daytime period (07:00 to 23:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	47	45	59
Mean	44	41	58
Mean - 1 s.d.	39	36	-
Log Average	45	-	-

Table 7.1.4 (b): Night-time period (23:00 to 07:00)

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	47	45	58
Mean	43	40	56
Mean - 1 s.d.	38	35	-
Log Average	45	-	-

Table 7.1.4 (c): Night-time period (23:45 to 04:00)



5.3 TONAL ANALYSIS OF ENVIRONMENTAL NOISE

5.3.1 Tonal analysis of unattended sound recordings throughout survey period

Spectrum made unattended 10 sec recordings every 30 min at each NSR throughout the duration of the survey period from 15/01/24 – 31/01/24 and a sub-set of these recordings have been analysed for tonality, summarised below.

The dates selected were those when there was no rain and maximum wind speeds during the measurement period were low (below 2 m/s).

In order to minimise the impact of traffic noise, the analysed recordings were all taken at 02:00 hrs.

The results are summarised below.

Date	Frequencies at which tones were identified (Hz) and associated value of tonal correction (Kt)			
	NSR 1 (3 Wern)	NSR 2 (Maes-Y-Waun)	NSR 3 (Lwyn-Y-Cil)	NSR 4 (New Hall Farm)
16/01/24	244/1203Hz, Kt=0	250/521Hz, Kt=0	50/353/522/543Hz, Kt=0	431/543/1634Hz, Kt=0
17/01/24	1208Hz, Kt=0	431/1203Hz, Kt=0	T1=47Hz, Kt=2.8 T2=153, Kt=0	97Hz, Kt=0
18/01/24	603/1206Hz, Kt=0	156/431Hz, Kt=0	Multiple tones identified but audio recording identifies source as likely to be Corona noise from overhead cable.	431Hz, Kt=0
19/01/24	1203Hz, Kt=0	431Hz, Kt=0 1203Hz, Kt=0	No tones identified.	431/516/543/819/1634Hz, (all Kt=0)
23/01/24	1203Hz, Kt=0	No tones identified.	431Hz, Kt=0	T1=434Hz, Kt=0 T2=543Hz, Kt=0
25/01/23	1083Hz, Kt=0	431Hz, Kt=0	153Hz, Kt=0	543/581/1550/1631/1746/1975Hz, (all Kt=0)
27/01/24	1203Hz, Kt=0	434Hz, Kt=0	153Hz, Kt=0	431/543/1550/1637 Hz, (all Kt=0)



Date	Frequencies at which tones were identified (Hz) and associated value of tonal correction (Kt)			
	NSR 1 (3 Wern)	NSR 2 (Maes-Y-Waun)	NSR 3 (Lwyn-Y-Cil)	NSR 4 (New Hall Farm)
28/01/24	1203Hz, Kt=0	487Hz, Kt=0	156Hz, Kt=0	156/544/581/1262/ 1500/1584/1784/ 1818/1850/2296/ 2721/2953 Hz (all Kt=0)
29/01/24	1121Hz, Kt=0 1203Hz, Kt=0	No tones identified.	No tones identified.	431/1204/1546 (Kt=0). 543 (Kt=0.6)
30/01/24	1203Hz, Kt=0 1753Hz, Kt=0	No tones identified.	No tones identified.	3653 (Kt=0)
31/01/24	1203Hz, Kt=0 2550Hz, Kt=0	T1=431Hz, Kt=0 T2=1203Hz, Kt=0 T3=2556Hz, Kt=0	Multiple tones identified but audio recording identifies Corona noise from overhead cable.	100/581/865/1050/1 634/1750/ 2013 (all Kt=0) 431Hz, Kt=3
Comment	All identified tones have Kt=0 indicating no tonal penalty.	All identified tones have Kt=0 indicating no tonal penalty.	1 unexplained tone of 47 Hz was not present on other recordings on same night or other nights.	Only 1 tone had Kt>0 (431Hz). This tone was also identified at the Railway Station on the same night.

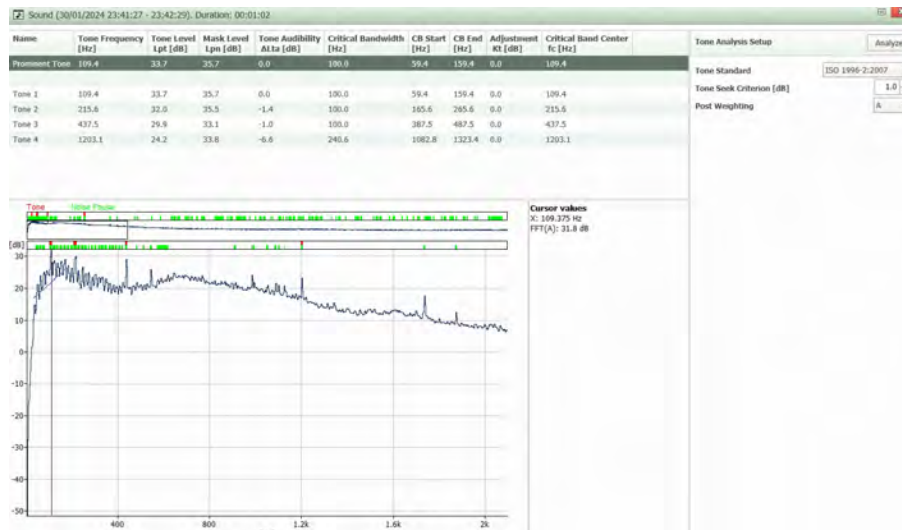
Table 5.3.1: Tonal analyses of recordings made at 02:00 hrs over multiple nights at NSRs

5.3.2 Tonal analysis of attended sound recordings

Additional attended audio recordings and measurements were made at each NSR (plus additional locations at Crogen and Chirk Railway Station) on the night of 30-31/01/24, and these have been analysed for tonal content as shown below.

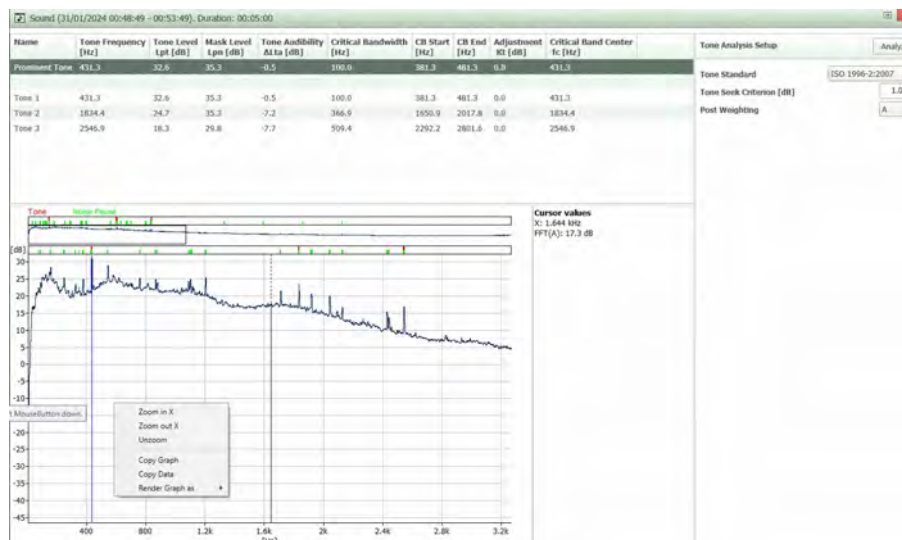
The purpose of these additional attended measurements was to check that the results correlated with the unattended measurements.

NSR 1: Wern



Comment: No clearly audible tones above general plant noise. Although 4 tones are identified in the analysis table, the adjustment factor $K_t=0$ in all cases, indicating that they are not sufficiently prominent to incur a tonal penalty.

NSR 2: Maes-Y-Waun



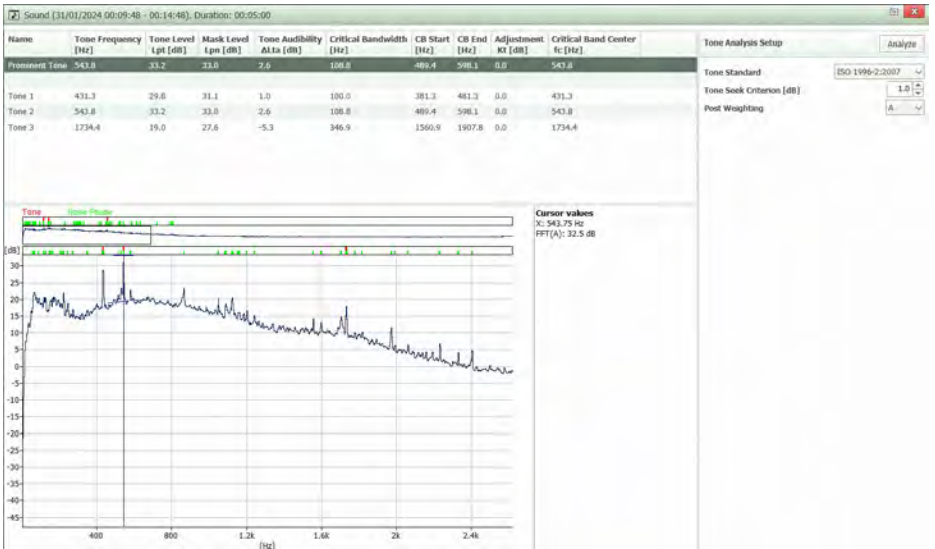
Comment: No clearly audible tones above general plant noise. Although 3 tones are identified in the analysis table, the adjustment factor $K_t=0$ in all cases, indicating that they are not sufficiently prominent to incur a tonal penalty.

Close to NSR 3 Lwyn-y-cil Road (at white gates)



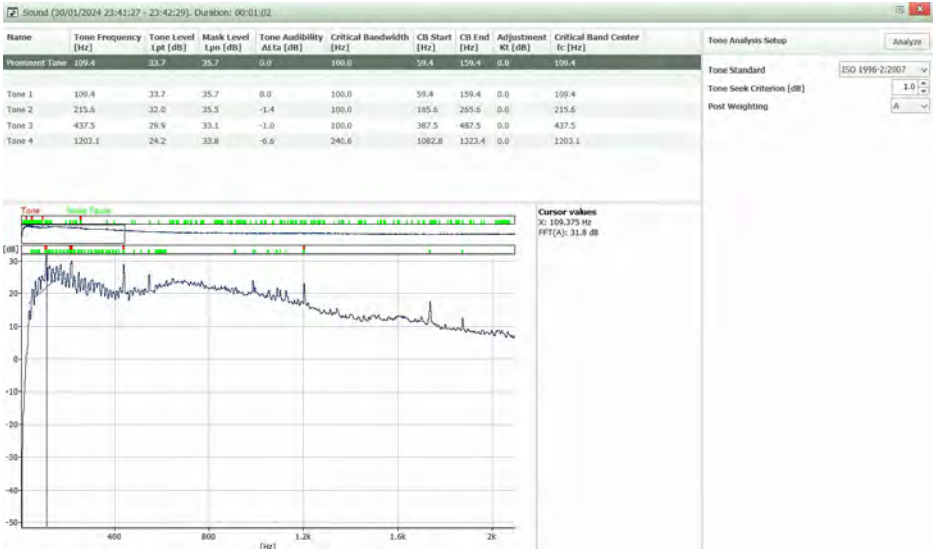
Comment: Measurements were taken by entrance gates to Chirk Castle to avoid disturbing residents, so location was 200m South of NSR 3. Mid-frequency tones were just audible. However, although 3 tones are identified in the analysis table, the adjustment factor $K_t=0$ for the mid-frequency tones, indicating that they are not sufficiently prominent to incur a tonal penalty. The prominent 50Hz tone was, however identified as significant with $K_t=4$ dB, but was not identified at NSR 3 on other nights of the 2 week survey period.

NSR 4 Hall Farm



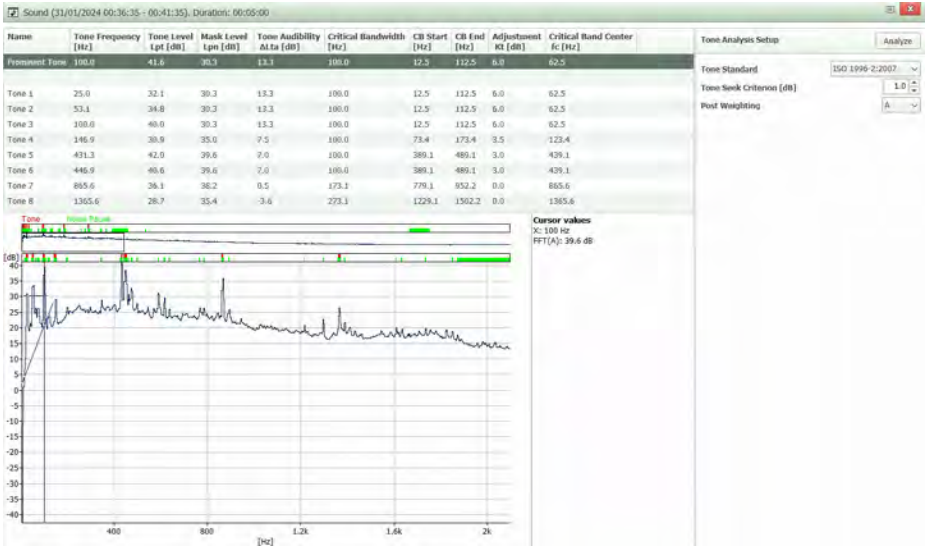
Comment: Tones occasionally just audible above general plant noise. Although 3 tones are identified in the analysis table, the adjustment factor $K_t=0$ in all cases, indicating that they are not sufficiently prominent to incur a tonal penalty.

Crogen



Comment: No clearly audible tones above general plant noise. Although 4 tones are identified in the analysis table, the adjustment factor $K_t=0$ in all cases, indicating that they are not sufficiently prominent to incur a tonal penalty.

Chirk Railway Station (non-residential)



Comment: This location was used in order to check the prominence of tonal noise that was noted subjectively during earlier on-site measurements on the same day, and which was thought to be potentially originating from the industrial area to the South of Kronospan at a frequency of approximately 400Hz. Similar tonal noise was audible at the Railway Station and the tonal analysis identifies 6 tones that incur tonal penalties, including 2 close to 400 Hz (431 Hz).

The prominent tone is, however, at 100Hz, suggesting an electrical source.

It should be noted that this location is close to 3 separate industrial areas and is not itself a NSR.



Comparison between the tonal analysis above and Table 7.2.1 shows the same 431Hz tone was audible at NSR 4 (New Hall Farm) with $K_t=3$ at both locations. However, it has not been confirmed that the source of the tone was within the Kronospan site and the tone was not identified on other nights, so it appears to have been temporary.

5.4 NEAR-FIELD NOISE MEASUREMENTS

Near-field noise measurements were taken around the site at distances from 1m-30m from significant noise sources in order to inform a 3d environmental noise model of the site. Measured data is included in Appendix D for reference.

6. SOUND POWER LEVEL CALCULATIONS

Measured near-field sound pressure level data from Appendix D has been used to calculate sound power levels of equipment and processes for use in the noise model.

Sound power level calculations are included in Appendix E for reference.

The sound power levels of equipment items or identifiable discrete process areas are calculated using the principles of BS EN ISO 3744:2010 *Acoustics – Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane*.

For relatively small sources, the sound pressure to sound power level correction over a hard surface will be based on a point source and hemispherical radiation, with a directivity factor correction where appropriate (e.g. when the source is adjacent to a reflecting wall). This would typically be appropriate where the measurement distance from the acoustic centre of the noise source is approximately 10x its dimensions.

For larger sources, the parallelepiped calculation procedure is used, in order to avoid inaccuracies introduced when the measurement distance is comparable to the source dimensions.

Example calculations for larger sources are included in Appendix E for reference.

7. NOISE MODELLING

Noise modelling has been undertaken using a software model (iNoise) in compliance with ISO 9613-2 2024 (Ref. 8).

The benefits of developing a noise model of the plant are as follows:

- I. the noise level generated at NSRs can be predicted if measurements at the NSRs are inconclusive (e.g. due to noise from other unrelated sources), and
- II. to enable ranking ordering of the significance of noise sources at NSRs, and
- III. to provide a means by which to assess the impact of proposed modifications to the site (e.g. the addition of new plant, buildings or noise control measures)



The calculated sound power levels from Appendix E have been incorporated into an environmental noise model.

The noise model output is included in Appendix F and comprises the following:

- I. Noise contours and
- II. Numerical output showing noise sources rank-ordered by significance at each NSR.

Noise level predictions have been undertaken at 1.5m height and 4m height in order to assess the difference between ground floor and 1st floor levels. The difference has been found to be generally +1 to +2 dB at 1st floor level.

Previously, predictions have been undertaken using a model adhering to the 1996 version of ISO 9613-2, and so for reference results using the 1996 methodology are included in Appendix G. The predictions vary by 1-2 dB (A) at some locations, and this variation has been recognised by the Institute of Acoustics, who have noted that results can vary by approximately 10 dB(A), depending upon the model details.

8. DISCUSSION OF MEASURED AND PREDICTED RESULTS FOR NORMAL OPERATION

8.1 NSR 1: 3 WERN

The measured environmental noise levels at NSR 1 (see section 5.2) show how the daytime $L_{Aeq,T}$ is typically approximately 60 dB with the $L_{A90,T}$ approximately 10 dB lower at around 50 dB.

At night, the difference between the $L_{Aeq,T}$ and the $L_{A90,T}$ reduces markedly as the influence of local traffic reduces, so that the difference between them is 2-5 dB.

The closeness between the $L_{Aeq,T}$ and the $L_{A90,T}$ is an indication that the noise from the Kronospan plant is reasonably stable, and Spectrum are of the opinion that where this is the case, the actual $L_{Aeq,T}$ contribution from the plant is likely to be approximately 1-2 dB higher than the $L_{A90,T}$, so that in this case the indication is that approximately 50 dB $L_{Aeq,T}$ is likely to be generated by the Kronospan plant at NSR 1.

This is supported by a series of 1 min attended measurements taken at Wern with no traffic passing, during which the $L_{Aeq,T}$ was 50 dB and the $L_{A90,T}$ was 49 dB (see measurement Project 114 in Appendix D).

Subjectively, the noise at NSR 1 was generally broadband with tonal sources and impulsive sources occasionally perceivable.

Some tonal noise would be expected due to the large number of continuously operating rotating machinery items and processes on the site. However, the tonal analyses undertaken in Section 5.3 show that



although tones were identified, they were not of sufficient strength to warrant a tonal penalty when assessed in accordance with ISO 1996-2 (Ref. 6).

The impulsive sources that were occasionally audible are believed to be due to the following:

- I. Automatic pulse-cleaning of the filtration units (several throughout the site)
- II. Occasional fork-light truck reversing alarms
- III. Occasional impacts from goods movements

The noise model prediction for NSR 1 indicates that the three most prominent noise sources at this location are as follows.

Noise Source	Predicted noise contribution at NSR 1: 3 Wern dB $L_{Aeq,T}$	Comment
Total predicted	48-49	Close to the 50dB $L_{Aeq,T}$ typically measured at night
Kronoplus Filtration Plant	44	Significant elevated noise source
K+ Rooftop ducting	41	Significant elevated noise source
Pre-screening	40	

Table 8.1: Most significant predicted noise sources at NSR 1

8.2 NSR 2: MAES-Y-WAUN

The measured environmental noise levels at NSR 2 (see section 5.2) show how the daytime $L_{Aeq,T}$ is typically approximately 57 dB with the $L_{A90,T}$ approximately 6 dB lower at around 50 dB.

At night, the difference between the $L_{Aeq,T}$ and the $L_{A90,T}$ reduces markedly as the influence of local traffic reduces, so that the difference between them is 2-5 dB, as for NSR-1.

The closeness between the $L_{Aeq,T}$ and the $L_{A90,T}$ is again an indication that the noise from the Kronospan plant is reasonably stable, and Spectrum are of the opinion that where this is the case, the actual $L_{Aeq,T}$ contribution from the plant is likely to be approximately 1-2 dB higher than the $L_{A90,T}$, so that in this case the indication is that approximately 45-48 dB $L_{Aeq,T}$ is likely to be generated by the Kronospan plant at NSR 2.

This is supported by a series of 1 min attended measurements taken at Maes-Y-Waun with no traffic passing, during which the $L_{Aeq,T}$ was 47-48 dB and the $L_{A90,T}$ was 46 dB (see measurement Project 118 in Appendix D).

Subjectively, the noise at NSR 2 was generally broadband with tonal sources and impulsive sources occasionally audible, as described in 8.1 above.

The noise model prediction for NSR 2 indicates that the three most prominent noise sources at this location are likely to be as follows:

Noise Source	Predicted noise contribution at NSR 2: Maes-Y-Waun dB $L_{Aeq,T}$	Comment
Total predicted	50-52	Marginally higher than the Mean 48 dB $L_{Aeq,T}$ measured at night, however this position is normally upwind of the site which would tend to attenuate measured values, whereas the noise model assumes light downwind conditions as a reasonable worst case.
Plastics Roof Platform	43	
Kronoplus Filtarion Plant	42	
K7 Boiler Walls	40	

Table 8.2: Most significant predicted noise sources at NSR 2

8.3 NSR 3: LWYN-Y-SIL ROAD

The measured environmental noise levels at NSR 3 (see section 5.2) show how the daytime $L_{Aeq,T}$ is typically approximately 54 dB with the $L_{A90,T}$ approximately 8 dB lower at around 46 dB.

At night, the difference between the $L_{Aeq,T}$ and the $L_{A90,T}$ reduces markedly as the influence of local traffic reduces, so that the difference between them is 1 dB.

The closeness between the $L_{Aeq,T}$ and the $L_{A90,T}$ is an indication that the noise from the Kronospan plant is reasonably stable, and Spectrum are of the opinion that where this is the case, the actual $L_{Aeq,T}$ contribution from the plant is likely to be approximately 1-2 dB higher than the $L_{A90,T}$, so that in this case the indication is that approximately 46 dB $L_{Aeq,T}$ is likely to be generated by the Kronospan plant at NSR 3.

Subjectively, the noise at NSR 3 was generally broadband with tonal sources and impulsive sources occasionally audible, as described in 8.1 above..

The noise model prediction for NSR 3 indicates that the three most prominent noise sources at this location are as follows.



Noise Source	Predicted noise contribution at NSR 3: 3 Lwyn-Y-Cil dB $L_{Aeq,T}$	Comment
Total predicted	47-48	Close to the 46 dB $L_{Aeq,T}$ typically measured at night
Kronoplus Filter Plant	38	
K7 Fin Fan Cooler	37	
K7 Boiler Walls	37	

Table 8.3: Most significant predicted noise sources at NSR 3

8.4 NSR 4: NEW HALL FARM

The measured environmental noise levels at NSR 4 (see section 5.2) show how the daytime $L_{Aeq,T}$ is typically approximately 48 dB with the $L_{A90,T}$ approximately 3 dB lower at around 45 dB. This is a smaller separation than at NSR 1 and NSR 2 due to the reduced influence of local traffic.

At night, the difference between the $L_{Aeq,T}$ and the $L_{A90,T}$ reduces only marginally as the influence of local traffic reduces, so that the difference between them is 2 dB.

The closeness between the $L_{Aeq,T}$ and the $L_{A90,T}$ is an indication that the noise from the Kronospan plant is reasonably stable, and Spectrum are of the opinion that where this is the case, the actual $L_{Aeq,T}$ contribution from the plant is likely to be approximately 1-2 dB higher than the $L_{A90,T}$, so that in this case the indication is that approximately 47 dB $L_{Aeq,T}$ is likely to be generated by the Kronospan plant at NSR 4.

Subjectively, the noise at NSR 4 was generally broadband with tonal sources and impulsive sources occasionally perceivable, as described in 8.1 above.

Some tonal noise would be expected due to the large number of rotating machinery items on the site (mainly fans). However, the tonal analyses undertaken in section 5.3 show that although tones were identified, they were generally not of sufficient strength to warrant a tonal penalty when assessed in accordance with ISO 1996-2.

There was, however, one night (31/01/24) when tonal noise at a frequency of 431 Hz was identified as having a tonal correction of $K_t=3$, and this was on the same day as Spectrum and Kronospan personnel were aware of an audible tone at approximately this frequency on site. However, the source of the tone was not confirmed and may have been from a neighbouring site. It also appears to have been isolated to this particular day.

The noise model prediction for NSR 4 indicates that the three most prominent noise sources at this location are as follows.



Noise Source	Predicted noise contribution at NSR 4: New Hall Farm dB $L_{Aeq,T}$	Comment
Total Predicted	48-50	Close to the 47 dB $L_{Aeq,T}$ typically measured at night
Kronoplus Filtration Plant	42	Elevated significant source although some screening from earth bund
Pre-Screening	38	
K8 Boiler Walls	38	

Table 8.4: Most significant predicted noise sources at NSR 4

9. BS4142 ASSESSMENTS

9.1 ASSESSMENT OF IMPACTS

Although it has not been possible to obtain noise measurements at NSR 1-4 without the Kronospan Plant operating, Spectrum are of the opinion that the estimated background noise levels derived from the noise surveys undertaken during partial shutdowns, as detailed in Ref. 9, are sufficient to use in a BS4142 assessment in lieu of any additional background noise data that might be obtained in the future.

To that end, the following assessments are made for NSR 1-4 using the derived background sound levels from Ref. 9 and the measured Specific sound levels from Section 8, in line with BS4142. The assessments are made for the more critical night-time period.

NSR	Specific sound level from measure- ment ($L_{Aeq,T}$)	Character correction (impulsivity or tonality typically just perceptible) (+3 dB)	Rating level (dB)	Background level from Ref. 9 ($L_{A90,T}$) (dB)	Excess of Rating level over background level	Assessment of impacts
NSR-1	50	+3	53	36	+17	Significant adverse, depending upon context
NSR-2	48	+3	51	37	+14	Significant adverse, depending upon context
NSR-3	46	+3	49	37	+12	Significant adverse, depending upon context
NSR-4	47	+3	50	36	+14	Significant adverse, depending upon context

Table 9.1: BS4142 Assessments for the night-time period for NSR 1-4



BS4142 advises the following:

The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. An effective assessment cannot be conducted without an understanding of the reason(s) for the assessment and the context in which the sound occurs/will occur. When making assessments and arriving at decisions, therefore, it is essential to place the sound in context.

Obtain an initial estimate of the impact of the specific sound by subtracting the measured background sound level (see Clause [8](#)) from the rating level (see Clause [9](#)).

NOTE 1 More than one assessment might be appropriate.

- a) Typically, the greater this difference, the greater the magnitude of the impact.
- b) A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- c) A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- d) The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where

9.2 CONTEXT

Regarding context, BS4142 advises the following:

'Where the initial estimate of the impacts needs to be modified due to context, take all pertinent factors into account...'

Spectrum are of the opinion that the overriding pertinent factors to be taken into account when considering context would be as follows:

1. The Kronospan plant has been operational since 1970, and as such has been a part of the ambient soundscape for over 50 years. Guidance from the UK Environmental Regulators (Ref: 1) lists 'long standing industry' as an element 'likely to make a situation less sensitive'.
2. Permitting via NRW ensures that new developments within the site will be designed to avoid significant impact at noise sensitive receptors.
3. As ageing plant is replaced with new plant, noise levels from the site are likely to reduce over time
4. The Kronospan site forms part of the Chirk community as a large employer.

With regard to how the assessment should be modified to take context into account, guidance from the UK Environmental Regulators (Ref: 1) advises the following:

'There are no strict rules on what elements could make a context more or less sensitive. However, if you are modifying your assessment outcomes you must fully justify this, otherwise we will reject your noise impact assessment.'



In view of the above, Spectrum are of the opinion that whilst the initial assessment of the Rating sound level should be made against background sound levels without the Kronospan site operating (as per Table 9.1 above), the context of the Chirk site is that the perceived background sound level in the area does include steady noise from the Kronospan site (due to its long standing presence), and this is reflected in the steady $L_{A90,T}$ levels measured at NSR 1-4.

If this is accepted as a reasonable argument, then the BS4142 assessment could reasonably be adjusted for context by assessing measured $L_{Aeq,T}$ levels during normal operation against measured $L_{A90,T}$ values (modal night-time values from Section 5), as shown below.

NSR	Specific sound level ($L_{Aeq,T}$)	Character correction (impulsivity or tonality typically just perceptible) (+3 dB)	Rating level (dB)	Contextual Background level ($L_{A90,T}$) (dB)	Excess of Rating level over background level	Assessment of impacts
NSR-1	50	+3	53	47	+8	Adverse
NSR-2	48	+3	51	43	+8	Adverse
NSR-3	46	+3	49	45	+4	Adverse
NSR-4	47	+3	50	45	+5	Adverse

Table 9.1: BS4142 Assessments for the night-time period for NSR 1-4 taking long term industrial noise from Kronospan as contextually part of the background

10. BAT CONSIDERATIONS

Regarding Best Available Techniques (BAT), guidance from the UK Environmental Regulators (Ref: 1) advises the following.

It is your responsibility to avoid significant pollution and to demonstrate that you are using BAT or appropriate measures to prevent, or where that is not practicable, to minimise noise impact.

You should assess the findings of Steps 1 to 3 with your acoustic consultant and present a justification that you are (or will be) using BAT to prevent or minimise polluting noise emissions.

The BAT justification is the critical part of any noise impact assessment submitted to the environment agencies.

Place the noise impact into context (see [how the context affects an assessment](#)) and demonstrate that noise emissions have been prevented or minimised as far as reasonably practicable. For your justification:

- *concentrate on the dominant noise sources (and where necessary consider the influence of individual sub-components within a system)*
- *detail all existing noise attenuation measures (enclosures, silencers, location of kit, operating time restrictions and maintenance regimes)*
- *for dominant noise sources, consider all noise reduction techniques and come to a reasoned determination of what is achievable*



- *where upgrades are identified – state the predicted impact of the works and commit to firm completion timescales*
- *develop a noise management plan (if there will be a noise impact beyond the site boundary)*

A plant the size of the Kronospan Chirk site has a large number of noise sources, and it is generally difficult to identify specific noise sources at distant locations unless they are generating an abnormally high sound level which makes them audible above the rest of the plant.

If this happens at Kronospan, engineers will attend the area where the abnormal sound is audible in order to try and identify the source so that it can be remedied.

However, the BAT principle is based around identifying the principal noise sources associated with a plant, and in some cases this may be a group of sources, a building or a plant area comprising many sources.

In order to identify these sources, it is useful to use a noise model such as that which has been created for the Kronospan site, since this helps to identify the dominant noise sources at each location.

This is done by rank ordering the noise sources at each NSR, and this has been done in Appendix F.

Appendix F shows that there tend to be multiple noise sources contributing at each location, rather than one dominant source.

There are, however, a small number of sources that do show prominence at multiple locations, as follows:

- Kronoplus Filtration Plant
- Plastics Roof Fan Platform
- Pre-screening

In line with BAT, these are the sources that should be potentially considered for noise reduction, if practical, cost effective and a significant overall noise reduction is achievable.

11. CONCLUSIONS

This report includes results from environmental noise monitoring at 4 noise sensitive receptors (NSR) in different directions from the Kronospan Chirk site.

The measurement results suggest that environmental noise levels generated at the NSRs are generally stable due to the large number of continuous noise sources, with occasional impulsive sounds (e.g. from pulse clean filters, reversing alarms or movement of materials). However, the impact of the impulsive noises does not appear subjectively to warrant strong character corrections in the context of a BS4142 assessment, so a correction of 3 dB has been used.

Similarly, although tonal noise can be audible, assessment of tonality undertaken from night-time audio recordings at each NSR indicated that tonal corrections would not be required in a BS4142 assessment.

Near-field noise measurements taken on site have been used to create a software based environmental noise model so that noise sources can be rank ordered for potential further investigation, and this noise

model (or similar) can also be used to ensure that new equipment will not cause significant noise impact. Indeed, as older equipment is replaced or modified, such a model can also be utilised to chart a gradual reduction in noise levels, with on-going support from environmental noise measurements.



A P P E N D I X A

Site layout and building details

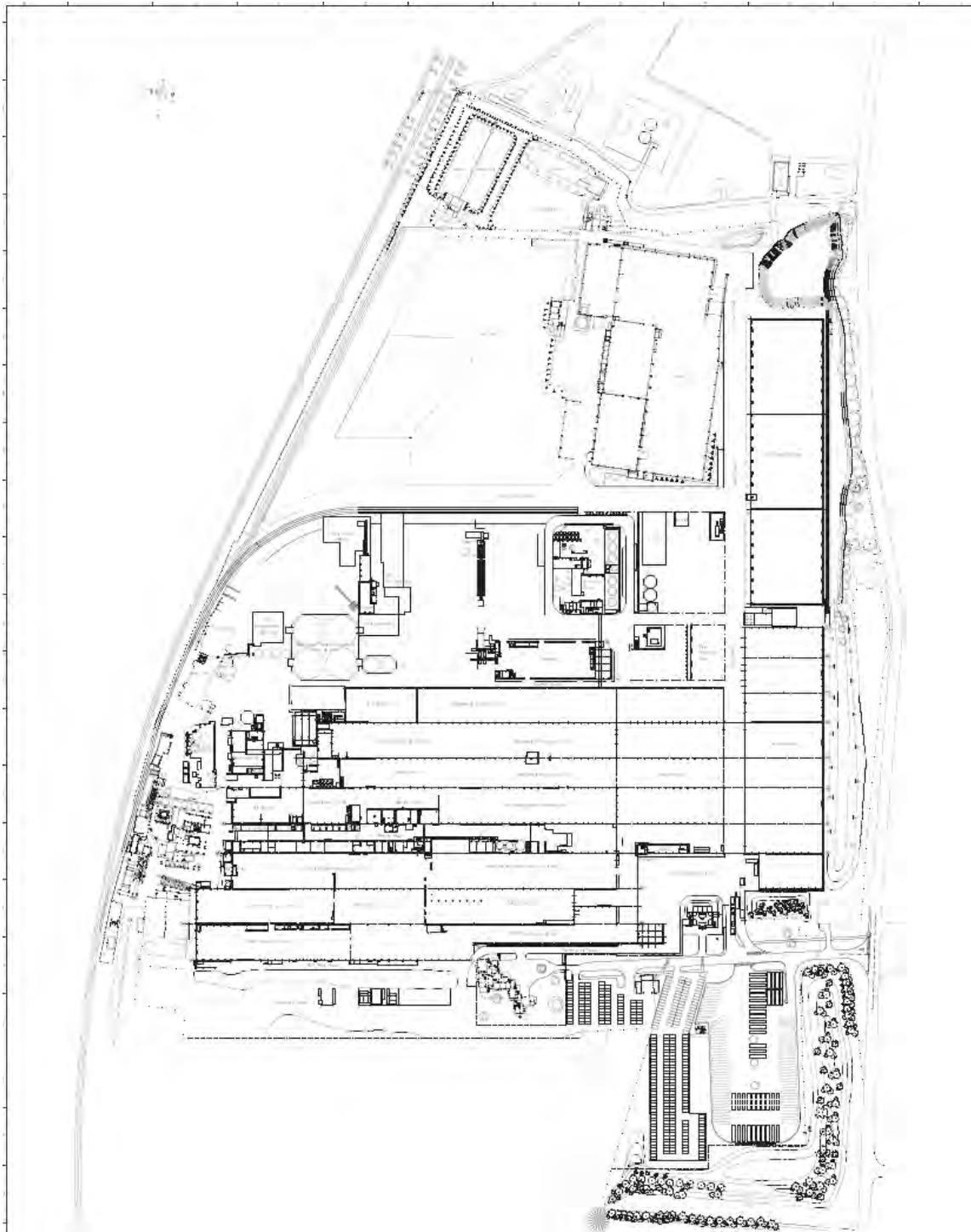


Figure A1: Site Layout

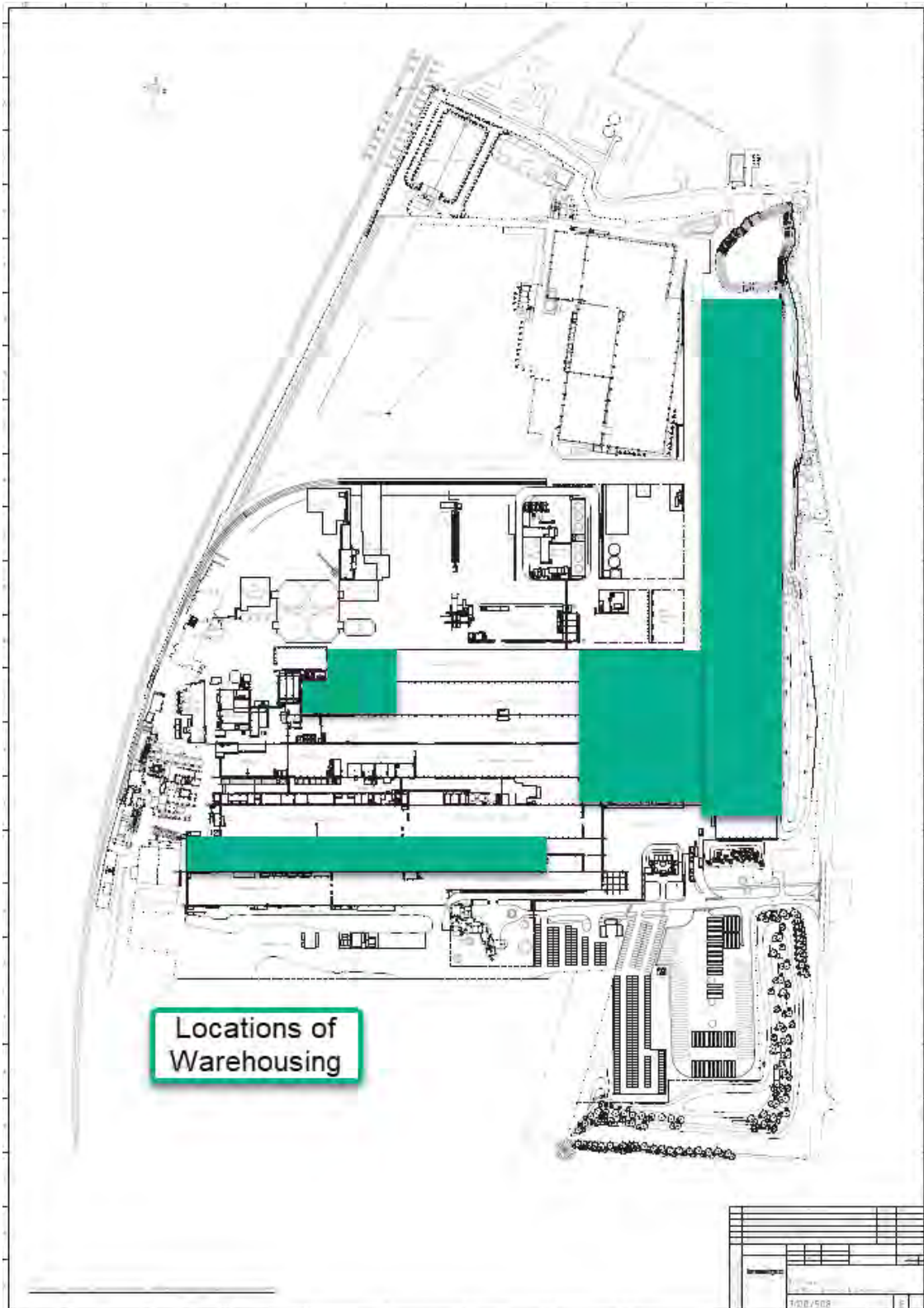


Figure A2: Site layout showing locations of warehousing with no significant noise generating activities within it

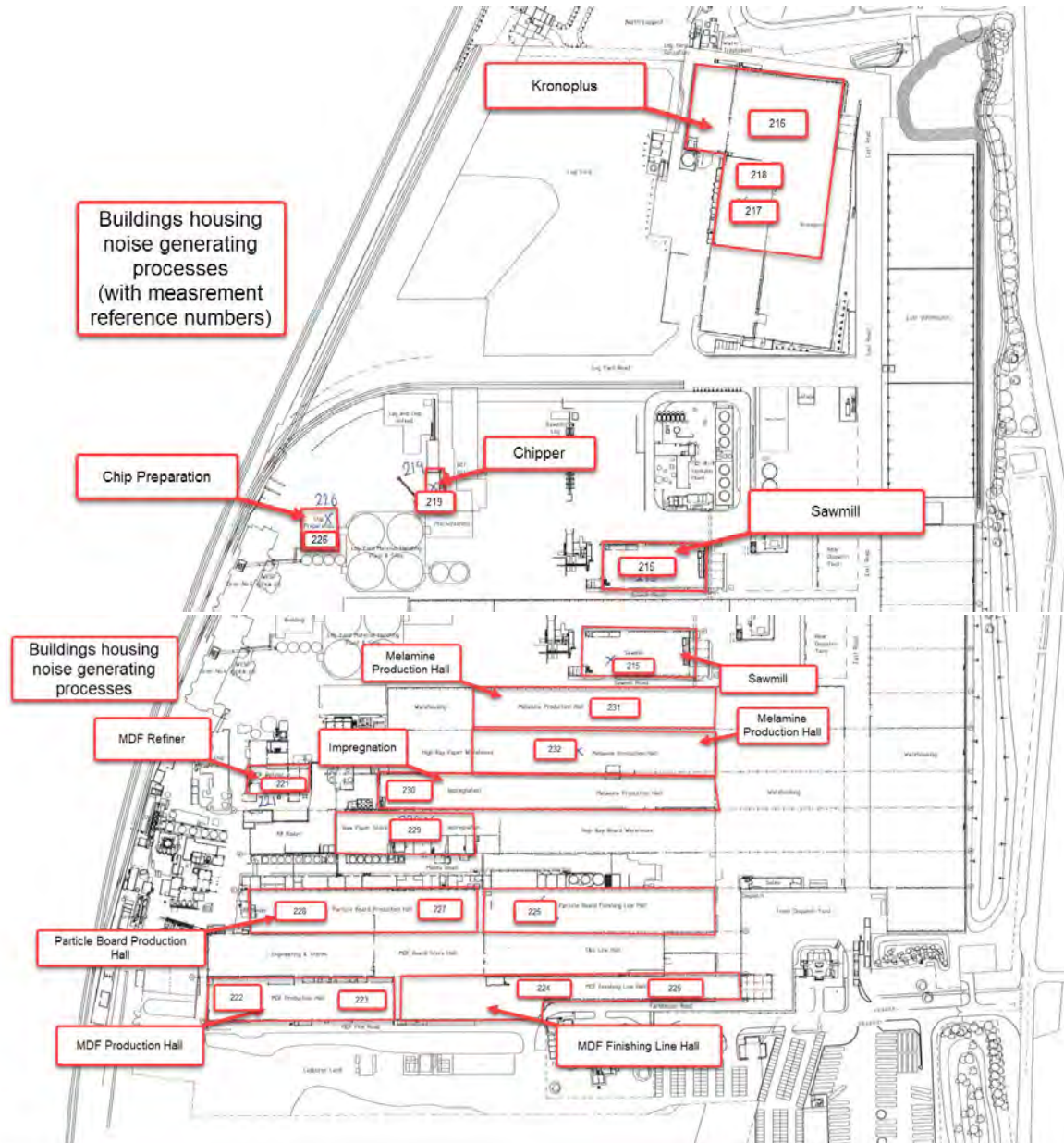


Figure A3: Locations of buildings housing noise generating equipment (with noise measurement reference numbers)



Measurement Ref	dBA	Octave band centre frequency (Hz)									
		16	31.5	63	125	250	500	1k	2k	4k	8k
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
215 Inside Sawmill	91	-	83	86	84	85	86	85	86	81	72
216 Inside Kronoplus Flooring	95	-	74	77	78	82	86	89	86	90	77
217 Inside Kronoplus Workshops	90	-	69	71	77	80	84	85	83	82	75
218 Inside Kronoplus Workshops	84	-	70	71	74	77	79	79	77	75	66
219 Inside Chipper	101	-	91	97	101	102	99	94	91	87	81
220 Inside Chip Preparation RCF Bladeroom	101	-	89	89	88	89	91	93	99	90	84
221 Inside MDF Refiner	94	-	84	81	84	84	93	83	84	85	83
222 Inside MDF Production Hall-Forming Line	83	-	84	85	84	84	81	77	74	71	67
223 Inside MDF Production Hall-Press and Saws	87	-	78	78	80	83	81	80	80	80	73
224 Inside MDF Finishing Line Hall-Finishing Line	94	-	79	81	84	88	89	89	88	85	80
225 Inside MDF Finishing Line Hall	90	-	74	79	81	84	83	83	83	84	77
226 Inside Particle Line Finishing Hall	93	-	79	82	85	86	88	89	86	82	80
227 Inside Particle Board Production Hall=Press and Saws	82	-	77	78	81	80	78	75	74	74	69
228 Inside Particle Board Production Hall-Forming Line	80	-	84	80	80	79	78	74	72	68	61
229 Inside Raw Paper Store (Vits 5)	72	-	75	71	74	70	67	65	64	64	58
230 Inside Impregnation Building (Vits 3&4)	75	-	74	75	71	75	70	69	65	66	63
231 Inside Melanine Production Hall P2 (paper lay-up area)	85	-	74	75	77	77	79	80	78	77	74
232 Inside Melanine Production Hall	82	-	75	77	78	80	79	78	75	71	63
-	-	-	-	-	-	-	-	-	-	-	-

Table A1: Measured noise levels inside buildings housing noise generating equipment



Kronospan Buildings: Wall and Roof Composition

Prepared By: Mike Titcombe

Date: 13.03.2024

Original buildings:

Walls:

- Masonry to 1.2m
- Cladding single skin TAC C34/1000 steel sheeting. Plasticol coated. 0.5mm thick
- Aluminium glassing bars with Asbestos rope gaskets and glass

Roofs:

- Double skin Asbestos cement sheets with 80mm Rockwool insulation.

Some roof are over-clad:

- Ashgrid system, 80mm / 100mm Rockwool insulation, single skin TAC or Coverworld CR32/1000 top sheet, Plasticol coated, 0.7mm thick

New buildings:

Walls:

- Masonry or concrete to 300mm. In some areas concrete to 2.2m.
- Cladding single skin Coverworld CW32/1000 steel sheeting. Plasticol coated. 0.5mm thick
- MDF Finishing Line specifically has an additional layer of 100mm thick foil backed Rockwool insulation and perforated acoustic steel profile sheet inside original external sheet.
- Brucha Rockwool composite panels nominally 100mm thick used for:
 - Gas Engines
 - Chip-Prep Building
 - PB Building Extension
 - Raw-board Store

Roofs:

- Double skin built up system comprising: Coverworld CR32/1000 - Steel liner panel, paint finish normally 0.4mm thick (some areas have 0.7mm liner), 80 / 100mm Rockwool insulation. Top sheet Plasticol coated, 0.7mm thick steel panel.
- Brucha Rockwool composite panels nominally 100mm thick used for:
 - Gas Engines
 - Chip-Prep Building
 - PB Building Extension
 - Raw-board Store

Original buildings include: MDF 1 & 2, PB, & Resin (main factory area)

Sound Insulation Prediction (v9.0.20)

Program copyright Marshall Day Acoustics 2017

Margin of error is generally within $R_w \pm 3$ dB

Key No. 2553

Job Name:

Job No.:

Date: 20/03/2025

File Name:

Initials: CAnderson

Notes:



R_w 39 dB
C -3 dB
Ctr -9 dB

Mass-air-mass resonant frequency = 110 Hz

Panel Size = 2.7 m x 4.0 m

Partition surface mass = 16.8 kg/m²

System description

Panel 1 : 1 x 10 mm Plasterboard
+ 1 x 0.5 mm Roof Cladding Windex

Frame: Z Purlin (76 mm x 36 mm) Stud spacing 600 mm Cavity Width 76 mm 1 x Fibreglass (10kg/m³) Thickness 80 mm

Panel 2 : 1 x 0.5 mm Roof Cladding Windex

freq.(Hz)	R(dB)	R(dB)
50	15	
63	16	16
80	16	
100	17	
125	14	16
160	19	
200	24	
250	30	28
315	34	
400	39	
500	43	42
630	47	
800	47	
1000	50	50
1250	53	
1600	56	
2000	58	58
2500	60	
3150	62	
4000	61	56
5000	52	

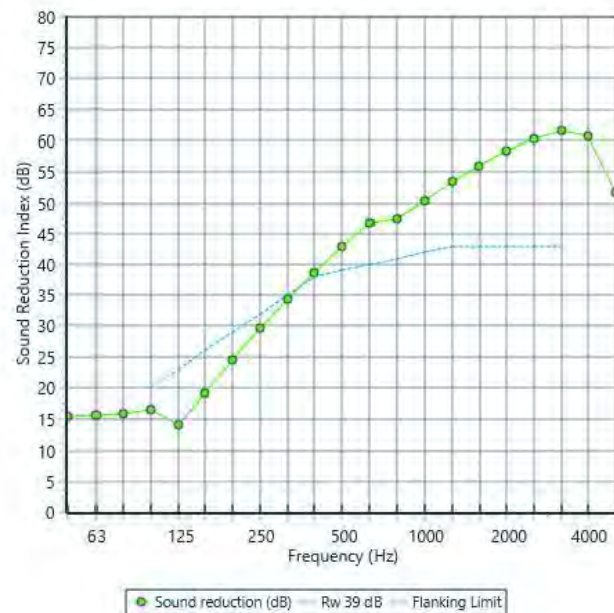


Figure A4: Estimate for roof sound insulation performance



Sound Insulation Prediction (v9.0.20)

Program copyright Marshall Day Acoustics 2017

Margin of error is generally within $R_w \pm 3$ dB

- Key No. 2553

Job Name:

Job No.:

Date: 20/03/2025

File Name:

Initials: CAnderson

Notes:



INSUL



R_w 22 dB
C -1 dB
Ctr -2 dB

Panel Size = 2.7 m x 4.0 m

Partition surface mass = 8.02 kg/m²

System description

Panel 1 : 1 x 0.5 mm Roof Cladding Windok
+ 1 x 0.5 mm Roof Cladding Windok

freq.(Hz)	R(dB)	R(dB)
50	12	
63	13	13
80	14	
100	15	
125	16	16
160	17	
200	19	
250	20	20
315	21	
400	22	
500	21	20
630	19	
800	19	
1000	19	19
1250	20	
1600	22	
2000	23	23
2500	24	
3150	26	
4000	27	27
5000	28	

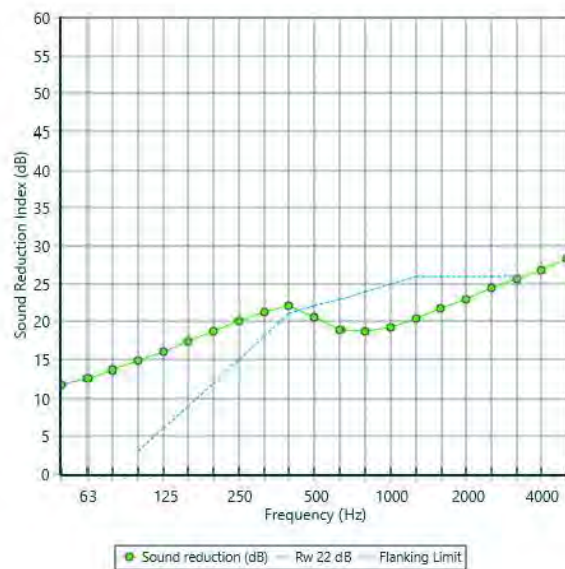


Figure A5: Estimate for wall sound insulation performance

A P P E N D I X B

Environmental noise Assessment locations (NSR 1-4)



Assessment locations



NSR 1



NSR 2



NSR 3



NSR 4

APPENDIX C

Calibration certificates

CERTIFICATE OF CALIBRATION

No: CDK2206772

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CALIBRATION OF

Sound Level Meter:	Brüel & Kjær Type 2250	No: 3027942	Id: -
Microphone:	Brüel & Kjær Type 4189	No: 3196081	
PreAmplifier:	Brüel & Kjær Type ZC-0032	No: 31869	
Calibrator:	Brüel & Kjær Type 4231	No: 2229957	
Software version:	BZ7225 Version 4.7.5	Pattern Approval:	PTBDE-16-M-PTB-0038 Rev 2 / DE-16-M-PTB-0039 Rev 2
Instruction manual:	BE1712-22		

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: *See actual values in sections.*

SPECIFICATIONS

The Sound Level Meter Brüel & Kjær Type 2250 has been calibrated in accordance with the requirements as specified in IEC 61672-1:2013 class 1. Procedures from IEC 61672-3:2013 were used to perform the periodic tests. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Sound Level Meter Calibration System 3630 with application software type 7763 (version 8.5 - DB: 8.50) by using procedure B&K proc 2250, 4189 (IEC 61672:2013).

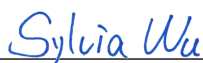
RESULTS

Calibration Mode: **Calibration after repair/adjustment.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device under calibration.

Date of calibration: 2022-09-15

Date of issue: 2022-09-15



Sylvia Wu Andersen
Calibration Technician



Jesper Bo Vedel
Approved Signatory

CERTIFICATE OF CALIBRATION

No: CDK2307220

Page 1 of 6

CALIBRATION OF

Calibrator: Brüel & Kjær Type 4231 No: 2229957 Id: -
Acoustical Adaptor: Brüel & Kjær Type UC-0210 (1/2" Adaptor)
Pattern Approval: None

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: See actual values in **Environmental conditions** section.

SPECIFICATIONS

The Calibrator Brüel & Kjær Type 4231 has been calibrated in accordance with the requirements as specified in IEC 60942:2017 Annex B - Microphone method. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Calibrator Calibration System 3630 with application software type 7763 (version 8.6 - DB: 8.60) by using procedure P_4231_4180_M01.

RESULTS

Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device(s) under calibration. The results are only applicable for the specific device(s) listed above.

Date of calibration: 2023-09-26

Date of issue: 2023-09-27



Jeannie Gerd Nielsen
Calibration Technician



Jesper Bo Vedel
Approved Signatory

CERTIFICATE OF CALIBRATION

No: CDK2301077

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CALIBRATION OF

Sound Level Meter:	Brüel & Kjær Type 2250	No: 3010857	Id: -
Microphone:	Brüel & Kjær Type 4189	No: 3060877	
PreAmplifier:	Brüel & Kjær Type ZC-0032	No: 25313	
Calibrator:	Brüel & Kjær Type 4231	No: 2291483	
Software version:	BZ7225 Version 4.7.5	Pattern Approval:	PTBDE-16-M-PTB-0038 Rev 2 / DE-16-M-PTB-0039 Rev 2
Instruction manual:	BE1712-22		

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: *See actual values in **Environmental conditions** sections.*

SPECIFICATIONS

The Sound Level Meter Brüel & Kjær Type 2250 has been calibrated in accordance with the requirements as specified in IEC 61672-1:2013 class 1. Procedures from IEC 61672-3:2013 were used to perform the periodic tests. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Sound Level Meter Calibration System 3630 with application software type 7763 (version 8.6 - DB: 8.60) by using procedure B&K proc 2250, 4189 (IEC 61672:2013).

RESULTS

Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device(s) under calibration. The results are only applicable for the specific device(s) listed above.

Date of calibration: 2023-02-13

Date of issue: 2023-02-14



Sylvia Wu Andersen
Calibration Technician



Erik Bruus
Approved Signatory

CERTIFICATE OF CALIBRATION

No: CDK2301047

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CALIBRATION OF

Calibrator: Brüel & Kjær Type 4231 No: 2291483 Id: -
Acoustical Adaptor: Brüel & Kjær Type UC-0210 (1/2" Adaptor)
Pattern Approval: None

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: See actual values in **Environmental conditions** section.

SPECIFICATIONS

The Calibrator Brüel & Kjær Type 4231 has been calibrated in accordance with the requirements as specified in IEC 60942:2017 Annex B - Microphone method. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Calibrator Calibration System 3630 with application software type 7763 (version 8.6 - DB: 8.60) by using procedure P_4231_4180_M01.


RESULTS


Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device(s) under calibration. The results are only applicable for the specific device(s) listed above.

Date of calibration: 2023-02-13

Date of issue: 2023-02-13


Susanne Jørgensen
Calibration Technician


Nicki Eriksen
Approved Signatory

CERTIFICATE OF CALIBRATION

No: CDK2207633

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CALIBRATION OF

Sound Level Meter:	Brüel & Kjær Type 2250	No: 3024396	Id: -
Microphone:	Brüel & Kjær Type 4189	No: 3349664	
PreAmplifier:	Brüel & Kjær Type ZC-0032	No: 28474	
Calibrator:	Brüel & Kjær Type 4231	No: 3021281	
Software version:	BZ7225 Version 4.7.6	Pattern Approval:	-
Instruction manual:	BE1712-22		

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: *See actual values in sections.*

SPECIFICATIONS

The Sound Level Meter Brüel & Kjær Type 2250 has been calibrated in accordance with the requirements as specified in IEC 61672-1:2013 class 1. Procedures from IEC 61672-3:2013 were used to perform the periodic tests. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Sound Level Meter Calibration System 3630 with application software type 7763 (version 8.5 - DB: 8.50) by using procedure B&K proc 2250, 4189 (IEC 61672:2013).


RESULTS

Calibration Mode: **Calibration after repair/adjustment.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device under calibration.

Date of calibration: 2022-10-13

Date of issue: 2022-10-13



Sylvia Wu Andersen
Calibration Technician



Jesper Bo Vedel
Approved Signatory

CERTIFICATE OF CALIBRATION

No: CDK2308477

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CALIBRATION OF

Calibrator: Brüel & Kjær Type 4231 No: 3021281 Id: -
Acoustical Adaptor: Brüel & Kjær Type UC-0210 (1/2" Adaptor)
Pattern Approval: None

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: See actual values in **Environmental conditions** section.

SPECIFICATIONS

The Calibrator Brüel & Kjær Type 4231 has been calibrated in accordance with the requirements as specified in IEC 60942:2017 Annex B - Microphone method. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Calibrator Calibration System 3630 with application software type 7763 (version 8.6 - DB: 8.60) by using procedure P_4231_4180_M_LS_A01.

RESULTS

Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device(s) under calibration. The results are only applicable for the specific device(s) listed above.

Date of calibration: 2023-11-13

Date of issue: 2023-11-14



Jeannie Gerd Nielsen
Calibration Technician



Erik Bruus
Approved Signatory

CERTIFICATE OF CALIBRATION

No: CDK2201275

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CALIBRATION OF

Sound Level Meter:	Brüel & Kjær Type 2250	No: 3024398	Id: -
Microphone:	Brüel & Kjær Type 4189	No: 3147720	
PreAmplifier:	Brüel & Kjær Type ZC-0032	No: 27266	
Calibrator:	Brüel & Kjær Type 4231	No: 3021283	
Software version:	BZ7224 Version 4.7.6	Pattern Approval:	-
Instruction manual:	BE1712-22		

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: *See actual values in sections.*

SPECIFICATIONS

The Sound Level Meter Brüel & Kjær Type 2250 has been calibrated in accordance with the requirements as specified in IEC 61672-1:2013 class 1. Procedures from IEC 61672-3:2013 were used to perform the periodic tests. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Sound Level Meter Calibration System 3630 with application software type 7763 (version 8.3 - DB: 8.30) by using procedure B&K proc 2250, 4189 (IEC 61672:2013).

RESULTS

Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device under calibration.

Date of calibration: 2022-02-10

Date of issue: 2022-02-10



Lene Petersen

Calibration Technician



Susanne Jørgensen

Approved Signatory

CERTIFICATE OF CALIBRATION

No: CDK2201275

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1. Calibration Note

The calibration has been performed using the supplied microphone extension cable type AO 0697-D-100.
The windscreen was replaced due to faulty detection

2. Summary

4.1. Preliminary inspection	Passed
4.2. WindScreen check	Passed
4.3. Environmental conditions, Prior to calibration	Passed
4.4. Reference information	Passed
4.5. Indication at the calibration check frequency	Passed
4.6. Acoustical signal tests of a frequency weighting, C weighting	Passed
4.7. Self-generated noise, Microphone installed	Passed
4.8. Self-generated noise, Electrical	Passed
4.9. Electrical signal tests of frequency weightings, A weighting	Passed
4.10. Electrical signal tests of frequency weightings, C weighting	Passed
4.11. Electrical signal tests of frequency weightings, Z weighting	Passed
4.12. Frequency and time weightings at 1 kHz	Passed
4.13. Long-term stability, Reference	Passed
4.14. Level linearity on the reference level range, Upper	Passed
4.15. Level linearity on the reference level range, Lower	Passed
4.16. Toneburst response, Time-weighting Fast	Passed
4.17. Toneburst response, Time-weighting Slow	Passed
4.18. Toneburst response, LAE	Passed
4.19. C-weighted peak sound level, 8 kHz	Passed
4.20. C-weighted peak sound level, 500 Hz	Passed
4.21. Overload indication	Passed
4.22. Long-term stability, 1. relative	Passed
4.23. High-level stability	Passed
4.24. Long-term stability, 2. relative	Passed
4.25. Environmental conditions, Following calibration	Passed

Conformance to a performance specification is demonstrated when the following criteria are both satisfied: (a) a measured deviation from a design goal does not exceed the applicable acceptance limit and (b) the corresponding uncertainty of measurement does not exceed the corresponding maximum-permitted uncertainty of measurement given in IEC 61672-1:2013 for the same coverage probability of 95 %.

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 organization responsible for pattern approvals, to demonstrate 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.

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3. Instruments

	Instrument	Inventory No.
Adaptor	Brüel & Kjær, Type WA-0302-B 15 pF	150503013
Calibrator	Brüel & Kjær, Type 4226	124226023
Amplifier/Divider	Brüel & Kjær, Type WB-3630	163630002
Generator	Brüel & Kjær, Type 3161-A-011	123161058
Voltmeter	Agilent, Type 34461A	142114005

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4. Measurements**4.1. Preliminary inspection**

Visually inspect instrument, and operate all relevant controls. (clause 5)

	Result	
Visual inspection	OK	

4.2. WindScreen check

Verify automatic windscreen detection functionality if windscreen is supplied by customer. (N/A indicates that no applicable windscreen was supplied)

	Status	
WindScreen	OK	

4.3. Environmental conditions, Prior to calibration

Actual environmental conditions prior to calibration. (clause 7)

	Expected	Accept - Limit	Accept + Limit	Measured	
				[Deg / kPa / % RH]	
Air temperature	23.00	-3.00	3.00	22.90	
Air pressure	101.30	-21.30	3.70	100.96	
Relative humidity	50.00	-25.00	20.00	44.00	

4.4. Reference information

Information about reference range, level and channel. (clause 22.h + 22.m)

	Value	
	[dB SPL]	
Reference sound pressure level	94	
Reference level range	140	
Channel number	1	

4.5. Indication at the calibration check frequency

Measure and adjust sound level meter using the supplied calibrator. (clause 10 + 22.m)

	Expected	Measured	Uncertainty	
	[dB SPL / Hz]	[dB SPL / Hz]	[dB / Hz]	
Calibration check frequency (supplied calibrator)	1000.00	1000.00	1.00	
Initial indication (supplied calibrator)	94.00	93.72	0.22	
Adjusted indication (supplied calibrator)	94.00	93.87	0.22	

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4.6. Acoustical signal tests of a frequency weighting, C weighting

Frequency weightings measured acoustically with a calibrated multi-frequency sound calibrator. Averaging time is 10 seconds, and the result is the average of 2 measurements. (clause 12)

	Coupler Pressure Lc	Mic. Correction C4226	Body Influence	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
1000Hz, Ref. (1st)	94.07	0.10	-0.07	94.04	93.98	-0.7	0.7	-0.06	0.25	
1000Hz, Ref. (2nd)	94.07	0.10	-0.07	94.04	93.98	-0.7	0.7	-0.06	0.25	
1000Hz, Ref. (Average)	94.07	0.10	-0.07	94.04	93.98	-0.7	0.7	-0.06	0.25	
125.89Hz (1st)	94.03	0.00	0.00	93.84	93.85	-1.0	1.0	0.01	0.25	
125.89Hz (2nd)	94.03	0.00	0.00	93.84	93.85	-1.0	1.0	0.01	0.25	
125.89Hz (Average)	94.03	0.00	0.00	93.84	93.85	-1.0	1.0	0.01	0.25	
7943.3Hz (1st)	93.86	2.80	-0.08	88.15	88.01	-2.5	1.5	-0.14	0.52	
7943.3Hz (2nd)	93.86	2.80	-0.08	88.15	88.01	-2.5	1.5	-0.14	0.52	
7943.3Hz (Average)	93.86	2.80	-0.08	88.15	88.01	-2.5	1.5	-0.14	0.52	

4.7. Self-generated noise, Microphone installed

Self-generated noise measured with microphone submitted for periodic testing. Averaging time is 30 seconds. An anechoic chamber is used to isolate environmental noise.

The level of self-generated noise is reported for information only and is not used to assess conformance to a requirement. (clause 11.1)

	Max	Measured	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	
A weighted	17.70	16.70	0.50	

4.8. Self-generated noise, Electrical

Self-generated noise measured in most sensitive range, with electrical substitution for microphone, according to manufactures specifications.

The level of self-generated noise is reported for information only and is not used to assess conformance to a requirement. (clause 11.2)

	Max	Measured	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	
A weighted	13.60	12.66	0.30	
C weighted	14.30	12.92	0.30	
Z weighted	19.40	18.02	0.30	

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No: CDK2201275

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4.9. Electrical signal tests of frequency weightings, A weighting

Frequency response measured with electrical signal relative to level at 1 kHz in reference range. (clause 13)

Electrical and acoustical response and body influence corrections are adjusted with the respective correction values at the reference frequency, in accordance with clause 13.6

	Input Level	Expected	Measured	Response Corr.	Body Influence	Corr. Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dBV]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
1000Hz, Ref.	-24.59	95.00	95.00	0.00	0.00	95.00	-0.5	0.5	0.00	0.12	
63.096Hz	1.61	95.00	95.06	0.00	0.07	95.13	-1.0	1.0	0.13	0.12	
125.89Hz	-8.49	95.00	95.02	0.00	0.07	95.09	-1.0	1.0	0.09	0.12	
251.19Hz	-15.99	95.00	94.97	0.00	0.14	95.11	-1.0	1.0	0.11	0.12	
501.19Hz	-21.39	95.00	94.96	0.00	0.29	95.25	-1.0	1.0	0.25	0.12	
1995.3Hz	-25.79	95.00	95.00	-0.01	-0.02	94.97	-1.0	1.0	-0.03	0.12	
3981.1Hz	-25.59	95.00	94.99	-0.02	-0.02	94.95	-1.0	1.0	-0.05	0.12	
7943.3Hz	-23.49	95.00	94.99	0.00	-0.01	94.98	-2.5	1.5	-0.02	0.12	
15849Hz	-17.99	95.00	94.10	0.87	0.18	95.15	-16.0	2.5	0.15	0.12	

4.10. Electrical signal tests of frequency weightings, C weighting

Frequency response measured with electrical signal relative to level at 1 kHz in reference range. (clause 13)

Electrical and acoustical response and body influence corrections are adjusted with the respective correction values at the reference frequency, in accordance with clause 13.6

	Input Level	Expected	Measured	Response Corr.	Body Influence	Corr. Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dBV]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
1000Hz, Ref.	-24.59	95.00	95.00	0.00	0.00	95.00	-0.5	0.5	0.00	0.12	
63.096Hz	-23.79	95.00	95.01	0.00	0.07	95.08	-1.0	1.0	0.08	0.12	
125.89Hz	-24.39	95.00	95.04	0.00	0.07	95.11	-1.0	1.0	0.11	0.12	
251.19Hz	-24.59	95.00	95.00	0.00	0.14	95.14	-1.0	1.0	0.14	0.12	
501.19Hz	-24.59	95.00	95.03	0.00	0.29	95.32	-1.0	1.0	0.32	0.12	
1995.3Hz	-24.39	95.00	95.04	-0.01	-0.02	95.01	-1.0	1.0	0.01	0.12	
3981.1Hz	-23.79	95.00	95.00	-0.02	-0.02	94.96	-1.0	1.0	-0.04	0.12	
7943.3Hz	-21.59	95.00	95.00	0.00	-0.01	94.99	-2.5	1.5	-0.01	0.12	
15849Hz	-16.09	95.00	94.08	0.87	0.18	95.13	-16.0	2.5	0.13	0.12	

CERTIFICATE OF CALIBRATION

No: CDK2201275

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4.11. Electrical signal tests of frequency weightings, Z weighting

Frequency response measured with electrical signal relative to level at 1 kHz in reference range. (clause 13)

Electrical and acoustical response and body influence corrections are adjusted with the respective correction values at the reference frequency, in accordance with clause 13.6

	Input Level	Expected	Measured	Response Corr.	Body Influence	Corr. Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dBV]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
1000Hz, Ref.	-24.59	95.00	95.00	0.00	0.00	95.00	-0.5	0.5	0.00	0.12	
63.096Hz	-24.59	95.00	95.03	0.00	0.07	95.10	-1.0	1.0	0.10	0.12	
125.89Hz	-24.59	95.00	95.01	0.00	0.07	95.08	-1.0	1.0	0.08	0.12	
251.19Hz	-24.59	95.00	95.00	0.00	0.14	95.14	-1.0	1.0	0.14	0.12	
501.19Hz	-24.59	95.00	95.00	0.00	0.29	95.29	-1.0	1.0	0.29	0.12	
1995.3Hz	-24.59	95.00	95.00	-0.01	-0.02	94.97	-1.0	1.0	-0.03	0.12	
3981.1Hz	-24.59	95.00	95.02	-0.02	-0.02	94.98	-1.0	1.0	-0.02	0.12	
7943.3Hz	-24.59	95.00	95.00	0.00	-0.01	94.99	-2.5	1.5	-0.01	0.12	
15849Hz	-24.59	95.00	94.13	0.87	0.18	95.18	-16.0	2.5	0.18	0.12	

4.12. Frequency and time weightings at 1 kHz

Frequency and time weighting measured at 1 kHz with electrical signal in reference range. Measured relative to A-weighted and Fast response. (clause 14)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
LAF, Ref.	94.00	94.00	-0.5	0.5	0.00	0.12	
LCF	94.00	94.00	-0.2	0.2	0.00	0.12	
LZF	94.00	94.00	-0.2	0.2	0.00	0.12	
LAS	94.00	93.92	-0.1	0.1	-0.08	0.12	
LAeq	94.00	93.99	-0.1	0.1	-0.01	0.12	

4.13. Long-term stability, Reference

Long-term stability over 25 to 35 minutes, with steady 1kHz signal at reference level. (clause 15)

Adjusting to reference level indication.

	Measured	Accept - Limit	Accept + Limit	Deviation	Timestamp	Uncertainty	
	[dB SPL]	[dB]	[dB]	[dB]		[dB]	
Reference	94.00	-0.5	0.5	0.00	2022-02-10 08:24:25	0.10	

CERTIFICATE OF CALIBRATION

No: CDK2201275

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4.14. Level linearity on the reference level range, Upper

Level linearity in reference range, measured at 8 kHz until overload. (clause 16)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
94 dB	94.00	94.00	-0.2	0.2	0.00	0.13	
99 dB	99.00	99.01	-0.8	0.8	0.01	0.13	
104 dB	104.00	104.01	-0.8	0.8	0.01	0.13	
109 dB	109.00	109.01	-0.8	0.8	0.01	0.13	
114 dB	114.00	114.02	-0.8	0.8	0.02	0.13	
119 dB	119.00	119.02	-0.8	0.8	0.02	0.13	
124 dB	124.00	124.03	-0.8	0.8	0.03	0.13	
129 dB	129.00	129.03	-0.8	0.8	0.03	0.13	
134 dB	134.00	134.03	-0.8	0.8	0.03	0.13	
135 dB	135.00	135.03	-0.8	0.8	0.03	0.13	
136 dB	136.00	136.03	-0.8	0.8	0.03	0.13	
137 dB	137.00	137.03	-0.8	0.8	0.03	0.13	
138 dB	138.00	138.03	-0.8	0.8	0.03	0.13	
139 dB	139.00	139.03	-0.8	0.8	0.03	0.13	
140 dB	140.00	140.03	-0.8	0.8	0.03	0.13	

CERTIFICATE OF CALIBRATION

No: CDK2201275

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4.15. Level linearity on the reference level range, Lower

Level linearity in reference range, measured at 8 kHz down to lower limit, or until underrange. (clause 16)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
94 dB	94.00	94.00	-0.2	0.2	0.00	0.13	
89 dB	89.00	89.00	-0.8	0.8	0.00	0.13	
84 dB	84.00	84.01	-0.8	0.8	0.01	0.13	
79 dB	79.00	79.00	-0.8	0.8	0.00	0.13	
74 dB	74.00	74.00	-0.8	0.8	0.00	0.13	
69 dB	69.00	69.00	-0.8	0.8	0.00	0.13	
64 dB	64.00	64.00	-0.8	0.8	0.00	0.13	
59 dB	59.00	58.99	-0.8	0.8	-0.01	0.13	
54 dB	54.00	54.00	-0.8	0.8	0.00	0.13	
49 dB	49.00	49.01	-0.8	0.8	0.01	0.13	
44 dB	44.00	44.01	-0.8	0.8	0.01	0.13	
39 dB	39.00	39.03	-0.8	0.8	0.03	0.24	
34 dB	34.00	34.06	-0.8	0.8	0.06	0.24	
30 dB	30.00	30.11	-0.8	0.8	0.11	0.24	
29 dB	29.00	29.16	-0.8	0.8	0.16	0.24	
28 dB	28.00	28.16	-0.8	0.8	0.16	0.24	
27 dB	27.00	27.19	-0.8	0.8	0.19	0.24	
26 dB	26.00	26.25	-0.8	0.8	0.25	0.24	
25 dB	25.00	25.29	-0.8	0.8	0.29	0.24	

4.16. Toneburst response, Time-weighting Fast

Response to 4 kHz toneburst measured in reference range, relative to continuous signal. (clause 18)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
Continuous, Ref.	137.00	137.00	-0.5	0.5	0.00	0.12	
200 ms Burst	136.00	135.99	-0.5	0.5	-0.01	0.12	
2 ms Burst	119.00	118.92	-1.5	1.0	-0.08	0.12	
0.25 ms Burst	110.00	109.86	-3.0	1.0	-0.14	0.12	

4.17. Toneburst response, Time-weighting Slow

Response to 4 kHz toneburst measured in reference range, relative to continuous signal. (clause 18)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
Continuous, Ref.	137.00	136.97	-0.5	0.5	-0.03	0.12	
200 ms Burst	129.57	129.63	-0.5	0.5	0.06	0.12	
2 ms Burst	109.97	110.01	-3.0	1.0	0.04	0.12	

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4.18. Toneburst response, LAE

Response to 4 kHz toneburst measured in reference range, relative to continuous signal. (clause 18)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
Continuous, Ref.	137.00	137.00	-0.5	0.5	0.00	0.12	
200 ms Burst	130.00	129.99	-0.5	0.5	-0.01	0.12	
2 ms Burst	110.00	109.96	-1.5	1.0	-0.04	0.12	
0.25 ms Burst	101.00	100.85	-3.0	1.0	-0.15	0.12	

4.19. C-weighted peak sound level, 8 kHz

Peak-response to a 8 kHz single-cycle sine measured in least-sensitive range, relative to continuous signal. (clause 19)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
Continuous, Ref.	132.00	132.00	-0.5	0.5	0.00	0.09	
Single Sine	135.40	135.47	-2.0	2.0	0.07	0.20	

4.20. C-weighted peak sound level, 500 Hz

Peak-response to a 500 Hz half-cycle sine measured in least-sensitive range, relative to continuous signal. (clause 19)

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
Continuous, Ref.	135.00	135.00	-0.5	0.5	0.00	0.09	
Half-sine, Positive	137.40	137.11	-1.0	1.0	-0.29	0.12	
Half-sine, Negative	137.40	137.12	-1.0	1.0	-0.28	0.12	

4.21. Overload indication

Overload indication in the least sensitive range determined with a 4 kHz positive/negative half-cycle signal. (clause 20)

	Measured / Input Level	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
Continuous	140.00	-0.5	0.5	0.00	0.20	
Half-sine, Positive	141.30	-10.0	10.0	1.30	0.20	
Half-sine, Negative	141.60	-10.0	10.0	1.60	0.20	
Difference	141.60	-1.5	1.5	0.30	0.24	

4.22. Long-term stability, 1. relative

Long-term stability over 25 to 35 minutes, with steady 1kHz signal at reference level. (clause 15)

Relative to prior adjustment to reference level indication.

	Measured	Accept - Limit	Accept + Limit	Deviation	Timestamp	Uncertainty	
	[dB SPL / Min]	[dB / Min]	[dB / Min]	[dB / Min]		[dB]	
Measurement	94.00	-0.1	0.1	0.00	2022-02-10 08:51:57	0.10	
Time passed	27.32	0.0	35.0	27.32	0	0.00	

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4.23. High-level stability

High-level stability over 5 minutes, with steady 1kHz signal, 1dB below upper boundary. (clause 21)

	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
High-level, Ref.	139.00	-0.5	0.5	0.00	0.10	
High-level, after 5min	139.00	-0.1	0.1	0.00	0.10	

4.24. Long-term stability, 2. relative

Long-term stability over 25 to 35 minutes, with steady 1kHz signal at reference level. (clause 15)

Relative to prior adjustment to reference level indication.

	Measured	Accept - Limit	Accept + Limit	Deviation	Timestamp	Uncertainty	
	[dB SPL/ Min]	[dB / Min]	[dB / Min]	[dB / Min]		[dB]	
Wait	34.04	25.0	120.0	34.04	0	0.00	
Measurement	94.00	-0.1	0.1	0.00	2022-02-10 08:59:01	0.10	

4.25. Environmental conditions, Following calibration

Actual environmental conditions following calibration. (clause 7)

	Expected	Accept - Limit	Accept + Limit	Measured	
				[Deg / kPa / % RH]	
Air temperature	23.00	-3.00	3.00	23.20	
Air pressure	101.30	-21.30	3.70	100.93	
Relative humidity	50.00	-25.00	20.00	44.00	

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DANAK

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CALIBRATION OF

Calibrator: Brüel & Kjær Type 4231 No: 3021283 Id: -
Acoustical Adaptor: Brüel & Kjær Type UC-0210 (1/2" Adaptor)
Pattern Approval: None

CUSTOMER

Spectrum Acoustics
27-29 High Street
SG18 0JE Biggleswade
Bedfordshire, United Kingdom

CALIBRATION CONDITIONS

Preconditioning: 4 hours at $23^{\circ}\text{C} \pm 3^{\circ}\text{C}$
Environment conditions: See actual values in **Environmental conditions** section.

SPECIFICATIONS

The Calibrator Brüel & Kjær Type 4231 has been calibrated in accordance with the requirements as specified in IEC 60942:2017 Annex B - Microphone method. The accreditation assures the traceability to the international units system SI.

PROCEDURE

The measurements have been performed with the assistance of Brüel & Kjær Calibrator Calibration System 3630 with application software type 7763 (version 8.6 - DB: 8.60) by using procedure P_4231_4180_M_LS_A01.


RESULTS


Calibration Mode: **Calibration as received.**

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95 %. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the device(s) under calibration. The results are only applicable for the specific device(s) listed above.

Date of calibration: 2023-02-13

Date of issue: 2023-02-13


Susanne Jørgensen
Calibration Technician


Nicki Eriksen
Approved Signatory

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1. Calibration Note

n/a

2. Summary

4.1. Preliminary inspection	Passed
4.2. Specified sound pressure level	Passed
4.3. Environmental conditions	Passed
4.4. Ambient noise	Passed
4.5. Results - Level 94 dB	Passed
4.6. Results - Level 114 dB	Passed
4.7. Results - Frequency 94 dB	Passed
4.8. Results - Frequency 114 dB	Passed
4.9. Results - Distortion 94 dB	Passed
4.10. Results - Distortion 114 dB	Passed

The sound calibrator has been shown to conform to the class LS requirements for periodic testing, described in Annex B of IEC 60942:2017 for the sound pressure level(s) and frequency(ies) stated, for the environmental conditions under which the tests were performed. However, as public evidence was not available, from a testing organization responsible for pattern approval, to demonstrate that the model of sound calibration conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2017, no general statement or conclusion can be made about conformance of the sound calibrator to the requirements of IEC 60942:2017.

Conformance to the requirements of IEC 60942:2017, is demonstrated when the measured deviations do not exceed the applicable tolerance limits given in in IEC 60942:2017.

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3. Instruments

	Instrument	Inventory No.
Preamplifier	Brüel & Kjær, Type 2673	122673036
Microphone	Brüel & Kjær, Type 4180	124180038
Analyzer	Brüel & Kjær, Type 3160-A-042	123160060
Environmental Values	Vaisala, Type Indigo 520	142908001

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4. Measurements**4.1. Preliminary inspection**

The unit is visually inspected to check the suitability for calibration (clause B.3).

	Result	
Preliminary inspection	OK	

4.2. Specified sound pressure level

Specified sound pressure level for the individual calibrator or pistonphone (clause 3.3 and clause 5.1.4).

		Stated	
		[dB SPL]	
Specified sound pressure level	Nominal	94.00	

4.3. Environmental conditions

Actual environmental conditions (clause B.4.3.1).

	Expected	Accept - Limit	Accept + Limit	Measured	
				[Deg / kPa / % RH]	
Air temperature	23.00	-3.00	3.00	22.80	
Air pressure	100.00	-20.00	5.00	102.93	
Relative humidity	50.00	-25.00	40.00	45.00	

4.4. Ambient noise

Ambient noise measured by the microphone after coupling to the sound calibrator, but with calibrator turned off. (clause B.4.2)

	Max	Measured	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB]	[dB]	
Noise inside Calibrator	64.0	45.7	-18.3	1.00	

4.5. Results - Level 94 dB

Measured value of the Sound Pressure Level(s), at Reference Environmental Conditions. (clause B.4.6.3).

Sound Pressure Levels are stated in absolute terms.

Stated tolerances are in accordance with IEC 60942:2017 (Table 2).

Measured values of the Sound Pressure Level, reported at Reference Environmental Conditions.

marked rows are principal measurements, i.e. the average of three measurements.

	Expected	Measured	Normalised	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
1000 Hz #	94.00	94.00	94.00	-0.10	0.10	0.00	0.08	

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4.6. Results - Level 114 dB

Measured value of the Sound Pressure Level(s), at Reference Environmental Conditions. (clause B.4.6.3).

Sound Pressure Levels are stated in absolute terms.

Stated tolerances are in accordance with IEC 60942:2017 (Table 2).

Measured values of the Sound Pressure Level, reported at Reference Environmental Conditions.

marked rows are principal measurements, i.e. the average of three measurements.

	Expected	Measured	Normalised	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[dB SPL]	[dB SPL]	[dB SPL]	[dB]	[dB]	[dB]	[dB]	
1000 Hz	114.00	113.98	113.98	-0.10	0.10	-0.02	0.08	

4.7. Results - Frequency 94 dB

Measured value of actual frequency(ies) (clause B.4.8).

Stated tolerances are in accordance with IEC 60942:2017 (Table 4).

Measured values of the Actual Frequency(ies).

marked rows are principal measurements, i.e. the average of three measurements.

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]	
1000 Hz #	1000.00	1000.02	-7.00	7.00	0.02	0.03	

4.8. Results - Frequency 114 dB

Measured value of actual frequency(ies) (clause B.4.8).

Stated tolerances are in accordance with IEC 60942:2017 (Table 4).

Measured values of the Actual Frequency(ies).

marked rows are principal measurements, i.e. the average of three measurements.

	Expected	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty	
	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]	[Hz]	
1000 Hz	1000.00	1000.02	-7.00	7.00	0.02	0.03	

4.9. Results - Distortion 94 dB

Distortion is measured as Total distortion + noise (clause B.4.8).

Stated tolerances are in accordance with IEC 60942:2017 (Table 7).

Measured values of the Distortion.

marked rows are principal measurements, i.e. the average of three measurements.

	Max	Measured	Uncertainty	
	[%]	[%]	[%]	
1000 Hz #	2.00	0.45	0.25	

4.10. Results - Distortion 114 dB

Distortion is measured as Total distortion + noise (clause B.4.8).

Stated tolerances are in accordance with IEC 60942:2017 (Table 7).

Measured values of the Distortion.

marked rows are principal measurements, i.e. the average of three measurements.

	Max	Measured	Uncertainty	
	[%]	[%]	[%]	
1000 Hz	2.00	0.14	0.25	

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End of calibration certificate.

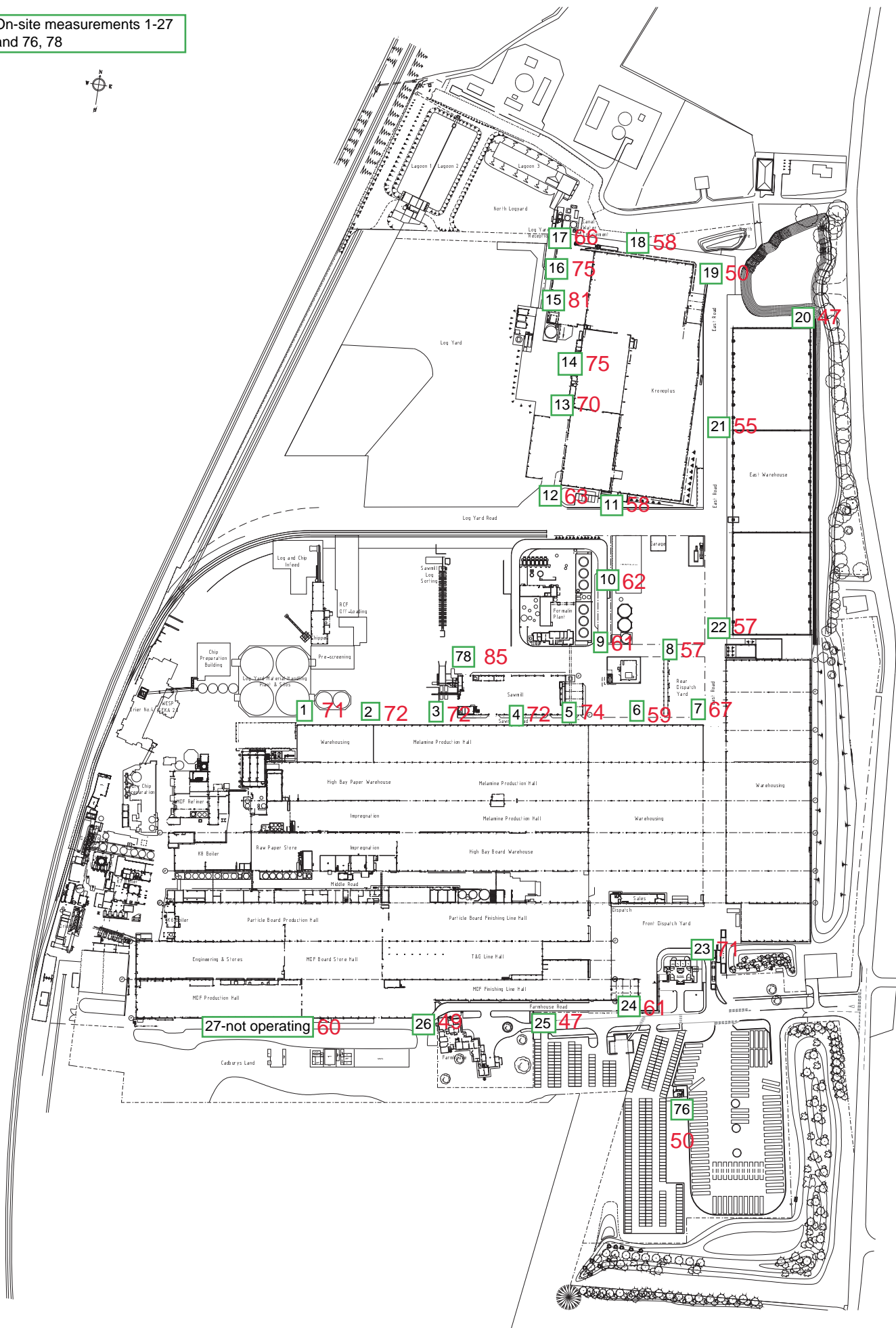
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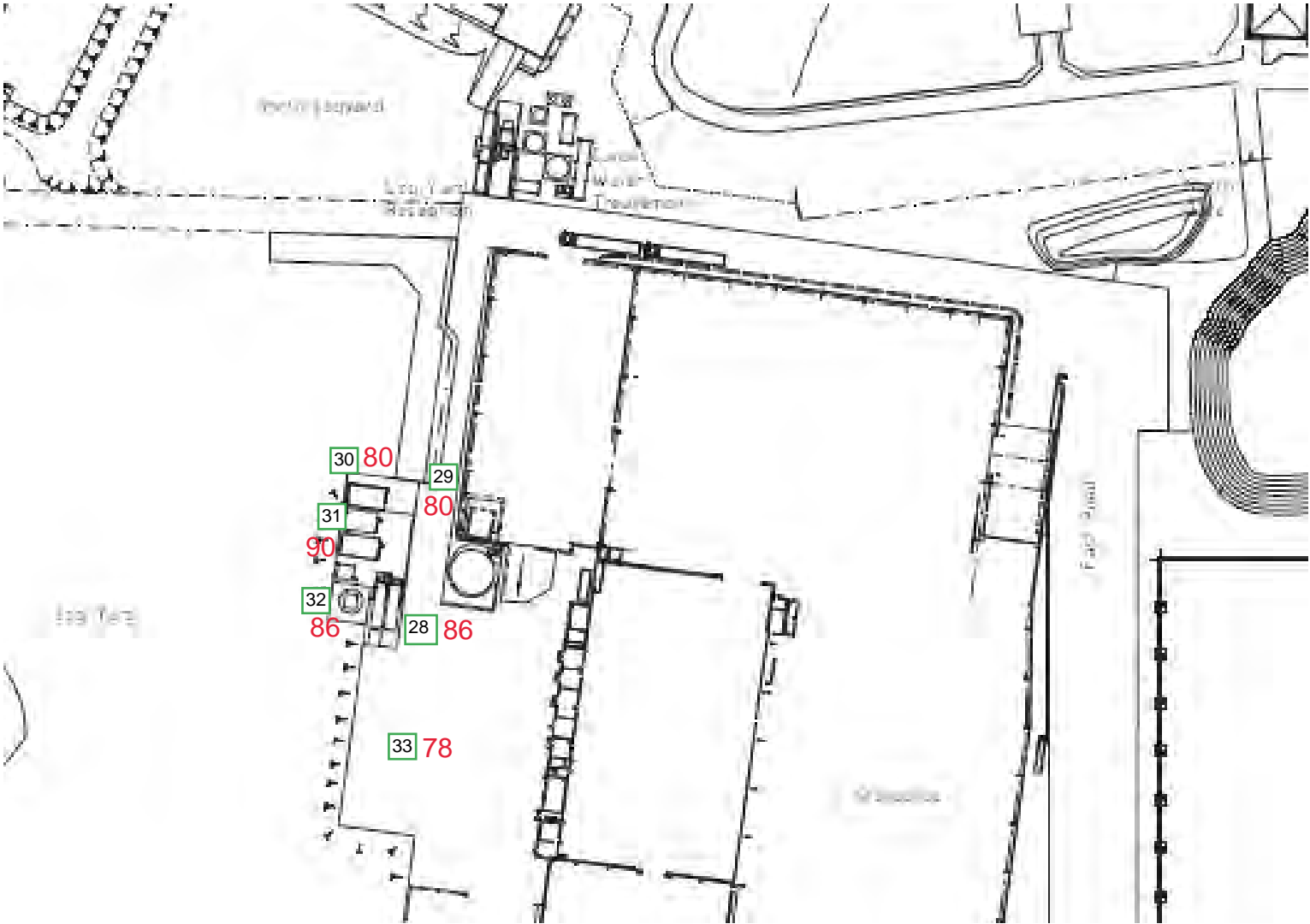
Near-field and attended environmental noise measurement data

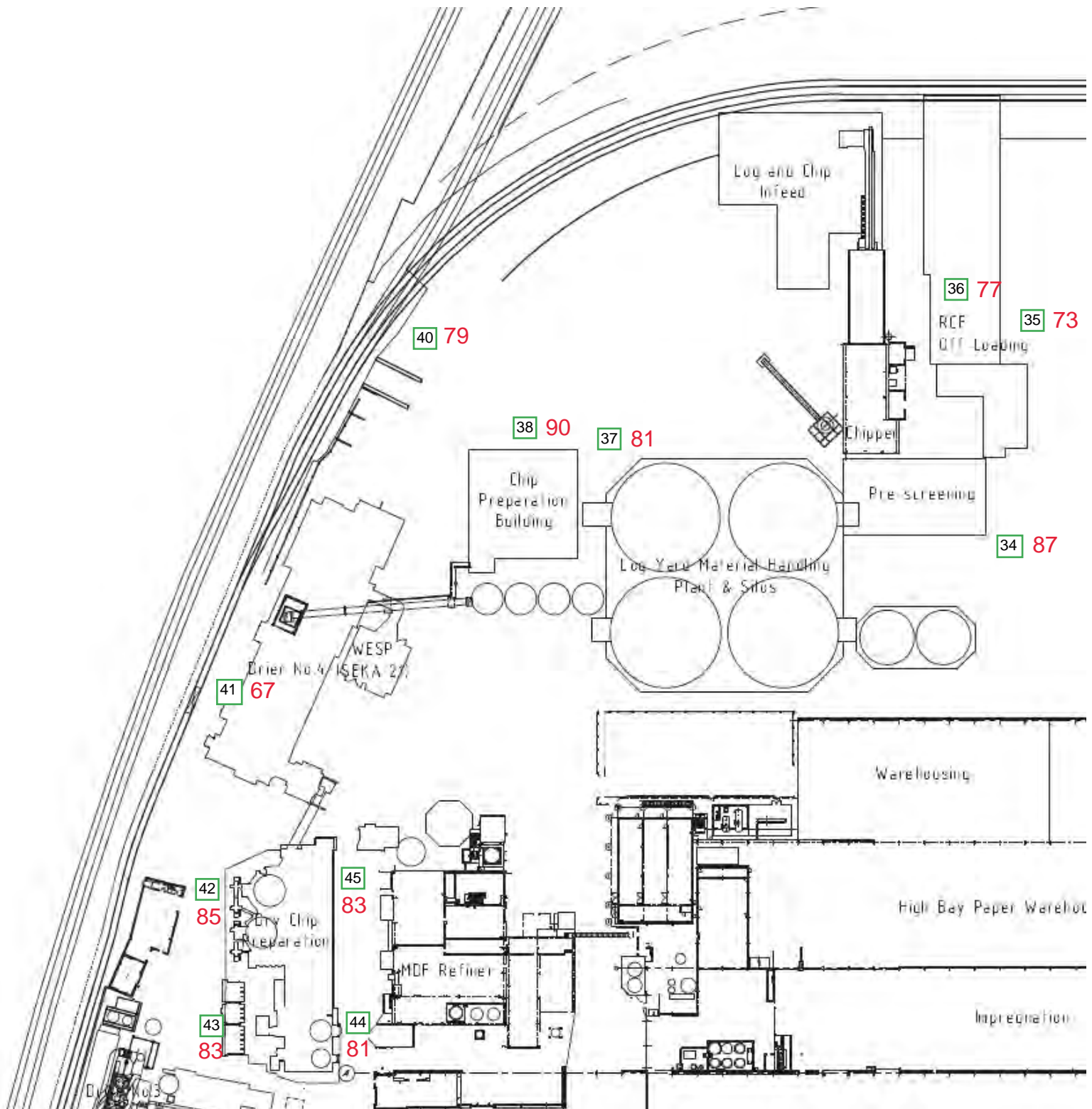
Project Name	Location	Start Time	Elapsed Time	LAeq	LAF90.0	LAFmax
On-site Noise Measurements						
Project 001	Sawmil Road	17/01/2024 10:59	00:00:18	71	71	73
Project 002	Sawmil Road	17/01/2024 11:03	00:00:20	72	71	75
Project 003	Sawmil Road	17/01/2024 11:09	00:00:24	72	71	76
Project 004	Sawmil Road	17/01/2024 11:12	00:00:22	72	71	74
Project 005	Sawmil Road	17/01/2024 11:15	00:00:20	74	73	79
Project 006	Sawmil Road	17/01/2024 11:18	00:00:17	59	58	61
Project 007	Sawmil Road	17/01/2024 11:21	00:00:23	67	65	74
Project 008	Rear Dispatch Yard	17/01/2024 11:23	00:00:15	57	55	62
Project 009	Formalin Plant Reception	17/01/2024 11:27	00:00:23	61	61	63
Project 010	Formalin Storage Tanks	17/01/2024 11:29	00:00:15	62	61	63
Project 011	Log Yard Road	17/01/2024 11:31	00:00:14	58	57	60
Project 012	Log Yard Road	17/01/2024 11:32	00:00:29	63	61	78
Project 013	Kronoplus (East)	17/01/2024 11:36	00:00:15	70	70	71
Project 014	Kronoplus (East)	17/01/2024 11:40	00:00:17	75	74	76
Project 015	Kronoplus (East)	17/01/2024 11:45	00:00:22	81	81	82
Project 016	Kronoplus (East)	17/01/2024 11:48	00:00:15	75	74	76
Project 017	Kronoplus (North)	17/01/2024 11:50	00:00:18	66	65	67
Project 018	Kronoplus (North)	17/01/2024 11:52	00:00:17	58	57	61
Project 019	Kronoplus (North)	17/01/2024 11:54	00:00:14	50	49	54
Project 020	East Warehouse (North)	17/01/2024 11:57	00:00:18	47	44	56
Project 021	East Warehouse (West)	17/01/2024 12:00	00:00:15	55	53	63
Project 022	East Warehouse (South)	17/01/2024 12:04	00:00:25	57	56	59
Project 023	Reception	17/01/2024 12:12	00:01:06	71	60	88
Project 024	MDF Finishing Line Hall	17/01/2024 12:14	00:00:30	61	53	70
Project 025	Farmhouse Road	17/01/2024 12:17	00:00:13	47	46	50
Project 026	MDF Fire Road (plant off)	17/01/2024 12:20	00:00:11	49	45	62
Project 027	MDF Fire Road (plant off)	17/01/2024 12:23	00:00:21	60	56	64
Project 028	Kronoplus Filtration Plant at 4m	17/01/2024 14:55	00:00:16	86	85	87
Project 029	Kronoplus Filtration Plant at 4m (fan off)	17/01/2024 14:56	00:00:16	80	80	81
Project 030	Kronoplus Filtration Plant at 2m	17/01/2024 14:59	00:00:16	80	79	81
Project 031	Kronoplus Filtration Plant at 2m	17/01/2024 15:01	00:00:16	90	89	91
Project 032	Kronoplus Filtration Plant at 2m	17/01/2024 15:02	00:00:14	86	86	87
Project 033	Kronoplus Filtration Plant at 20m	17/01/2024 15:04	00:00:15	78	78	79
Project 034	10m from pre-screening board breaker	18/01/2024 11:34	00:00:13	87	84	90
Project 035	Between pre-screening and pre-crush 2nd level pre-crush at 30m from pre-screen	18/01/2024 11:40	00:00:14	73	71	79
Project 036	acoustic centre	18/01/2024 11:42	00:00:17	77	76	81
Project 037	10m from RCF waste chotes	18/01/2024 11:52	00:00:16	81	78	86
Project 038	10m from Blade Room open door	18/01/2024 11:54	00:00:21	90	90	93
Project 040	35m from RCF Tower filter boxes	18/01/2024 11:58	00:00:23	79	73	94
Project 041	Middle of Drier 4 by railway	18/01/2024 12:01	00:00:17	67	67	68
Project 042	5m from Coniduc Mills	18/01/2024 12:03	00:00:19	85	84	91
Project 043	5m from Dry Chip filter boxes	18/01/2024 12:05	00:00:22	83	81	94
Project 044	5m from Sifter 5	18/01/2024 12:08	00:00:19	81	81	82
Project 045	5m from Sifter 2	18/01/2024 12:09	00:00:15	83	83	84
Project 046	10m from PB Sender fans (acoustic centre)	18/01/2024 12:17	00:00:20	80	79	81
Project 047	1m from 690 filter box (Chirk Side)	18/01/2024 12:22	00:00:15	82	81	84
Project 048	1m from saws fan top on stairs	18/01/2024 12:24	00:00:17	82	82	83
Project 049	n/a NW corner of plastics roof fan (2m from	18/01/2024 14:07	00:00:30	83	83	91
Project 050	centre)	19/01/2024 10:45	00:00:17	81	80	82
Project 051	NW corner of Plastics roof	19/01/2024 10:47	00:00:19	78	78	79
Project 052	Half-way along East perimeter of Plastics roof Middle of Plastics roof 5m from ast side fan	19/01/2024 10:48	00:00:19	85	85	86
Project 053	(P3 Filter Box)	19/01/2024 10:50	00:00:23	88	87	89

Project Name	Location	Start Time	Elapsed Time	LAeq	LAF90.0	LAFmax
Project 054	SW corner of Plastics roof 5m from fan (P4 extraction)	19/01/2024 10:52	00:00:18	90	89	90
Project 055	SW corner of Plastics roof	19/01/2024 10:53	00:00:18	82	82	83
Project 056	Resin/VITS roof-cooling tower 5 fan at 1m (1 out of 5 running)	19/01/2024 11:14	00:00:21	89	88	91
Project 057	Resin/VITS roof-cooling tower 1 fan at 1m (not running)	19/01/2024 11:19	00:00:34	85	84	87
Project 058	Resin/VITS roof-East side of cooling tower 1 (5m from inlet)	19/01/2024 11:23	00:00:18	75	75	77
Project 059	Resin/VITS roof-N air b fan at 2m	19/01/2024 11:26	00:00:16	81	80	82
Project 060	K8 Boiler					
Project 060	1m from fan at entrance to K8	19/01/2024 11:40	00:00:20	90	89	92
Project 061	General area ground floor	19/01/2024 11:42	00:00:15	86	85	88
Project 062	ID fan at 1m	19/01/2024 11:43	00:00:21	85	83	88
Project 063	Granulate Burner combustion air fan at 1m (S4M11)	19/01/2024 11:45	00:00:15	79	79	80
Project 064	Granulate Burner combustion air fan at 1m (S1M13/S1M15)	19/01/2024 11:47	00:00:18	85	84	85
Project 065	K8-17 North corner	19/01/2024 11:54	00:00:14	80	80	81
Project 066	K8-16 North Corner	19/01/2024 11:56	00:00:11	81	80	81
Project 067	K8-15 North Corner	19/01/2024 11:57	00:00:12	81	81	82
Project 068	K8-14 North Corner	19/01/2024 11:58	00:00:16	81	79	85
Project 069	K8-13 North Corner	19/01/2024 11:59	00:00:13	82	82	84
Project 070	K7 Boiler					
Project 070	Fin-fan cooler at 5m on level 2	19/01/2024 12:06	00:00:16	83	82	85
Project 071	Hydraulic pump 1&2 at 1m Level 1	19/01/2024 12:08	00:00:11	81	79	85
Project 072	Level 3 general	19/01/2024 12:09	00:00:13	74	74	76
Project 073	Level 4 general	19/01/2024 12:10	00:00:12	75	74	78
Project 074	level 5 general	19/01/2024 12:12	00:00:19	75	75	77
Project 075	K7 fan at 2m	19/01/2024 12:15	00:00:12	80	79	83
Project 076	Car parl by Induction cabin	19/01/2024 15:27	00:01:07	50	49	54
Project 077	TBC	29/01/2024 23:37	00:00:15	45	43	49
Project 078	Saw-mill Debarker a 5m	30/01/2024 10:28	00:00:19	85	83	89
Project 079	Gas Engine enclosure 2m from Gas Engine enclosure door	30/01/2024 10:43	00:00:19	76	76	78
Project 080	1m from roof fan centre (45 Deg.) Total of 49 fans	30/01/2024 10:48	00:00:12	73	73	75
Project 081	as above different fan	30/01/2024 10:49	00:00:15	75	75	76
Project 082	n/a	30/01/2024 10:50	00:00:30	80	75	92
Project 083	as above different fan	30/01/2024 10:51	00:00:14	75	75	77
Project 084	2m from Gas engine front door wall	30/01/2024 10:56	00:00:14	71	71	73
Project 085	MDF2 Drier fan at 3m	30/01/2024 10:59	00:00:25	90	90	91
Project 086	MDF1 Drier Fan at 3m	30/01/2024 11:01	00:00:18	88	88	89
Project 087	Wet chip Silos Filter/Pulse Air at 5m (at end of silos)	30/01/2024 11:14	00:00:17	80	75	94
Project 088	Silos fan at 5m (at start of silos)	30/01/2024 11:15	00:00:14	83	82	91
Project 089	Bottom of Wet chip silo 1 at 10m	30/01/2024 11:22	00:00:24	87	87	88
Project 090	MDF 2 Cyclone 1 at 2m	30/01/2024 15:39	00:00:12	73	73	74
Project 091	MDF 2 Cyclone 3 at 2m from MDF1 (not running but significant noise)	30/01/2024 15:41	00:00:24	77	76	78
Project 092	MDF2 platform level 10m from MDF1	30/01/2024 15:50	00:00:15	72	71	73
Project 093	MDF2 platform level 10m from MDF1 ladder	30/01/2024 15:53	00:00:23	71	71	77
Project 094	Platform under MSF1 Cyclones (400Hz tone?)	30/01/2024 16:04	00:00:28	72	70	75
Project 095	Below platform under MDF1 Cyclones	30/01/2024 16:13	00:00:19	70	68	71

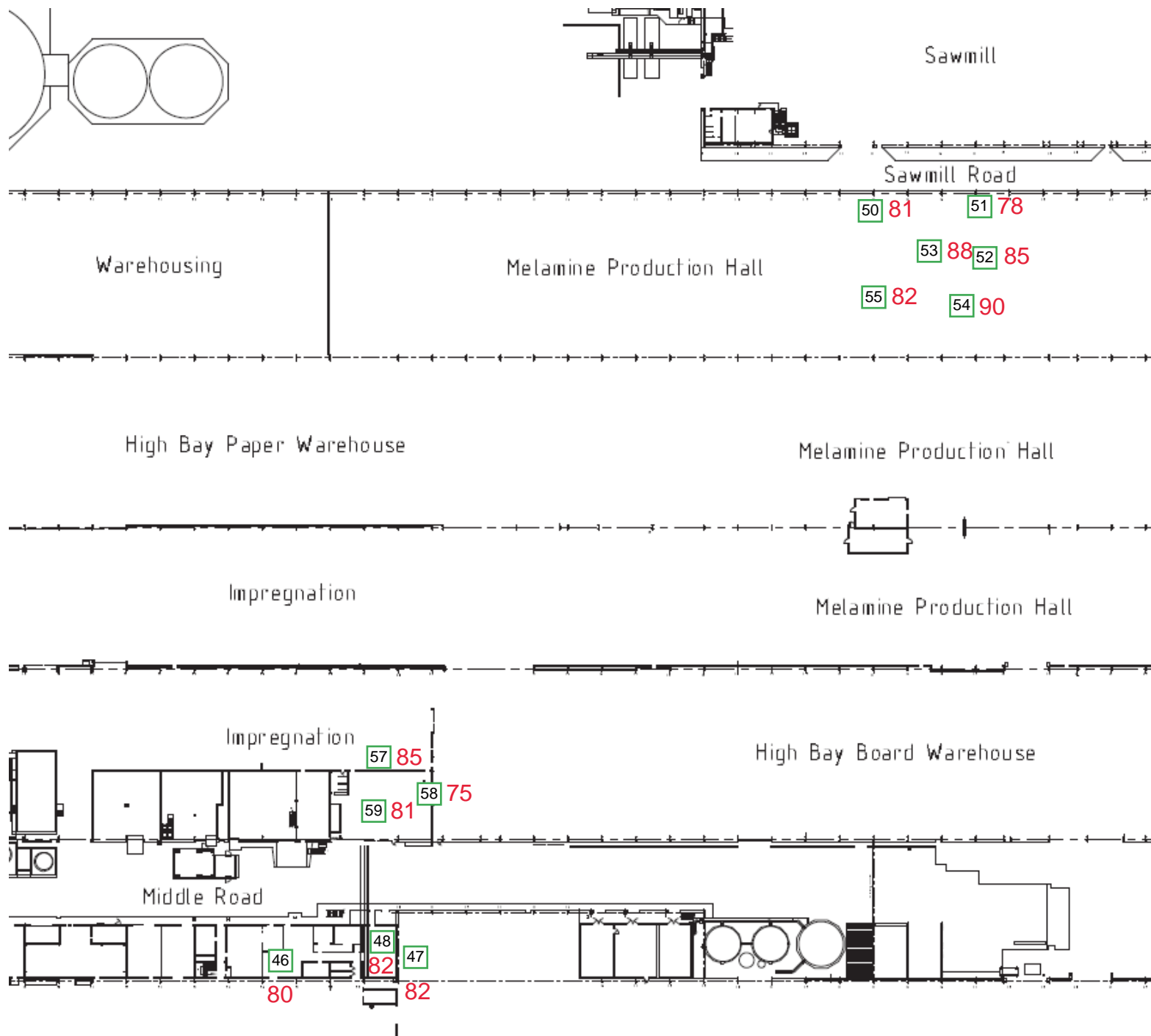
Project Name	Location	Start Time	Elapsed Time	LAeq	LAF90.0	LAFmax
Project 096	Recycled fan (partial enclosure) at 3m	30/01/2024 16:19	00:00:14	80	79	84
Project 097	Level above Recycled fan at 3m	30/01/2024 16:23	00:00:14	79	78	82
Project 098	Ground level 5m from fan 660-M01	30/01/2024 16:28	00:00:13	80	80	81
Project 099	Ground level 5m from fan 650-M02	30/01/2024 16:29	00:00:13	83	83	84
Project 100	Ground level 5m from fan 650-M01	30/01/2024 16:30	00:00:25	81	80	82
Project 101	Fan 490 M1 enclosure at 1m on platform	30/01/2024 16:33	00:00:32	76	76	78
Project 102	Fan 660M01 enclosure at 1m (door open)	30/01/2024 16:35	00:00:13	92	91	94
Project 103	Half way between filter and cyclones (400 Hz tone?)	30/01/2024 16:39	00:00:25	63	62	70
Project 104	Close to MDF cyclones on MDF roof	30/01/2024 16:41	00:00:18	64	64	65
Project 105	Middle of MDF roof	30/01/2024 16:42	00:00:18	64	63	70
Project 106	20m from Filter Boxes on MDF roof	30/01/2024 16:45	00:00:19	66	65	74
Project 107	3m from open exhaust at end of filter boxes	30/01/2024 16:48	00:00:10	77	76	79
Project 108	Under filter boxes on roof (pulsing)	30/01/2024 16:50	00:00:14	75	75	82
Project 109	Cadbury's site boundary at ground level (400 Hz tone?)	30/01/2024 16:57	00:00:21	58	58	61
Environmental Noise Measurements						
Project 110	Train Station (400Hz tone?)	30/01/2024 17:32	00:00:40	52	49	61
Project 111	Train Station (400Hz tone?)	30/01/2024 17:37	00:00:36	51	49	56
Project 112	Train Station (400Hz tone?)	30/01/2024 17:38	00:01:03	51	49	58
Project 113	Crogen. No strong tone audible	30/01/2024 23:41	00:01:00	47	46	52
Project 113	Crogen. No strong tone audible	30/01/2024 23:42	00:00:02	47	47	49
Project 114	Wern. Reverse alarms audible. Faint tone.					
Project 114	General plant noise.	30/01/2024 23:48	00:01:00	50	49	52
Project 114	As above.	30/01/2024 23:49	00:01:00	50	49	54
Project 114	As above.	30/01/2024 23:50	00:01:00	60	50	73
Project 114	As above.	30/01/2024 23:51	00:01:00	60	49	74
Project 114	As above.	30/01/2024 23:52	00:01:00	49	48	53
Project 114	As above.	30/01/2024 23:53	00:01:00	50	49	53
Project 114	As above.	30/01/2024 23:54	00:01:00	50	49	53
Project 114	As above.	30/01/2024 23:55	00:00:28	51	50	57
Project 115	Hall Farm. Faint tones, general site noise and pulses.	31/01/2024 00:09	00:01:00	43	41	53
Project 115	As above.	31/01/2024 00:10	00:01:00	43	41	54
Project 115	As above.	31/01/2024 00:11	00:01:00	43	42	49
Project 115	As above.	31/01/2024 00:12	00:01:00	43	42	57
Project 115	As above.	31/01/2024 00:13	00:01:00	44	42	55
Project 116	White Gates on Lwyn-y-cil Road	31/01/2024 00:24	00:01:00	41	39	48
Project 116	As above.	31/01/2024 00:25	00:01:00	40	39	43
Project 116	As above.	31/01/2024 00:26	00:01:00	40	39	42
Project 116	As above.	31/01/2024 00:27	00:01:00	40	39	43
Project 116	As above.	31/01/2024 00:28	00:01:00	39	39	42
Project 117	Train Station. Squeak and tone audible (400 Hz tone?)	31/01/2024 00:36	00:01:00	51	50	57
Project 117	As above.	31/01/2024 00:37	00:01:00	52	50	58
Project 117	As above.	31/01/2024 00:38	00:01:00	51	50	55
Project 117	As above.	31/01/2024 00:39	00:01:00	51	50	55
Project 117	As above.	31/01/2024 00:40	00:01:00	51	50	54
Project 118	Maes-y-waun. General noise. Occasional pulses. Tones barely audible.	31/01/2024 00:48	00:01:00	47	46	54
Project 118	As above.	31/01/2024 00:49	00:01:00	48	46	54
Project 118	As above.	31/01/2024 00:50	00:01:00	49	46	59
Project 118	As above.	31/01/2024 00:51	00:01:00	49	46	59
Project 118	As above.	31/01/2024 00:52	00:01:00	47	46	53

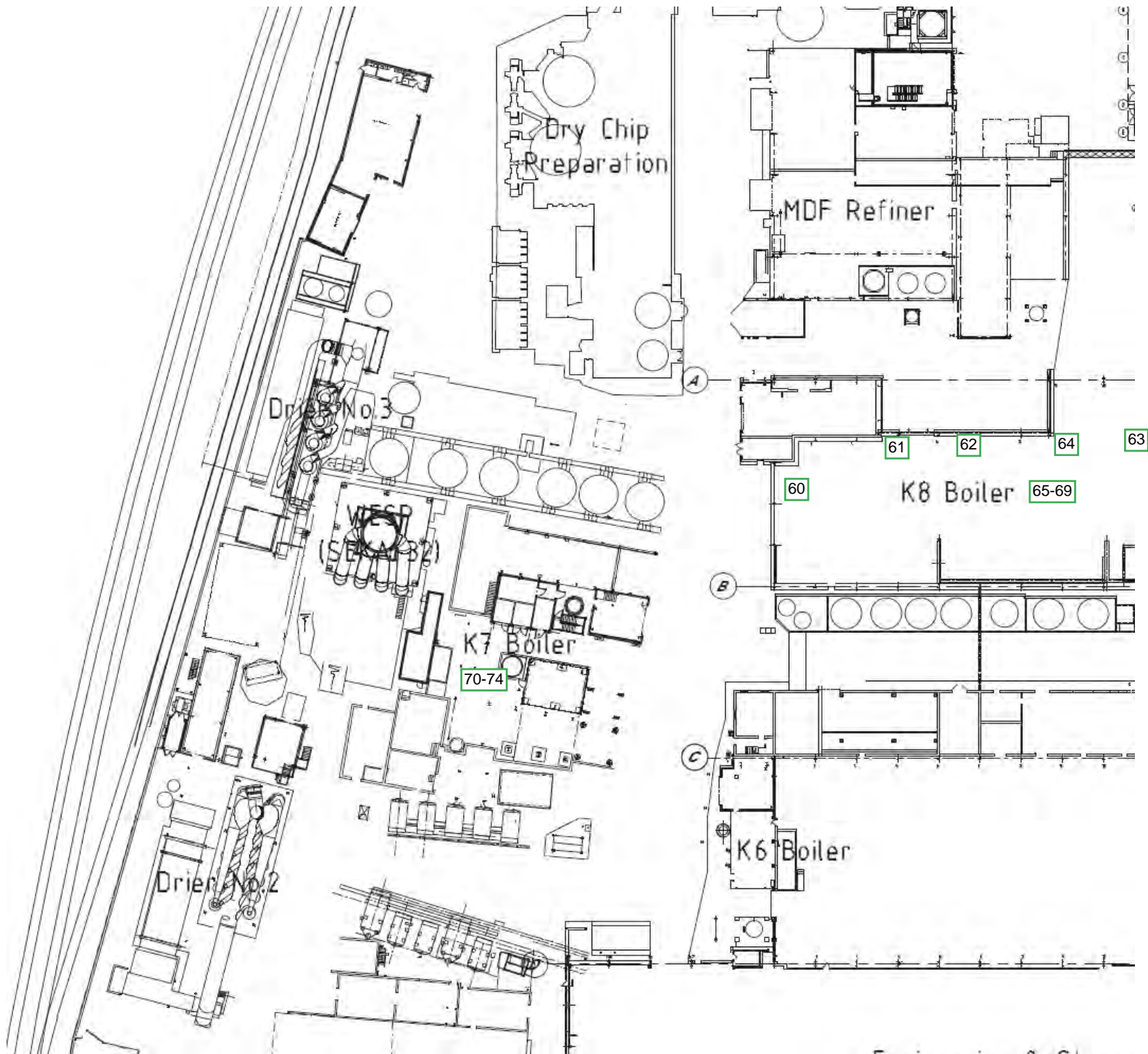
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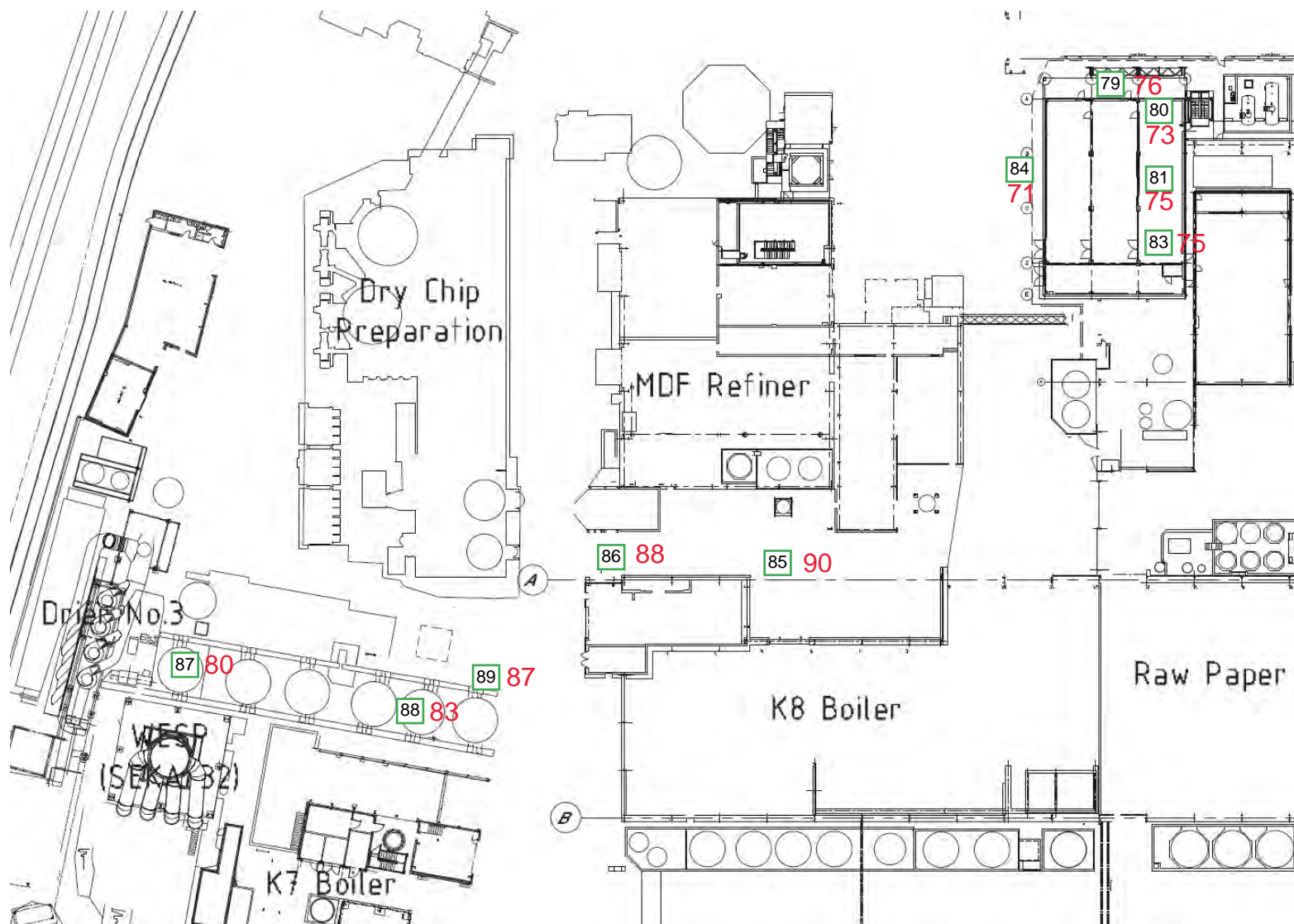


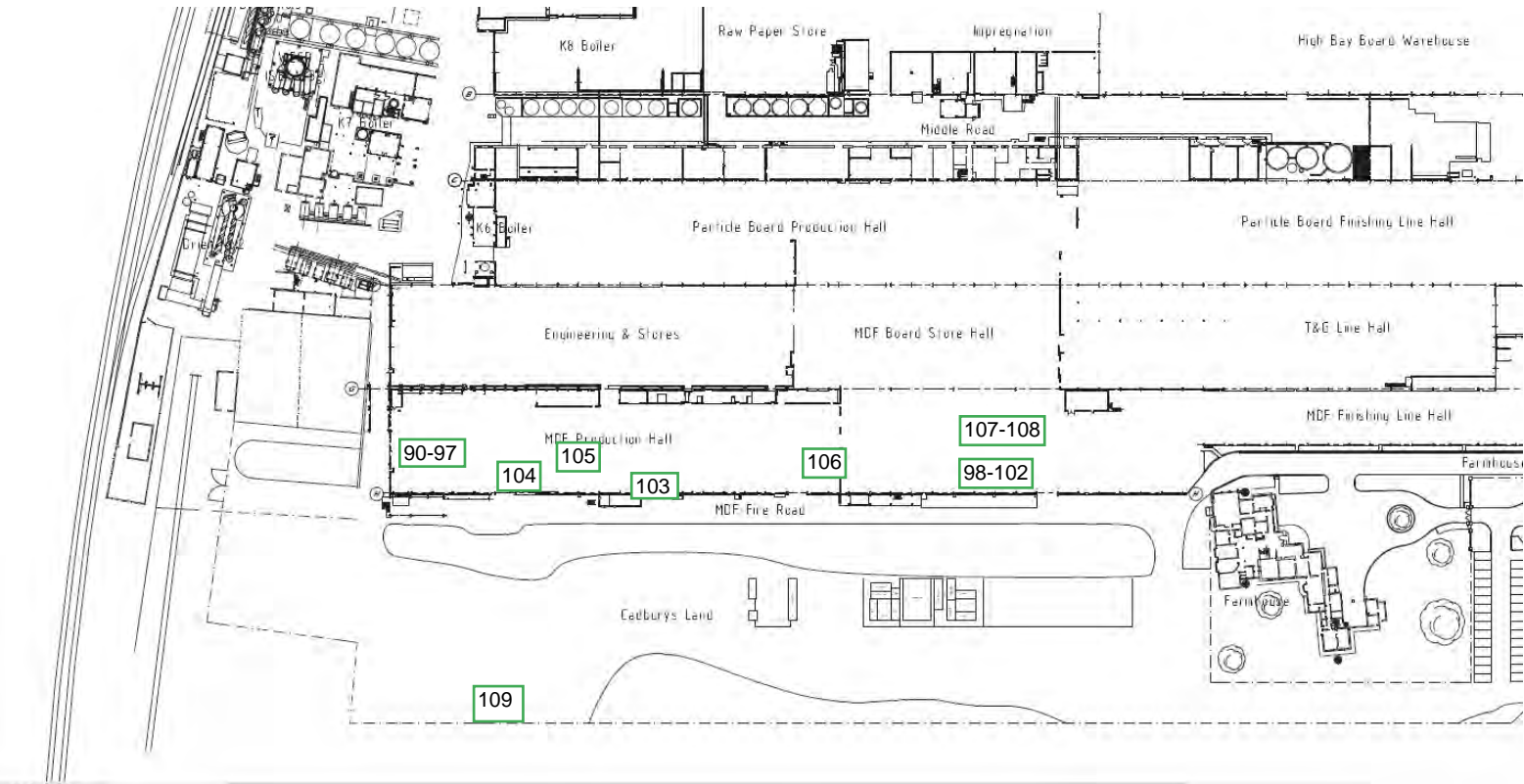


On-site measurements 46-59









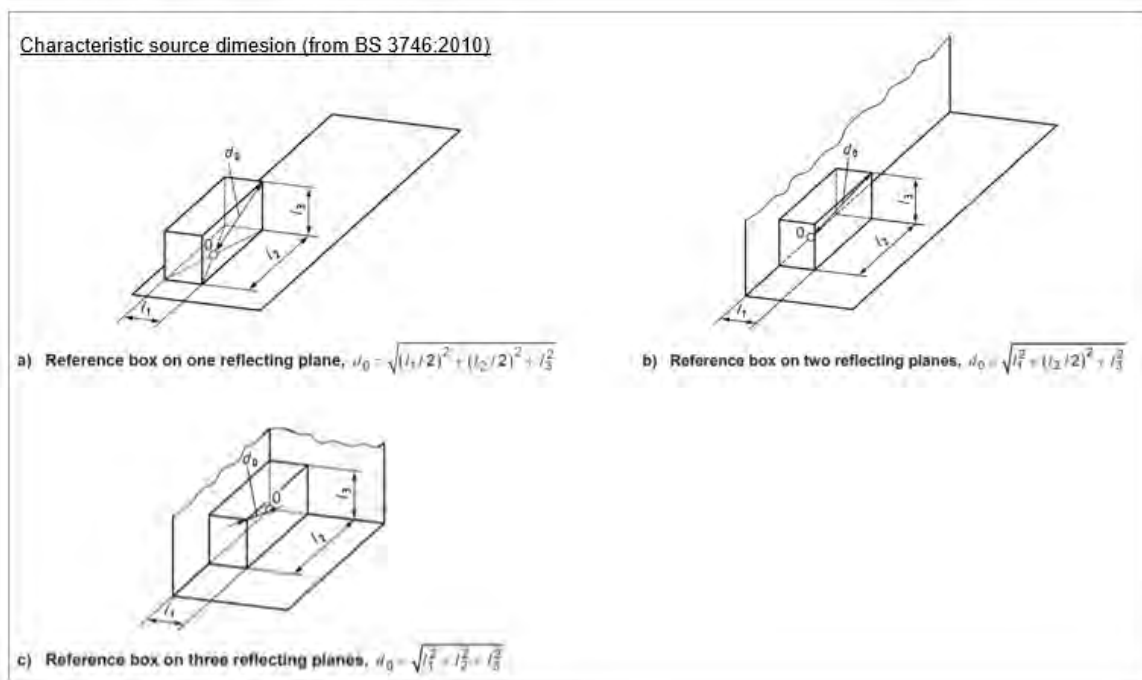
APPENDIX E

Sound Power Level Calculations



ISO 3746:2010 para 7.2.3 states that for the point source model to be valid, the measurement surface should be a distance from the source of at least twice the 'characteristic source dimension'. The author of 'Uses and Abuses of Sound Power Determinations in noise impact assessments', Simon Scott, IOA Bulletin March/April 2019, in Technical Library, says it should be 6 times (based on experience) and BS5228-1 uses 10m, which is also something supported by the paper.

The spreadsheet calculation uses the characteristic source dimension assuming a box sitting on one reflecting plane (i.e. the ground) and uses this to test the validity of the point source model (*NB: Other formula apply for a box adjacent to two or three reflecting planes*). Where the point source model is not valid, the parallelepiped model is used instead.



Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	Kronospan Plus Filtration
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Parameters	Metric	Value	Unit	Comments
SOURCE DETAILS				
Measured sound pressure level	L_{pA} :	86	dB	
Source dimensions:				
	l_1 :	8	m	
	l_2 :	20	m	
	l_3 :	10	m	
POINT SOURCE ASSUMPTION TEST				
Characteristic source dimension	d_0 :	14.7	m	As per BS 3746:2010 for 1 reflecting plane
Measurement distance to acoustic centre	r :		m	Measurement distance outside valid range ($1 \leq r \leq 16$)
	Ratio r/d_0 :	0.0		Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
POINT SOURCE MODEL				
Measurement distance to acoustic centre	r :		m	
Measurement surface area (hemisphere)	S :		m ²	
Sound power level	L_{wA} :		dB	Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
→ PARALLELEPIPED SOURCE MODEL				
Measurement distance from surface	d :	2	m	Distance should be at least 0.15m, but preferably 1m or more.
Measurement surface area	S :	1152	m ²	
Sound power level	L_{wA} :	117	dB	

Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	Conidurs/Sifters
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Parameters	Metric	Value	Unit	Comments
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SOURCE DETAILS

Measured sound pressure level L_{pA} : 83 dB

Source dimensions:

l_1 : 1 m
 l_2 : 1 m
 l_3 : 1 m

POINT SOURCE ASSUMPTION TEST

Characteristic source dimension d_0 : 1.2 m
Measurement distance to acoustic centre r : 5 m
Ratio r/d_0 : 4.2

As per BS 3746:2010 for **1 reflecting plane**
Measurement distance within valid range ($1 \leq r \leq 16$)
Point source assumption OK ($r/d_0 \geq 2$).

→ POINT SOURCE MODEL

Measurement distance to acoustic centre r : 5 m
Measurement surface area (hemisphere) S : 157 m²

Sound power level	L_{wA} :	105	dB	Point source assumption OK ($r/d_0 \geq 2$).
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PARALLELEPIPED SOURCE MODEL

Measurement distance from surface d : 5 m
Measurement surface area S : 385 m²

Distance should be at least 0.15m, but preferably 1m or more.

Sound power level	L_{wA} :	109	dB	Use point source model. Parallelepiped model likely to over estimate L_w .
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Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	Plastics Roof Fan Platform
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Parameters	Metric	Value	Unit	Comments
SOURCE DETAILS				
Measured sound pressure level	L_{pA} :	84	dB	
Source dimensions:				
	l_1 :	10	m	
	l_2 :	20	m	
	l_3 :	2	m	
POINT SOURCE ASSUMPTION TEST				
Characteristic source dimension	d_0 :	11.4	m	As per BS 3746:2010 for 1 reflecting plane
Measurement distance to acoustic centre	r :	10	m	Measurement distance within valid range ($1 \leq r \leq 16$)
	Ratio r/d_0 :	0.9		Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
POINT SOURCE MODEL				
Measurement distance to acoustic centre	r :	10	m	
Measurement surface area (hemisphere)	S :	628	m ²	
Sound power level	L_{wA} :	112	dB	Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
→ PARALLELEPIPED SOURCE MODEL				
Measurement distance from surface	d :	0.1	m	Distance should be at least 0.15m, but preferably 1m or more.
Measurement surface area	S :	334	m ²	
Sound power level	L_{wA} :	109	dB	

Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	K8
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Parameters	Metric	Value	Unit	Comments
SOURCE DETAILS				
Measured sound pressure level	L_{pA} :	82	dB	
Source dimensions:				
	l_1 :	10	m	
	l_2 :	10	m	
	l_3 :	30	m	
POINT SOURCE ASSUMPTION TEST				
Characteristic source dimension	d_0 :	30.8	m	As per BS 3746:2010 for 1 reflecting plane
Measurement distance to acoustic centre	r :	6	m	Measurement distance within valid range ($1 \leq r \leq 16$)
	Ratio r/d_0 :	0.2		Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
POINT SOURCE MODEL				
Measurement distance to acoustic centre	r :	6	m	
Measurement surface area (hemisphere)	S :	226	m ²	
Sound power level	L_{wA} :	106	dB	Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
→ PARALLELEPIPED SOURCE MODEL				
Measurement distance from surface	d :	1	m	Distance should be at least 0.15m, but preferably 1m or more.
Measurement surface area	S :	1632	m ²	
Sound power level	L_{wA} :	114	dB	

Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	K7 Fin Fan
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Parameters	Metric	Value	Unit	Comments
SOURCE DETAILS				
Measured sound pressure level	L_{pA} :	83	dB	
Source dimensions:				
	l_1 :	8	m	
	l_2 :	1.5	m	
	l_3 :	1	m	
POINT SOURCE ASSUMPTION TEST				
Characteristic source dimension	d_0 :	4.2	m	As per BS 3746:2010 for 1 reflecting plane
Measurement distance to acoustic centre	r :	6	m	Measurement distance within valid range ($1 \leq r \leq 16$)
	Ratio r/d_0 :	1.4		Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
POINT SOURCE MODEL				
Measurement distance to acoustic centre	r :	6	m	
Measurement surface area (hemisphere)	S :	226	m^2	
Sound power level	L_{wA} :	107	dB	Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
→ PARALLELEPIPED SOURCE MODEL				
Measurement distance from surface	d :	5	m	Distance should be at least 0.15m, but preferably 1m or more.
Measurement surface area	S :	561	m^2	
Sound power level	L_{wA} :	110	dB	

Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	K7
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Parameters	Metric	Value	Unit	Comments
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SOURCE DETAILS

Measured sound pressure level L_{pA} : 75 dB

Source dimensions:

l_1 : 10 m
 l_2 : 10 m
 l_3 : 36 m

POINT SOURCE ASSUMPTION TEST

Characteristic source dimension d_0 : 36.7 m As per BS 3746:2010 for **1 reflecting plane**
 Measurement distance to acoustic centre r : 6 m Measurement distance within valid range ($1 \leq r \leq 16$)
 Ratio r/d_0 : 0.2 **Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.**

POINT SOURCE MODEL

Measurement distance to acoustic centre r : 6 m
 Measurement surface area (hemisphere) S : 226 m²

Sound power level L_{wA} : 99 dB **Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.**

→ PARALLELEPIPED SOURCE MODEL

Measurement distance from surface d : 1 m Distance should be at least 0.15m, but preferably 1m or more.
 Measurement surface area S : 1920 m²

Sound power level L_{wA} : 108 dB

Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	Gas Engine Bldg
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Parameters	Metric	Value	Unit	Comments
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SOURCE DETAILS

Measured sound pressure level L_{pA} : 71 dB

Source dimensions:

l_1 : 27 m
 l_2 : 17 m
 l_3 : 25 m

POINT SOURCE ASSUMPTION TEST

Characteristic source dimension	d_0 :	29.7	m	As per BS 3746:2010 for 1 reflecting plane
Measurement distance to acoustic centre	r :	13	m	Measurement distance within valid range ($1 \leq r \leq 16$)
	Ratio r/d_0 :	0.4		Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.

POINT SOURCE MODEL

Measurement distance to acoustic centre	r :	13	m
Measurement surface area (hemisphere)	S :	1062	m ²

Sound power level L_{wA} : 101 dB **Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.**

→ PARALLELEPIPED SOURCE MODEL

Measurement distance from surface	d :	2	m	Distance should be at least 0.15m, but preferably 1m or more.
Measurement surface area	S :	3459	m ²	

Sound power level L_{wA} : 106 dB

Sound power level calculation



Project:	Kronospan Chirk
Project number:	23241
Date:	26/02/2024

Plant:	Fan 490 M1 enclosure
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Parameters	Metric	Value	Unit	Comments
SOURCE DETAILS				
Measured sound pressure level	L_{pA} :	76	dB	
Source dimensions:				
	l_1 :	2	m	
	l_2 :	2	m	
	l_3 :	2	m	
POINT SOURCE ASSUMPTION TEST				
Characteristic source dimension	d_0 :	2.4	m	As per BS 3746:2010 for 1 reflecting plane
Measurement distance to acoustic centre	r :	2	m	Measurement distance within valid range ($1 \leq r \leq 16$)
	Ratio r/d_0 :	0.8		Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
POINT SOURCE MODEL				
Measurement distance to acoustic centre	r :	2	m	
Measurement surface area (hemisphere)	S :	25	m^2	
Sound power level	L_{wA} :	90	dB	Point source assumption invalid ($r/d_0 < 2$). Use parallelepiped model.
→ PARALLELEPIPED SOURCE MODEL				
Measurement distance from surface	d :	1	m	Distance should be at least 0.15m, but preferably 1m or more.
Measurement surface area	S :	64	m^2	
Sound power level	L_{wA} :	94	dB	

Calculation Sheet



Project: Kronospan Chirk
 Project number: 23241
 Calculation title: Sound Power Level Calculations
 Date: 26/02/2023
 Prepared by: CJA

Details	Octave band centre frequency									dB(A)
	32	63	125	250	500	1k	2k	4k	8k	
Formalin Plant Cooling Towers										
P12 Lp at 42m	74	71	64	60	60	57	57	51	44	63
Lw factor	40	40	40	40	40	40	40	40	40	
Sound Power Level	114	111	104	100	100	97	97	91	84	103
Delivery truck										
P23 15m from truck	73	68	64	61	61	67	63	66	53	72
Lw factor	32	32	32	32	32	32	32	32	32	
Sound Power Level	105	100	96	93	93	99	95	98	85	104
Kronoplus Filtration Plant										
P32 (typ ant 2m)	94	92	86	86	86	79	74	74	69	86
Lw factor	31	31	31	31	31	31	31	31	31	38
Sound Power Level	125	123	117	117	117	110	105	105	100	117
Kronoplus Rooftop Ducting										
Estimate Lp at 1m	89	87	81	81	81	74	69	69	64	81
Lw factor	10	10	10	10	10	10	10	10	10	
Lw/m	90	88	82	82	82	75	70	70	65	82
Pre-screening										
P35 30m from acoustic centre	76	78	77	74	74	72	70	66	65	77
Lw factor	38	38	38	38	38	38	38	38	38	
Sound Power Level	114	116	115	112	112	110	108	104	103	115
RCF Waste Chutes										
P37 10m from Chutes	83	77	73	71	73	74	75	75	71	81
Lw factor	28	28	28	28	28	28	28	28	28	
Sound Power Level	111	105	101	99	101	102	103	103	99	109
Blade Room Open Door										
P38 10m from open door	86	80	79	79	83	84	86	79	75	90
Lw factor	23	23	23	23	23	23	23	23	23	
Sound Power Level	109	103	102	102	106	107	109	102	98	113
RCF Filter Boxes (Rev 1)										
P40 35m from Filter Boxes	78	76	71	70	74	72	73	72	69	79
Lw factor	34	34	34	34	34	34	34	34	34	
Sound Power Level	112	110	105	104	108	106	107	106	103	113
Conidur Mills/Sifters/Filter Boxes (Rev 1)										
P43 5m around Coniuc Mills/Sifters (typ at 5m)	90	90	85	83	80	76	73	72	73	83
Lw factor at 5m (each)	22	22	22	22	22	22	22	22	22	
Sound Power Level (each of 4 sources)	112	112	107	105	102	98	95	94	95	105
PB Sender Fans										
P46 10m from fan	82	82	79	79	79	73	71	68	60	80
Lw factor	28	28	28	28	28	28	28	28	28	
Sound Power Level	110	110	107	107	107	101	99	96	88	108
Plastics Roof Fan Platform Rev 1)										
P52 (typ around perimeter)	82	82	92	85	81	78	73	69	62	84
Lw factor	25	25	25	25	25	25	25	25	25	
Sound Power Level	107	107	117	110	106	103	98	94	87	109
Resin/Vits Cooling Tower Fans (each of 4)										
P56 fan at 1m	85	89	88	87	88	84	81	75	72	89
Lw factor	10	10	10	10	10	10	10	10	10	
Sound Power Level	95	99	98	97	98	94	91	85	82	99
Resin/VITS Plinth Fan										
P59 Fan at 2m	85	80	81	84	76	73	70	73	68	81
Lw factor	14	14	14	14	14	14	14	14	14	
Sound Power Level	99	94	95	98	90	87	84	87	82	95
K8 Boiler Fan on ground floor										
P60 Fan at 1m	86	81	79	76	76	84	87	76	66	90
Lw factor	15	15	15	15	15	15	15	15	15	

Details	Octave band centre frequency									dB(A)
	32	63	125	250	500	1k	2k	4k	8k	
Sound Power Level	101	96	94	91	91	99	102	91	81	105
K8 ID Fan										
P62 Fan at 1m	90	84	80	80	79	82	77	73	73	85
Lw factor	15	15	15	15	15	15	15	15	15	
Sound Power Level	105	99	95	95	94	97	92	88	88	100
K8 Granulater Burner Combustion Air Fan typ for 3)										
P63 Fan at 1m	85	83	78	75	72	74	74	68	62	79
Lw factor	12	12	12	12	12	12	12	12	12	
Sound Power Level	97	95	90	87	84	86	86	80	74	91
K8 elevated levels at perimeter (Typ)										
P67 typ level at elevated levels perimeter	86	81	83	77	74	74	76	74	69	82
Lw factor	32	32	32	32	32	32	32	32	32	
Sound Power Level	118	113	115	109	106	106	108	106	101	114
K7 Fin-Fan cooler										
P70 fan at 5m	84	83	83	85	83	76	71	69	63	83
Lw factor	27	27	27	27	27	27	27	27	27	
Sound Power Level	111	110	110	112	110	103	98	96	90	110
K7 Hydraulic Pump Level 1										
P71 Pump at 1m	79	77	76	78	76	72	71	73	74	80
Lw factor	10	10	10	10	10	10	10	10	10	
Sound Power Level	89	87	86	88	86	82	81	83	84	90
K7 elevated levels at perimeter										
P74 typ level at elevated levels perimeter	79	77	77	77	74	68	65	63	57	75
Lw factor	33	33	33	33	33	33	33	33	33	
Sound Power Level	112	110	110	110	107	101	98	96	90	108
K7 Fan										
P75 K7 Fan at 2m	83	81	82	79	75	71	71	73	68	80
Lw factor	16	16	16	16	16	16	16	16	16	
Sound Power Level	99	97	98	95	91	87	87	89	84	96
Sawmil										
P78 De-barker at 5m	84	83	80	80	79	78	78	77	73	85
Lw factor	22	22	22	22	22	22	22	22	22	
Sound Power Level	106	105	102	102	101	100	100	99	95	107
Gas Engine Enclosure										
P79 2m from Gas Engine Building Door	82	85	81	74	72	69	68	68	60	76
Lw factor	15	15	15	15	15	15	15	15	15	22
Sound Power Level	97	100	96	89	87	84	83	83	75	91
Gas Engine Rooftop Fans (x49)										
P83 1m from fan at 45 degrees	86	82	77	73	71	67	66	71	58	75
Lw factor	12	12	12	12	12	12	12	12	12	
Sound Power Level	98	94	89	85	83	79	78	83	70	87
Gas Engine Building Walls										
P84 2m from Gas Engine Building Wall	79	80	77	72	68	65	63	60	55	71
Lw factor	35	35	35	35	35	35	35	35	35	
Sound Power Level	114	115	112	107	103	100	98	95	90	106
MDF Drier Fan Typ) x2										
P85 Fan at 3m	95	93	96	89	88	85	80	74	68	
Lw factor	15	15	15	15	15	15	15	15	15	
Sound Power Level	110	108	111	104	103	100	95	89	83	105
Wet Chip Silos (West)										
P87 5m from Silo fan	82	81	79	76	74	70	70	71	75	79
Lw factor	22	22	22	22	22	22	22	22	22	
Sound Power Level	104	103	101	98	96	92	92	93	97	101
Wet Chip Silo Fans (East)										
P88 5m from Silo Fan	82	80	80	77	77	74	72	76	78	82
Lw factor	22	22	22	22	22	22	22	22	22	
Sound Power Level	104	102	102	99	99	96	94	98	100	104
Wet Chip Silo										
P89 10m from Fan at ground level	86	88	93	83	81	80	79	79	78	87
Lw factor	28	28	28	28	28	28	28	28	28	
Sound Power Level	114	116	121	111	109	108	107	107	106	115

Details	Octave band centre frequency								dB(A)
	32	63	125	250	500	1k	2k	4k	8k
Recycled Fan									
P96 3m from partial enclosure	81	79	81	78	72	74	74	73	67
Lw factor	18	18	18	18	18	18	18	18	18
Sound Power Level	99	97	99	96	90	92	92	91	85
									98
Fan 660-M01 (ground level)									
P98 5m from fan	84	80	76	76	79	76	71	69	65
Lw factor	19	19	19	19	19	19	19	19	19
Sound Power Level	103	99	95	95	98	95	90	88	84
									100
Fan 650-M02 (ground level)									
P99 5m from fan	86	82	78	81	83	78	72	70	60
Lw factor	19	19	19	19	19	19	19	19	19
Sound Power Level	105	101	97	100	102	97	91	89	79
									102
Fan 650-M01									
P100 5m from fan	86	82	77	82	80	75	69	68	60
Lw factor	19	19	19	19	19	19	19	19	19
Sound Power Level	105	101	96	101	99	94	88	87	79
									100
Fan 490 M1 enclosure at 1m on platform									
P101 1m from enclosure	83	82	80	75	74	71	68	63	57
Lw factor	18	18	18	18	18	18	18	18	18
Sound Power Level	101	100	98	93	92	89	86	81	75
									94
Filter Boxes on MDF Roof									
P106 20m from Filter Boxes	78	73	69	66	64	59	58	56	53
Lw factor	34	34	34	34	34	34	34	34	34
Sound Power Level	112	107	103	100	98	93	92	90	87
									101
Open exhaust near filter boxes									
P107 3m from aperture	84	80	74	74	75	72	69	62	54
Lw factor	18	18	18	18	18	18	18	18	18
Sound Power Level	102	98	92	92	93	90	87	80	72
									95
12 Tonne Diesel FLT									
P233 Idle at 10m	70	70	75	64	63	58	58	49	44
Lw factor	28	28	28	28	28	28	28	28	28
Sound Power Level	98	98	103	92	91	86	86	77	72
									94
12 Tonne Electric FLT									
P234 Idle at 10m	74	73	74	69	63	59	61	56	52
Lw factor	28	28	28	28	28	28	28	28	28
Sound Power Level	102	101	102	97	91	87	89	84	80
									96
12 Tonne Diesel FLT (revving)									
P235 Revving at 10m	73	78	81	79	80	75	71	67	62
Lw factor	28	28	28	28	28	28	28	28	28
Sound Power Level	101	106	109	107	108	103	99	95	90
									109

APPENDIX F

Noise model output for NSR 1-4

Daytime Predictions to NSR 1-4 at 1.5m and 4m height

Location	1.5m Height	4m Height
NSR-1: 3 Wern	48	49
NSR-2: Maes-Y-Waun	51	52
NSR-3: Lwyn-Y-Cil	47	49
NSR-4: New Hall Farm	48	50

Night-time Predictions to NSR 1-4 at 1.5m and 4m height

Location	1.5m Height	4m Height
NSR-1: 3 Wern	49	50
NSR-2: Maes-Y-Waun	50	52
NSR-3: Lwyn-Y-Cil	47	48
NSR-4: New Hall Farm	48	50



Rank ordered Night-time Predictions to NSR 1 at 1.5m height

Description	Height	Day
NSR-1 3 Wern	1.50	49
Kronoplus Filtration Plant	8.00	44
K+ Rooftop Ducting	0.75	41
Pre-screening	6.00	40
Sawmill Walls	0.00	39
Formalin Plant Cooling Towers	1.00	36
Plastics Roof Fan Platform	2.00	36
Kronoplus Walls	0.00	34
RCF Filter Boxes	8.00	32
Kronoplus Walls	0.00	32
K8 Boiler Walls	0.00	32
Gas Engine Bulding Walls	0.00	31
De-barker	5.00	31
Diesel FLT Revving	1.50	30
Chipper	0.00	29
K8 Boiler Walls	0.00	29
Kronoplus Walls	0.00	29
K7 walls	20.00	28
Kronoplus Walls	0.00	28
K8 ID Fan	1.00	28
K8 Boiler Walls	0.00	28
Blade Room open door	2.00	27
Kronoplus Walls	0.00	26
Resin/Vits CT Fans	1.00	25
K7 Fin Fan Cooler	15.00	25
K8 Boiler Walls	0.00	24
Wet Chip Silo	4.00	24
K8 Granulator Burner Combustion Air Fans (x3)	1.00	24
Delivery Trucks	1.00	24
Gas Engine Rooftop Fans (x10)	1.00	24
Gas Engine Rooftop Fans (x10)	1.00	24
Gas Engine Rooftop Fans (x10)	1.00	24
Filter boxes on MDF roof	15.00	23



Rank ordered Night-time Predictions to NSR 2 at 1.5m height

Description	Height	Day
NSR-2 Maes-Y-Waun	1.50	50
Plastics Roof Fan Platform	2.00	43
Kronoplus Filtration Plant	8.00	42
K7 walls	20.00	40
PB Sender Fans	2.00	39
Wet Chip Silo	4.00	38
K7 Fin Fan Cooler	15.00	38
K8 Boiler Walls	0.00	38
K8 Boiler Walls	0.00	37
K8 Boiler Walls	0.00	37
Delivery Trucks	1.00	36
Pre-screening	6.00	35
Chipper	0.00	34
K+ Rooftop Ducting	0.75	33
Filter boxes on MDF roof	15.00	32
Fan 660-M02	1.50	32
K8 Boiler Walls	0.00	32
Resin/Vits CT Fans	1.00	31
Resin/Vits CT Fans	1.00	31
Wet Chip Silo Fan (East)	30.00	30
Fan 660-M01	1.50	29
SawmillWalls	0.00	29
Chipper	0.00	29
Gas Engine Bulding Walls	0.00	28
Fan 650-M01	1.50	28
K8 ID Fan	1.00	28
Open exhaust near filter boxes	12.00	27
Formalin Plant Cooling Towers	1.00	27
Gas Engine Rooftop Fans (x10)	1.00	27
Wet Chip Silo Fan (West)	30.00	27
Resin/Vits CT Fans	1.00	27
Recycled Fan	15.00	26
Gas Engine Rooftop Fans (x10)	1.00	25



Rank ordered Night-time Predictions to NSR 3 at 1.5m height

Description	Height	Day
NSR-3 Lwyn-Y-Cil Road	1.50	47
Kronoplus Filtration Plant	8.00	38
K7 Fin Fan Cooler	15.00	37
K8 Boiler Walls	0.00	37
K7 walls	20.00	37
PE Sender Fans	2.00	36
K8 Boiler Fan	1.00	35
K8 Boiler Walls	0.00	34
Wet Chip Silo	4.00	33
K8 Boiler Walls	0.00	31
K8 ID Fan	1.00	30
Fan 660-M02	1.50	30
Plastics Roof Fan Platform	2.00	30
Diesel FLT Revving	1.50	29
Filter boxes on MDF roof	15.00	29
Recycled Fan	15.00	28
Fan 650-M01	1.50	27
Fan 660-M01	1.50	27
K+ Rooftop Ducting	0.75	27
SawmillWalls	0.00	27
K8Granulator Burner Combustion Air Fans (x3)	1.00	26
K7 Fan	8.00	25
Diesel FLT Revving	1.50	25
Formalin Plant Cooling Towers	1.00	25
Chipper	0.00	25
Open exhaust near filter boxes	12.00	24
Diesel FLT Revving	1.50	24
Fan 490-M1 enclosure	8.00	24
MDF Production Hall Wall	0.50	23
MDF Drier Fan	2.00	22
K8 Boiler Walls	0.00	21
Gas Engine Rooftop Fans (x10)	1.00	20
Gas Engine Rooftop Fans (x10)	1.00	20

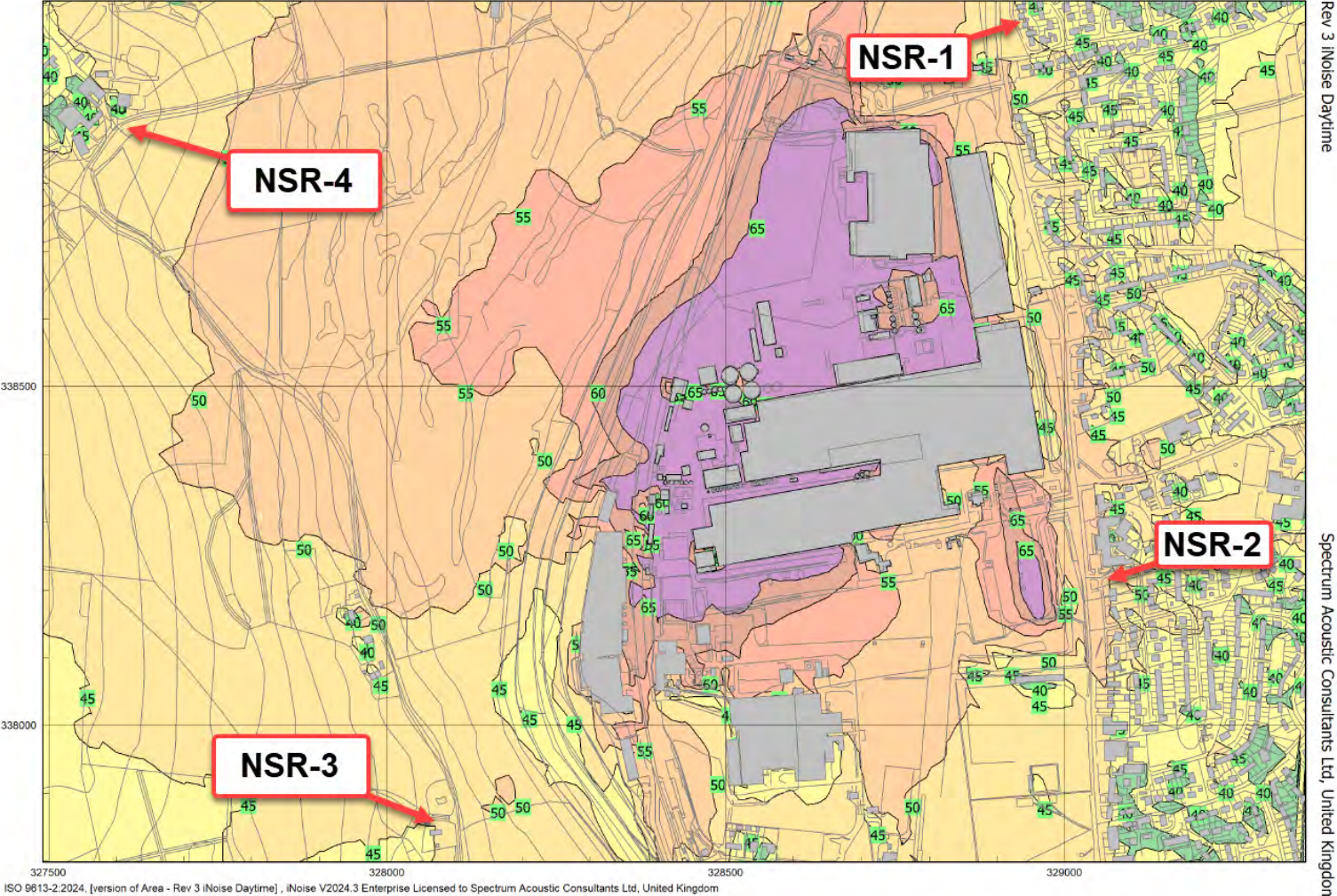


Rank ordered Night-time Predictions to NSR 4 at 1.5m height

Description	Height	Day
NSR-4 New Hall Farm	1.50	48
Kronoplus Filtration Plant	8.00	42
Pre-screening	6.00	38
K8 Boiler Walls	0.00	38
K8 Boiler Walls	0.00	38
RCF Filter Boxes	8.00	38
Chipper	0.00	35
Blade Room open door	2.00	35
Sawmill Walls	0.00	34
Chipper	0.00	33
Diesel FLT Revving	1.50	30
MDF Drier Fan	2.00	29
Plastics Roof Fan Platform	2.00	29
K+ Rooftop Ducting	0.75	29
K7 walls	20.00	28
K7 Fin Fan Cooler	15.00	28
Chipper	0.00	28
Formalin Plant Cooling Towers	1.00	28
RCF Waste Chutes	1.00	28
Sifter	1.50	27
Diesel FLT Revving	1.50	27
Diesel FLT Revving	1.50	27
Sifter	1.50	27
Condur Mill	1.50	27
Condur Mill	1.50	27
Gas Engine Bulding Walls	0.00	25
Sifter	1.50	24
K8 ID Fan	1.00	24
De-barker	5.00	24
PB Sender Fans	2.00	23
Wet Chip Silo	4.00	23
Dry Chip Filter Box	1.50	23
Dry Chip Filter Box	1.50	23



Daytime Predicted Noise Contours

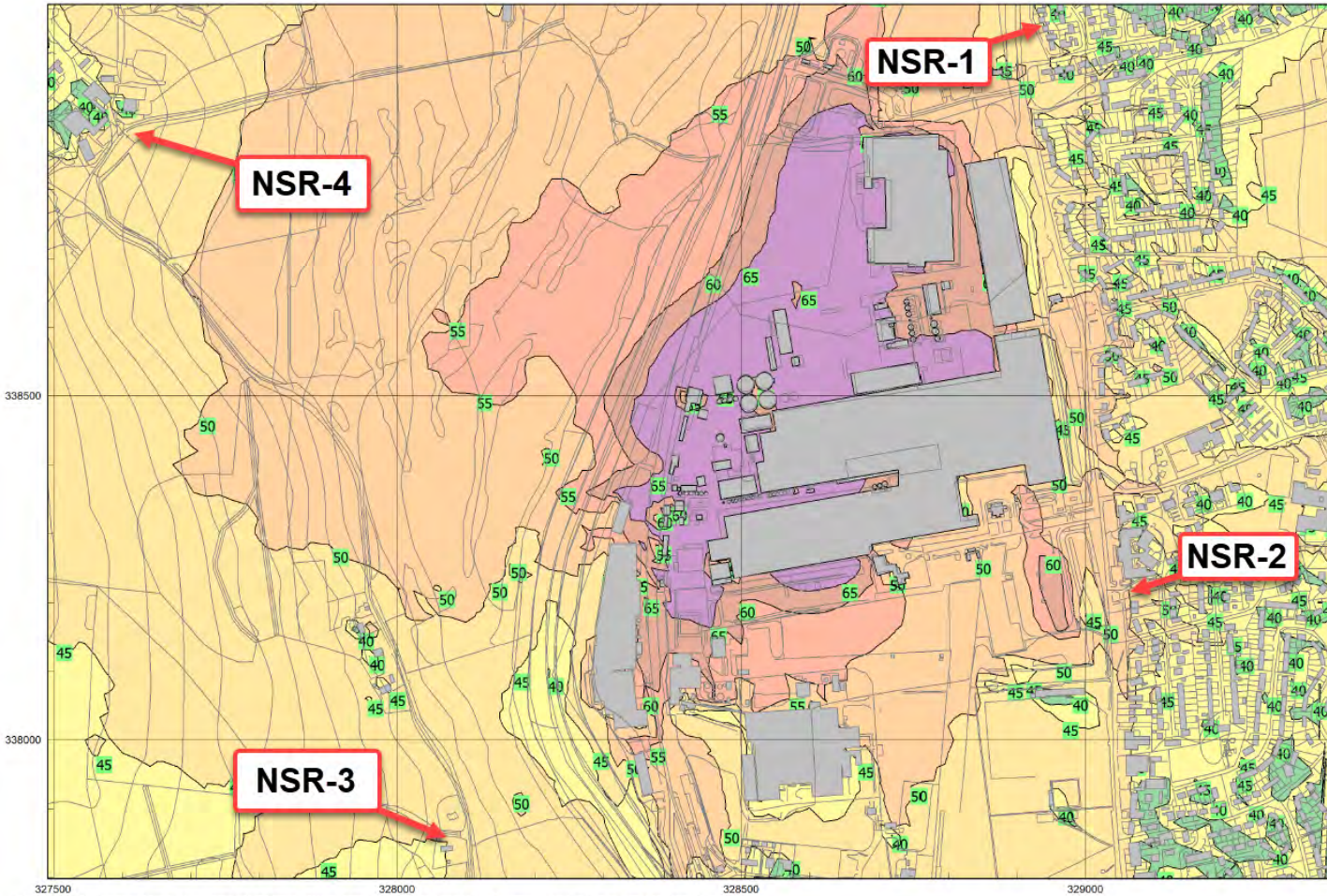


Rev 3 (Noise Daytime)

Spectrum Acoustic Consultants Ltd, United Kingdom



Night-time Predicted Noise Contours



Rev 3 iNoise Night-time

Spectrum Acoustic Consultants Ltd, United Kingdom



APPENDIX G

Noise model output for additional locations and model

Information on the following pages is included for the following reasons:

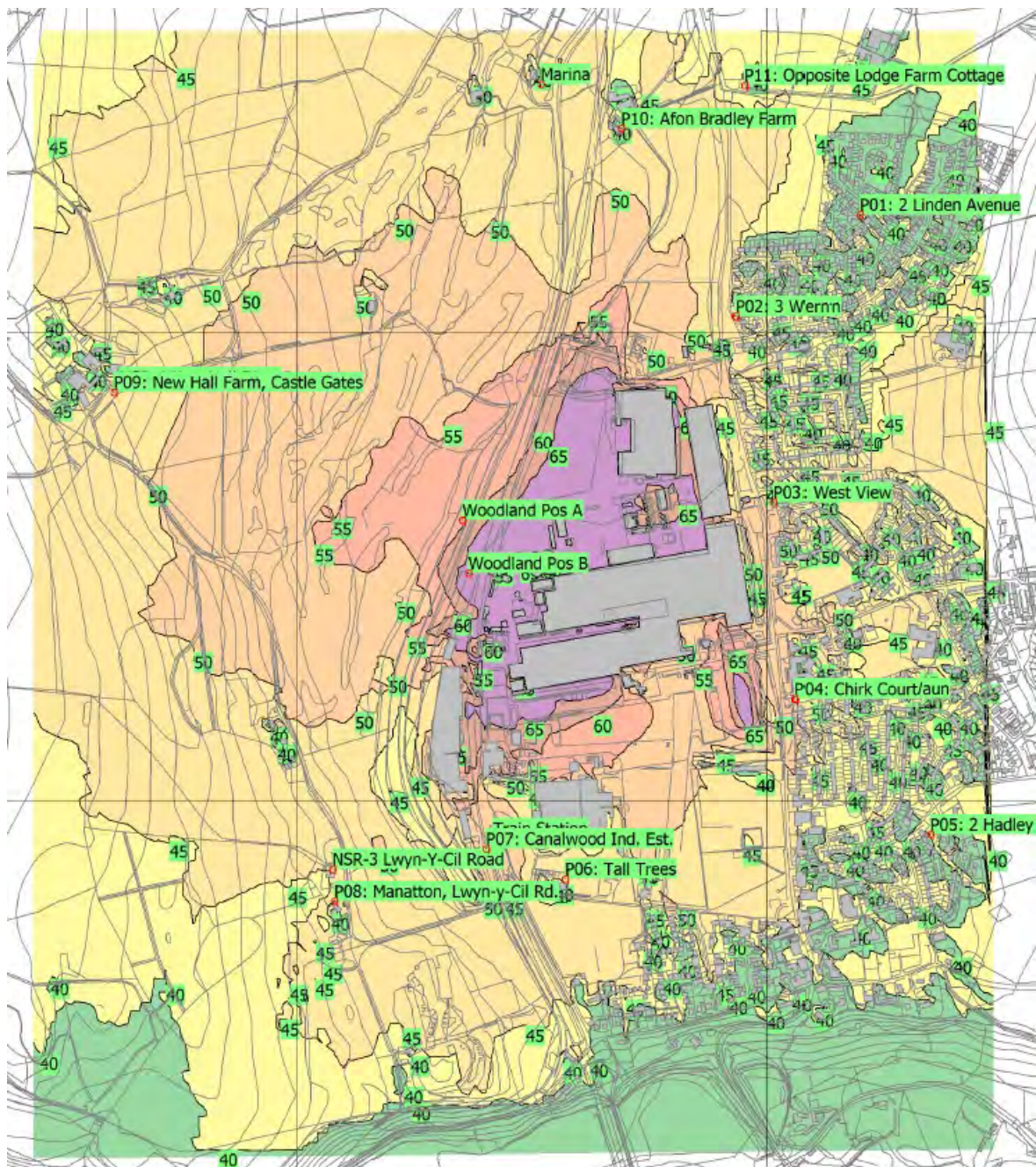
1. To enable comparison with historical noise assessments by others
2. To provide predicted noise levels at additional locations
3. To demonstrate the changes in predicted levels from the iNoise model using the ISO 9613-2 1996 and the ISO 9613-2 2024 calculation procedures

NSR Position	Grid Reference	Description of Position
P1: No.2 Linden Avenue	329196 339250	This dwelling has a garden facing the direction of Kronospan off Linden Avenue a location area previously used for distant receptor to the northeast. Meter placed in centre of garden away from reflective walls.
P2: No. 3 Wern	328935 339034	This dwelling has a front garden facing Kronospan site off Wern. This is a location previously used for receptor to the northeast close to the B5070 Holyhead Road. Meter placed in centre of front garden at least 3.5m away from dwelling.
P3: West View/ Holyhead Road	329015 338636	This position was chosen for the early baseline studies in 2011 and 2016 which reflects the nearest receptors off West View. Data recorded in 2016 is referenced for this receptor. Meter placed on green space in front of dwellings off West View at circa 20m from Holyhead Road.
P4: Chirk Court (Maes-Y-Waun)	329059 338217	This position was most open location and accessible relative to Maes-y-waun and at similar distance from Holyhead Road and should therefore provide similar ambient and background sound levels to those previously measured. Green space used was in view of Kronospan and location west to southwest of site. Meter placed to the side of bicycle park on lawned area away from reflective walls and main building.
P5: No.2 Hadley Close	329346 337929	This dwelling position was the most accessible and open location relative to previous Shepherds Lane monitoring position. Front garden was in directional view of Kronospan site. Meter placed towards centre of front lawn away from reflective surfaces.
P6: Tall Trees, Station Avenue	328572 337837	This dwelling was the closest to the Mondelez entrance off Station Avenue and the rear garden faces the direction of Mondelez and Kronospan being south of the sites. Meter and weather station placed in rear garden away from reflective walls of dwelling.
P7: Canalwood Industrial Estate	328403 337898	This position was most appropriate for measuring ambient noise and in a position facing the Kronospan site away from reflective walls and buildings. Meter placed on green space on raised grassed bund just to the west of the railway station complex.
P8: Manatton, Llwyn-y-cil Road	328080 337787	This dwelling position was the most accessible position to the southwest of Kronospan site in a position with side lawned area facing an unimpeded direction towards the Kronospan plant. Meter placed in the side private garden just north of the dwelling away from dwelling walls.
P9: New Hall Farm, Castle Gates	327611 338873	This position was most accessible and appropriate position to the northwest of the Kronospan site and in view of the plant on an elevated land position just east of the farm entrance. Meter was placed in the field opposite the farm site entrance away from reflective walls and buildings,
P10. Afon Bradley Farm	328691 339433	This property is in the ownership of the Applicant and is located to the northwest of the lorry park. The meter was placed at the front lower garden of the property away from reflective walls and facing the direction of the Proposed Development.
P11. Opposite Lodge Farm Cottage	328953 339526	This property is located opposite the proposed new roundabout junction and therefore northeast of the lorry park. The meter was placed in the field opposite the Property at a similar distance from the local road network.
Marina	328520 339528	North of the Kronospan site.

NSR Position	Grid Reference	Description of Position
Woodland Pos A	328353 338597	In woodland to West of site on West side of canal
Woodland Pos B	328365 338484	In woodland to West of site on East side of canal



Daytime predictions incorporating additional locations





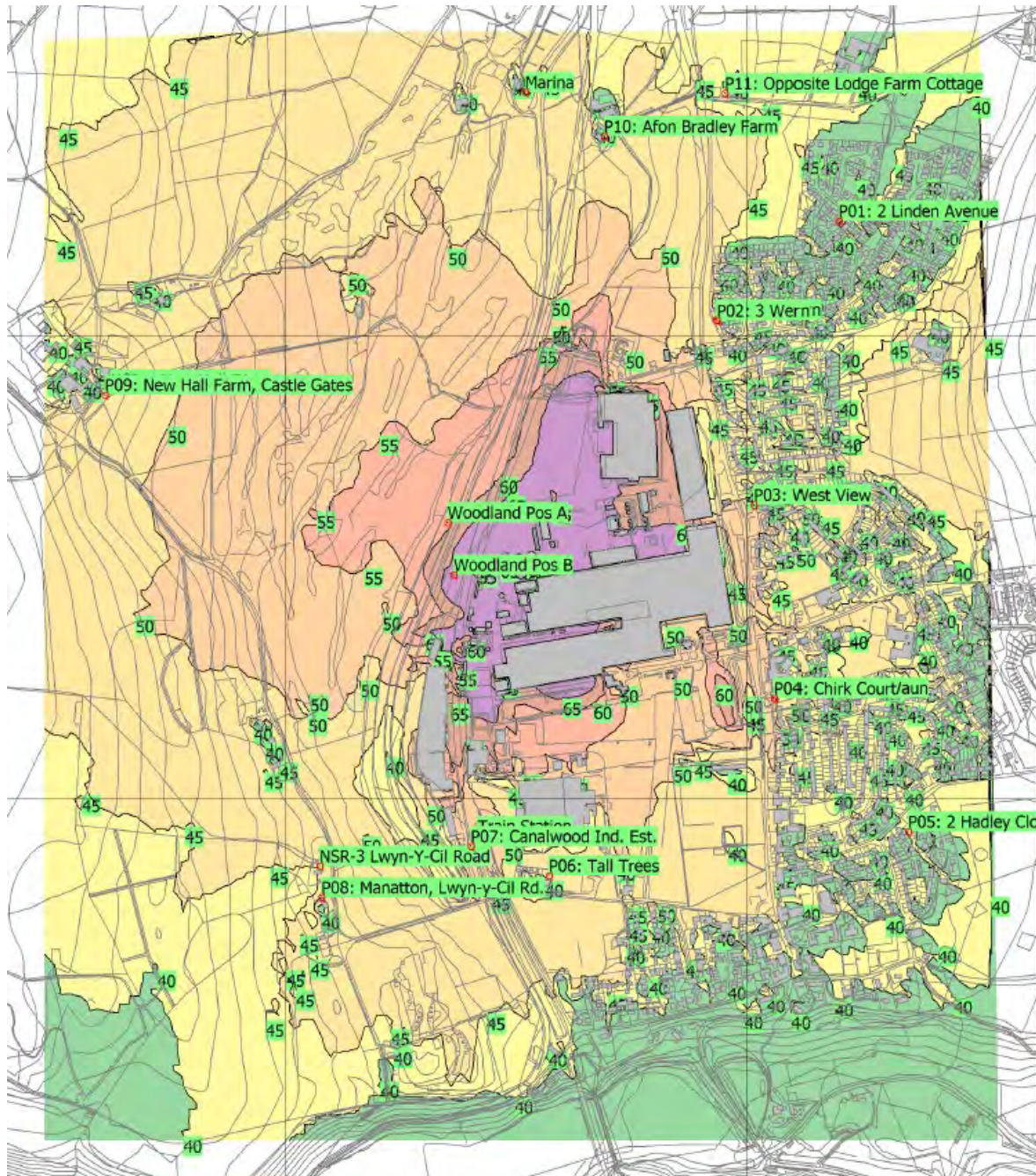
Daytime predictions incorporating additional locations

Report: Table of Results
 Model: Rev 3 iNoise Daytime
 LAeq: total results for receivers
 Group: (main group)
 Group Reduction: No

Name			
Receiver	Description	Height	Day
11_A	Marina	1.50	45
11_B	Marina	4.00	47
A	NSR-1 3 Wern	1.50	48
B	NSR-1 3 Wern	4.00	49
1_A	NSR-2 Maes-Y-Waun	1.50	51
1_B	NSR-2 Maes-Y-Waun	4.00	52
2_A	NSR-3 Lwyn-Y-Cil Road	1.50	47
2_B	NSR-3 Lwyn-Y-Cil Road	4.00	49
3_A	NSR-4 New Hall Farm	1.50	48
3_B	NSR-4 New Hall Farm	4.00	50
A	P01: 2 Linden Avenue	1.50	39
B	P01: 2 Linden Avenue	4.00	41
2_A	P02: 3 Wern	1.50	48
2_B	P02: 3 Wern	4.00	49
1_A	P03: West View	1.50	53
1_B	P03: West View	4.00	54
3_A	P04: Chirk Court	1.50	51
3_B	P04: Chirk Court	4.00	52
4_A	P05: 2 Hadley Close	1.50	41
4_B	P05: 2 Hadley Close	4.00	44
5_A	P06: Tall Trees	1.50	49
5_B	P06: Tall Trees	4.00	50
6_A	P07: Canalwood Ind. Est.	1.50	52
6_B	P07: Canalwood Ind. Est.	4.00	53
7_A	P08: Manatton, Lwyn-y-Cil Rd.	1.50	49
7_B	P08: Manatton, Lwyn-y-Cil Rd.	4.00	50
8_A	P09: New Hall Farm, Castle Gates	1.50	48
8_B	P09: New Hall Farm, Castle Gates	4.00	50
9_A	P10: Afon Bradley Farm	1.50	47
9_B	P10: Afon Bradley Farm	4.00	49
10_A	P11: Opposite Lodge Farm Cottage	1.50	43
10_B	P11: Opposite Lodge Farm Cottage	4.00	46
A	Train Station	1.50	54
B	Train Station	4.00	53
1_A	Woodland Pos A	1.50	59
1_B	Woodland Pos A	4.00	61
A	Woodland Pos B	1.50	65
_B	Woodland Pos B	4.00	66



Night-time predictions incorporating additional locations





Night-time predictions incorporating additional locations

Report: Table of Results
 Model: Rev 3 iNoise Night-time
 LAeq: total results for receivers
 Group: (main group)
 Group Reduction: No

Name			
Receiver	Description	Height	Day
11_A	Marina	1.50	45
11_B	Marina	4.00	47
A	NSR-1 3 Wern	1.50	49
B	NSR-1 3 Wern	4.00	50
1_A	NSR-2 Maes-Y-Waun	1.50	50
1_B	NSR-2 Maes-Y-Waun	4.00	52
2_A	NSR-3 Lwyn-Y-Cil Road	1.50	47
2_B	NSR-3 Lwyn-Y-Cil Road	4.00	48
3_A	NSR-4 New Hall Farm	1.50	48
3_B	NSR-4 New Hall Farm	4.00	50
A	P01: 2 Linden Avenue	1.50	39
B	P01: 2 Linden Avenue	4.00	41
2_A	P02: 3 Wern	1.50	48
2_B	P02: 3 Wern	4.00	49
1_A	P03: West View	1.50	53
1_B	P03: West View	4.00	54
3_A	P04: Chirk Court	1.50	50
3_B	P04: Chirk Court	4.00	52
4_A	P05: 2 Hadley Close	1.50	41
4_B	P05: 2 Hadley Close	4.00	44
5_A	P06: Tall Trees	1.50	49
5_B	P06: Tall Trees	4.00	50
6_A	P07: Canalwood Ind. Est.	1.50	52
6_B	P07: Canalwood Ind. Est.	4.00	53
7_A	P08: Manatton, Lwyn-y-Cil Rd.	1.50	48
7_B	P08: Manatton, Lwyn-y-Cil Rd.	4.00	50
8_A	P09: New Hall Farm, Castle Gates	1.50	48
8_B	P09: New Hall Farm, Castle Gates	4.50	50
9_A	P10: Afon Bradley Farm	1.50	47
9_B	P10: Afon Bradley Farm	4.00	49
10_A	P11: Opposite Lodge Farm Cottage	1.50	43
10_B	P11: Opposite Lodge Farm Cottage	4.00	46
A	Train Station	1.50	53
B	Train Station	4.00	53
1_A	Woodland Pos A	1.50	59
1_B	Woodland Pos A	4.00	61
A	Woodland Pos B	1.50	65
_B	Woodland Pos B	4.00	66



Daytime predictions incorporating additional locations (ISO 9613-2 1996 model for reference)

Report: Table of Results
 Model: Rev 3 Daytime ISO 9613-2 1996 Model
 LAeq: total results for receivers
 Group: (main group)
 Group Reduction: No

Name			
Receiver	Description	Height	Day
11 A	Marina	1.50	45
11_B	Marina	4.00	47
A	NSR-1 3 Wern	1.50	48
B	NSR-1 3 Wern	4.00	49
1_A	NSR-2 Maes-Y-Waun	1.50	51
1 B	NSR-2 Maes-Y-Waun	4.00	52
2 A	NSR-3 Lwyn-Y-Cil Road	1.50	47
2 B	NSR-3 Lwyn-Y-Cil Road	4.00	49
3 A	NSR-4 New Hall Farm	1.50	48
3_B	NSR-4 New Hall Farm	4.00	50
A	P01: 2 Linden Avenue	1.50	39
B	P01: 2 Linden Avenue	4.00	41
2 A	P02: 3 Wern	1.50	48
2 B	P02: 3 Wern	4.00	49
1_A	P03: West View	1.50	54
1 B	P03: West View	4.00	54
3 A	P04: Chirk Court	1.50	51
3 B	P04: Chirk Court	4.00	52
4 A	P05: 2 Hadley Close	1.50	41
4_B	P05: 2 Hadley Close	4.00	44
5 A	P06: Tall Trees	1.50	49
5 B	P06: Tall Trees	4.00	51
6 A	P07: Canalwood Ind. Est.	1.50	52
6 B	P07: Canalwood Ind. Est.	4.00	53
7_A	P08: Manatton, Lwyn-y-Cil Rd.	1.50	48
7 B	P08: Manatton, Lwyn-y-Cil Rd.	4.00	50
8 A	P09: New Hall Farm, Castle Gates	1.50	48
8 B	P09: New Hall Farm, Castle Gates	4.00	50
9 A	P10: Afon Bradley Farm	1.50	47
9_B	P10: Afon Bradley Farm	4.00	49
10 A	P11: Opposite Lodge Farm Cottage	1.50	43
10_B	P11: Opposite Lodge Farm Cottage	4.00	46
A	Train Station	1.50	52
B	Train Station	4.00	53
1_A	Woodland Pos A	1.50	59
1 B	Woodland Pos A	4.00	61
A	Woodland Pos B	1.50	67
_B	Woodland Pos B	4.00	67



Night-time predictions incorporating additional locations (ISO 9613-2 1996 model for reference)

Report: Table of Results
 Model: Rev 3 Night-time ISO 9613-2 1996 Model
 LAeq: total results for receivers
 Group: (main group)
 Group Reduction: No

Name			
Receiver	Description	Height	Day
11_A	Marina	1.50	45
11_B	Marina	4.00	47
A	NSR-1 3 Wern	1.50	48
B	NSR-1 3 Wern	4.00	49
1_A	NSR-2 Maes-Y-Waun	1.50	50
1_B	NSR-2 Maes-Y-Waun	4.00	52
2_A	NSR-3 Lwyn-Y-Cil Road	1.50	47
2_B	NSR-3 Lwyn-Y-Cil Road	4.00	49
3_A	NSR-4 New Hall Farm	1.50	48
3_B	NSR-4 New Hall Farm	4.00	50
A	P01: 2 Linden Avenue	1.50	39
B	P01: 2 Linden Avenue	4.00	41
2_A	P02: 3 Wern	1.50	48
2_B	P02: 3 Wern	4.00	49
1_A	P03: West View	1.50	53
1_B	P03: West View	4.00	54
3_A	P04: Chirk Court	1.50	50
3_B	P04: Chirk Court	4.00	52
4_A	P05: 2 Hadley Close	1.50	41
4_B	P05: 2 Hadley Close	4.00	44
5_A	P06: Tall Trees	1.50	49
5_B	P06: Tall Trees	4.00	50
6_A	P07: Canalwood Ind. Est.	1.50	51
6_B	P07: Canalwood Ind. Est.	4.00	53
7_A	P08: Manatton, Lwyn-y-Cil Rd.	1.50	47
7_B	P08: Manatton, Lwyn-y-Cil Rd.	4.00	49
8_A	P09: New Hall Farm, Castle Gates	1.50	48
8_B	P09: New Hall Farm, Castle Gates	4.50	50
9_A	P10: Afon Bradley Farm	1.50	47
9_B	P10: Afon Bradley Farm	4.00	49
10_A	P11: Opposite Lodge Farm Cottage	1.50	43
10_B	P11: Opposite Lodge Farm Cottage	4.00	46
A	Train Station	1.50	51
B	Train Station	4.00	53
1_A	Woodland Pos A	1.50	59
1_B	Woodland Pos A	4.00	61
A	Woodland Pos B	1.50	67
_B	Woodland Pos B	4.00	67

A P P E N D I X H

Details of HGV and FLT Movements



Average Movements by Day Hour

	07:00	08:00	09:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	Total
Monday	34.8	40.0	39.6	38.8	40.2	39.4	41.2	41.5	41.1	35.6	26.2	23.0	19.8	14.1	13.1	12.5	501.1
Tuesday	44.7	45.8	40.6	39.6	40.1	41.1	42.3	42.8	41.7	37.3	27.3	23.0	18.1	14.9	14.9	13.0	527.3
Wednesday	44.9	46.3	41.4	39.3	40.7	40.5	42.3	43.2	41.8	36.7	28.6	24.9	19.9	14.4	14.0	12.3	531.3
Thursday	41.8	44.0	39.6	38.8	38.4	39.6	41.2	43.0	40.5	35.5	26.8	23.6	19.5	13.3	14.1	11.9	511.5
Friday	45.1	44.5	41.6	39.5	38.8	38.9	40.5	36.7	31.7	24.1	13.8	10.0	7.3	5.2	5.7	5.4	428.8
Saturday	10.0	8.8	8.3	7.4	7.2	5.9	4.1	5.9	4.4	2.8	2.9	2.3	1.7	2.1	1.6	1.9	77.4
Sunday	3.9	5.9	5.8	6.1	5.4	5.3	4.2	6.4	4.0	3.1	2.3	1.5	1.9	2.7	2.0	1.7	62.3
Total	32.2	33.6	31.0	29.9	30.1	30.1	30.8	31.4	29.3	25.0	18.3	15.5	12.6	9.5	9.3	8.4	377.1

Total Average HGV Movements at Night																																Grand Total	
23:00				00:00				01:00				02:00				03:00				04:00				05:00				06:00					
0-15	16-30	31-45	46-00	0-15	16-30	31-45	46-00	0-15	16-30	31-45	46-00	0-15	16-30	31-45	46-00	0-15	16-30	31-45	46-00	0-15	16-30	31-45	46-00	0-15	16-30	31-45	46-00	0-15	16-30	31-45	46-00		
Monday	2.8	2.7	3.1	3.1	0.3	0.5	0.4	0.4	0.5	0.2	0.2	0.5	0.7	0.7	0.8	1.3	0.9	0.8	0.9	0.9	2.0	2.0	2.7	3.2	3.6	3.5	4.5	7.6	5.7	5.5	6.2	10.2	78.5
Tuesday	2.9	2.8	2.5	2.7	1.9	2.2	1.5	1.9	2.7	1.8	0.9	1.3	3.1	2.5	2.2	2.8	2.1	2.4	2.2	2.5	3.8	3.9	4.6	4.9	6.1	6.3	6.9	9.7	7.9	8.4	8.7	13.3	129.2
Wednesday	3.1	2.4	2.6	3.0	2.6	1.8	1.9	1.8	2.4	2.0	1.1	1.4	2.9	2.3	2.4	2.6	2.6	2.6	2.3	2.5	4.2	3.9	4.2	4.8	6.4	5.0	6.4	8.5	7.8	8.1	8.0	11.5	125.3
Thursday	2.0	2.3	2.0	2.2	2.7	2.3	2.0	2.0	2.5	2.1	1.4	1.4	3.0	2.0	3.0	2.6	2.1	2.3	2.5	2.3	3.8	3.9	4.1	4.3	6.1	5.5	5.9	8.4	8.1	7.6	8.4	12.0	122.9
Friday	1.6	1.4	1.2	1.5	2.4	2.1	1.6	2.1	2.6	1.8	1.1	1.4	2.8	2.1	2.4	3.0	1.8	1.7	1.8	1.7	3.6	3.5	3.5	4.7	6.1	5.9	6.5	8.3	8.0	8.5	7.7	12.7	117.0
Saturday	0.3	0.4	0.3	0.6	1.5	1.5	1.2	1.5	1.2	0.8	0.3	0.7	0.8	0.7	1.0	1.1	1.0	0.9	0.8	1.1	1.1	1.1	1.0	1.6	1.0	0.8	1.3	1.8	1.6	1.5	1.1	3.2	34.9
Sunday	0.3	0.5	0.6	0.9	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.5	0.1	0.1	0.3	0.4	0.3	0.3	0.2	0.4	0.1	0.1	0.3	0.4	0.3	0.2	0.2	0.5	0.3	0.4	0.3	1.2	10.7
Total	1.9	1.8	1.7	2.0	1.7	1.5	1.3	1.4	1.7	1.3	0.7	1.0	1.9	1.5	1.7	2.0	1.5	1.6	1.5	1.6	2.7	2.6	2.9	3.4	4.2	3.9	4.5	6.4	5.6	5.7	5.8	9.1	88.4

Fork Lift Trucks

Monday 06:00 - 06:00 Friday	4 Days x 12 hour x 2 shift	Electric	<7 t	1
Full Continental	7 days x 12 hours x 2 shifts	Electric	8-12T	7
Full Continental	7 days x 12 hours x 2 shifts	Diesel	8-12T	2
Full Continental	7 days x 12 hours x 2 shifts	Electric	<7 t	9
Full Continental	7 days x 12 hours x 2 shifts	Diesel	<7 t	9
Full Continental	7 days x 12 hours x 2 shifts	Gas	<7 t	2
Continental Days	7 days x 12 hours x 1 shifts	Electric	8-12T	1
Monday 06:00 - Friday 18:00	5 Days x 12 hour x 2 shift	Electric	8-12T	5
06:00 - 18:00 Mon to Fri	5 Days x 12 hour	Electric	8-12T	3

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For the purposes of noise modelling, the following are assumed:

Daytime: 40 HGV movements in 1 hr with each movement lasting 2 min, modelled as areas sources over typical routes.

Daytime FLT activity: 7 FLT's assumed to be operating externally for typically 25% of the time.

Night-time 3 HGV movements in 15 min with each movement lasting 2 min, modelled as areas sources over typical routes.

Night-time FLT activity: 3 FLT's assumed to be operating externally for typically 50% of the time.

A P P E N D I X I

Environmental noise measurement data (15/01/24 – 31/01/24)

Raw data and central tendencies for location NSR 1: 3 Wern

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	62	53	72
Mean	60	52	72
Mean - 1 s.d.	57	49	-
Log Average	60	-	-

Table 7.1.1 (a): Daytime period (07:00 to 23:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	14:45	60	51	73	336	2.50
15/01/2024	15:00	61	54	73	342	2.20
15/01/2024	15:15	61	53	72	336	2.10
15/01/2024	15:30	61	53	76	330	2.30
15/01/2024	15:45	60	52	73	329	1.50
15/01/2024	16:00	61	53	75	330	1.30
15/01/2024	16:15	60	52	73	344	1.90
15/01/2024	16:30	61	53	71	333	1.30
15/01/2024	16:45	60	53	71	304	0.70
15/01/2024	17:00	62	54	73	303	0.90
15/01/2024	17:15	61	55	70	197	0.70
15/01/2024	17:30	61	55	71	344	0.60
15/01/2024	17:45	60	52	72	244	0.80
15/01/2024	18:00	61	53	72	255	0.60
15/01/2024	18:15	60	51	71	307	0.70
15/01/2024	18:30	59	47	73	221	0.60
15/01/2024	18:45	59	49	70	319	0.80
15/01/2024	19:00	59	49	71	193	0.60
15/01/2024	19:15	59	49	69	335	0.90
15/01/2024	19:30	59	48	74	224	0.90
15/01/2024	19:45	59	49	77	315	1.00
15/01/2024	20:00	59	49	75	226	0.90
15/01/2024	20:15	57	47	70	315	0.80
15/01/2024	20:30	58	48	68	266	0.50
15/01/2024	20:45	58	49	72	185	1.20
15/01/2024	21:00	55	47	67	308	0.90
15/01/2024	21:15	57	47	70	203	0.60
15/01/2024	21:30	56	46	68	258	1.10
15/01/2024	21:45	53	44	67	209	1.00
15/01/2024	22:00	55	44	69	211	1.00
15/01/2024	22:15	56	46	72	298	0.90
15/01/2024	22:30	54	45	73	232	1.20
15/01/2024	22:45	56	49	67	294	0.70
16/01/2024	07:00	62	53	74	214	3.40
16/01/2024	07:15	61	53	72	215	2.70
16/01/2024	07:30	62	55	73	263	1.70
16/01/2024	07:45	63	57	78	256	2.00
16/01/2024	08:00	63	58	74	192	1.60
16/01/2024	08:15	62	57	71	203	1.70
16/01/2024	08:30	63	58	80	202	1.60
16/01/2024	08:45	62	57	76	193	3.20

16/01/2024	09:00	62	54	71	192	1.70
16/01/2024	09:15	61	52	73	188	2.00
16/01/2024	09:30	61	53	76	187	1.50
16/01/2024	09:45	61	55	72	217	2.30
16/01/2024	10:00	61	53	71	230	3.20
16/01/2024	10:15	61	53	72	223	3.00
16/01/2024	10:30	61	52	72	227	2.30
16/01/2024	10:45	61	53	75	224	2.80
16/01/2024	11:00	61	53	71	222	2.20
16/01/2024	11:15	61	55	74	233	3.20
16/01/2024	11:30	61	54	72	220	2.90
16/01/2024	11:45	61	52	70	208	3.20
16/01/2024	12:00	61	53	75	226	2.90
16/01/2024	12:15	62	55	76	214	4.90
16/01/2024	12:30	61	55	71	212	5.00
16/01/2024	12:45	62	55	75	227	3.70
16/01/2024	13:00	63	56	75	218	4.50
16/01/2024	13:15	62	56	80	230	4.10
16/01/2024	13:30	62	56	76	209	6.40
16/01/2024	13:45	61	56	74	237	3.20
16/01/2024	14:00	62	56	75	222	4.20
16/01/2024	14:15	62	56	74	233	3.40
16/01/2024	14:30	62	55	77	222	3.20
16/01/2024	14:45	62	57	72	202	5.60
16/01/2024	15:00	63	57	73	208	4.20
16/01/2024	15:15	63	58	78	210	4.10
16/01/2024	15:30	62	57	74	194	4.00
16/01/2024	15:45	61	55	71	192	3.50
16/01/2024	16:00	62	57	70	193	4.20
16/01/2024	16:15	62	56	72	224	3.00
16/01/2024	16:30	62	57	76	205	4.50
16/01/2024	16:45	61	56	70	199	5.90
16/01/2024	17:00	63	57	74	209	3.40
16/01/2024	17:15	62	57	73	204	4.60
16/01/2024	17:30	62	56	71	213	4.50
16/01/2024	17:45	61	55	70	211	4.30
16/01/2024	18:00	62	56	74	221	5.30
16/01/2024	18:15	60	54	71	218	5.50
16/01/2024	18:30	60	52	69	192	6.40
16/01/2024	18:45	60	50	76	202	2.90
16/01/2024	19:00	60	51	71	210	2.70
16/01/2024	19:15	60	49	84	202	4.10
16/01/2024	19:30	59	51	72	193	3.50
16/01/2024	19:45	58	50	71	217	3.80
16/01/2024	20:00	59	51	71	229	3.90
16/01/2024	20:15	58	50	67	210	3.00
16/01/2024	20:30	57	49	70	207	3.40
16/01/2024	20:45	57	47	69	203	3.50
16/01/2024	21:00	57	47	72	200	3.90
16/01/2024	21:15	55	44	66	328	1.20
16/01/2024	21:30	55	43	70	210	1.40
16/01/2024	21:45	55	45	69	207	1.40
16/01/2024	22:00	54	46	67	223	2.00
16/01/2024	22:15	55	48	67	217	2.80
16/01/2024	22:30	54	49	70	257	3.80
16/01/2024	22:45	57	49	69	244	4.10

17/01/2024	07:00	60	46	72	325	1.30
17/01/2024	07:15	61	50	72	330	1.20
17/01/2024	07:30	62	54	77	329	0.70
17/01/2024	07:45	63	56	82	332	0.90
17/01/2024	08:00	62	57	71	326	0.90
17/01/2024	08:15	62	55	71	316	0.80
17/01/2024	08:30	61	52	71	326	0.70
17/01/2024	08:45	63	57	76	341	0.70
17/01/2024	09:00	62	56	70	334	1.10
17/01/2024	09:15	62	55	74	344	1.20
17/01/2024	09:30	62	55	74	343	0.80
17/01/2024	09:45	61	53	74	314	0.60
17/01/2024	10:00	60	50	73	338	1.00
17/01/2024	10:15	60	48	76	335	1.70
17/01/2024	10:30	60	49	69	338	1.50
17/01/2024	10:45	60	51	73	347	1.70
17/01/2024	11:00	60	49	71	350	2.80
17/01/2024	11:15	61	48	75	352	2.50
17/01/2024	11:30	60	50	72	352	2.60
17/01/2024	11:45	59	49	70	349	2.10
17/01/2024	12:00	63	51	75	347	2.60
17/01/2024	12:15	59	49	74	344	2.70
17/01/2024	12:30	60	49	71	348	1.90
17/01/2024	12:45	62	51	76	339	2.30
17/01/2024	13:00	59	49	76	349	2.10
17/01/2024	13:15	60	50	78	345	2.90
17/01/2024	13:30	60	51	79	350	2.40
17/01/2024	13:45	60	49	78	346	2.20
17/01/2024	14:00	59	50	73	348	2.40
17/01/2024	14:15	60	52	72	345	2.20
17/01/2024	14:30	60	49	74	352	2.50
17/01/2024	14:45	61	53	71	335	2.90
17/01/2024	15:00	62	52	79	343	2.30
17/01/2024	15:15	60	53	76	340	1.90
17/01/2024	15:30	61	54	74	344	2.20
17/01/2024	15:45	61	55	75	334	1.80
17/01/2024	16:00	62	55	75	336	1.40
17/01/2024	16:15	61	53	68	338	1.60
17/01/2024	16:30	61	53	70	334	1.10
17/01/2024	16:45	61	53	78	319	1.10
17/01/2024	17:00	62	55	71	308	1.20
17/01/2024	17:15	62	55	75	337	1.70
17/01/2024	17:30	62	55	71	333	1.10
17/01/2024	17:45	61	54	72	328	1.00
17/01/2024	18:00	61	54	78	331	0.90
17/01/2024	18:15	61	53	70	331	1.10
17/01/2024	18:30	60	50	70	252	0.70
17/01/2024	18:45	59	49	70	236	0.70
17/01/2024	19:00	60	52	76	206	0.40
17/01/2024	19:15	59	48	70	269	0.40
17/01/2024	19:30	58	45	72	331	0.40
17/01/2024	19:45	57	43	75	352	0.90
17/01/2024	20:00	59	45	71	352	1.10
17/01/2024	20:15	56	46	72	337	0.90
17/01/2024	20:30	56	45	67	355	1.60
17/01/2024	20:45	56	47	68	344	1.20

17/01/2024	21:00	56	44	72	346	1.40
17/01/2024	21:15	56	46	69	352	1.60
17/01/2024	21:30	56	45	72	353	1.00
17/01/2024	21:45	55	47	67	348	1.10
17/01/2024	22:00	55	42	70	285	0.60
17/01/2024	22:15	55	40	72	261	0.80
17/01/2024	22:30	53	42	71	223	0.70
17/01/2024	22:45	54	39	68	212	0.60
18/01/2024	07:00	61	49	73	347	1.00
18/01/2024	07:15	62	51	72	336	2.20
18/01/2024	07:30	63	55	76	333	3.10
18/01/2024	07:45	63	57	74	335	3.40
18/01/2024	08:00	62	57	72	340	2.30
18/01/2024	08:15	63	57	72	351	1.60
18/01/2024	08:30	62	56	71	267	1.20
18/01/2024	08:45	62	55	72	220	0.70
18/01/2024	09:00	61	52	76	260	0.70
18/01/2024	09:15	61	51	71	349	1.20
18/01/2024	09:30	60	49	72	346	1.50
18/01/2024	09:45	60	49	69	344	0.70
18/01/2024	10:00	60	48	70	352	1.00
18/01/2024	10:15	61	52	71	341	1.20
18/01/2024	10:30	60	50	74	335	3.00
18/01/2024	10:45	60	53	71	335	2.00
18/01/2024	11:00	60	52	70	333	2.40
18/01/2024	11:15	60	49	71	336	2.80
18/01/2024	11:30	60	47	73	336	3.00
18/01/2024	11:45	60	49	69	336	2.80
18/01/2024	12:00	60	50	72	338	3.70
18/01/2024	12:15	60	49	72	333	3.40
18/01/2024	12:30	62	51	84	336	3.30
18/01/2024	12:45	61	52	76	334	3.30
18/01/2024	13:00	60	50	75	336	3.50
18/01/2024	13:15	60	51	72	334	3.20
18/01/2024	13:30	60	49	80	336	2.60
18/01/2024	13:45	62	49	86	337	3.70
18/01/2024	14:00	61	48	70	335	4.30
18/01/2024	14:15	60	48	72	334	3.80
18/01/2024	14:30	61	53	72	334	3.10
18/01/2024	14:45	60	53	75	337	3.30
18/01/2024	15:00	61	54	70	336	2.80
18/01/2024	15:15	61	55	80	335	2.70
18/01/2024	15:30	64	55	87	331	3.20
18/01/2024	15:45	61	54	76	333	2.50
18/01/2024	16:00	62	56	74	335	4.30
18/01/2024	16:15	62	55	75	335	5.00
18/01/2024	16:30	62	57	73	336	4.30
18/01/2024	16:45	62	56	69	335	3.00
18/01/2024	17:00	63	57	78	334	5.10
18/01/2024	17:15	63	57	70	335	6.00
18/01/2024	17:30	63	57	72	335	4.10
18/01/2024	17:45	62	56	73	333	3.60
18/01/2024	18:00	62	55	73	334	4.30
18/01/2024	18:15	61	54	72	326	4.90
18/01/2024	18:30	62	54	70	294	2.10
18/01/2024	18:45	61	53	71	330	2.30

18/01/2024	19:00	61	52	74	338	1.00
18/01/2024	19:15	59	50	69	338	2.00
18/01/2024	19:30	59	47	70	338	1.20
18/01/2024	19:45	59	49	68	357	1.10
18/01/2024	20:00	60	50	69	288	2.90
18/01/2024	20:15	59	49	69	320	2.70
18/01/2024	20:30	59	47	75	334	4.10
18/01/2024	20:45	55	45	70	335	2.20
18/01/2024	21:00	57	45	71	336	2.80
18/01/2024	21:15	58	46	69	334	3.00
18/01/2024	21:30	59	45	73	335	3.00
18/01/2024	21:45	54	44	68	331	3.10
18/01/2024	22:00	55	44	71	336	2.30
18/01/2024	22:15	57	45	70	332	3.20
18/01/2024	22:30	52	40	71	342	2.00
18/01/2024	22:45	55	40	70	343	1.80
19/01/2024	07:00	62	54	72	184	1.90
19/01/2024	07:15	62	54	72	201	1.60
19/01/2024	07:30	62	54	72	226	2.00
19/01/2024	07:45	63	57	84	203	2.00
19/01/2024	08:00	62	58	73	225	1.20
19/01/2024	08:15	63	57	72	229	1.30
19/01/2024	08:30	62	55	71	201	1.30
19/01/2024	08:45	62	55	70	196	1.70
19/01/2024	09:00	63	56	72	181	2.40
19/01/2024	09:15	62	54	74	180	2.70
19/01/2024	09:30	62	52	73	190	1.30
19/01/2024	09:45	62	55	71	196	1.00
19/01/2024	10:00	63	55	79	185	2.00
19/01/2024	10:15	62	56	73	213	3.80
19/01/2024	10:30	61	54	71	225	2.80
19/01/2024	10:45	61	53	71	197	2.30
19/01/2024	11:00	62	54	74	190	2.10
19/01/2024	11:15	60	52	72	227	1.30
19/01/2024	11:30	61	53	71	195	3.10
19/01/2024	11:45	61	53	72	217	2.60
19/01/2024	12:00	63	57	75	233	4.20
19/01/2024	12:15	63	55	74	242	4.50
19/01/2024	12:30	61	54	75	224	4.30
19/01/2024	12:45	62	55	73	233	5.10
19/01/2024	13:00	61	52	70	229	3.50
19/01/2024	13:15	62	54	79	199	2.70
19/01/2024	13:30	61	55	73	207	4.00
19/01/2024	13:45	62	57	73	219	4.90
19/01/2024	14:00	61	53	71	215	3.20
19/01/2024	14:15	62	55	71	212	4.50
19/01/2024	14:30	62	56	71	206	4.80
19/01/2024	14:45	62	56	72	210	3.10
19/01/2024	15:00	63	57	73	205	3.30
19/01/2024	15:15	62	56	75	193	2.80
19/01/2024	15:30	62	57	79	192	3.50
19/01/2024	15:45	61	56	71	194	2.70
19/01/2024	16:00	62	57	73	192	2.50
19/01/2024	16:15	62	56	72	191	3.20
19/01/2024	16:30	62	57	70	188	4.10
19/01/2024	16:45	62	56	71	188	3.70

19/01/2024	17:00	62	57	72	191	2.70
19/01/2024	17:15	61	57	75	187	3.30
19/01/2024	17:30	62	57	75	194	3.50
19/01/2024	17:45	61	56	69	188	3.20
19/01/2024	18:00	62	55	73	188	2.80
19/01/2024	18:15	61	55	69	193	2.40
19/01/2024	18:30	61	52	72	190	2.10
19/01/2024	18:45	60	53	70	189	2.50
19/01/2024	19:00	60	52	69	191	2.20
19/01/2024	19:15	58	49	69	189	2.70
19/01/2024	19:30	59	50	68	190	2.00
19/01/2024	19:45	58	48	70	186	2.90
19/01/2024	20:00	58	51	68	185	3.20
19/01/2024	20:15	57	50	67	184	2.70
19/01/2024	20:30	57	50	68	190	1.50
19/01/2024	20:45	58	50	68	190	1.30
19/01/2024	21:00	56	49	68	189	2.80
19/01/2024	21:15	58	50	75	184	3.00
19/01/2024	21:30	56	50	73	183	2.40
19/01/2024	21:45	57	50	73	189	1.90
19/01/2024	22:00	57	50	69	187	2.20
19/01/2024	22:15	55	50	70	183	2.70
19/01/2024	22:30	55	49	68	184	2.20
19/01/2024	22:45	55	49	69	184	2.80
20/01/2024	07:00	57	50	69	185	3.30
20/01/2024	07:15	57	51	66	188	5.20
20/01/2024	07:30	58	51	73	188	4.70
20/01/2024	07:45	59	54	72	201	6.40
20/01/2024	08:00	59	54	68	192	4.20
20/01/2024	08:15	59	54	69	191	7.70
20/01/2024	08:30	59	54	72	190	5.20
20/01/2024	08:45	61	55	72	191	6.10
20/01/2024	09:00	60	53	69	196	3.50
20/01/2024	09:15	59	53	69	198	3.60
20/01/2024	09:30	60	52	69	190	3.40
20/01/2024	09:45	61	55	71	193	5.20
20/01/2024	10:00	61	55	71	197	4.90
20/01/2024	10:15	62	57	77	205	3.80
20/01/2024	10:30	62	57	71	200	5.80
20/01/2024	10:45	62	56	71	203	6.10
20/01/2024	11:00	61	56	70	197	6.30
20/01/2024	11:15	61	56	69	193	5.20
20/01/2024	11:30	62	57	73	193	5.20
20/01/2024	11:45	62	58	70	195	7.80
20/01/2024	12:00	62	58	73	190	4.90
20/01/2024	12:15	62	57	77	195	5.20
20/01/2024	12:30	63	59	75	195	7.40
20/01/2024	12:45	62	57	74	192	5.70
20/01/2024	13:00	62	57	72	193	4.80
20/01/2024	13:15	62	56	71	192	7.80
20/01/2024	13:30	62	56	71	197	5.30
20/01/2024	13:45	61	56	71	193	7.10
20/01/2024	14:00	61	56	70	195	5.60
20/01/2024	14:15	61	56	72	192	6.20
20/01/2024	14:30	61	56	70	193	6.60
20/01/2024	14:45	61	56	71	192	5.60

20/01/2024	15:00	62	57	70	193	7.10
20/01/2024	15:15	62	57	71	192	7.80
20/01/2024	15:30	62	59	72	192	6.60
20/01/2024	15:45	62	56	83	192	6.70
20/01/2024	16:00	62	57	77	195	7.10
20/01/2024	16:15	61	56	73	190	6.40
20/01/2024	16:30	61	55	74	190	6.40
20/01/2024	18:00	61	54	72	192	5.70
20/01/2024	18:15	60	54	72	194	4.40
20/01/2024	18:30	61	53	72	189	4.90
21/01/2024	08:00	60	53	68	205	5.20
21/01/2024	08:15	61	54	73	199	5.00
21/01/2024	08:30	63	55	71	205	5.20
21/01/2024	08:45	63	55	73	218	4.00
21/01/2024	09:00	62	55	71	205	5.60
22/01/2024	07:00	61	53	73	273	3.50
22/01/2024	07:15	62	55	72	276	4.10
22/01/2024	07:30	62	57	74	276	3.70
22/01/2024	07:45	63	58	81	287	5.30
22/01/2024	08:00	63	59	72	271	6.80
22/01/2024	08:15	63	58	74	272	4.70
22/01/2024	08:30	62	56	75	290	4.50
22/01/2024	08:45	63	58	84	281	4.40
22/01/2024	09:00	62	56	73	271	4.90
22/01/2024	09:15	62	56	75	279	6.10
22/01/2024	09:30	62	56	74	276	6.20
22/01/2024	09:45	62	56	74	279	5.90
22/01/2024	11:30	61	55	73	286	5.70
22/01/2024	11:45	62	56	75	281	5.90
22/01/2024	12:00	63	58	75	279	7.80
22/01/2024	18:15	63	56	71	302	5.70
22/01/2024	18:30	62	56	74	11	6.40
22/01/2024	18:45	62	55	76	316	7.30
22/01/2024	19:00	62	55	75	319	5.50
22/01/2024	19:15	61	54	75	349	8.00
22/01/2024	19:30	59	53	69	325	4.40
22/01/2024	19:45	60	53	73	309	4.50
22/01/2024	20:00	60	53	80	1	4.80
22/01/2024	20:15	59	52	77	310	5.20
22/01/2024	20:30	58	51	68	295	4.50
22/01/2024	20:45	58	52	73	343	5.20
22/01/2024	21:00	56	52	75	335	5.80
22/01/2024	21:15	56	52	71	316	5.90
22/01/2024	21:30	56	51	71	359	6.30
22/01/2024	21:45	56	51	74	15	5.50
22/01/2024	22:00	58	52	75	342	6.50
22/01/2024	22:15	55	52	68	344	5.60
22/01/2024	22:30	57	51	76	314	5.40
22/01/2024	22:45	58	51	72	318	5.80
23/01/2024	07:00	61	53	73	235	3.00
23/01/2024	07:15	61	53	73	237	2.70
23/01/2024	07:30	61	54	74	260	1.50
23/01/2024	07:45	63	58	74	238	2.50
23/01/2024	08:00	64	60	76	243	3.70
23/01/2024	18:45	64	59	73	266	5.40
23/01/2024	19:00	64	58	72	260	6.90

23/01/2024	19:15	64	58	80	263	6.60
23/01/2024	19:30	63	57	72	271	7.70
23/01/2024	21:30	60	55	75	272	7.40
23/01/2024	21:45	58	54	70	276	6.00
23/01/2024	22:00	62	55	79	275	8.40
23/01/2024	22:15	63	56	83	267	7.80
23/01/2024	22:30	62	57	78	277	7.80
23/01/2024	22:45	63	56	78	275	9.00
24/01/2024	07:00	63	57	75	313	5.50
24/01/2024	07:15	63	57	75	352	5.70
24/01/2024	07:30	64	58	79	352	6.30
24/01/2024	07:45	65	61	76	335	5.90
24/01/2024	08:00	64	60	74	343	5.20
24/01/2024	08:15	64	58	76	332	6.00
24/01/2024	08:30	64	59	74	314	6.20
24/01/2024	08:45	63	58	81	319	5.80
24/01/2024	09:00	63	58	77	335	5.80
24/01/2024	09:15	63	57	79	341	6.90
24/01/2024	09:30	63	57	76	7	7.30
24/01/2024	09:45	66	59	79	350	7.60
24/01/2024	10:00	66	57	82	337	6.00
24/01/2024	10:15	63	57	76	353	5.90
24/01/2024	10:30	62	57	74	341	5.50
24/01/2024	10:45	61	56	70	337	4.60
24/01/2024	11:00	61	55	74	309	5.50
24/01/2024	11:15	61	55	76	23	3.70
24/01/2024	11:30	62	56	73	323	4.20
24/01/2024	11:45	62	56	77	9	3.90
24/01/2024	12:00	61	54	78	42	3.60
24/01/2024	12:15	61	55	74	343	3.00
24/01/2024	12:30	61	55	72	319	3.80
24/01/2024	12:45	61	54	79	335	4.90
24/01/2024	13:00	62	56	70	38	3.90
24/01/2024	13:15	62	54	75	339	3.60
24/01/2024	13:30	62	56	74	327	4.60
24/01/2024	13:45	61	55	75	304	3.80
24/01/2024	14:00	61	54	74	327	7.00
24/01/2024	14:15	61	54	80	318	4.40
24/01/2024	14:30	62	55	74	334	3.80
24/01/2024	14:45	62	57	75	19	3.20
24/01/2024	15:00	62	56	77	57	3.60
24/01/2024	15:15	62	57	71	45	3.80
24/01/2024	15:30	62	57	75	325	3.10
24/01/2024	15:45	62	56	72	306	3.00
24/01/2024	16:00	62	57	72	299	4.20
24/01/2024	16:15	63	58	80	299	5.20
24/01/2024	16:30	63	58	79	309	3.30
24/01/2024	16:45	62	57	70	328	4.20
24/01/2024	17:00	63	57	71	63	4.50
24/01/2024	17:15	62	57	75	52	3.40
24/01/2024	17:30	63	59	69	313	4.00
24/01/2024	17:45	61	56	73	304	3.70
24/01/2024	18:00	63	56	78	315	3.30
24/01/2024	18:15	60	54	69	350	3.90
24/01/2024	18:30	60	56	70	304	3.30
24/01/2024	18:45	60	53	68	271	2.50

24/01/2024	19:00	60	52	69	39	2.10
24/01/2024	19:15	58	49	70	351	1.50
24/01/2024	19:30	59	52	74	310	2.20
24/01/2024	19:45	59	52	72	51	2.80
24/01/2024	20:00	58	52	70	316	3.10
24/01/2024	20:15	59	51	69	311	2.80
24/01/2024	20:30	58	50	72	285	2.30
24/01/2024	20:45	58	52	72	296	3.40
24/01/2024	21:00	57	51	69	314	2.40
24/01/2024	21:15	58	51	69	289	2.90
24/01/2024	21:30	55	49	68	283	2.20
24/01/2024	21:45	55	47	66	269	1.10
24/01/2024	22:00	57	51	76	260	1.60
24/01/2024	22:15	55	50	70	258	1.60
24/01/2024	22:30	55	49	69	216	1.00
24/01/2024	22:45	57	46	71	262	1.40
25/01/2024	07:00	62	53	72	273	2.40
25/01/2024	07:15	63	57	72	272	1.80
25/01/2024	07:30	63	57	72	275	2.10
25/01/2024	07:45	64	59	76	277	2.70
25/01/2024	08:00	64	58	73	265	2.10
25/01/2024	08:15	63	56	71	92	1.20
25/01/2024	08:30	62	54	71	104	1.30
25/01/2024	08:45	62	55	71	286	0.90
25/01/2024	09:00	62	57	72	282	1.00
25/01/2024	09:15	62	55	71	256	1.60
25/01/2024	09:30	62	56	73	263	1.80
25/01/2024	09:45	61	53	71	265	1.80
25/01/2024	10:00	61	54	72	260	1.80
25/01/2024	10:15	61	53	74	271	1.60
25/01/2024	10:30	61	55	73	263	3.30
25/01/2024	10:45	61	54	72	264	3.10
25/01/2024	11:00	62	54	71	263	2.90
25/01/2024	11:15	62	54	75	265	2.90
25/01/2024	11:30	61	54	71	267	3.10
25/01/2024	11:45	62	57	72	267	3.20
25/01/2024	12:00	62	56	72	273	3.90
25/01/2024	12:15	62	55	72	271	3.80
25/01/2024	12:30	62	56	72	275	4.00
25/01/2024	12:45	61	56	70	273	4.00
25/01/2024	13:00	62	56	71	276	4.10
25/01/2024	13:15	62	56	72	273	3.70
25/01/2024	13:30	62	56	85	270	2.70
25/01/2024	13:45	61	56	73	271	4.50
25/01/2024	14:00	62	57	77	270	4.00
25/01/2024	14:15	62	55	73	271	5.00
25/01/2024	14:30	62	56	75	270	3.80
25/01/2024	14:45	63	58	77	271	3.60
25/01/2024	15:00	64	58	72	274	4.50
25/01/2024	15:15	63	58	70	270	3.40
25/01/2024	15:30	63	58	77	268	3.00
25/01/2024	15:45	63	57	75	269	3.20
25/01/2024	16:00	63	57	72	270	2.90
25/01/2024	16:15	63	57	71	270	3.60
25/01/2024	20:00	60	52	74	271	3.20
25/01/2024	20:15	59	51	75	266	3.10

25/01/2024	20:30	59	50	70	267	2.30
26/01/2024	07:00	64	56	82	56	6.50
26/01/2024	07:15	63	55	76	61	7.00
26/01/2024	07:30	63	55	82	61	6.40
26/01/2024	07:45	64	59	77	65	5.00
26/01/2024	08:00	63	57	73	55	4.10
26/01/2024	08:15	62	53	84	53	5.20
26/01/2024	08:30	61	55	70	271	2.20
26/01/2024	08:45	62	55	73	278	3.30
26/01/2024	09:00	61	54	72	276	2.40
26/01/2024	09:15	60	53	73	262	3.00
26/01/2024	09:30	61	53	71	300	2.30
26/01/2024	09:45	62	55	78	295	3.70
26/01/2024	10:00	62	55	77	316	3.40
26/01/2024	10:15	61	53	74	330	3.20
26/01/2024	10:30	62	54	75	291	3.60
26/01/2024	10:45	63	53	79	293	3.50
26/01/2024	11:00	61	54	79	295	4.70
26/01/2024	11:15	61	55	73	290	5.70
26/01/2024	11:30	61	53	73	297	3.30
26/01/2024	11:45	61	55	75	308	3.90
26/01/2024	12:00	62	56	76	301	4.60
26/01/2024	12:15	61	54	74	303	4.20
26/01/2024	12:30	61	55	75	301	3.70
26/01/2024	12:45	61	56	72	313	5.80
26/01/2024	13:00	62	56	69	306	4.20
26/01/2024	13:15	62	55	75	323	4.60
26/01/2024	13:30	61	56	74	310	5.30
26/01/2024	13:45	62	57	73	316	4.90
26/01/2024	14:00	63	56	83	15	5.00
26/01/2024	14:15	62	56	69	306	6.30
26/01/2024	14:30	62	56	75	294	5.10
26/01/2024	14:45	62	56	71	318	3.70
26/01/2024	15:00	62	56	70	283	4.40
26/01/2024	15:15	62	56	74	299	4.10
26/01/2024	15:30	62	57	75	289	3.90
26/01/2024	15:45	61	56	70	285	3.30
26/01/2024	16:00	62	56	72	302	2.80
26/01/2024	16:15	61	56	69	299	2.60
26/01/2024	16:30	62	57	68	302	3.10
26/01/2024	16:45	61	56	73	299	3.30
26/01/2024	17:00	61	56	69	271	3.90
26/01/2024	17:15	62	57	74	272	2.80
26/01/2024	17:30	61	56	73	288	2.40
26/01/2024	17:45	61	56	70	289	2.60
26/01/2024	18:00	62	56	81	298	2.10
26/01/2024	18:15	60	55	72	287	2.30
26/01/2024	18:30	61	55	75	291	3.30
26/01/2024	18:45	59	53	67	291	2.90
26/01/2024	19:00	60	52	71	276	3.50
26/01/2024	19:15	59	51	71	273	2.70
26/01/2024	19:30	57	49	70	274	2.20
26/01/2024	19:45	58	50	71	272	2.20
26/01/2024	20:00	58	49	71	266	1.80
26/01/2024	20:15	58	50	73	274	1.80
26/01/2024	20:30	56	49	70	276	2.20

26/01/2024	20:45	57	50	71	266	1.90
26/01/2024	21:00	57	49	68	276	3.10
26/01/2024	21:15	57	49	74	312	3.40
26/01/2024	21:30	57	47	70	303	3.00
26/01/2024	21:45	56	46	72	278	3.10
26/01/2024	22:00	54	45	68	275	2.20
26/01/2024	22:15	54	47	68	274	1.90
26/01/2024	22:30	54	49	68	269	1.90
26/01/2024	22:45	54	48	67	269	2.40
27/01/2024	07:00	55	47	69	268	2.00
27/01/2024	07:15	56	48	69	257	2.30
27/01/2024	07:30	58	50	74	260	1.90
27/01/2024	07:45	58	50	72	268	1.70
27/01/2024	08:00	58	50	71	271	1.70
27/01/2024	08:15	58	51	69	263	2.30
27/01/2024	08:30	59	51	71	275	1.90
27/01/2024	08:45	59	52	75	266	1.40
27/01/2024	09:00	59	50	68	269	3.30
27/01/2024	09:15	58	51	69	263	2.70
27/01/2024	09:30	60	52	72	265	1.80
27/01/2024	09:45	60	54	80	262	2.20
27/01/2024	10:00	60	52	77	271	2.60
27/01/2024	10:15	60	54	71	269	2.70
27/01/2024	10:30	60	52	72	271	2.00
27/01/2024	10:45	60	54	71	276	2.50
27/01/2024	11:00	60	54	72	271	3.60
27/01/2024	11:15	61	56	72	277	3.60
27/01/2024	11:30	61	55	73	275	3.50
27/01/2024	11:45	61	56	70	269	3.90
27/01/2024	12:00	61	55	77	272	3.80
27/01/2024	12:15	60	55	70	269	3.00
27/01/2024	12:30	60	55	70	269	2.90
27/01/2024	12:45	60	54	74	267	3.50
27/01/2024	13:00	60	54	68	266	2.90
27/01/2024	13:15	60	55	68	272	4.20
27/01/2024	13:30	61	55	72	273	3.60
27/01/2024	13:45	60	55	68	272	4.60
27/01/2024	14:00	60	55	79	275	3.20
27/01/2024	14:15	59	53	68	274	3.10
27/01/2024	14:30	59	54	70	278	3.90
27/01/2024	14:45	59	53	71	273	3.20
27/01/2024	15:00	60	54	72	271	3.80
27/01/2024	15:15	60	53	70	273	3.30
27/01/2024	15:30	59	53	69	271	4.80
27/01/2024	15:45	59	51	67	270	3.30
27/01/2024	16:00	60	54	73	272	4.70
27/01/2024	16:15	59	52	67	273	3.40
27/01/2024	16:30	59	52	69	268	2.90
27/01/2024	16:45	60	53	81	268	2.70
27/01/2024	17:00	60	54	72	273	4.90
27/01/2024	17:15	59	53	71	268	3.00
27/01/2024	17:30	59	53	71	272	3.00
27/01/2024	17:45	59	53	70	274	3.60
27/01/2024	18:00	60	52	70	273	3.50
27/01/2024	18:15	59	52	67	272	3.20
27/01/2024	18:30	59	53	69	275	3.40

27/01/2024	18:45	58	51	67	272	3.60
27/01/2024	19:00	58	51	74	270	3.70
27/01/2024	19:15	58	50	68	270	3.00
27/01/2024	19:30	57	49	66	272	2.90
27/01/2024	19:45	57	48	69	274	2.50
27/01/2024	20:00	57	49	67	272	2.40
27/01/2024	20:15	57	50	69	273	3.50
27/01/2024	20:30	54	48	66	276	2.70
27/01/2024	20:45	56	49	71	277	3.30
27/01/2024	21:00	56	49	68	278	3.00
27/01/2024	21:15	57	50	72	277	3.60
27/01/2024	21:30	57	49	70	271	3.00
27/01/2024	21:45	54	48	67	271	3.00
27/01/2024	22:00	56	48	67	275	2.60
27/01/2024	22:15	53	48	69	278	2.60
27/01/2024	22:30	53	47	71	272	2.70
27/01/2024	22:45	55	48	69	272	2.80
28/01/2024	07:00	56	48	69	267	2.70
28/01/2024	07:15	55	50	70	270	3.10
28/01/2024	07:30	57	50	70	272	3.40
28/01/2024	07:45	55	50	69	279	3.80
28/01/2024	08:00	57	51	70	275	3.20
28/01/2024	08:15	56	49	66	271	3.50
28/01/2024	08:30	56	49	69	272	2.90
28/01/2024	08:45	56	50	72	275	2.30
28/01/2024	09:00	57	50	68	271	2.20
28/01/2024	09:15	59	51	78	270	3.70
28/01/2024	09:30	60	51	74	270	2.40
28/01/2024	09:45	59	52	70	269	3.40
28/01/2024	10:00	59	52	68	267	3.40
28/01/2024	10:15	59	51	70	277	3.10
28/01/2024	10:30	59	52	70	276	3.00
28/01/2024	10:45	59	52	73	277	2.80
28/01/2024	11:00	59	52	69	262	1.90
28/01/2024	11:15	60	52	73	268	3.10
28/01/2024	11:30	60	54	69	282	3.10
28/01/2024	11:45	60	54	71	267	4.20
28/01/2024	12:00	60	52	69	264	3.20
28/01/2024	12:15	62	54	87	266	3.70
28/01/2024	12:30	59	54	70	273	3.50
28/01/2024	12:45	60	53	79	273	4.20
28/01/2024	13:00	60	53	81	272	2.50
28/01/2024	13:15	59	52	67	264	3.40
28/01/2024	13:30	59	52	69	270	4.20
28/01/2024	13:45	59	53	73	271	3.00
28/01/2024	14:00	60	52	73	275	2.70
28/01/2024	14:15	59	51	74	274	3.10
28/01/2024	14:30	59	52	70	275	3.90
28/01/2024	14:45	58	51	71	277	3.30
28/01/2024	15:00	60	53	81	272	2.80
28/01/2024	15:15	60	53	79	269	2.60
28/01/2024	15:30	58	51	68	272	2.70
28/01/2024	15:45	59	52	72	271	2.60
28/01/2024	16:00	58	50	69	48	1.30
28/01/2024	16:15	59	51	73	304	1.40
28/01/2024	16:30	59	52	75	285	1.90

28/01/2024	16:45	58	50	71	270	1.90
28/01/2024	17:00	58	50	67	273	2.10
28/01/2024	17:15	59	51	84	269	5.00
28/01/2024	17:30	59	52	73	277	4.30
28/01/2024	17:45	57	51	70	279	4.40
28/01/2024	18:00	58	51	68	274	3.10
28/01/2024	18:15	58	52	67	271	3.50
28/01/2024	18:30	58	51	73	275	4.10
28/01/2024	18:45	57	51	68	277	4.20
28/01/2024	19:00	58	51	70	273	4.70
28/01/2024	19:15	57	50	72	271	3.10
28/01/2024	19:30	57	49	68	263	2.10
28/01/2024	19:45	55	48	69	271	2.70
28/01/2024	20:00	54	46	65	258	1.70
28/01/2024	20:15	54	47	65	265	1.90
28/01/2024	20:30	53	47	71	273	2.40
28/01/2024	20:45	54	49	66	266	3.70
28/01/2024	21:00	55	49	76	271	4.30
28/01/2024	21:15	54	47	70	314	1.80
28/01/2024	21:30	54	48	69	264	3.70
28/01/2024	21:45	54	48	68	270	3.40
28/01/2024	22:00	54	49	69	280	2.20
28/01/2024	22:15	53	49	67	286	2.10
28/01/2024	22:30	53	48	68	268	2.50
28/01/2024	22:45	52	47	66	268	1.90
29/01/2024	10:15	62	52	73	57	0.50
29/01/2024	10:30	61	48	72	89	1.00
29/01/2024	13:45	62	51	73	78	0.60
29/01/2024	14:00	63	55	73	76	0.70
29/01/2024	14:15	62	53	77	97	0.80
29/01/2024	14:30	62	52	72	290	0.60
29/01/2024	14:45	62	54	75	28	0.60
29/01/2024	15:00	62	53	73	87	0.90
29/01/2024	15:15	63	56	74	62	1.30
29/01/2024	15:30	62	55	77	278	0.80
29/01/2024	15:45	62	54	72	283	0.50
29/01/2024	16:00	62	54	71	337	0.60
29/01/2024	18:45	60	53	68	265	1.10
29/01/2024	19:00	59	50	73	209	0.70
29/01/2024	19:15	59	50	71	264	1.70
29/01/2024	19:30	58	47	70	258	1.20
29/01/2024	19:45	57	48	73	245	1.00
29/01/2024	20:00	57	46	73	264	0.80
29/01/2024	20:15	57	47	72	262	0.80
29/01/2024	20:30	58	48	73	255	0.90
29/01/2024	20:45	58	48	72	267	1.10
29/01/2024	21:00	58	48	73	264	1.10
29/01/2024	21:15	56	48	68	263	1.10
29/01/2024	22:45	56	47	69	265	1.20
30/01/2024	07:00	62	51	72	66	5.10
30/01/2024	07:15	62	53	70	68	5.90
30/01/2024	07:30	63	54	75	68	3.90
30/01/2024	07:45	63	57	76	67	3.80
30/01/2024	08:00	63	57	76	72	4.30
30/01/2024	08:15	63	55	73	66	3.80
30/01/2024	08:30	62	54	72	70	3.40

30/01/2024	08:45	63	56	72	69	3.50
30/01/2024	09:00	62	54	77	68	3.80
30/01/2024	09:15	62	52	75	72	5.10
30/01/2024	09:30	61	52	72	74	5.20
30/01/2024	09:45	60	50	70	69	5.70
30/01/2024	10:00	61	51	73	71	4.50
30/01/2024	10:15	62	53	74	73	4.40
30/01/2024	10:30	60	51	71	68	4.10
30/01/2024	10:45	60	52	71	71	3.80
30/01/2024	11:00	60	52	75	71	4.50
30/01/2024	11:15	60	50	69	70	4.10
30/01/2024	11:30	61	52	74	73	5.40
30/01/2024	11:45	60	49	72	77	3.30
30/01/2024	12:00	60	51	74	73	3.50
30/01/2024	12:15	60	52	72	70	4.00
30/01/2024	12:30	59	51	72	77	3.00
30/01/2024	12:45	60	53	69	76	3.40
30/01/2024	13:00	60	50	71	71	3.00
30/01/2024	13:15	61	50	81	70	3.30
30/01/2024	13:30	60	50	73	73	2.60
30/01/2024	13:45	60	51	73	69	3.30
30/01/2024	14:00	61	50	78	71	2.90
30/01/2024	14:15	61	53	73	70	1.60
30/01/2024	14:30	60	53	73	66	1.90
30/01/2024	14:45	61	53	76	68	1.50
30/01/2024	15:00	61	52	73	73	1.80
30/01/2024	15:15	62	54	76	326	2.00
30/01/2024	15:30	61	55	75	319	1.90
30/01/2024	15:45	61	56	71	40	2.00
30/01/2024	16:00	62	55	76	30	1.40
30/01/2024	16:15	61	54	74	287	1.10
30/01/2024	16:30	62	55	73	253	0.90
30/01/2024	16:45	61	56	71	282	0.90
30/01/2024	17:00	62	56	74	275	0.70
30/01/2024	17:15	62	57	70	286	0.70
30/01/2024	17:30	63	57	77	71	1.00
30/01/2024	17:45	60	54	70	248	1.30
30/01/2024	18:00	61	55	68	87	0.80
30/01/2024	18:15	60	53	76	216	0.80
30/01/2024	18:30	60	53	71	260	0.50
30/01/2024	18:45	59	53	68	200	0.70
30/01/2024	19:00	60	50	74	239	0.60
30/01/2024	19:15	59	49	76	106	1.10
30/01/2024	19:30	59	51	75	255	0.60
30/01/2024	19:45	58	51	72	239	0.80
30/01/2024	20:00	59	52	70	255	0.90
30/01/2024	20:15	58	52	67	29	1.00
30/01/2024	20:30	57	50	69	280	1.60
30/01/2024	20:45	58	50	75	265	1.10
30/01/2024	21:00	60	52	82	210	0.90
30/01/2024	21:15	58	50	69	242	1.20
30/01/2024	21:30	57	51	70	279	0.80
30/01/2024	21:45	56	53	74	245	1.10
30/01/2024	22:00	56	53	69	263	1.50
30/01/2024	22:15	58	53	67	261	1.60
30/01/2024	22:30	57	53	71	262	0.90

30/01/2024	22:45	58	53	70	260	0.90
31/01/2024	07:00	61	55	72	265	4.00
31/01/2024	07:15	62	55	75	263	3.70
31/01/2024	07:30	62	56	73	265	2.90
31/01/2024	07:45	64	57	79	264	4.20
31/01/2024	08:00	63	59	74	267	3.20
31/01/2024	08:15	63	58	71	272	2.40
31/01/2024	08:30	62	57	71	270	4.30
31/01/2024	08:45	63	58	73	293	4.40
31/01/2024	09:00	62	56	71	285	5.20
31/01/2024	09:15	62	57	72	281	4.70
31/01/2024	09:30	61	55	72	290	3.50
31/01/2024	09:45	62	57	75	291	7.10
31/01/2024	10:00	64	56	74	288	6.00
31/01/2024	10:15	64	57	76	296	5.80
31/01/2024	10:30	62	56	76	280	3.70
31/01/2024	10:45	63	59	71	275	4.80
31/01/2024	11:00	63	57	75	287	4.20
31/01/2024	11:15	61	55	72	279	4.20
31/01/2024	11:30	61	55	72	286	4.20
31/01/2024	11:45	62	56	75	283	4.90
31/01/2024	12:00	61	55	76	275	4.40
31/01/2024	12:15	62	56	73	277	4.20
31/01/2024	12:30	61	56	72	270	4.20
31/01/2024	12:45	61	55	71	277	4.10
31/01/2024	13:00	62	56	83	277	5.60
31/01/2024	13:15	62	57	76	292	6.20
31/01/2024	13:30	62	56	72	304	7.50
31/01/2024	13:45	63	58	76	290	6.90

Raw data and central tendencies for location NSR 1: 3 Wern

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	52	50	70
Mean	53	46	69
Mean - 1 s.d.	49	42	-
Log Average	55	-	-

Table 7.1.1 (b): Night-time period (23:00 to 07:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:00	52	47	70	248	0.80
15/01/2024	23:15	56	46	82	202	0.60
15/01/2024	23:30	51	45	68	265	0.60
15/01/2024	23:45	49	46	62	241	0.90
16/01/2024	00:00	51	46	69	212	1.20
16/01/2024	00:15	50	45	66	234	1.20
16/01/2024	00:30	49	42	67	191	1.60
16/01/2024	00:45	47	43	65	226	1.30
16/01/2024	01:00	49	45	66	190	1.40
16/01/2024	01:15	50	47	68	210	1.90
16/01/2024	01:30	49	46	66	202	1.10
16/01/2024	01:45	45	41	51	199	1.60
16/01/2024	02:00	52	42	70	188	1.30
16/01/2024	02:15	44	40	51	204	1.40
16/01/2024	02:30	48	40	68	217	0.90
16/01/2024	02:45	50	42	68	298	0.90
16/01/2024	03:00	47	42	62	319	0.80
16/01/2024	03:15	53	42	71	223	0.70
16/01/2024	03:30	52	42	69	192	1.20
16/01/2024	03:45	56	45	74	188	1.70
16/01/2024	04:00	53	45	71	197	1.50
16/01/2024	04:15	55	45	69	204	1.30
16/01/2024	04:30	57	44	72	257	1.10
16/01/2024	04:45	57	44	69	267	0.60
16/01/2024	05:00	58	46	70	219	0.70
16/01/2024	05:15	59	48	70	201	1.50
16/01/2024	05:30	59	50	69	190	2.20
16/01/2024	05:45	59	50	70	189	2.20
16/01/2024	06:00	61	53	71	194	2.40
16/01/2024	06:15	61	52	72	202	3.20
16/01/2024	06:30	60	51	74	226	2.50
16/01/2024	06:45	62	52	73	208	2.40
16/01/2024	23:00	53	48	68	269	3.40
16/01/2024	23:15	53	42	72	331	4.00
16/01/2024	23:30	51	44	66	319	3.10
16/01/2024	23:45	55	46	73	315	3.90
17/01/2024	00:00	54	48	69	317	4.00
17/01/2024	00:15	52	47	73	320	3.80
17/01/2024	00:30	54	49	69	261	3.80
17/01/2024	00:45	54	49	70	314	3.20
17/01/2024	01:00	52	47	68	303	3.40

17/01/2024	01:15	50	46	67	277	3.40
17/01/2024	01:30	49	47	65	299	3.50
17/01/2024	01:45	49	47	67	274	3.80
17/01/2024	02:00	54	47	71	319	3.10
17/01/2024	02:15	52	46	73	335	3.00
17/01/2024	02:30	50	45	67	334	3.80
17/01/2024	02:45	49	42	70	333	2.70
17/01/2024	03:00	50	41	72	332	2.80
17/01/2024	03:15	49	41	68	335	3.10
17/01/2024	03:30	54	41	73	245	0.80
17/01/2024	03:45	52	38	74	293	0.80
17/01/2024	04:00	53	39	70	249	0.50
17/01/2024	04:15	54	39	69	318	0.90
17/01/2024	04:30	57	35	74	332	1.10
17/01/2024	04:45	55	36	70	332	1.30
17/01/2024	05:00	58	41	71	342	1.40
17/01/2024	05:15	57	38	72	351	1.60
17/01/2024	05:30	58	42	71	345	1.40
17/01/2024	05:45	56	39	71	338	1.80
17/01/2024	06:00	59	42	72	348	2.60
17/01/2024	06:15	59	45	73	346	1.90
17/01/2024	06:30	60	46	72	347	2.00
17/01/2024	06:45	60	45	78	341	1.20
17/01/2024	23:00	55	44	70	220	0.70
17/01/2024	23:15	51	44	68	235	0.50
17/01/2024	23:30	51	42	65	214	0.60
17/01/2024	23:45	51	42	64	201	0.60
18/01/2024	00:00	54	39	71	224	0.50
18/01/2024	00:15	47	40	67	198	0.60
18/01/2024	00:30	58	43	83	218	0.70
18/01/2024	00:45	48	43	65	238	0.80
18/01/2024	01:00	49	40	69	220	0.50
18/01/2024	01:15	49	44	64	229	0.80
18/01/2024	01:30	46	43	64	205	0.80
18/01/2024	01:45	48	46	55	236	0.70
18/01/2024	02:00	52	46	67	228	0.60
18/01/2024	02:15	51	48	67	269	0.80
18/01/2024	02:30	52	49	66	320	1.00
18/01/2024	02:45	50	46	62	333	2.30
18/01/2024	03:00	51	45	70	334	3.40
18/01/2024	03:15	51	48	70	335	3.50
18/01/2024	03:30	50	47	63	333	3.10
18/01/2024	03:45	54	47	68	338	2.70
18/01/2024	04:00	52	42	69	343	2.30
18/01/2024	04:15	55	46	73	333	2.30
18/01/2024	04:30	55	43	75	331	2.50
18/01/2024	04:45	58	45	72	331	2.40
18/01/2024	05:00	58	45	78	332	2.80
18/01/2024	05:15	58	45	72	331	2.30
18/01/2024	05:30	59	45	73	333	3.00
18/01/2024	05:45	58	42	70	337	2.10
18/01/2024	06:00	59	43	70	342	1.50
18/01/2024	06:15	59	45	73	349	1.50
18/01/2024	06:30	59	48	71	355	1.10
18/01/2024	06:45	61	50	81	339	0.90
18/01/2024	23:00	56	44	69	333	1.80

18/01/2024	23:15	53	44	68	282	1.30
18/01/2024	23:30	53	45	67	203	1.00
18/01/2024	23:45	52	47	66	195	1.90
19/01/2024	00:00	56	47	69	248	1.50
19/01/2024	00:15	53	43	74	202	0.80
19/01/2024	00:30	50	43	66	214	1.00
19/01/2024	00:45	51	45	67	188	1.40
19/01/2024	01:00	50	45	69	200	1.20
19/01/2024	01:15	53	48	71	314	1.20
19/01/2024	01:30	50	48	64	297	1.20
19/01/2024	01:45	49	45	62	344	1.30
19/01/2024	02:00	52	43	72	228	1.20
19/01/2024	02:15	52	41	68	228	0.90
19/01/2024	02:30	47	41	63	269	1.00
19/01/2024	02:45	49	42	65	297	0.70
19/01/2024	03:00	50	43	69	195	0.80
19/01/2024	03:15	51	45	67	116	1.10
19/01/2024	03:30	50	46	66	223	1.60
19/01/2024	03:45	53	48	67	226	1.40
19/01/2024	04:00	54	49	72	197	1.20
19/01/2024	04:15	55	49	70	207	1.50
19/01/2024	04:30	56	48	73	317	0.90
19/01/2024	04:45	59	47	73	185	1.70
19/01/2024	05:00	57	49	70	201	1.60
19/01/2024	05:15	58	48	70	194	1.20
19/01/2024	05:30	61	50	70	216	0.90
19/01/2024	05:45	60	51	72	199	1.40
19/01/2024	06:00	60	50	73	239	1.40
19/01/2024	06:15	60	49	73	252	0.90
19/01/2024	06:30	61	49	80	184	1.80
19/01/2024	06:45	62	52	77	194	1.70
19/01/2024	23:00	54	49	66	187	2.30
19/01/2024	23:15	54	50	71	186	2.70
19/01/2024	23:30	54	48	67	189	2.20
19/01/2024	23:45	52	47	71	184	2.70
20/01/2024	00:00	50	47	65	185	3.10
20/01/2024	00:15	52	46	69	192	3.00
20/01/2024	00:30	52	44	69	210	2.20
20/01/2024	00:45	53	47	67	201	1.70
20/01/2024	01:00	54	50	70	193	3.60
20/01/2024	01:15	57	51	76	199	5.20
20/01/2024	01:30	53	51	63	204	3.30
20/01/2024	01:45	55	50	72	191	3.80
20/01/2024	02:00	51	49	63	191	7.70
20/01/2024	02:15	52	49	69	192	4.40
20/01/2024	02:30	54	48	75	189	4.50
20/01/2024	02:45	53	49	70	191	4.10
20/01/2024	03:00	54	51	68	204	4.70
20/01/2024	03:15	53	50	69	198	4.20
20/01/2024	03:30	52	50	67	190	4.00
20/01/2024	03:45	55	50	68	191	6.20
20/01/2024	04:00	53	50	68	187	4.40
20/01/2024	04:15	55	50	73	190	4.60
20/01/2024	04:30	52	47	67	187	3.70
20/01/2024	04:45	54	47	70	185	3.80
20/01/2024	05:00	55	48	70	183	3.70

20/01/2024	05:15	54	48	67	183	2.90
20/01/2024	05:30	57	49	73	183	4.60
20/01/2024	05:45	57	49	71	183	3.80
20/01/2024	06:00	58	50	72	185	3.10
20/01/2024	06:15	56	49	70	182	3.20
20/01/2024	06:30	57	49	71	188	3.70
20/01/2024	06:45	57	50	70	187	3.30
21/01/2024	04:30	52	50	63	201	3.30
21/01/2024	04:45	55	50	70	201	3.20
21/01/2024	05:00	55	51	69	197	4.00
21/01/2024	05:15	55	51	66	197	2.60
21/01/2024	05:30	59	52	70	210	3.20
22/01/2024	01:30	57	52	74	277	5.30
22/01/2024	01:45	59	53	76	271	7.10
22/01/2024	02:00	56	51	72	281	6.10
22/01/2024	02:15	57	53	74	279	5.40
22/01/2024	02:30	57	52	69	263	7.40
22/01/2024	02:45	56	52	71	267	5.70
22/01/2024	03:00	56	51	70	309	6.20
22/01/2024	03:15	57	51	70	278	7.00
22/01/2024	03:30	59	51	71	309	4.80
22/01/2024	03:45	58	52	70	278	5.80
22/01/2024	04:00	59	52	72	269	5.60
22/01/2024	04:15	59	51	72	278	4.80
22/01/2024	04:30	60	52	75	255	5.50
22/01/2024	04:45	61	52	73	259	4.60
22/01/2024	05:00	61	52	74	261	5.00
22/01/2024	05:15	61	52	72	266	4.20
22/01/2024	05:30	61	53	74	291	3.80
22/01/2024	05:45	61	54	73	284	7.20
22/01/2024	06:00	61	53	73	275	4.80
22/01/2024	06:15	59	52	71	285	6.10
22/01/2024	06:30	60	53	68	286	4.50
22/01/2024	06:45	61	52	73	294	4.60
22/01/2024	23:00	55	50	72	346	4.10
22/01/2024	23:15	54	50	69	328	4.70
22/01/2024	23:30	54	50	70	301	4.90
22/01/2024	23:45	54	50	67	272	3.80
23/01/2024	00:00	53	50	64	253	3.90
23/01/2024	00:15	53	50	69	271	2.90
23/01/2024	00:30	53	50	62	264	3.90
23/01/2024	00:45	55	50	83	283	3.60
23/01/2024	01:00	52	49	67	299	4.00
23/01/2024	01:15	52	49	61	315	3.20
23/01/2024	01:30	52	49	57	279	3.30
23/01/2024	01:45	53	50	61	277	3.90
23/01/2024	02:00	53	50	67	286	3.80
23/01/2024	02:15	53	50	66	311	5.40
23/01/2024	02:30	52	48	65	350	5.80
23/01/2024	02:45	51	48	56	26	3.80
23/01/2024	03:00	52	48	72	10	5.20
23/01/2024	03:15	49	40	67	287	1.70
23/01/2024	03:30	50	39	66	284	1.00
23/01/2024	03:45	51	48	67	210	0.60
23/01/2024	04:00	54	49	73	87	1.50
23/01/2024	04:15	55	49	70	233	2.20

23/01/2024	04:30	54	48	69	206	1.20
23/01/2024	04:45	58	47	74	239	1.90
23/01/2024	05:00	56	47	71	242	2.00
23/01/2024	05:15	57	50	70	254	3.50
23/01/2024	05:30	58	46	70	245	1.60
23/01/2024	05:45	59	52	71	259	2.90
23/01/2024	06:00	62	53	77	266	2.90
23/01/2024	06:15	60	55	72	242	4.70
23/01/2024	06:30	62	55	72	238	3.00
23/01/2024	06:45	61	53	79	236	3.20
23/01/2024	23:00	63	56	80	274	8.80
23/01/2024	23:15	59	54	75	271	7.60
24/01/2024	02:45	58	53	77	37	6.40
24/01/2024	03:00	57	53	70	335	6.90
24/01/2024	03:15	59	53	76	297	6.50
24/01/2024	03:30	59	53	76	293	6.90
24/01/2024	03:45	56	52	71	291	4.90
24/01/2024	04:00	58	52	74	282	5.50
24/01/2024	04:15	56	52	69	15	5.80
24/01/2024	06:00	62	54	76	15	6.30
24/01/2024	06:15	62	56	77	41	6.30
24/01/2024	06:30	62	56	77	22	6.50
24/01/2024	06:45	63	57	75	357	6.20
24/01/2024	23:00	52	46	67	277	1.30
24/01/2024	23:15	54	50	68	262	1.20
24/01/2024	23:30	55	51	70	266	1.60
24/01/2024	23:45	53	50	65	65	0.70
25/01/2024	00:00	54	50	70	264	1.50
25/01/2024	00:15	51	46	72	23	0.40
25/01/2024	00:30	52	46	69	234	1.10
25/01/2024	00:45	52	47	65	265	1.60
25/01/2024	01:00	52	48	66	266	1.30
25/01/2024	01:15	54	49	70	266	2.40
25/01/2024	01:30	49	47	55	260	2.00
25/01/2024	01:45	50	46	71	259	1.40
25/01/2024	02:00	49	47	66	263	1.20
25/01/2024	02:15	52	46	68	266	0.80
25/01/2024	02:30	53	50	69	260	1.10
25/01/2024	02:45	53	51	67	256	0.80
25/01/2024	03:00	52	50	66	279	1.30
25/01/2024	03:15	55	51	69	266	1.80
25/01/2024	03:30	52	50	70	263	1.40
25/01/2024	03:45	53	49	68	267	1.50
25/01/2024	04:00	55	49	72	262	2.10
25/01/2024	04:15	56	48	70	268	1.60
25/01/2024	04:30	56	48	71	265	1.90
25/01/2024	04:45	56	48	71	264	2.20
25/01/2024	06:30	60	50	74	265	1.70
25/01/2024	06:45	61	52	72	268	2.40
25/01/2024	23:30	55	51	70	277	6.00
25/01/2024	23:45	57	52	70	287	6.10
26/01/2024	00:00	57	52	72	291	5.50
26/01/2024	00:15	58	53	75	294	7.60
26/01/2024	00:30	58	54	77	286	6.70
26/01/2024	00:45	57	53	72	292	5.90
26/01/2024	01:00	55	51	69	289	6.40

26/01/2024	01:15	52	50	62	286	5.60
26/01/2024	01:30	56	50	73	285	5.40
26/01/2024	01:45	55	51	75	285	6.50
26/01/2024	05:30	60	48	80	61	7.00
26/01/2024	05:45	59	48	79	23	4.90
26/01/2024	06:00	61	50	75	49	4.90
26/01/2024	06:15	61	50	79	47	6.20
26/01/2024	06:30	61	52	78	29	6.10
26/01/2024	06:45	63	55	83	57	7.50
26/01/2024	23:00	52	46	69	273	1.90
26/01/2024	23:15	55	48	70	270	1.30
26/01/2024	23:30	54	47	70	264	1.50
26/01/2024	23:45	52	47	67	269	1.70
27/01/2024	00:00	52	48	67	269	2.40
27/01/2024	00:15	52	49	64	273	2.40
27/01/2024	00:30	51	46	68	277	2.70
27/01/2024	00:45	49	46	63	272	2.90
27/01/2024	01:00	49	47	66	266	2.50
27/01/2024	01:15	53	48	69	267	3.30
27/01/2024	01:30	48	44	62	281	2.90
27/01/2024	01:45	54	45	75	270	2.00
27/01/2024	02:00	51	46	68	266	2.60
27/01/2024	02:15	50	45	70	261	2.40
27/01/2024	02:30	50	44	65	267	2.30
27/01/2024	02:45	51	45	69	271	2.20
27/01/2024	03:00	51	48	65	273	2.10
27/01/2024	03:15	52	47	68	259	2.70
27/01/2024	03:30	50	45	67	266	2.50
27/01/2024	03:45	48	43	65	259	1.50
27/01/2024	04:00	51	43	70	271	1.60
27/01/2024	04:15	50	44	72	263	2.20
27/01/2024	04:30	46	44	62	252	1.70
27/01/2024	04:45	54	45	73	268	1.90
27/01/2024	05:00	54	43	67	262	1.90
27/01/2024	05:15	53	43	66	274	1.80
27/01/2024	05:30	56	45	76	267	1.50
27/01/2024	05:45	52	44	66	268	1.60
27/01/2024	06:00	55	43	68	285	1.40
27/01/2024	06:15	53	45	69	227	0.90
27/01/2024	06:30	55	45	70	272	1.40
27/01/2024	06:45	55	46	73	264	2.00
27/01/2024	23:00	53	47	68	274	2.50
27/01/2024	23:15	53	45	68	270	3.30
27/01/2024	23:30	53	46	69	270	2.40
27/01/2024	23:45	52	45	69	269	1.80
28/01/2024	00:00	51	43	65	267	1.00
28/01/2024	00:15	48	41	65	82	0.80
28/01/2024	00:30	51	42	68	282	1.30
28/01/2024	00:45	51	44	66	264	1.50
28/01/2024	01:00	49	43	68	259	1.30
28/01/2024	01:15	49	42	68	83	1.00
28/01/2024	01:30	47	43	62	270	1.30
28/01/2024	01:45	48	43	66	283	1.40
28/01/2024	02:00	45	42	62	91	1.40
28/01/2024	02:15	49	44	66	271	1.80
28/01/2024	02:30	49	44	64	257	1.80

28/01/2024	02:45	50	45	70	271	2.00
28/01/2024	03:00	47	43	62	254	2.60
28/01/2024	03:15	51	44	68	271	2.20
28/01/2024	03:30	46	44	59	266	2.20
28/01/2024	03:45	49	45	66	272	2.10
28/01/2024	04:00	47	45	62	265	2.60
28/01/2024	04:15	47	45	64	266	2.00
28/01/2024	04:30	46	44	61	268	1.90
28/01/2024	04:45	47	42	64	102	1.30
28/01/2024	05:00	52	43	66	278	1.60
28/01/2024	05:15	51	43	67	231	1.60
28/01/2024	05:30	55	43	70	260	2.20
28/01/2024	05:45	50	43	66	260	1.90
28/01/2024	06:00	57	45	69	271	1.90
28/01/2024	06:15	53	46	68	268	2.20
28/01/2024	06:30	53	46	66	239	2.60
28/01/2024	06:45	54	47	68	272	2.00
28/01/2024	23:00	51	47	63	275	2.40
28/01/2024	23:15	52	47	68	289	1.10
28/01/2024	23:30	51	48	65	265	1.30
28/01/2024	23:45	51	48	69	265	1.60
29/01/2024	00:00	50	48	65	252	1.60
29/01/2024	00:15	52	48	67	269	1.90
29/01/2024	00:30	50	47	64	264	1.50
29/01/2024	00:45	49	46	65	261	1.40
29/01/2024	01:00	51	48	68	257	1.90
29/01/2024	01:15	50	49	62	262	1.70
29/01/2024	01:30	50	48	63	263	1.90
29/01/2024	01:45	51	46	65	271	1.10
29/01/2024	02:00	46	34	65	97	1.30
29/01/2024	02:15	50	33	69	87	1.40
29/01/2024	02:30	50	31	68	84	1.70
29/01/2024	02:45	49	31	68	105	1.70
29/01/2024	03:00	36	31	53	91	2.30
29/01/2024	03:15	53	33	70	90	1.80
29/01/2024	03:30	53	33	70	88	2.20
29/01/2024	03:45	51	31	70	87	1.80
29/01/2024	23:00	54	47	71	264	1.00
29/01/2024	23:15	52	41	69	79	3.00
29/01/2024	23:30	55	44	72	68	3.60
29/01/2024	23:45	54	45	68	69	3.90
30/01/2024	01:15	46	42	64	100	1.70
30/01/2024	01:30	51	43	69	74	3.90
30/01/2024	01:45	49	42	70	66	3.30
30/01/2024	02:00	54	39	73	69	2.50
30/01/2024	02:15	50	39	70	74	2.70
30/01/2024	02:30	53	41	70	75	3.00
30/01/2024	02:45	51	40	69	76	4.30
30/01/2024	03:00	49	39	68	75	4.50
30/01/2024	03:15	55	41	72	70	4.90
30/01/2024	03:30	53	42	72	66	5.00
30/01/2024	03:45	51	42	69	69	4.00
30/01/2024	04:00	54	42	75	67	6.10
30/01/2024	04:15	54	44	72	68	6.60
30/01/2024	04:30	56	42	72	69	5.60
30/01/2024	04:45	57	43	74	66	5.60

30/01/2024	05:00	58	44	75	67	5.20
30/01/2024	05:15	59	43	72	66	4.10
30/01/2024	05:30	58	45	70	71	3.40
30/01/2024	05:45	59	46	71	67	4.90
30/01/2024	06:00	61	47	73	68	4.10
30/01/2024	06:15	60	47	71	70	4.40
30/01/2024	06:30	61	49	75	68	4.30
30/01/2024	06:45	61	48	80	68	4.00
30/01/2024	23:00	55	50	72	260	1.00
30/01/2024	23:15	55	51	70	250	1.20
30/01/2024	23:30	52	50	65	263	1.50
30/01/2024	23:45	54	52	68	270	1.50
31/01/2024	00:00	54	51	68	272	2.60
31/01/2024	00:15	54	52	66	265	1.50
31/01/2024	00:30	53	51	64	271	1.70
31/01/2024	00:45	54	51	75	274	1.70
31/01/2024	01:00	51	49	65	263	1.20
31/01/2024	01:15	53	49	67	283	1.50
31/01/2024	01:30	53	50	71	253	1.20
31/01/2024	01:45	52	49	67	200	0.80
31/01/2024	02:00	55	51	69	263	1.60
31/01/2024	02:15	53	51	66	269	1.80
31/01/2024	02:30	54	50	68	268	1.80
31/01/2024	02:45	53	48	67	224	1.00
31/01/2024	03:00	54	47	72	251	0.80
31/01/2024	03:15	52	47	67	99	0.50
31/01/2024	03:30	52	48	69	70	0.90
31/01/2024	03:45	52	46	69	66	1.10
31/01/2024	04:00	53	45	70	257	0.80
31/01/2024	04:15	54	48	70	99	0.70
31/01/2024	04:30	58	49	72	41	0.90
31/01/2024	04:45	55	48	71	117	0.60
31/01/2024	05:00	57	51	71	263	1.50
31/01/2024	05:15	59	52	73	272	1.90
31/01/2024	05:30	60	52	73	103	1.60
31/01/2024	05:45	60	52	75	266	2.00
31/01/2024	06:00	62	54	74	272	2.10
31/01/2024	06:15	60	53	72	272	2.10
31/01/2024	06:30	61	53	73	271	2.60
31/01/2024	06:45	62	53	74	264	2.60

Raw data and central tendencies for location NSR 1: 3 Wern

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	52	47	69
Mean	51	45	67
Mean - 1 s.d.	49	41	-
Log Average	52	-	-

Table 7.1.1 (c): Night-time period (23:45 to 04:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:45	49	46	62	241	0.90
16/01/2024	00:00	51	46	69	212	1.20
16/01/2024	00:15	50	45	66	234	1.20
16/01/2024	00:30	49	42	67	191	1.60
16/01/2024	00:45	47	43	65	226	1.30
16/01/2024	01:00	49	45	66	190	1.40
16/01/2024	01:15	50	47	68	210	1.90
16/01/2024	01:30	49	46	66	202	1.10
16/01/2024	01:45	45	41	51	199	1.60
16/01/2024	02:00	52	42	70	188	1.30
16/01/2024	02:15	44	40	51	204	1.40
16/01/2024	02:30	48	40	68	217	0.90
16/01/2024	02:45	50	42	68	298	0.90
16/01/2024	03:00	47	42	62	319	0.80
16/01/2024	03:15	53	42	71	223	0.70
16/01/2024	03:30	52	42	69	192	1.20
16/01/2024	03:45	56	45	74	188	1.70
16/01/2024	23:45	55	46	73	315	3.90
17/01/2024	00:00	54	48	69	317	4.00
17/01/2024	00:15	52	47	73	320	3.80
17/01/2024	00:30	54	49	69	261	3.80
17/01/2024	00:45	54	49	70	314	3.20
17/01/2024	01:00	52	47	68	303	3.40
17/01/2024	01:15	50	46	67	277	3.40
17/01/2024	01:30	49	47	65	299	3.50
17/01/2024	01:45	49	47	67	274	3.80
17/01/2024	02:00	54	47	71	319	3.10
17/01/2024	02:15	52	46	73	335	3.00
17/01/2024	02:30	50	45	67	334	3.80
17/01/2024	02:45	49	42	70	333	2.70
17/01/2024	03:00	50	41	72	332	2.80
17/01/2024	03:15	49	41	68	335	3.10
17/01/2024	03:30	54	41	73	245	0.80
17/01/2024	03:45	52	38	74	293	0.80
17/01/2024	23:45	51	42	64	201	0.60
18/01/2024	00:00	54	39	71	224	0.50
18/01/2024	00:15	47	40	67	198	0.60
18/01/2024	00:30	58	43	83	218	0.70
18/01/2024	00:45	48	43	65	238	0.80
18/01/2024	01:00	49	40	69	220	0.50
18/01/2024	01:15	49	44	64	229	0.80

18/01/2024	01:30	46	43	64	205	0.80
18/01/2024	01:45	48	46	55	236	0.70
18/01/2024	02:00	52	46	67	228	0.60
18/01/2024	02:15	51	48	67	269	0.80
18/01/2024	02:30	52	49	66	320	1.00
18/01/2024	02:45	50	46	62	333	2.30
18/01/2024	03:00	51	45	70	334	3.40
18/01/2024	03:15	51	48	70	335	3.50
18/01/2024	03:30	50	47	63	333	3.10
18/01/2024	03:45	54	47	68	338	2.70
18/01/2024	23:45	52	47	66	195	1.90
19/01/2024	00:00	56	47	69	248	1.50
19/01/2024	00:15	53	43	74	202	0.80
19/01/2024	00:30	50	43	66	214	1.00
19/01/2024	00:45	51	45	67	188	1.40
19/01/2024	01:00	50	45	69	200	1.20
19/01/2024	01:15	53	48	71	314	1.20
19/01/2024	01:30	50	48	64	297	1.20
19/01/2024	01:45	49	45	62	344	1.30
19/01/2024	02:00	52	43	72	228	1.20
19/01/2024	02:15	52	41	68	228	0.90
19/01/2024	02:30	47	41	63	269	1.00
19/01/2024	02:45	49	42	65	297	0.70
19/01/2024	03:00	50	43	69	195	0.80
19/01/2024	03:15	51	45	67	116	1.10
19/01/2024	03:30	50	46	66	223	1.60
19/01/2024	03:45	53	48	67	226	1.40
19/01/2024	23:45	52	47	71	184	2.70
20/01/2024	00:00	50	47	65	185	3.10
20/01/2024	00:15	52	46	69	192	3.00
20/01/2024	00:30	52	44	69	210	2.20
20/01/2024	00:45	53	47	67	201	1.70
20/01/2024	01:00	54	50	70	193	3.60
20/01/2024	01:15	57	51	76	199	5.20
20/01/2024	01:30	53	51	63	204	3.30
20/01/2024	01:45	55	50	72	191	3.80
20/01/2024	02:00	51	49	63	191	7.70
20/01/2024	02:15	52	49	69	192	4.40
20/01/2024	02:30	54	48	75	189	4.50
20/01/2024	02:45	53	49	70	191	4.10
20/01/2024	03:00	54	51	68	204	4.70
20/01/2024	03:15	53	50	69	198	4.20
20/01/2024	03:30	52	50	67	190	4.00
20/01/2024	03:45	55	50	68	191	6.20
22/01/2024	01:30	57	52	74	277	5.30
22/01/2024	01:45	59	53	76	271	7.10
22/01/2024	02:00	56	51	72	281	6.10
22/01/2024	02:15	57	53	74	279	5.40
22/01/2024	02:30	57	52	69	263	7.40
22/01/2024	02:45	56	52	71	267	5.70
22/01/2024	03:00	56	51	70	309	6.20
22/01/2024	03:15	57	51	70	278	7.00
22/01/2024	03:30	59	51	71	309	4.80
22/01/2024	03:45	58	52	70	278	5.80
22/01/2024	23:45	54	50	67	272	3.80
23/01/2024	00:00	53	50	64	253	3.90

23/01/2024	00:15	53	50	69	271	2.90
23/01/2024	00:30	53	50	62	264	3.90
23/01/2024	00:45	55	50	83	283	3.60
23/01/2024	01:00	52	49	67	299	4.00
23/01/2024	01:15	52	49	61	315	3.20
23/01/2024	01:30	52	49	57	279	3.30
23/01/2024	01:45	53	50	61	277	3.90
23/01/2024	02:00	53	50	67	286	3.80
23/01/2024	02:15	53	50	66	311	5.40
23/01/2024	02:30	52	48	65	350	5.80
23/01/2024	02:45	51	48	56	26	3.80
23/01/2024	03:00	52	48	72	10	5.20
23/01/2024	03:15	49	40	67	287	1.70
23/01/2024	03:30	50	39	66	284	1.00
23/01/2024	03:45	51	48	67	210	0.60
24/01/2024	02:45	58	53	77	37	6.40
24/01/2024	03:00	57	53	70	335	6.90
24/01/2024	03:15	59	53	76	297	6.50
24/01/2024	03:30	59	53	76	293	6.90
24/01/2024	03:45	56	52	71	291	4.90
24/01/2024	23:45	53	50	65	65	0.70
25/01/2024	00:00	54	50	70	264	1.50
25/01/2024	00:15	51	46	72	23	0.40
25/01/2024	00:30	52	46	69	234	1.10
25/01/2024	00:45	52	47	65	265	1.60
25/01/2024	01:00	52	48	66	266	1.30
25/01/2024	01:15	54	49	70	266	2.40
25/01/2024	01:30	49	47	55	260	2.00
25/01/2024	01:45	50	46	71	259	1.40
25/01/2024	02:00	49	47	66	263	1.20
25/01/2024	02:15	52	46	68	266	0.80
25/01/2024	02:30	53	50	69	260	1.10
25/01/2024	02:45	53	51	67	256	0.80
25/01/2024	03:00	52	50	66	279	1.30
25/01/2024	03:15	55	51	69	266	1.80
25/01/2024	03:30	52	50	70	263	1.40
25/01/2024	03:45	53	49	68	267	1.50
25/01/2024	23:45	57	52	70	287	6.10
26/01/2024	00:00	57	52	72	291	5.50
26/01/2024	00:15	58	53	75	294	7.60
26/01/2024	00:30	58	54	77	286	6.70
26/01/2024	00:45	57	53	72	292	5.90
26/01/2024	01:00	55	51	69	289	6.40
26/01/2024	01:15	52	50	62	286	5.60
26/01/2024	01:30	56	50	73	285	5.40
26/01/2024	01:45	55	51	75	285	6.50
26/01/2024	23:45	52	47	67	269	1.70
27/01/2024	00:00	52	48	67	269	2.40
27/01/2024	00:15	52	49	64	273	2.40
27/01/2024	00:30	51	46	68	277	2.70
27/01/2024	00:45	49	46	63	272	2.90
27/01/2024	01:00	49	47	66	266	2.50
27/01/2024	01:15	53	48	69	267	3.30
27/01/2024	01:30	48	44	62	281	2.90
27/01/2024	01:45	54	45	75	270	2.00
27/01/2024	02:00	51	46	68	266	2.60

27/01/2024	02:15	50	45	70	261	2.40
27/01/2024	02:30	50	44	65	267	2.30
27/01/2024	02:45	51	45	69	271	2.20
27/01/2024	03:00	51	48	65	273	2.10
27/01/2024	03:15	52	47	68	259	2.70
27/01/2024	03:30	50	45	67	266	2.50
27/01/2024	03:45	48	43	65	259	1.50
27/01/2024	23:45	52	45	69	269	1.80
28/01/2024	00:00	51	43	65	267	1.00
28/01/2024	00:15	48	41	65	82	0.80
28/01/2024	00:30	51	42	68	282	1.30
28/01/2024	00:45	51	44	66	264	1.50
28/01/2024	01:00	49	43	68	259	1.30
28/01/2024	01:15	49	42	68	83	1.00
28/01/2024	01:30	47	43	62	270	1.30
28/01/2024	01:45	48	43	66	283	1.40
28/01/2024	02:00	45	42	62	91	1.40
28/01/2024	02:15	49	44	66	271	1.80
28/01/2024	02:30	49	44	64	257	1.80
28/01/2024	02:45	50	45	70	271	2.00
28/01/2024	03:00	47	43	62	254	2.60
28/01/2024	03:15	51	44	68	271	2.20
28/01/2024	03:30	46	44	59	266	2.20
28/01/2024	03:45	49	45	66	272	2.10
28/01/2024	23:45	51	48	69	265	1.60
29/01/2024	00:00	50	48	65	252	1.60
29/01/2024	00:15	52	48	67	269	1.90
29/01/2024	00:30	50	47	64	264	1.50
29/01/2024	00:45	49	46	65	261	1.40
29/01/2024	01:00	51	48	68	257	1.90
29/01/2024	01:15	50	49	62	262	1.70
29/01/2024	01:30	50	48	63	263	1.90
29/01/2024	01:45	51	46	65	271	1.10
29/01/2024	02:00	46	34	65	97	1.30
29/01/2024	02:15	50	33	69	87	1.40
29/01/2024	02:30	50	31	68	84	1.70
29/01/2024	02:45	49	31	68	105	1.70
29/01/2024	03:00	36	31	53	91	2.30
29/01/2024	03:15	53	33	70	90	1.80
29/01/2024	03:30	53	33	70	88	2.20
29/01/2024	03:45	51	31	70	87	1.80
29/01/2024	23:45	54	45	68	69	3.90
30/01/2024	01:15	46	42	64	100	1.70
30/01/2024	01:30	51	43	69	74	3.90
30/01/2024	01:45	49	42	70	66	3.30
30/01/2024	02:00	54	39	73	69	2.50
30/01/2024	02:15	50	39	70	74	2.70
30/01/2024	02:30	53	41	70	75	3.00
30/01/2024	02:45	51	40	69	76	4.30
30/01/2024	03:00	49	39	68	75	4.50
30/01/2024	03:15	55	41	72	70	4.90
30/01/2024	03:30	53	42	72	66	5.00
30/01/2024	03:45	51	42	69	69	4.00
30/01/2024	23:45	54	52	68	270	1.50
31/01/2024	00:00	54	51	68	272	2.60
31/01/2024	00:15	54	52	66	265	1.50

31/01/2024	00:30	53	51	64	271	1.70
31/01/2024	00:45	54	51	75	274	1.70
31/01/2024	01:00	51	49	65	263	1.20
31/01/2024	01:15	53	49	67	283	1.50
31/01/2024	01:30	53	50	71	253	1.20
31/01/2024	01:45	52	49	67	200	0.80
31/01/2024	02:00	55	51	69	263	1.60
31/01/2024	02:15	53	51	66	269	1.80
31/01/2024	02:30	54	50	68	268	1.80
31/01/2024	02:45	53	48	67	224	1.00
31/01/2024	03:00	54	47	72	251	0.80
31/01/2024	03:15	52	47	67	99	0.50
31/01/2024	03:30	52	48	69	70	0.90
31/01/2024	03:45	52	46	69	66	1.10

Raw data and central tendencies for location NSR 2: Maes-Y-Waun

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	57	51	69
Mean	56	49	70
Mean - 1 s.d.	54	47	-
Log Average	56	-	-

Table 7.1.2 (a): Daytime period (07:00 to 23:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	16:15	56	50	67	344	1.90
15/01/2024	16:30	57	51	67	333	1.30
15/01/2024	16:45	57	50	69	304	0.70
15/01/2024	17:00	57	51	70	303	0.90
15/01/2024	17:15	58	52	67	197	0.70
15/01/2024	17:30	57	51	74	344	0.60
15/01/2024	17:45	57	50	68	244	0.80
15/01/2024	18:00	56	50	69	255	0.60
15/01/2024	18:15	57	50	69	307	0.70
15/01/2024	18:30	55	50	68	221	0.60
15/01/2024	18:45	55	50	68	319	0.80
15/01/2024	19:00	55	50	69	193	0.60
15/01/2024	19:15	55	49	67	335	0.90
15/01/2024	19:30	54	48	68	224	0.90
15/01/2024	19:45	54	48	69	315	1.00
15/01/2024	20:00	54	49	67	226	0.90
15/01/2024	20:15	53	47	68	315	0.80
15/01/2024	20:30	54	47	71	266	0.50
15/01/2024	20:45	52	45	70	185	1.20
15/01/2024	21:00	53	50	70	308	0.90
15/01/2024	21:15	54	49	75	203	0.60
15/01/2024	21:30	53	48	73	258	1.10
15/01/2024	21:45	53	49	72	209	1.00
15/01/2024	22:00	54	49	73	211	1.00
15/01/2024	22:15	53	49	71	298	0.90
15/01/2024	22:30	52	49	71	232	1.20
15/01/2024	22:45	54	49	68	294	0.70
16/01/2024	07:00	56	50	68	214	3.40
16/01/2024	07:15	57	51	72	215	2.70
16/01/2024	07:30	58	49	74	263	1.70
16/01/2024	07:45	59	51	76	256	2.00
16/01/2024	08:00	58	51	71	192	1.60
16/01/2024	08:15	58	52	70	203	1.70
16/01/2024	08:30	58	52	78	202	1.60
16/01/2024	08:45	57	50	72	193	3.20
16/01/2024	09:00	58	49	70	192	1.70
16/01/2024	09:15	57	49	70	188	2.00
16/01/2024	09:30	57	50	70	187	1.50
16/01/2024	09:45	57	52	72	217	2.30
16/01/2024	10:00	57	50	70	230	3.20
16/01/2024	10:15	57	51	75	223	3.00

16/01/2024	10:30	57	50	74	227	2.30
16/01/2024	10:45	56	50	69	224	2.80
16/01/2024	11:00	56	50	69	222	2.20
16/01/2024	11:15	57	51	69	233	3.20
16/01/2024	11:30	56	51	69	220	2.90
16/01/2024	11:45	57	51	69	208	3.20
16/01/2024	12:00	57	51	72	226	2.90
16/01/2024	12:15	56	50	68	214	4.90
16/01/2024	12:30	55	49	67	212	5.00
16/01/2024	12:45	56	50	71	227	3.70
16/01/2024	13:00	57	51	69	218	4.50
16/01/2024	13:15	56	51	67	230	4.10
16/01/2024	13:30	57	52	72	209	6.40
16/01/2024	13:45	56	52	66	237	3.20
16/01/2024	14:00	57	52	71	222	4.20
16/01/2024	14:15	56	50	71	233	3.40
16/01/2024	14:30	57	50	77	222	3.20
16/01/2024	14:45	57	52	69	202	5.60
16/01/2024	15:00	57	52	67	208	4.20
16/01/2024	15:15	57	51	68	210	4.10
16/01/2024	15:30	56	50	69	194	4.00
16/01/2024	15:45	56	48	71	192	3.50
16/01/2024	16:00	56	49	70	193	4.20
16/01/2024	16:15	56	49	66	224	3.00
16/01/2024	16:30	57	50	69	205	4.50
16/01/2024	16:45	57	50	69	199	5.90
16/01/2024	17:00	57	51	66	209	3.40
16/01/2024	17:15	57	50	67	204	4.60
16/01/2024	17:30	57	52	71	213	4.50
16/01/2024	17:45	57	52	71	211	4.30
16/01/2024	18:00	57	52	71	221	5.30
16/01/2024	18:15	56	50	67	218	5.50
16/01/2024	18:30	54	46	68	192	6.40
16/01/2024	18:45	55	47	69	202	2.90
16/01/2024	19:00	55	46	69	210	2.70
16/01/2024	19:15	54	47	67	202	4.10
16/01/2024	19:30	55	47	69	193	3.50
16/01/2024	19:45	54	48	67	217	3.80
16/01/2024	20:00	54	49	68	229	3.90
16/01/2024	20:15	54	48	68	210	3.00
16/01/2024	20:30	53	46	68	207	3.40
16/01/2024	20:45	52	45	68	203	3.50
16/01/2024	21:00	51	42	69	200	3.90
16/01/2024	21:15	51	42	68	328	1.20
16/01/2024	21:30	52	43	71	210	1.40
16/01/2024	21:45	51	44	70	207	1.40
16/01/2024	22:00	53	48	67	223	2.00
16/01/2024	22:15	53	48	70	217	2.80
16/01/2024	22:30	53	49	68	257	3.80
16/01/2024	22:45	53	49	68	244	4.10
17/01/2024	07:00	57	48	76	325	1.30
17/01/2024	07:15	58	49	82	330	1.20
17/01/2024	07:30	59	51	78	329	0.70
17/01/2024	07:45	59	51	75	332	0.90
17/01/2024	08:00	57	50	69	326	0.90
17/01/2024	08:15	57	51	68	316	0.80

17/01/2024	08:30	57	50	74	326	0.70
17/01/2024	08:45	58	53	69	341	0.70
17/01/2024	09:00	58	53	67	334	1.10
17/01/2024	09:15	59	53	72	344	1.20
17/01/2024	09:30	58	51	70	343	0.80
17/01/2024	09:45	57	50	72	314	0.60
17/01/2024	10:00	56	50	69	338	1.00
17/01/2024	10:15	57	51	69	335	1.70
17/01/2024	10:30	57	51	72	338	1.50
17/01/2024	10:45	56	50	68	347	1.70
17/01/2024	11:00	56	49	72	350	2.80
17/01/2024	11:15	56	47	70	352	2.50
17/01/2024	11:30	55	46	68	352	2.60
17/01/2024	11:45	56	47	70	349	2.10
17/01/2024	12:00	57	49	75	347	2.60
17/01/2024	12:15	55	48	67	344	2.70
17/01/2024	12:30	56	48	72	348	1.90
17/01/2024	12:45	55	48	68	339	2.30
17/01/2024	13:00	55	48	71	349	2.10
17/01/2024	13:15	56	47	73	345	2.90
17/01/2024	13:30	55	49	66	350	2.40
17/01/2024	13:45	56	49	68	346	2.20
17/01/2024	14:00	56	49	66	348	2.40
17/01/2024	14:15	56	49	69	345	2.20
17/01/2024	14:30	56	49	72	352	2.50
17/01/2024	14:45	56	51	72	335	2.90
17/01/2024	15:00	58	53	77	343	2.30
17/01/2024	15:15	56	50	67	340	1.90
17/01/2024	15:30	57	51	70	344	2.20
17/01/2024	15:45	57	51	67	334	1.80
17/01/2024	16:00	57	52	71	336	1.40
17/01/2024	16:15	57	51	71	338	1.60
17/01/2024	16:30	58	52	69	334	1.10
17/01/2024	16:45	58	51	76	319	1.10
17/01/2024	17:00	59	53	75	308	1.20
17/01/2024	17:15	58	52	72	337	1.70
17/01/2024	17:30	58	52	68	333	1.10
17/01/2024	17:45	57	51	70	328	1.00
17/01/2024	18:00	57	52	74	331	0.90
17/01/2024	18:15	57	52	68	331	1.10
17/01/2024	18:30	56	50	70	252	0.70
17/01/2024	18:45	56	50	69	236	0.70
17/01/2024	19:00	55	48	65	206	0.40
17/01/2024	19:15	56	49	69	269	0.40
17/01/2024	19:30	56	49	82	331	0.40
17/01/2024	19:45	55	50	70	352	0.90
17/01/2024	20:00	56	50	69	352	1.10
17/01/2024	20:15	54	50	70	337	0.90
17/01/2024	20:30	54	50	67	355	1.60
17/01/2024	20:45	54	50	68	344	1.20
17/01/2024	21:00	55	50	70	346	1.40
17/01/2024	21:15	54	50	68	352	1.60
17/01/2024	21:30	54	50	70	353	1.00
17/01/2024	21:45	53	49	70	348	1.10
17/01/2024	22:00	54	50	70	285	0.60
17/01/2024	22:15	53	48	74	261	0.80

17/01/2024	22:30	50	43	72	223	0.70
17/01/2024	22:45	50	41	68	212	0.60
18/01/2024	07:00	56	52	70	347	1.00
18/01/2024	07:15	58	52	76	336	2.20
18/01/2024	07:30	59	53	80	333	3.10
18/01/2024	07:45	58	54	68	335	3.40
18/01/2024	08:00	58	54	70	340	2.30
18/01/2024	08:15	59	53	70	351	1.60
18/01/2024	08:30	58	53	73	267	1.20
18/01/2024	08:45	58	51	71	220	0.70
18/01/2024	09:00	57	49	78	260	0.70
18/01/2024	09:15	56	50	68	349	1.20
18/01/2024	09:30	56	50	69	346	1.50
18/01/2024	09:45	57	50	73	344	0.70
18/01/2024	10:00	56	49	69	352	1.00
18/01/2024	10:15	56	47	80	341	1.20
18/01/2024	10:30	56	49	70	335	3.00
18/01/2024	10:45	56	50	66	335	2.00
18/01/2024	11:00	58	50	73	333	2.40
18/01/2024	11:15	57	51	71	336	2.80
18/01/2024	11:30	56	51	70	336	3.00
18/01/2024	11:45	56	51	71	336	2.80
18/01/2024	12:00	56	50	70	338	3.70
18/01/2024	12:15	56	50	72	333	3.40
18/01/2024	12:30	62	50	92	336	3.30
18/01/2024	12:45	57	51	68	334	3.30
18/01/2024	13:00	57	51	69	336	3.50
18/01/2024	13:15	57	52	68	334	3.20
18/01/2024	13:30	56	50	70	336	2.60
18/01/2024	13:45	57	50	77	337	3.70
18/01/2024	14:00	56	50	68	335	4.30
18/01/2024	14:15	56	50	68	334	3.80
18/01/2024	14:30	57	51	67	334	3.10
18/01/2024	14:45	57	51	69	337	3.30
18/01/2024	15:00	57	53	69	336	2.80
18/01/2024	15:15	57	52	69	335	2.70
18/01/2024	15:30	57	51	71	331	3.20
18/01/2024	15:45	64	53	88	333	2.50
18/01/2024	16:00	58	53	69	335	4.30
18/01/2024	16:15	59	54	74	335	5.00
18/01/2024	16:30	58	54	69	336	4.30
18/01/2024	16:45	58	53	68	335	3.00
18/01/2024	17:00	59	54	76	334	5.10
18/01/2024	17:15	59	54	70	335	6.00
18/01/2024	17:30	58	54	69	335	4.10
18/01/2024	17:45	58	54	71	333	3.60
18/01/2024	18:00	59	54	70	334	4.30
18/01/2024	18:15	58	52	71	326	4.90
18/01/2024	18:30	58	52	69	294	2.10
18/01/2024	18:45	57	52	70	330	2.30
18/01/2024	19:00	57	51	68	338	1.00
18/01/2024	19:15	57	51	73	338	2.00
18/01/2024	19:30	56	51	69	338	1.20
18/01/2024	19:45	56	50	73	357	1.10
18/01/2024	20:00	56	51	67	288	2.90
18/01/2024	20:15	55	50	69	320	2.70

18/01/2024	20:30	55	50	69	334	4.10
18/01/2024	20:45	55	50	72	335	2.20
18/01/2024	21:00	54	50	68	336	2.80
18/01/2024	21:15	55	51	67	334	3.00
18/01/2024	21:30	54	50	71	335	3.00
18/01/2024	21:45	54	49	69	331	3.10
18/01/2024	22:00	53	49	68	336	2.30
18/01/2024	22:15	54	49	71	332	3.20
18/01/2024	22:30	53	48	71	342	2.00
18/01/2024	22:45	54	49	71	343	1.80
19/01/2024	07:00	58	53	71	184	1.90
19/01/2024	07:15	58	53	78	201	1.60
19/01/2024	07:30	57	51	73	226	2.00
19/01/2024	07:45	58	51	69	203	2.00
19/01/2024	08:00	59	54	70	225	1.20
19/01/2024	08:15	58	53	69	229	1.30
19/01/2024	08:30	58	50	72	201	1.30
19/01/2024	08:45	59	51	74	196	1.70
19/01/2024	09:00	58	50	68	181	2.40
19/01/2024	09:15	57	50	73	180	2.70
19/01/2024	09:30	57	49	71	190	1.30
19/01/2024	09:45	57	51	68	196	1.00
19/01/2024	10:00	58	51	74	185	2.00
19/01/2024	10:15	58	53	70	213	3.80
19/01/2024	10:30	57	50	69	225	2.80
19/01/2024	10:45	56	49	67	197	2.30
19/01/2024	11:00	57	50	72	190	2.10
19/01/2024	11:15	56	49	69	227	1.30
19/01/2024	11:30	58	49	78	195	3.10
19/01/2024	11:45	57	51	70	217	2.60
19/01/2024	12:00	58	53	69	233	4.20
19/01/2024	12:15	57	53	67	242	4.50
19/01/2024	12:30	57	51	70	224	4.30
19/01/2024	12:45	57	52	68	233	5.10
19/01/2024	13:00	56	50	66	229	3.50
19/01/2024	13:15	56	50	68	199	2.70
19/01/2024	13:30	56	50	67	207	4.00
19/01/2024	13:45	57	52	73	219	4.90
19/01/2024	14:00	57	51	67	215	3.20
19/01/2024	14:15	56	51	66	212	4.50
19/01/2024	14:30	57	52	68	206	4.80
19/01/2024	14:45	57	51	72	210	3.10
19/01/2024	15:00	58	53	71	205	3.30
19/01/2024	15:15	57	51	70	193	2.80
19/01/2024	15:30	57	51	70	192	3.50
19/01/2024	15:45	57	50	69	194	2.70
19/01/2024	16:00	57	51	69	192	2.50
19/01/2024	16:15	57	50	79	191	3.20
19/01/2024	16:30	57	51	70	188	4.10
19/01/2024	16:45	58	51	77	188	3.70
19/01/2024	17:00	57	50	68	191	2.70
19/01/2024	17:15	58	52	69	187	3.30
19/01/2024	17:30	58	52	69	194	3.50
19/01/2024	17:45	57	50	71	188	3.20
19/01/2024	18:00	57	49	74	188	2.80
19/01/2024	18:15	57	49	67	193	2.40

19/01/2024	18:30	56	48	70	190	2.10
19/01/2024	18:45	55	48	69	189	2.50
19/01/2024	19:00	55	47	69	191	2.20
19/01/2024	19:15	55	45	69	189	2.70
19/01/2024	19:30	54	45	69	190	2.00
19/01/2024	19:45	54	45	71	186	2.90
19/01/2024	20:00	53	45	67	185	3.20
19/01/2024	20:15	54	45	68	184	2.70
19/01/2024	20:30	53	44	67	190	1.50
19/01/2024	20:45	57	46	80	190	1.30
19/01/2024	21:00	53	42	66	189	2.80
19/01/2024	21:15	53	42	72	184	3.00
19/01/2024	21:30	52	43	67	183	2.40
19/01/2024	21:45	51	43	66	189	1.90
19/01/2024	22:00	54	45	72	187	2.20
19/01/2024	22:15	52	43	71	183	2.70
19/01/2024	22:30	52	41	74	184	2.20
19/01/2024	22:45	50	42	69	184	2.80
20/01/2024	07:00	53	44	71	185	3.30
20/01/2024	07:15	55	45	73	188	5.20
20/01/2024	07:30	54	46	68	188	4.70
20/01/2024	07:45	54	49	73	201	6.40
20/01/2024	08:00	55	47	68	192	4.20
20/01/2024	08:15	54	48	67	191	7.70
20/01/2024	08:30	55	48	69	190	5.20
20/01/2024	08:45	56	48	74	191	6.10
20/01/2024	09:00	55	48	66	196	3.50
20/01/2024	09:15	55	47	69	198	3.60
20/01/2024	09:30	56	48	71	190	3.40
20/01/2024	09:45	56	49	71	193	5.20
20/01/2024	10:00	57	52	69	197	4.90
20/01/2024	10:15	57	51	67	205	3.80
20/01/2024	10:30	57	51	70	200	5.80
20/01/2024	10:45	57	53	68	203	6.10
20/01/2024	11:00	57	51	74	197	6.30
20/01/2024	11:15	57	52	69	193	5.20
20/01/2024	11:30	57	51	67	193	5.20
20/01/2024	11:45	58	53	69	195	7.80
20/01/2024	12:00	58	53	76	190	4.90
20/01/2024	12:15	57	51	67	195	5.20
20/01/2024	12:30	57	52	71	195	7.40
20/01/2024	12:45	57	51	79	192	5.70
20/01/2024	13:00	57	51	68	193	4.80
20/01/2024	13:15	57	51	70	192	7.80
20/01/2024	13:30	57	51	71	197	5.30
20/01/2024	13:45	57	51	69	193	7.10
20/01/2024	14:00	57	51	70	195	5.60
20/01/2024	14:15	57	51	74	192	6.20
20/01/2024	14:30	56	50	67	193	6.60
20/01/2024	14:45	56	51	69	192	5.60
20/01/2024	15:00	56	50	71	193	7.10
20/01/2024	15:15	57	51	74	192	7.80
20/01/2024	15:30	56	51	68	192	6.60
20/01/2024	15:45	56	50	66	192	6.70
20/01/2024	16:00	56	50	67	195	7.10
20/01/2024	16:15	56	50	69	190	6.40

20/01/2024	16:30	56	51	68	190	6.40
20/01/2024	18:00	56	48	69	192	5.70
20/01/2024	18:15	55	48	70	194	4.40
20/01/2024	18:30	56	48	72	189	4.90
21/01/2024	08:00	57	50	79	205	5.20
21/01/2024	08:15	58	51	74	199	5.00
21/01/2024	08:30	60	52	73	205	5.20
21/01/2024	08:45	59	51	74	218	4.00
21/01/2024	09:00	59	53	73	205	5.60
22/01/2024	07:00	57	52	72	273	3.50
22/01/2024	07:15	57	52	80	276	4.10
22/01/2024	07:30	58	53	70	276	3.70
22/01/2024	07:45	59	54	70	287	5.30
22/01/2024	08:00	59	54	70	271	6.80
22/01/2024	08:15	58	53	68	272	4.70
22/01/2024	08:30	57	52	69	290	4.50
22/01/2024	08:45	58	53	69	281	4.40
22/01/2024	09:00	57	52	73	271	4.90
22/01/2024	09:15	56	51	67	279	6.10
22/01/2024	09:30	57	52	69	276	6.20
22/01/2024	09:45	57	53	71	279	5.90
22/01/2024	11:30	57	53	69	286	5.70
22/01/2024	11:45	57	53	75	281	5.90
22/01/2024	12:00	58	54	69	279	7.80
22/01/2024	18:15	59	55	67	302	5.70
22/01/2024	18:30	58	54	71	11	6.40
22/01/2024	18:45	57	54	69	316	7.30
22/01/2024	19:00	57	53	66	319	5.50
22/01/2024	19:15	57	53	71	349	8.00
22/01/2024	19:30	57	52	70	325	4.40
22/01/2024	19:45	57	52	70	309	4.50
22/01/2024	20:00	56	52	67	1	4.80
22/01/2024	20:15	57	52	71	310	5.20
22/01/2024	20:30	56	52	67	295	4.50
22/01/2024	20:45	55	52	67	343	5.20
22/01/2024	21:00	55	52	68	335	5.80
22/01/2024	21:15	55	52	71	316	5.90
22/01/2024	21:30	55	52	67	359	6.30
22/01/2024	21:45	54	52	65	15	5.50
22/01/2024	22:00	57	52	73	342	6.50
22/01/2024	22:15	56	52	72	344	5.60
22/01/2024	22:30	55	51	74	314	5.40
22/01/2024	22:45	55	51	67	318	5.80
23/01/2024	07:00	56	48	80	235	3.00
23/01/2024	07:15	55	48	67	237	2.70
23/01/2024	07:30	57	49	70	260	1.50
23/01/2024	07:45	58	51	72	238	2.50
23/01/2024	08:00	58	52	69	243	3.70
23/01/2024	18:45	61	55	72	266	5.40
23/01/2024	19:00	61	55	74	260	6.90
23/01/2024	19:15	61	56	72	263	6.60
23/01/2024	19:30	60	54	77	271	7.70
23/01/2024	21:30	56	53	68	272	7.40
23/01/2024	21:45	55	52	68	276	6.00
23/01/2024	22:00	57	53	72	275	8.40
23/01/2024	22:15	57	53	72	267	7.80

23/01/2024	22:30	62	55	79	277	7.80
23/01/2024	22:45	59	55	72	275	9.00
24/01/2024	07:00	58	54	74	313	5.50
24/01/2024	07:15	62	55	82	352	5.70
24/01/2024	07:30	60	56	86	352	6.30
24/01/2024	07:45	60	56	79	335	5.90
24/01/2024	08:00	59	56	71	343	5.20
24/01/2024	08:15	59	55	68	332	6.00
24/01/2024	08:30	59	55	69	314	6.20
24/01/2024	08:45	59	54	73	319	5.80
24/01/2024	09:00	58	55	67	335	5.80
24/01/2024	09:15	58	55	67	341	6.90
24/01/2024	09:30	58	55	70	7	7.30
24/01/2024	09:45	59	55	70	350	7.60
24/01/2024	10:00	59	54	79	337	6.00
24/01/2024	10:15	58	54	78	353	5.90
24/01/2024	10:30	57	53	67	341	5.50
24/01/2024	10:45	57	53	71	337	4.60
24/01/2024	11:00	57	52	72	309	5.50
24/01/2024	11:15	57	52	68	23	3.70
24/01/2024	11:30	57	53	68	323	4.20
24/01/2024	11:45	58	54	69	9	3.90
24/01/2024	12:00	57	52	67	42	3.60
24/01/2024	12:15	57	52	66	343	3.00
24/01/2024	12:30	57	53	66	319	3.80
24/01/2024	12:45	57	52	68	335	4.90
24/01/2024	13:00	57	53	70	38	3.90
24/01/2024	13:15	58	53	79	339	3.60
24/01/2024	13:30	57	53	67	327	4.60
24/01/2024	13:45	56	52	67	304	3.80
24/01/2024	14:00	56	52	69	327	7.00
24/01/2024	14:15	56	51	67	318	4.40
24/01/2024	14:30	57	53	67	334	3.80
24/01/2024	14:45	57	53	70	19	3.20
24/01/2024	15:00	57	53	72	57	3.60
24/01/2024	15:15	57	52	68	45	3.80
24/01/2024	15:30	57	52	69	325	3.10
24/01/2024	15:45	57	51	70	306	3.00
24/01/2024	16:00	57	51	68	299	4.20
24/01/2024	16:15	57	52	67	299	5.20
24/01/2024	16:30	58	53	72	309	3.30
24/01/2024	16:45	58	52	69	328	4.20
24/01/2024	17:00	59	54	78	63	4.50
24/01/2024	17:15	58	54	68	52	3.40
24/01/2024	17:30	58	54	71	313	4.00
24/01/2024	17:45	57	52	68	304	3.70
24/01/2024	18:00	57	52	67	315	3.30
24/01/2024	18:15	56	51	68	350	3.90
24/01/2024	18:30	56	51	69	304	3.30
24/01/2024	18:45	55	50	70	271	2.50
24/01/2024	19:00	54	47	68	39	2.10
24/01/2024	19:15	54	46	68	351	1.50
24/01/2024	19:30	55	49	74	310	2.20
24/01/2024	19:45	55	50	69	51	2.80
24/01/2024	20:00	55	51	69	316	3.10
24/01/2024	20:15	55	50	67	311	2.80

24/01/2024	20:30	54	49	75	285	2.30
24/01/2024	20:45	55	51	67	296	3.40
24/01/2024	21:00	54	50	67	314	2.40
24/01/2024	21:15	54	50	68	289	2.90
24/01/2024	21:30	53	49	69	283	2.20
24/01/2024	21:45	59	47	88	269	1.10
24/01/2024	22:00	53	48	68	260	1.60
24/01/2024	22:15	51	44	68	258	1.60
24/01/2024	22:30	51	43	67	216	1.00
24/01/2024	22:45	52	41	68	262	1.40
25/01/2024	07:00	57	49	74	273	2.40
25/01/2024	07:15	59	50	75	272	1.80
25/01/2024	07:30	57	49	69	275	2.10
25/01/2024	07:45	59	52	75	277	2.70
25/01/2024	08:00	59	53	71	265	2.10
25/01/2024	08:15	58	51	70	92	1.20
25/01/2024	08:30	58	50	72	104	1.30
25/01/2024	08:45	58	50	72	286	0.90
25/01/2024	09:00	57	51	71	282	1.00
25/01/2024	09:15	57	49	69	256	1.60
25/01/2024	09:30	58	49	76	263	1.80
25/01/2024	09:45	57	48	82	265	1.80
25/01/2024	10:00	56	49	69	260	1.80
25/01/2024	10:15	56	48	69	271	1.60
25/01/2024	10:30	58	50	72	263	3.30
25/01/2024	10:45	57	49	72	264	3.10
25/01/2024	11:00	58	49	75	263	2.90
25/01/2024	11:15	57	49	71	265	2.90
25/01/2024	11:30	57	49	75	267	3.10
25/01/2024	11:45	57	51	69	267	3.20
25/01/2024	12:00	58	50	69	273	3.90
25/01/2024	12:15	57	50	73	271	3.80
25/01/2024	12:30	59	51	73	275	4.00
25/01/2024	12:45	56	50	71	273	4.00
25/01/2024	13:00	56	51	70	276	4.10
25/01/2024	13:15	57	50	70	273	3.70
25/01/2024	13:30	57	49	70	270	2.70
25/01/2024	13:45	57	51	68	271	4.50
25/01/2024	14:00	57	51	74	270	4.00
25/01/2024	14:15	57	51	71	271	5.00
25/01/2024	14:30	58	51	78	270	3.80
25/01/2024	14:45	58	52	72	271	3.60
25/01/2024	15:00	61	51	80	274	4.50
25/01/2024	15:15	58	51	69	270	3.40
25/01/2024	15:30	58	52	71	268	3.00
25/01/2024	15:45	58	51	69	269	3.20
25/01/2024	16:00	58	50	69	270	2.90
25/01/2024	16:15	58	51	69	270	3.60
25/01/2024	20:00	55	48	78	271	3.20
25/01/2024	20:15	54	48	69	266	3.10
25/01/2024	20:30	55	48	70	267	2.30
25/01/2024	22:00	61	47	90	270	3.70
26/01/2024	07:00	59	55	70	56	6.50
26/01/2024	07:15	59	55	80	61	7.00
26/01/2024	07:30	58	54	71	61	6.40
26/01/2024	07:45	58	54	71	65	5.00

26/01/2024	08:00	58	53	68	55	4.10
26/01/2024	08:15	57	52	68	53	5.20
26/01/2024	08:30	57	51	69	271	2.20
26/01/2024	08:45	57	50	73	278	3.30
26/01/2024	09:00	56	50	70	276	2.40
26/01/2024	09:15	56	50	68	262	3.00
26/01/2024	09:30	56	50	72	300	2.30
26/01/2024	09:45	57	51	69	295	3.70
26/01/2024	10:00	57	52	68	316	3.40
26/01/2024	10:15	57	52	69	330	3.20
26/01/2024	10:30	57	53	70	291	3.60
26/01/2024	10:45	57	51	70	293	3.50
26/01/2024	11:00	57	52	67	295	4.70
26/01/2024	11:15	58	51	76	290	5.70
26/01/2024	11:30	56	51	69	297	3.30
26/01/2024	11:45	57	52	70	308	3.90
26/01/2024	12:00	57	52	68	301	4.60
26/01/2024	12:15	56	51	69	303	4.20
26/01/2024	12:30	56	52	67	301	3.70
26/01/2024	12:45	56	52	68	313	5.80
26/01/2024	13:00	57	52	68	306	4.20
26/01/2024	13:15	57	52	67	323	4.60
26/01/2024	13:30	57	53	70	310	5.30
26/01/2024	13:45	57	53	67	316	4.90
26/01/2024	14:00	59	52	86	15	5.00
26/01/2024	14:15	57	53	66	306	6.30
26/01/2024	14:30	57	52	73	294	5.10
26/01/2024	14:45	56	51	68	318	3.70
26/01/2024	15:00	56	51	67	283	4.40
26/01/2024	15:15	57	51	68	299	4.10
26/01/2024	15:30	57	51	70	289	3.90
26/01/2024	15:45	56	50	67	285	3.30
26/01/2024	16:00	57	50	67	302	2.80
26/01/2024	16:15	57	51	72	299	2.60
26/01/2024	16:30	57	52	67	302	3.10
26/01/2024	16:45	57	52	70	299	3.30
26/01/2024	17:00	57	52	67	271	3.90
26/01/2024	17:15	58	52	68	272	2.80
26/01/2024	17:30	57	51	68	288	2.40
26/01/2024	17:45	57	51	71	289	2.60
26/01/2024	18:00	57	50	69	298	2.10
26/01/2024	18:15	56	50	70	287	2.30
26/01/2024	18:30	57	50	69	291	3.30
26/01/2024	18:45	55	49	68	291	2.90
26/01/2024	19:00	56	48	69	276	3.50
26/01/2024	19:15	55	46	68	273	2.70
26/01/2024	19:30	53	45	70	274	2.20
26/01/2024	19:45	54	46	68	272	2.20
26/01/2024	20:00	53	46	72	266	1.80
26/01/2024	20:15	53	45	67	274	1.80
26/01/2024	20:30	52	44	67	276	2.20
26/01/2024	20:45	53	45	74	266	1.90
26/01/2024	21:00	54	47	73	276	3.10
26/01/2024	21:15	53	48	67	312	3.40
26/01/2024	21:30	53	47	72	303	3.00
26/01/2024	21:45	56	44	80	278	3.10

26/01/2024	22:00	51	42	69	275	2.20
26/01/2024	22:15	51	43	68	274	1.90
26/01/2024	22:30	52	44	70	269	1.90
26/01/2024	22:45	51	42	68	269	2.40
27/01/2024	07:00	54	44	72	268	2.00
27/01/2024	07:15	55	44	74	257	2.30
27/01/2024	07:30	54	45	71	260	1.90
27/01/2024	07:45	54	45	69	268	1.70
27/01/2024	08:00	54	45	70	271	1.70
27/01/2024	08:15	55	44	83	263	2.30
27/01/2024	08:30	55	46	72	275	1.90
27/01/2024	08:45	55	46	68	266	1.40
27/01/2024	09:00	55	46	68	269	3.30
27/01/2024	09:15	56	48	72	263	2.70
27/01/2024	09:30	56	47	67	265	1.80
27/01/2024	09:45	56	49	66	262	2.20
27/01/2024	10:00	55	48	68	271	2.60
27/01/2024	10:15	56	49	77	269	2.70
27/01/2024	10:30	56	48	74	271	2.00
27/01/2024	10:45	55	48	68	276	2.50
27/01/2024	11:00	55	47	70	271	3.60
27/01/2024	11:15	56	50	71	277	3.60
27/01/2024	11:30	55	49	70	275	3.50
27/01/2024	11:45	56	49	65	269	3.90
27/01/2024	12:00	57	50	71	272	3.80
27/01/2024	12:15	56	49	69	269	3.00
27/01/2024	12:30	55	48	68	269	2.90
27/01/2024	12:45	55	47	66	267	3.50
27/01/2024	13:00	55	47	67	266	2.90
27/01/2024	13:15	56	49	68	272	4.20
27/01/2024	13:30	56	49	68	273	3.60
27/01/2024	13:45	55	49	67	272	4.60
27/01/2024	14:00	56	49	72	275	3.20
27/01/2024	14:15	55	48	76	274	3.10
27/01/2024	14:30	55	49	67	278	3.90
27/01/2024	14:45	56	48	73	273	3.20
27/01/2024	15:00	58	49	83	271	3.80
27/01/2024	15:15	55	49	67	273	3.30
27/01/2024	15:30	55	48	73	271	4.80
27/01/2024	15:45	55	47	65	270	3.30
27/01/2024	16:00	55	49	76	272	4.70
27/01/2024	16:15	55	48	67	273	3.40
27/01/2024	16:30	55	47	67	268	2.90
27/01/2024	16:45	56	50	67	268	2.70
27/01/2024	17:00	56	50	70	273	4.90
27/01/2024	17:15	55	48	68	268	3.00
27/01/2024	17:30	55	47	69	272	3.00
27/01/2024	17:45	54	48	67	274	3.60
27/01/2024	18:00	55	47	68	273	3.50
27/01/2024	18:15	54	46	66	272	3.20
27/01/2024	18:30	55	48	68	275	3.40
27/01/2024	18:45	54	46	71	272	3.60
27/01/2024	19:00	54	46	67	270	3.70
27/01/2024	19:15	53	45	68	270	3.00
27/01/2024	19:30	53	45	68	272	2.90
27/01/2024	19:45	53	44	71	274	2.50

27/01/2024	20:00	53	44	70	272	2.40
27/01/2024	20:15	52	43	68	273	3.50
27/01/2024	20:30	50	43	66	276	2.70
27/01/2024	20:45	52	44	68	277	3.30
27/01/2024	21:00	52	43	69	278	3.00
27/01/2024	21:15	52	44	72	277	3.60
27/01/2024	21:30	52	44	69	271	3.00
27/01/2024	21:45	50	42	64	271	3.00
27/01/2024	22:00	52	44	68	275	2.60
27/01/2024	22:15	50	43	67	278	2.60
27/01/2024	22:30	50	43	69	272	2.70
27/01/2024	22:45	51	42	68	272	2.80
28/01/2024	07:00	56	44	79	267	2.70
28/01/2024	07:15	52	43	72	270	3.10
28/01/2024	07:30	52	44	71	272	3.40
28/01/2024	07:45	51	43	68	279	3.80
28/01/2024	08:00	53	45	69	275	3.20
28/01/2024	08:15	52	44	72	271	3.50
28/01/2024	08:30	52	45	68	272	2.90
28/01/2024	08:45	51	44	69	275	2.30
28/01/2024	09:00	53	44	67	271	2.20
28/01/2024	09:15	54	46	67	270	3.70
28/01/2024	09:30	57	46	76	270	2.40
28/01/2024	09:45	55	47	69	269	3.40
28/01/2024	10:00	55	47	67	267	3.40
28/01/2024	10:15	56	47	70	277	3.10
28/01/2024	10:30	55	48	69	276	3.00
28/01/2024	10:45	55	48	71	277	2.80
28/01/2024	11:00	55	49	77	262	1.90
28/01/2024	11:15	55	49	67	268	3.10
28/01/2024	11:30	56	49	67	282	3.10
28/01/2024	11:45	56	50	66	267	4.20
28/01/2024	12:00	55	49	67	264	3.20
28/01/2024	12:15	55	48	72	266	3.70
28/01/2024	12:30	55	48	69	273	3.50
28/01/2024	12:45	55	48	69	273	4.20
28/01/2024	13:00	56	48	69	272	2.50
28/01/2024	13:15	55	48	68	264	3.40
28/01/2024	13:30	55	48	68	270	4.20
28/01/2024	13:45	56	48	73	271	3.00
28/01/2024	14:00	57	50	77	275	2.70
28/01/2024	14:15	56	47	76	274	3.10
28/01/2024	14:30	56	48	74	275	3.90
28/01/2024	14:45	58	56	67	277	3.30
28/01/2024	15:00	59	48	84	272	2.80
28/01/2024	15:15	55	47	70	269	2.60
28/01/2024	15:30	55	47	68	272	2.70
28/01/2024	15:45	55	47	69	271	2.60
28/01/2024	16:00	55	48	69	48	1.30
28/01/2024	16:15	55	47	68	304	1.40
28/01/2024	16:30	55	48	67	285	1.90
28/01/2024	16:45	55	48	67	270	1.90
28/01/2024	17:00	55	48	70	273	2.10
28/01/2024	17:15	54	47	67	269	5.00
28/01/2024	17:30	55	48	69	277	4.30
28/01/2024	17:45	53	46	69	279	4.40

28/01/2024	18:00	54	47	67	274	3.10
28/01/2024	18:15	54	46	67	271	3.50
28/01/2024	18:30	53	47	65	275	4.10
28/01/2024	18:45	54	47	71	277	4.20
28/01/2024	19:00	54	47	66	273	4.70
28/01/2024	19:15	54	47	78	271	3.10
28/01/2024	19:30	52	46	67	263	2.10
28/01/2024	19:45	51	45	66	271	2.70
28/01/2024	20:00	50	45	64	258	1.70
28/01/2024	20:15	50	44	66	265	1.90
28/01/2024	20:30	49	44	68	273	2.40
28/01/2024	20:45	51	45	70	266	3.70
28/01/2024	21:00	51	46	70	271	4.30
28/01/2024	21:15	51	46	68	314	1.80
28/01/2024	21:30	51	45	69	264	3.70
28/01/2024	21:45	50	46	67	270	3.40
28/01/2024	22:00	50	46	66	280	2.20
28/01/2024	22:15	50	46	71	286	2.10
28/01/2024	22:30	49	45	69	268	2.50
28/01/2024	22:45	48	44	67	268	1.90
29/01/2024	10:15	57	50	72	57	0.50
29/01/2024	10:30	56	48	70	89	1.00
29/01/2024	13:45	57	48	69	78	0.60
29/01/2024	14:00	58	50	71	76	0.70
29/01/2024	14:15	57	49	71	97	0.80
29/01/2024	14:30	57	48	69	290	0.60
29/01/2024	14:45	58	50	70	28	0.60
29/01/2024	15:00	58	51	76	87	0.90
29/01/2024	15:15	58	51	70	62	1.30
29/01/2024	15:30	57	50	69	278	0.80
29/01/2024	15:45	57	49	70	283	0.50
29/01/2024	16:00	57	51	69	337	0.60
29/01/2024	19:00	55	47	68	209	0.70
29/01/2024	19:15	54	46	68	264	1.70
29/01/2024	19:30	55	45	70	258	1.20
29/01/2024	19:45	53	45	69	245	1.00
29/01/2024	20:00	53	44	70	264	0.80
29/01/2024	20:15	52	44	68	262	0.80
29/01/2024	20:30	54	44	72	255	0.90
29/01/2024	20:45	52	42	68	267	1.10
29/01/2024	21:00	53	44	70	264	1.10
29/01/2024	21:15	52	44	68	263	1.10
29/01/2024	22:45	52	42	68	265	1.20
30/01/2024	07:00	59	54	76	66	5.10
30/01/2024	07:15	58	54	69	68	5.90
30/01/2024	07:30	59	54	73	68	3.90
30/01/2024	07:45	59	55	70	67	3.80
30/01/2024	08:00	59	55	69	72	4.30
30/01/2024	08:15	59	55	70	66	3.80
30/01/2024	08:30	58	54	68	70	3.40
30/01/2024	08:45	59	54	71	69	3.50
30/01/2024	09:00	58	54	69	68	3.80
30/01/2024	09:15	58	54	69	72	5.10
30/01/2024	09:30	57	54	70	74	5.20
30/01/2024	09:45	58	54	71	69	5.70
30/01/2024	10:00	57	53	69	71	4.50

30/01/2024	10:15	57	53	68	73	4.40
30/01/2024	10:30	57	52	74	68	4.10
30/01/2024	10:45	57	52	70	71	3.80
30/01/2024	11:00	57	52	69	71	4.50
30/01/2024	11:15	57	53	70	70	4.10
30/01/2024	11:30	57	53	69	73	5.40
30/01/2024	11:45	56	52	67	77	3.30
30/01/2024	12:00	57	53	69	73	3.50
30/01/2024	12:15	56	51	68	70	4.00
30/01/2024	12:30	56	51	65	77	3.00
30/01/2024	12:45	56	52	67	76	3.40
30/01/2024	13:00	56	52	67	71	3.00
30/01/2024	13:15	56	51	68	70	3.30
30/01/2024	13:30	55	50	69	73	2.60
30/01/2024	13:45	56	52	67	69	3.30
30/01/2024	14:00	56	51	67	71	2.90
30/01/2024	14:15	57	50	71	70	1.60
30/01/2024	14:30	56	51	69	66	1.90
30/01/2024	14:45	57	50	77	68	1.50
30/01/2024	15:00	57	51	69	73	1.80
30/01/2024	15:15	56	52	67	326	2.00
30/01/2024	15:30	56	50	71	319	1.90
30/01/2024	15:45	57	51	70	40	2.00
30/01/2024	16:00	57	52	68	30	1.40
30/01/2024	16:15	57	52	66	287	1.10
30/01/2024	16:30	56	51	71	253	0.90
30/01/2024	16:45	57	51	67	282	0.90
30/01/2024	17:00	58	53	70	275	0.70
30/01/2024	17:15	59	54	68	286	0.70
30/01/2024	17:30	58	53	68	71	1.00
30/01/2024	17:45	57	51	73	248	1.30
30/01/2024	18:00	57	52	68	87	0.80
30/01/2024	18:15	57	52	69	216	0.80
30/01/2024	18:30	56	51	67	260	0.50
30/01/2024	18:45	56	51	69	200	0.70
30/01/2024	19:00	56	47	71	239	0.60
30/01/2024	19:15	55	48	70	106	1.10
30/01/2024	19:30	55	49	67	255	0.60
30/01/2024	19:45	55	51	72	239	0.80
30/01/2024	20:00	56	51	68	255	0.90
30/01/2024	20:15	56	52	69	29	1.00
30/01/2024	20:30	54	48	67	280	1.60
30/01/2024	20:45	54	49	68	265	1.10
30/01/2024	21:00	55	49	70	210	0.90
30/01/2024	21:15	54	49	69	242	1.20
30/01/2024	21:30	55	52	70	279	0.80
30/01/2024	21:45	56	53	72	245	1.10
30/01/2024	22:00	55	52	74	263	1.50
30/01/2024	22:15	55	51	73	261	1.60
30/01/2024	22:30	62	50	94	262	0.90
30/01/2024	22:45	55	53	67	260	0.90
31/01/2024	07:00	58	48	75	265	4.00
31/01/2024	07:15	57	49	71	263	3.70
31/01/2024	07:30	57	49	69	265	2.90
31/01/2024	07:45	58	52	69	264	4.20
31/01/2024	08:00	58	52	69	267	3.20

31/01/2024	08:15	58	51	70	272	2.40
31/01/2024	08:30	57	52	72	270	4.30
31/01/2024	08:45	57	52	68	293	4.40
31/01/2024	09:00	57	52	67	285	5.20
31/01/2024	09:15	57	51	71	281	4.70
31/01/2024	09:30	56	51	67	290	3.50
31/01/2024	09:45	56	51	69	291	7.10
31/01/2024	10:00	62	52	79	288	6.00
31/01/2024	10:15	56	52	69	296	5.80
31/01/2024	10:30	68	54	84	280	3.70
31/01/2024	10:45	58	53	70	275	4.80
31/01/2024	11:00	57	51	68	287	4.20
31/01/2024	11:15	56	51	65	279	4.20
31/01/2024	11:30	56	50	70	286	4.20
31/01/2024	11:45	57	51	69	283	4.90
31/01/2024	12:00	56	52	66	275	4.40
31/01/2024	12:15	56	51	69	277	4.20
31/01/2024	12:30	56	51	68	270	4.20
31/01/2024	12:45	56	51	71	277	4.10
31/01/2024	13:00	57	53	70	277	5.60
31/01/2024	13:15	58	53	72	292	6.20
31/01/2024	13:30	57	53	67	304	7.50
31/01/2024	13:45	58	55	69	290	6.90

Raw data and central tendencies for location NSR 2: Maes-Y-Waun

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	50	48	68/70
Mean	50	45	69
Mean - 1 s.d.	47	42	-
Log Average	52	-	-

Table 7.1.2 (b): Night-time period (23:00 to 07:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:00	51	48	69	248	0.80
15/01/2024	23:15	51	48	68	202	0.60
15/01/2024	23:30	49	47	65	265	0.60
15/01/2024	23:45	49	48	63	241	0.90
16/01/2024	00:00	50	48	66	212	1.20
16/01/2024	00:15	51	48	69	234	1.20
16/01/2024	00:30	48	46	63	191	1.60
16/01/2024	00:45	49	47	69	226	1.30
16/01/2024	01:00	50	48	67	190	1.40
16/01/2024	01:15	50	48	58	210	1.90
16/01/2024	01:30	50	48	68	202	1.10
16/01/2024	01:45	47	45	64	199	1.60
16/01/2024	02:00	46	43	61	188	1.30
16/01/2024	02:15	43	41	60	204	1.40
16/01/2024	02:30	44	42	62	217	0.90
16/01/2024	02:45	44	41	60	298	0.90
16/01/2024	03:00	55	45	78	319	0.80
16/01/2024	03:15	48	43	65	223	0.70
16/01/2024	03:30	48	43	69	192	1.20
16/01/2024	03:45	46	43	69	188	1.70
16/01/2024	04:00	49	43	70	197	1.50
16/01/2024	04:15	50	44	70	204	1.30
16/01/2024	04:30	50	44	68	257	1.10
16/01/2024	04:45	51	44	70	267	0.60
16/01/2024	05:00	52	45	72	219	0.70
16/01/2024	05:15	53	45	73	201	1.50
16/01/2024	05:30	53	47	69	190	2.20
16/01/2024	05:45	53	46	72	189	2.20
16/01/2024	06:00	54	48	75	194	2.40
16/01/2024	06:15	56	51	70	202	3.20
16/01/2024	06:30	55	49	73	226	2.50
16/01/2024	06:45	56	49	73	208	2.40
16/01/2024	23:00	51	49	65	269	3.40
16/01/2024	23:15	52	49	67	331	4.00
16/01/2024	23:30	50	48	61	319	3.10
16/01/2024	23:45	50	48	61	315	3.90
17/01/2024	00:00	52	50	65	317	4.00
17/01/2024	00:15	52	49	72	320	3.80
17/01/2024	00:30	52	49	68	261	3.80
17/01/2024	00:45	51	50	61	314	3.20
17/01/2024	01:00	51	49	70	303	3.40

17/01/2024	01:15	50	48	67	277	3.40
17/01/2024	01:30	51	49	66	299	3.50
17/01/2024	01:45	50	48	57	274	3.80
17/01/2024	02:00	51	49	63	319	3.10
17/01/2024	02:15	53	49	70	335	3.00
17/01/2024	02:30	51	49	64	334	3.80
17/01/2024	02:45	52	49	66	333	2.70
17/01/2024	03:00	51	49	65	332	2.80
17/01/2024	03:15	53	48	72	335	3.10
17/01/2024	03:30	50	47	68	245	0.80
17/01/2024	03:45	49	47	68	293	0.80
17/01/2024	04:00	50	46	71	249	0.50
17/01/2024	04:15	52	46	78	318	0.90
17/01/2024	04:30	52	47	73	332	1.10
17/01/2024	04:45	51	47	69	332	1.30
17/01/2024	05:00	54	48	79	342	1.40
17/01/2024	05:15	51	47	67	351	1.60
17/01/2024	05:30	54	48	79	345	1.40
17/01/2024	05:45	55	47	71	338	1.80
17/01/2024	06:00	53	48	68	348	2.60
17/01/2024	06:15	55	47	69	346	1.90
17/01/2024	06:30	56	47	73	347	2.00
17/01/2024	06:45	56	47	77	341	1.20
17/01/2024	23:00	52	43	71	220	0.70
17/01/2024	23:15	51	48	69	235	0.50
17/01/2024	23:30	50	46	65	214	0.60
17/01/2024	23:45	48	45	67	201	0.60
18/01/2024	00:00	48	43	66	224	0.50
18/01/2024	00:15	49	44	70	198	0.60
18/01/2024	00:30	45	43	55	218	0.70
18/01/2024	00:45	46	43	66	238	0.80
18/01/2024	01:00	47	44	69	220	0.50
18/01/2024	01:15	49	46	65	229	0.80
18/01/2024	01:30	49	46	68	205	0.80
18/01/2024	01:45	50	48	64	236	0.70
18/01/2024	02:00	50	48	65	228	0.60
18/01/2024	02:15	51	49	62	269	0.80
18/01/2024	02:30	53	51	63	320	1.00
18/01/2024	02:45	52	50	67	333	2.30
18/01/2024	03:00	51	49	64	334	3.40
18/01/2024	03:15	51	49	71	335	3.50
18/01/2024	03:30	50	48	70	333	3.10
18/01/2024	03:45	52	49	69	338	2.70
18/01/2024	04:00	54	49	78	343	2.30
18/01/2024	04:15	53	49	73	333	2.30
18/01/2024	04:30	51	48	70	331	2.50
18/01/2024	04:45	53	49	68	331	2.40
18/01/2024	05:00	53	49	70	332	2.80
18/01/2024	05:15	53	49	69	331	2.30
18/01/2024	05:30	53	49	67	333	3.00
18/01/2024	05:45	55	49	71	337	2.10
18/01/2024	06:00	54	49	74	342	1.50
18/01/2024	06:15	55	48	70	349	1.50
18/01/2024	06:30	56	50	72	355	1.10
18/01/2024	06:45	57	51	72	339	0.90
18/01/2024	23:00	53	48	67	333	1.80

18/01/2024	23:15	50	47	67	282	1.30
18/01/2024	23:30	49	44	67	203	1.00
18/01/2024	23:45	47	45	64	195	1.90
19/01/2024	00:00	49	46	68	248	1.50
19/01/2024	00:15	50	44	69	202	0.80
19/01/2024	00:30	50	47	69	214	1.00
19/01/2024	00:45	47	43	66	188	1.40
19/01/2024	01:00	48	45	61	200	1.20
19/01/2024	01:15	51	49	66	314	1.20
19/01/2024	01:30	51	49	63	297	1.20
19/01/2024	01:45	50	49	65	344	1.30
19/01/2024	02:00	48	45	66	228	1.20
19/01/2024	02:15	47	45	52	228	0.90
19/01/2024	02:30	47	45	71	269	1.00
19/01/2024	02:45	48	46	69	297	0.70
19/01/2024	03:00	48	45	67	195	0.80
19/01/2024	03:15	48	45	68	116	1.10
19/01/2024	03:30	50	47	72	223	1.60
19/01/2024	03:45	53	48	73	226	1.40
19/01/2024	04:00	51	48	68	197	1.20
19/01/2024	04:15	50	46	71	207	1.50
19/01/2024	04:30	48	45	64	317	0.90
19/01/2024	04:45	52	46	68	185	1.70
19/01/2024	05:00	52	46	70	201	1.60
19/01/2024	05:15	52	45	67	194	1.20
19/01/2024	05:30	54	45	70	216	0.90
19/01/2024	05:45	56	50	73	199	1.40
19/01/2024	06:00	55	48	73	239	1.40
19/01/2024	06:15	54	46	74	252	0.90
19/01/2024	06:30	56	48	70	184	1.80
19/01/2024	06:45	58	53	70	194	1.70
19/01/2024	23:00	50	42	67	187	2.30
19/01/2024	23:15	47	43	64	186	2.70
19/01/2024	23:30	48	42	67	189	2.20
19/01/2024	23:45	44	40	62	184	2.70
20/01/2024	00:00	45	39	68	185	3.10
20/01/2024	00:15	46	38	73	192	3.00
20/01/2024	00:30	47	37	68	210	2.20
20/01/2024	00:45	48	42	70	201	1.70
20/01/2024	01:00	51	47	70	193	3.60
20/01/2024	01:15	52	47	77	199	5.20
20/01/2024	01:30	49	47	63	204	3.30
20/01/2024	01:45	50	46	70	191	3.80
20/01/2024	02:00	48	46	65	191	7.70
20/01/2024	02:15	49	46	68	192	4.40
20/01/2024	02:30	49	45	67	189	4.50
20/01/2024	02:45	50	46	71	191	4.10
20/01/2024	03:00	48	47	57	204	4.70
20/01/2024	03:15	49	46	66	198	4.20
20/01/2024	03:30	48	46	63	190	4.00
20/01/2024	03:45	48	44	66	191	6.20
20/01/2024	04:00	49	45	67	187	4.40
20/01/2024	04:15	51	45	73	190	4.60
20/01/2024	04:30	48	42	71	187	3.70
20/01/2024	04:45	47	41	71	185	3.80
20/01/2024	05:00	49	41	68	183	3.70

20/01/2024	05:15	51	42	80	183	2.90
20/01/2024	05:30	52	43	68	183	4.60
20/01/2024	05:45	49	42	73	183	3.80
20/01/2024	06:00	51	43	71	185	3.10
20/01/2024	06:15	50	42	71	182	3.20
20/01/2024	06:30	52	43	72	188	3.70
20/01/2024	06:45	50	44	70	187	3.30
21/01/2024	04:30	50	47	68	201	3.30
21/01/2024	04:45	49	48	65	201	3.20
21/01/2024	05:00	53	48	73	197	4.00
21/01/2024	05:15	51	47	73	197	2.60
21/01/2024	05:30	53	48	72	210	3.20
22/01/2024	01:30	56	51	74	277	5.30
22/01/2024	01:45	57	51	74	271	7.10
22/01/2024	02:00	55	52	71	281	6.10
22/01/2024	02:15	57	53	74	279	5.40
22/01/2024	02:30	56	52	74	263	7.40
22/01/2024	02:45	56	51	72	267	5.70
22/01/2024	03:00	55	51	71	309	6.20
22/01/2024	03:15	58	52	75	278	7.00
22/01/2024	03:30	56	52	73	309	4.80
22/01/2024	03:45	56	52	71	278	5.80
22/01/2024	04:00	57	51	73	269	5.60
22/01/2024	04:15	57	52	74	278	4.80
22/01/2024	04:30	58	51	83	255	5.50
22/01/2024	04:45	58	51	74	259	4.60
22/01/2024	05:00	59	51	72	261	5.00
22/01/2024	05:15	59	51	72	266	4.20
22/01/2024	05:30	58	51	72	291	3.80
22/01/2024	05:45	57	51	73	284	7.20
22/01/2024	06:00	57	51	72	275	4.80
22/01/2024	06:15	58	51	82	285	6.10
22/01/2024	06:30	56	51	67	286	4.50
22/01/2024	06:45	56	51	69	294	4.60
22/01/2024	23:00	53	50	71	346	4.10
22/01/2024	23:15	52	50	68	328	4.70
22/01/2024	23:30	53	49	71	301	4.90
22/01/2024	23:45	51	49	65	272	3.80
23/01/2024	00:00	49	47	61	253	3.90
23/01/2024	00:15	50	47	71	271	2.90
23/01/2024	00:30	51	47	70	264	3.90
23/01/2024	00:45	50	47	66	283	3.60
23/01/2024	01:00	52	47	73	299	4.00
23/01/2024	01:15	50	48	66	315	3.20
23/01/2024	01:30	49	48	65	279	3.30
23/01/2024	01:45	50	48	63	277	3.90
23/01/2024	02:00	58	49	81	286	3.80
23/01/2024	02:15	57	50	80	311	5.40
23/01/2024	02:30	55	50	72	350	5.80
23/01/2024	02:45	53	49	65	26	3.80
23/01/2024	03:00	55	50	72	10	5.20
23/01/2024	03:15	53	39	68	287	1.70
23/01/2024	03:30	48	40	65	284	1.00
23/01/2024	03:45	53	45	70	210	0.60
23/01/2024	04:00	52	47	71	87	1.50
23/01/2024	04:15	49	43	70	233	2.20

23/01/2024	04:30	57	46	80	206	1.20
23/01/2024	04:45	51	43	71	239	1.90
23/01/2024	05:00	50	43	70	242	2.00
23/01/2024	05:15	59	46	79	254	3.50
23/01/2024	05:30	55	44	76	245	1.60
23/01/2024	05:45	54	49	70	259	2.90
23/01/2024	06:00	54	48	70	266	2.90
23/01/2024	06:15	54	48	69	242	4.70
23/01/2024	06:30	55	47	73	238	3.00
23/01/2024	06:45	57	48	74	236	3.20
23/01/2024	23:00	59	54	71	274	8.80
23/01/2024	23:15	55	52	69	271	7.60
24/01/2024	02:45	58	54	69	37	6.40
24/01/2024	03:00	58	54	69	335	6.90
24/01/2024	03:15	57	54	70	297	6.50
24/01/2024	03:30	56	53	70	293	6.90
24/01/2024	03:45	56	53	70	291	4.90
24/01/2024	04:00	56	54	71	282	5.50
24/01/2024	04:15	56	53	68	15	5.80
24/01/2024	06:00	57	53	70	15	6.30
24/01/2024	06:15	58	54	70	41	6.30
24/01/2024	06:30	59	55	76	22	6.50
24/01/2024	06:45	59	55	73	357	6.20
24/01/2024	23:00	47	41	66	277	1.30
24/01/2024	23:15	48	45	62	262	1.20
24/01/2024	23:30	49	45	70	266	1.60
24/01/2024	23:45	48	43	73	65	0.70
25/01/2024	00:00	48	44	65	264	1.50
25/01/2024	00:15	46	44	63	23	0.40
25/01/2024	00:30	46	44	64	234	1.10
25/01/2024	00:45	47	42	65	265	1.60
25/01/2024	01:00	47	43	69	266	1.30
25/01/2024	01:15	47	43	69	266	2.40
25/01/2024	01:30	46	43	66	260	2.00
25/01/2024	01:45	44	41	65	259	1.40
25/01/2024	02:00	47	43	67	263	1.20
25/01/2024	02:15	53	42	69	266	0.80
25/01/2024	02:30	47	44	67	260	1.10
25/01/2024	02:45	55	46	71	256	0.80
25/01/2024	03:00	53	44	69	279	1.30
25/01/2024	03:15	51	43	70	266	1.80
25/01/2024	03:30	52	43	71	263	1.40
25/01/2024	03:45	48	42	70	267	1.50
25/01/2024	04:00	52	44	82	262	2.10
25/01/2024	04:15	52	42	75	268	1.60
25/01/2024	04:30	46	40	66	265	1.90
25/01/2024	04:45	51	41	70	264	2.20
25/01/2024	06:30	56	48	70	265	1.70
25/01/2024	06:45	58	48	77	268	2.40
25/01/2024	23:30	52	48	68	277	6.00
25/01/2024	23:45	52	50	64	287	6.10
26/01/2024	00:00	53	50	67	291	5.50
26/01/2024	00:15	54	52	65	294	7.60
26/01/2024	00:30	55	52	66	286	6.70
26/01/2024	00:45	54	51	65	292	5.90
26/01/2024	01:00	52	50	63	289	6.40

26/01/2024	01:15	50	49	57	286	5.60
26/01/2024	01:30	52	48	70	285	5.40
26/01/2024	01:45	52	49	66	285	6.50
26/01/2024	05:30	55	50	79	61	7.00
26/01/2024	05:45	55	50	71	23	4.90
26/01/2024	06:00	55	51	68	49	4.90
26/01/2024	06:15	58	53	72	47	6.20
26/01/2024	06:30	59	53	76	29	6.10
26/01/2024	06:45	58	54	73	57	7.50
26/01/2024	23:00	47	42	65	273	1.90
26/01/2024	23:15	50	44	70	270	1.30
26/01/2024	23:30	48	43	69	264	1.50
26/01/2024	23:45	50	42	72	269	1.70
27/01/2024	00:00	47	42	66	269	2.40
27/01/2024	00:15	47	44	66	273	2.40
27/01/2024	00:30	47	40	69	277	2.70
27/01/2024	00:45	44	38	67	272	2.90
27/01/2024	01:00	44	40	66	266	2.50
27/01/2024	01:15	46	43	64	267	3.30
27/01/2024	01:30	46	38	70	281	2.90
27/01/2024	01:45	45	38	68	270	2.00
27/01/2024	02:00	44	40	65	266	2.60
27/01/2024	02:15	45	39	66	261	2.40
27/01/2024	02:30	42	38	67	267	2.30
27/01/2024	02:45	48	40	67	271	2.20
27/01/2024	03:00	51	41	76	273	2.10
27/01/2024	03:15	45	40	68	259	2.70
27/01/2024	03:30	46	40	66	266	2.50
27/01/2024	03:45	55	40	76	259	1.50
27/01/2024	04:00	47	39	68	271	1.60
27/01/2024	04:15	52	40	77	263	2.20
27/01/2024	04:30	47	40	67	252	1.70
27/01/2024	04:45	53	39	74	268	1.90
27/01/2024	05:00	50	40	68	262	1.90
27/01/2024	05:15	50	41	67	274	1.80
27/01/2024	05:30	51	42	69	267	1.50
27/01/2024	05:45	56	42	77	268	1.60
27/01/2024	06:00	58	42	80	285	1.40
27/01/2024	06:15	57	43	75	227	0.90
27/01/2024	06:30	55	43	77	272	1.40
27/01/2024	06:45	54	43	74	264	2.00
27/01/2024	23:00	50	43	74	274	2.50
27/01/2024	23:15	47	41	65	270	3.30
27/01/2024	23:30	49	42	70	270	2.40
27/01/2024	23:45	46	41	69	269	1.80
28/01/2024	00:00	49	40	71	267	1.00
28/01/2024	00:15	47	41	66	82	0.80
28/01/2024	00:30	46	40	67	282	1.30
28/01/2024	00:45	48	41	68	264	1.50
28/01/2024	01:00	43	41	61	259	1.30
28/01/2024	01:15	47	40	72	83	1.00
28/01/2024	01:30	45	41	66	270	1.30
28/01/2024	01:45	45	40	66	283	1.40
28/01/2024	02:00	43	41	60	91	1.40
28/01/2024	02:15	45	41	65	271	1.80
28/01/2024	02:30	45	40	67	257	1.80

28/01/2024	02:45	47	39	75	271	2.00
28/01/2024	03:00	43	40	64	254	2.60
28/01/2024	03:15	47	40	70	271	2.20
28/01/2024	03:30	45	40	69	266	2.20
28/01/2024	03:45	50	40	72	272	2.10
28/01/2024	04:00	49	40	75	265	2.60
28/01/2024	04:15	46	40	65	266	2.00
28/01/2024	04:30	47	40	72	268	1.90
28/01/2024	04:45	54	40	74	102	1.30
28/01/2024	05:00	50	41	76	278	1.60
28/01/2024	05:15	49	41	66	231	1.60
28/01/2024	05:30	53	42	73	260	2.20
28/01/2024	05:45	50	42	69	260	1.90
28/01/2024	06:00	53	43	77	271	1.90
28/01/2024	06:15	51	43	78	268	2.20
28/01/2024	06:30	56	44	79	239	2.60
28/01/2024	06:45	50	43	71	272	2.00
28/01/2024	23:00	48	44	67	275	2.40
28/01/2024	23:15	49	45	69	289	1.10
28/01/2024	23:30	47	43	69	265	1.30
28/01/2024	23:45	46	43	68	265	1.60
29/01/2024	00:00	46	43	68	252	1.60
29/01/2024	00:15	46	43	66	269	1.90
29/01/2024	00:30	46	42	68	264	1.50
29/01/2024	00:45	43	42	61	261	1.40
29/01/2024	01:00	46	43	68	257	1.90
29/01/2024	01:15	46	43	66	262	1.70
29/01/2024	01:30	44	41	64	263	1.90
29/01/2024	01:45	45	41	66	271	1.10
29/01/2024	02:00	42	40	49	97	1.30
29/01/2024	02:15	52	39	72	87	1.40
29/01/2024	02:30	47	40	68	84	1.70
29/01/2024	02:45	46	39	66	105	1.70
29/01/2024	03:00	53	41	76	91	2.30
29/01/2024	03:15	51	43	78	90	1.80
29/01/2024	03:30	48	43	67	88	2.20
29/01/2024	03:45	48	43	66	87	1.80
29/01/2024	23:00	50	44	65	264	1.00
29/01/2024	23:15	49	46	65	79	3.00
29/01/2024	23:30	53	49	70	68	3.60
29/01/2024	23:45	52	49	68	69	3.90
30/01/2024	01:15	48	44	67	100	1.70
30/01/2024	01:30	47	44	66	74	3.90
30/01/2024	01:45	51	49	68	66	3.30
30/01/2024	02:00	51	48	73	69	2.50
30/01/2024	02:15	49	46	66	74	2.70
30/01/2024	02:30	51	48	67	75	3.00
30/01/2024	02:45	51	49	68	76	4.30
30/01/2024	03:00	51	48	67	75	4.50
30/01/2024	03:15	51	48	68	70	4.90
30/01/2024	03:30	52	49	71	66	5.00
30/01/2024	03:45	51	49	62	69	4.00
30/01/2024	04:00	53	51	72	67	6.10
30/01/2024	04:15	54	50	77	68	6.60
30/01/2024	04:30	57	51	82	69	5.60
30/01/2024	04:45	55	51	72	66	5.60

30/01/2024	05:00	54	51	71	67	5.20
30/01/2024	05:15	54	50	69	66	4.10
30/01/2024	05:30	56	50	74	71	3.40
30/01/2024	05:45	55	51	71	67	4.90
30/01/2024	06:00	57	52	75	68	4.10
30/01/2024	06:15	57	52	69	70	4.40
30/01/2024	06:30	57	53	71	68	4.30
30/01/2024	06:45	57	53	70	68	4.00
30/01/2024	23:00	53	50	68	260	1.00
30/01/2024	23:15	52	50	71	250	1.20
30/01/2024	23:30	51	48	66	263	1.50
30/01/2024	23:45	52	50	69	270	1.50
31/01/2024	00:00	49	44	66	272	2.60
31/01/2024	00:15	52	50	68	265	1.50
31/01/2024	00:30	49	47	63	271	1.70
31/01/2024	00:45	49	47	63	274	1.70
31/01/2024	01:00	48	44	67	263	1.20
31/01/2024	01:15	46	44	60	283	1.50
31/01/2024	01:30	48	46	60	253	1.20
31/01/2024	01:45	48	44	67	200	0.80
31/01/2024	02:00	46	43	66	263	1.60
31/01/2024	02:15	48	45	70	269	1.80
31/01/2024	02:30	51	45	74	268	1.80
31/01/2024	02:45	47	45	64	224	1.00
31/01/2024	03:00	48	43	71	251	0.80
31/01/2024	03:15	50	43	73	99	0.50
31/01/2024	03:30	46	43	64	70	0.90
31/01/2024	03:45	48	46	64	66	1.10
31/01/2024	04:00	53	46	75	257	0.80
31/01/2024	04:15	53	45	74	99	0.70
31/01/2024	04:30	50	46	67	41	0.90
31/01/2024	04:45	56	46	73	117	0.60
31/01/2024	05:00	52	48	68	263	1.50
31/01/2024	05:15	54	48	70	272	1.90
31/01/2024	05:30	52	46	67	103	1.60
31/01/2024	05:45	55	48	73	266	2.00
31/01/2024	06:00	57	49	74	272	2.10
31/01/2024	06:15	56	49	78	272	2.10
31/01/2024	06:30	61	49	83	271	2.60
31/01/2024	06:45	57	49	69	264	2.60

Raw data and central tendencies for location NSR 2: Maes-y-waun assisted living

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	48	43	66
Mean	49	45	67
Mean - 1 s.d.	46	41	-
Log Average	50	-	-

Table 7.1.2 (c): Night-time period (23:45 to 04:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:45	49	48	63	241	0.90
16/01/2024	00:00	50	48	66	212	1.20
16/01/2024	00:15	51	48	69	234	1.20
16/01/2024	00:30	48	46	63	191	1.60
16/01/2024	00:45	49	47	69	226	1.30
16/01/2024	01:00	50	48	67	190	1.40
16/01/2024	01:15	50	48	58	210	1.90
16/01/2024	01:30	50	48	68	202	1.10
16/01/2024	01:45	47	45	64	199	1.60
16/01/2024	02:00	46	43	61	188	1.30
16/01/2024	02:15	43	41	60	204	1.40
16/01/2024	02:30	44	42	62	217	0.90
16/01/2024	02:45	44	41	60	298	0.90
16/01/2024	03:00	55	45	78	319	0.80
16/01/2024	03:15	48	43	65	223	0.70
16/01/2024	03:30	48	43	69	192	1.20
16/01/2024	03:45	46	43	69	188	1.70
16/01/2024	23:45	50	48	61	315	3.90
17/01/2024	00:00	52	50	65	317	4.00
17/01/2024	00:15	52	49	72	320	3.80
17/01/2024	00:30	52	49	68	261	3.80
17/01/2024	00:45	51	50	61	314	3.20
17/01/2024	01:00	51	49	70	303	3.40
17/01/2024	01:15	50	48	67	277	3.40
17/01/2024	01:30	51	49	66	299	3.50
17/01/2024	01:45	50	48	57	274	3.80
17/01/2024	02:00	51	49	63	319	3.10
17/01/2024	02:15	53	49	70	335	3.00
17/01/2024	02:30	51	49	64	334	3.80
17/01/2024	02:45	52	49	66	333	2.70
17/01/2024	03:00	51	49	65	332	2.80
17/01/2024	03:15	53	48	72	335	3.10
17/01/2024	03:30	50	47	68	245	0.80
17/01/2024	03:45	49	47	68	293	0.80
17/01/2024	23:45	48	45	67	201	0.60
18/01/2024	00:00	48	43	66	224	0.50
18/01/2024	00:15	49	44	70	198	0.60
18/01/2024	00:30	45	43	55	218	0.70
18/01/2024	00:45	46	43	66	238	0.80
18/01/2024	01:00	47	44	69	220	0.50
18/01/2024	01:15	49	46	65	229	0.80

18/01/2024	01:30	49	46	68	205	0.80
18/01/2024	01:45	50	48	64	236	0.70
18/01/2024	02:00	50	48	65	228	0.60
18/01/2024	02:15	51	49	62	269	0.80
18/01/2024	02:30	53	51	63	320	1.00
18/01/2024	02:45	52	50	67	333	2.30
18/01/2024	03:00	51	49	64	334	3.40
18/01/2024	03:15	51	49	71	335	3.50
18/01/2024	03:30	50	48	70	333	3.10
18/01/2024	03:45	52	49	69	338	2.70
18/01/2024	23:45	47	45	64	195	1.90
19/01/2024	00:00	49	46	68	248	1.50
19/01/2024	00:15	50	44	69	202	0.80
19/01/2024	00:30	50	47	69	214	1.00
19/01/2024	00:45	47	43	66	188	1.40
19/01/2024	01:00	48	45	61	200	1.20
19/01/2024	01:15	51	49	66	314	1.20
19/01/2024	01:30	51	49	63	297	1.20
19/01/2024	01:45	50	49	65	344	1.30
19/01/2024	02:00	48	45	66	228	1.20
19/01/2024	02:15	47	45	52	228	0.90
19/01/2024	02:30	47	45	71	269	1.00
19/01/2024	02:45	48	46	69	297	0.70
19/01/2024	03:00	48	45	67	195	0.80
19/01/2024	03:15	48	45	68	116	1.10
19/01/2024	03:30	50	47	72	223	1.60
19/01/2024	03:45	53	48	73	226	1.40
19/01/2024	23:45	44	40	62	184	2.70
20/01/2024	00:00	45	39	68	185	3.10
20/01/2024	00:15	46	38	73	192	3.00
20/01/2024	00:30	47	37	68	210	2.20
20/01/2024	00:45	48	42	70	201	1.70
20/01/2024	01:00	51	47	70	193	3.60
20/01/2024	01:15	52	47	77	199	5.20
20/01/2024	01:30	49	47	63	204	3.30
20/01/2024	01:45	50	46	70	191	3.80
20/01/2024	02:00	48	46	65	191	7.70
20/01/2024	02:15	49	46	68	192	4.40
20/01/2024	02:30	49	45	67	189	4.50
20/01/2024	02:45	50	46	71	191	4.10
20/01/2024	03:00	48	47	57	204	4.70
20/01/2024	03:15	49	46	66	198	4.20
20/01/2024	03:30	48	46	63	190	4.00
20/01/2024	03:45	48	44	66	191	6.20
22/01/2024	01:30	56	51	74	277	5.30
22/01/2024	01:45	57	51	74	271	7.10
22/01/2024	02:00	55	52	71	281	6.10
22/01/2024	02:15	57	53	74	279	5.40
22/01/2024	02:30	56	52	74	263	7.40
22/01/2024	02:45	56	51	72	267	5.70
22/01/2024	03:00	55	51	71	309	6.20
22/01/2024	03:15	58	52	75	278	7.00
22/01/2024	03:30	56	52	73	309	4.80
22/01/2024	03:45	56	52	71	278	5.80
22/01/2024	23:45	51	49	65	272	3.80
23/01/2024	00:00	49	47	61	253	3.90

23/01/2024	00:15	50	47	71	271	2.90
23/01/2024	00:30	51	47	70	264	3.90
23/01/2024	00:45	50	47	66	283	3.60
23/01/2024	01:00	52	47	73	299	4.00
23/01/2024	01:15	50	48	66	315	3.20
23/01/2024	01:30	49	48	65	279	3.30
23/01/2024	01:45	50	48	63	277	3.90
23/01/2024	02:00	58	49	81	286	3.80
23/01/2024	02:15	57	50	80	311	5.40
23/01/2024	02:30	55	50	72	350	5.80
23/01/2024	02:45	53	49	65	26	3.80
23/01/2024	03:00	55	50	72	10	5.20
23/01/2024	03:15	53	39	68	287	1.70
23/01/2024	03:30	48	40	65	284	1.00
23/01/2024	03:45	53	45	70	210	0.60
24/01/2024	02:45	58	54	69	37	6.40
24/01/2024	03:00	58	54	69	335	6.90
24/01/2024	03:15	57	54	70	297	6.50
24/01/2024	03:30	56	53	70	293	6.90
24/01/2024	03:45	56	53	70	291	4.90
24/01/2024	23:45	48	43	73	65	0.70
25/01/2024	00:00	48	44	65	264	1.50
25/01/2024	00:15	46	44	63	23	0.40
25/01/2024	00:30	46	44	64	234	1.10
25/01/2024	00:45	47	42	65	265	1.60
25/01/2024	01:00	47	43	69	266	1.30
25/01/2024	01:15	47	43	69	266	2.40
25/01/2024	01:30	46	43	66	260	2.00
25/01/2024	01:45	44	41	65	259	1.40
25/01/2024	02:00	47	43	67	263	1.20
25/01/2024	02:15	53	42	69	266	0.80
25/01/2024	02:30	47	44	67	260	1.10
25/01/2024	02:45	55	46	71	256	0.80
25/01/2024	03:00	53	44	69	279	1.30
25/01/2024	03:15	51	43	70	266	1.80
25/01/2024	03:30	52	43	71	263	1.40
25/01/2024	03:45	48	42	70	267	1.50
25/01/2024	23:45	52	50	64	287	6.10
26/01/2024	00:00	53	50	67	291	5.50
26/01/2024	00:15	54	52	65	294	7.60
26/01/2024	00:30	55	52	66	286	6.70
26/01/2024	00:45	54	51	65	292	5.90
26/01/2024	01:00	52	50	63	289	6.40
26/01/2024	01:15	50	49	57	286	5.60
26/01/2024	01:30	52	48	70	285	5.40
26/01/2024	01:45	52	49	66	285	6.50
26/01/2024	23:45	50	42	72	269	1.70
27/01/2024	00:00	47	42	66	269	2.40
27/01/2024	00:15	47	44	66	273	2.40
27/01/2024	00:30	47	40	69	277	2.70
27/01/2024	00:45	44	38	67	272	2.90
27/01/2024	01:00	44	40	66	266	2.50
27/01/2024	01:15	46	43	64	267	3.30
27/01/2024	01:30	46	38	70	281	2.90
27/01/2024	01:45	45	38	68	270	2.00
27/01/2024	02:00	44	40	65	266	2.60

27/01/2024	02:15	45	39	66	261	2.40
27/01/2024	02:30	42	38	67	267	2.30
27/01/2024	02:45	48	40	67	271	2.20
27/01/2024	03:00	51	41	76	273	2.10
27/01/2024	03:15	45	40	68	259	2.70
27/01/2024	03:30	46	40	66	266	2.50
27/01/2024	03:45	55	40	76	259	1.50
27/01/2024	23:45	46	41	69	269	1.80
28/01/2024	00:00	49	40	71	267	1.00
28/01/2024	00:15	47	41	66	82	0.80
28/01/2024	00:30	46	40	67	282	1.30
28/01/2024	00:45	48	41	68	264	1.50
28/01/2024	01:00	43	41	61	259	1.30
28/01/2024	01:15	47	40	72	83	1.00
28/01/2024	01:30	45	41	66	270	1.30
28/01/2024	01:45	45	40	66	283	1.40
28/01/2024	02:00	43	41	60	91	1.40
28/01/2024	02:15	45	41	65	271	1.80
28/01/2024	02:30	45	40	67	257	1.80
28/01/2024	02:45	47	39	75	271	2.00
28/01/2024	03:00	43	40	64	254	2.60
28/01/2024	03:15	47	40	70	271	2.20
28/01/2024	03:30	45	40	69	266	2.20
28/01/2024	03:45	50	40	72	272	2.10
28/01/2024	23:45	46	43	68	265	1.60
29/01/2024	00:00	46	43	68	252	1.60
29/01/2024	00:15	46	43	66	269	1.90
29/01/2024	00:30	46	42	68	264	1.50
29/01/2024	00:45	43	42	61	261	1.40
29/01/2024	01:00	46	43	68	257	1.90
29/01/2024	01:15	46	43	66	262	1.70
29/01/2024	01:30	44	41	64	263	1.90
29/01/2024	01:45	45	41	66	271	1.10
29/01/2024	02:00	42	40	49	97	1.30
29/01/2024	02:15	52	39	72	87	1.40
29/01/2024	02:30	47	40	68	84	1.70
29/01/2024	02:45	46	39	66	105	1.70
29/01/2024	03:00	53	41	76	91	2.30
29/01/2024	03:15	51	43	78	90	1.80
29/01/2024	03:30	48	43	67	88	2.20
29/01/2024	03:45	48	43	66	87	1.80
29/01/2024	23:45	52	49	68	69	3.90
30/01/2024	01:15	48	44	67	100	1.70
30/01/2024	01:30	47	44	66	74	3.90
30/01/2024	01:45	51	49	68	66	3.30
30/01/2024	02:00	51	48	73	69	2.50
30/01/2024	02:15	49	46	66	74	2.70
30/01/2024	02:30	51	48	67	75	3.00
30/01/2024	02:45	51	49	68	76	4.30
30/01/2024	03:00	51	48	67	75	4.50
30/01/2024	03:15	51	48	68	70	4.90
30/01/2024	03:30	52	49	71	66	5.00
30/01/2024	03:45	51	49	62	69	4.00
30/01/2024	23:45	52	50	69	270	1.50
31/01/2024	00:00	49	44	66	272	2.60
31/01/2024	00:15	52	50	68	265	1.50

31/01/2024	00:30	49	47	63	271	1.70
31/01/2024	00:45	49	47	63	274	1.70
31/01/2024	01:00	48	44	67	263	1.20
31/01/2024	01:15	46	44	60	283	1.50
31/01/2024	01:30	48	46	60	253	1.20
31/01/2024	01:45	48	44	67	200	0.80
31/01/2024	02:00	46	43	66	263	1.60
31/01/2024	02:15	48	45	70	269	1.80
31/01/2024	02:30	51	45	74	268	1.80
31/01/2024	02:45	47	45	64	224	1.00
31/01/2024	03:00	48	43	71	251	0.80
31/01/2024	03:15	50	43	73	99	0.50
31/01/2024	03:30	46	43	64	70	0.90
31/01/2024	03:45	48	46	64	66	1.10

Raw data and central tendencies for location NSR 3: Residence on Lwyn-y-cil Road

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	54	46	76
Mean	53	46	73
Mean - 1 s.d.	49	44	-
Log Average	55	-	-

Table 7.1.3 (a): Daytime period (07:00 to 23:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	15:45	54	47	75	329	1.50
15/01/2024	16:00	56	48	78	330	1.30
15/01/2024	16:15	56	49	77	344	1.90
15/01/2024	16:30	53	48	74	333	1.30
15/01/2024	16:45	53	47	76	304	0.70
15/01/2024	17:00	58	47	85	303	0.90
15/01/2024	17:15	54	47	75	197	0.70
15/01/2024	17:30	52	47	73	344	0.60
15/01/2024	17:45	51	47	73	244	0.80
15/01/2024	18:00	54	47	76	255	0.60
15/01/2024	18:15	47	46	53	307	0.70
15/01/2024	18:30	52	46	78	221	0.60
15/01/2024	18:45	51	46	71	319	0.80
15/01/2024	19:00	56	45	76	193	0.60
15/01/2024	19:15	49	45	73	335	0.90
15/01/2024	19:30	48	45	73	224	0.90
15/01/2024	19:45	46	44	68	315	1.00
15/01/2024	20:00	54	44	77	226	0.90
15/01/2024	20:15	49	45	75	315	0.80
15/01/2024	20:30	48	45	68	266	0.50
15/01/2024	20:45	46	45	52	185	1.20
15/01/2024	21:00	45	44	56	308	0.90
15/01/2024	21:15	49	44	74	203	0.60
15/01/2024	21:30	48	44	71	258	1.10
15/01/2024	21:45	55	44	75	209	1.00
15/01/2024	22:00	45	43	49	211	1.00
15/01/2024	22:15	47	43	70	298	0.90
15/01/2024	22:30	44	43	50	232	1.20
15/01/2024	22:45	47	42	71	294	0.70
16/01/2024	07:00	52	49	74	214	3.40
16/01/2024	07:15	53	50	74	215	2.70
16/01/2024	07:30	58	51	74	263	1.70
16/01/2024	07:45	54	50	68	256	2.00
16/01/2024	08:00	60	49	84	192	1.60
16/01/2024	08:15	59	49	79	203	1.70
16/01/2024	08:30	58	48	84	202	1.60
16/01/2024	08:45	60	49	84	193	3.20
16/01/2024	09:00	59	49	79	192	1.70
16/01/2024	09:15	56	49	73	188	2.00
16/01/2024	09:30	59	49	84	187	1.50
16/01/2024	09:45	50	47	70	217	2.30

16/01/2024	10:00	58	46	85	230	3.20
16/01/2024	10:15	57	45	84	223	3.00
16/01/2024	10:30	61	46	88	227	2.30
16/01/2024	10:45	54	46	75	224	2.80
16/01/2024	11:00	53	46	75	222	2.20
16/01/2024	11:15	57	46	78	233	3.20
16/01/2024	11:30	55	45	74	220	2.90
16/01/2024	11:45	54	45	76	208	3.20
16/01/2024	12:00	59	44	84	226	2.90
16/01/2024	12:15	54	45	75	214	4.90
16/01/2024	12:30	58	44	85	212	5.00
16/01/2024	12:45	58	43	84	227	3.70
16/01/2024	13:00	53	44	72	218	4.50
16/01/2024	13:15	57	45	84	230	4.10
16/01/2024	13:30	57	44	84	209	6.40
16/01/2024	13:45	53	45	73	237	3.20
16/01/2024	14:00	56	45	76	222	4.20
16/01/2024	14:15	50	47	72	233	3.40
16/01/2024	14:30	56	46	78	222	3.20
16/01/2024	14:45	61	45	85	202	5.60
16/01/2024	15:00	55	43	76	208	4.20
16/01/2024	15:15	57	43	80	210	4.10
16/01/2024	15:30	55	43	78	194	4.00
16/01/2024	15:45	50	44	72	192	3.50
16/01/2024	16:00	55	47	76	193	4.20
16/01/2024	16:15	56	45	75	224	3.00
16/01/2024	16:30	53	45	73	205	4.50
16/01/2024	16:45	51	44	75	199	5.90
16/01/2024	17:00	54	45	76	209	3.40
16/01/2024	17:15	54	45	76	204	4.60
16/01/2024	17:30	50	44	83	213	4.50
16/01/2024	17:45	54	45	77	211	4.30
16/01/2024	18:00	49	45	73	221	5.30
16/01/2024	18:15	52	46	76	218	5.50
16/01/2024	18:30	53	46	76	192	6.40
16/01/2024	18:45	49	48	58	202	2.90
16/01/2024	19:00	50	47	73	210	2.70
16/01/2024	19:15	50	46	71	202	4.10
16/01/2024	19:30	46	44	52	193	3.50
16/01/2024	19:45	48	44	73	217	3.80
16/01/2024	20:00	48	43	74	229	3.90
16/01/2024	20:15	45	44	52	210	3.00
16/01/2024	20:30	54	45	82	207	3.40
16/01/2024	20:45	51	44	74	203	3.50
16/01/2024	21:00	46	45	51	200	3.90
16/01/2024	21:15	47	46	52	328	1.20
16/01/2024	21:30	48	46	59	210	1.40
16/01/2024	21:45	47	46	54	207	1.40
16/01/2024	22:00	49	46	69	223	2.00
16/01/2024	22:15	45	43	51	217	2.80
16/01/2024	22:30	44	42	50	257	3.80
16/01/2024	22:45	44	42	56	244	4.10
17/01/2024	07:00	52	49	74	325	1.30
17/01/2024	07:15	57	49	82	330	1.20
17/01/2024	07:30	53	49	74	329	0.70
17/01/2024	07:45	55	50	74	332	0.90

17/01/2024	08:00	54	50	76	326	0.90
17/01/2024	08:15	58	50	82	316	0.80
17/01/2024	08:30	54	50	77	326	0.70
17/01/2024	08:45	57	50	79	341	0.70
17/01/2024	09:00	57	50	78	334	1.10
17/01/2024	09:15	56	50	76	344	1.20
17/01/2024	09:30	54	50	74	343	0.80
17/01/2024	09:45	56	50	75	314	0.60
17/01/2024	10:00	55	48	78	338	1.00
17/01/2024	10:15	55	49	73	335	1.70
17/01/2024	10:30	58	49	86	338	1.50
17/01/2024	10:45	55	49	77	347	1.70
17/01/2024	11:00	57	50	80	350	2.80
17/01/2024	11:15	54	50	73	352	2.50
17/01/2024	11:30	55	50	77	352	2.60
17/01/2024	11:45	55	51	77	349	2.10
17/01/2024	12:00	56	50	75	347	2.60
17/01/2024	12:15	55	49	78	344	2.70
17/01/2024	12:30	57	49	78	348	1.90
17/01/2024	12:45	52	47	74	339	2.30
17/01/2024	13:00	56	49	76	349	2.10
17/01/2024	13:15	55	50	74	345	2.90
17/01/2024	13:30	53	50	66	350	2.40
17/01/2024	13:45	55	50	76	346	2.20
17/01/2024	14:00	54	49	73	348	2.40
17/01/2024	14:15	51	48	70	345	2.20
17/01/2024	14:30	53	49	74	352	2.50
17/01/2024	14:45	54	47	74	335	2.90
17/01/2024	15:00	57	47	78	343	2.30
17/01/2024	15:15	55	46	75	340	1.90
17/01/2024	15:30	56	46	76	344	2.20
17/01/2024	15:45	54	46	75	334	1.80
17/01/2024	16:00	56	46	76	336	1.40
17/01/2024	16:15	54	46	77	338	1.60
17/01/2024	16:30	53	46	75	334	1.10
17/01/2024	16:45	51	45	76	319	1.10
17/01/2024	17:00	54	45	76	308	1.20
17/01/2024	17:15	53	44	78	337	1.70
17/01/2024	17:30	55	45	79	333	1.10
17/01/2024	17:45	54	45	76	328	1.00
17/01/2024	18:00	49	45	74	331	0.90
17/01/2024	18:15	54	47	78	331	1.10
17/01/2024	18:30	50	46	71	252	0.70
17/01/2024	18:45	48	46	71	236	0.70
17/01/2024	19:00	52	46	76	206	0.40
17/01/2024	19:15	47	46	52	269	0.40
17/01/2024	19:30	52	47	77	331	0.40
17/01/2024	19:45	51	47	76	352	0.90
17/01/2024	20:00	53	47	77	352	1.10
17/01/2024	20:15	47	45	52	337	0.90
17/01/2024	20:30	50	45	76	355	1.60
17/01/2024	20:45	46	44	53	344	1.20
17/01/2024	21:00	48	45	71	346	1.40
17/01/2024	21:15	57	45	90	352	1.60
17/01/2024	21:30	47	45	58	353	1.00
17/01/2024	21:45	49	44	72	348	1.10

17/01/2024	22:00	47	45	52	285	0.60
17/01/2024	22:15	46	45	53	261	0.80
17/01/2024	22:30	47	46	54	223	0.70
17/01/2024	22:45	48	47	54	212	0.60
18/01/2024	07:00	56	50	77	347	1.00
18/01/2024	07:15	50	49	65	336	2.20
18/01/2024	07:30	53	47	76	333	3.10
18/01/2024	07:45	53	48	75	335	3.40
18/01/2024	08:00	56	48	77	340	2.30
18/01/2024	08:15	54	49	75	351	1.60
18/01/2024	08:30	58	49	77	267	1.20
18/01/2024	08:45	55	49	79	220	0.70
18/01/2024	09:00	51	49	70	260	0.70
18/01/2024	09:15	51	50	60	349	1.20
18/01/2024	09:30	52	49	75	346	1.50
18/01/2024	09:45	52	50	71	344	0.70
18/01/2024	10:00	52	47	73	352	1.00
18/01/2024	10:15	53	47	75	341	1.20
18/01/2024	10:30	53	48	72	335	3.00
18/01/2024	10:45	53	48	74	335	2.00
18/01/2024	11:00	56	48	81	333	2.40
18/01/2024	11:15	58	49	85	336	2.80
18/01/2024	11:30	59	49	85	336	3.00
18/01/2024	11:45	60	49	84	336	2.80
18/01/2024	12:00	58	48	84	338	3.70
18/01/2024	12:15	58	48	85	333	3.40
18/01/2024	12:30	58	47	89	336	3.30
18/01/2024	12:45	53	46	76	334	3.30
18/01/2024	13:00	54	47	74	336	3.50
18/01/2024	13:15	55	48	75	334	3.20
18/01/2024	13:30	55	48	79	336	2.60
18/01/2024	13:45	51	48	66	337	3.70
18/01/2024	14:00	54	48	73	335	4.30
18/01/2024	14:15	57	48	76	334	3.80
18/01/2024	14:30	57	48	77	334	3.10
18/01/2024	14:45	52	47	66	337	3.30
18/01/2024	15:00	55	47	77	336	2.80
18/01/2024	15:15	59	47	79	335	2.70
18/01/2024	15:30	61	46	81	331	3.20
18/01/2024	15:45	59	46	77	333	2.50
18/01/2024	16:00	57	46	84	335	4.30
18/01/2024	16:15	56	45	78	335	5.00
18/01/2024	16:30	51	44	71	336	4.30
18/01/2024	16:45	51	44	69	335	3.00
18/01/2024	17:00	56	44	79	334	5.10
18/01/2024	17:15	53	44	73	335	6.00
18/01/2024	17:30	54	44	75	335	4.10
18/01/2024	17:45	53	44	79	333	3.60
18/01/2024	18:00	56	45	81	334	4.30
18/01/2024	18:15	47	44	63	326	4.90
18/01/2024	18:30	49	43	68	294	2.10
18/01/2024	18:45	47	44	69	330	2.30
18/01/2024	19:00	47	46	51	338	1.00
18/01/2024	19:15	48	45	70	338	2.00
18/01/2024	19:30	50	46	67	338	1.20
18/01/2024	19:45	48	46	69	357	1.10

18/01/2024	20:00	52	46	74	288	2.90
18/01/2024	20:15	48	45	68	320	2.70
18/01/2024	20:30	48	46	68	334	4.10
18/01/2024	20:45	51	46	77	335	2.20
18/01/2024	21:00	49	47	66	336	2.80
18/01/2024	21:15	49	47	69	334	3.00
18/01/2024	21:30	48	47	56	335	3.00
18/01/2024	21:45	48	47	54	331	3.10
18/01/2024	22:00	48	47	54	336	2.30
18/01/2024	22:15	49	47	58	332	3.20
18/01/2024	22:30	49	48	55	342	2.00
18/01/2024	22:45	49	48	55	343	1.80
19/01/2024	07:00	50	47	54	184	1.90
19/01/2024	07:15	51	46	72	201	1.60
19/01/2024	07:30	52	48	73	226	2.00
19/01/2024	07:45	54	49	77	203	2.00
19/01/2024	08:00	58	48	77	225	1.20
19/01/2024	08:15	53	48	76	229	1.30
19/01/2024	08:30	54	49	74	201	1.30
19/01/2024	08:45	54	50	72	196	1.70
19/01/2024	09:00	54	49	75	181	2.40
19/01/2024	09:15	55	49	75	180	2.70
19/01/2024	09:30	53	50	72	190	1.30
19/01/2024	09:45	56	49	80	196	1.00
19/01/2024	10:00	55	47	76	185	2.00
19/01/2024	10:15	52	46	71	213	3.80
19/01/2024	10:30	52	47	70	225	2.80
19/01/2024	10:45	52	48	71	197	2.30
19/01/2024	11:00	54	48	74	190	2.10
19/01/2024	11:15	54	49	72	227	1.30
19/01/2024	11:30	57	49	77	195	3.10
19/01/2024	11:45	56	45	77	217	2.60
19/01/2024	12:00	51	46	72	233	4.20
19/01/2024	12:15	55	46	77	242	4.50
19/01/2024	12:30	52	45	71	224	4.30
19/01/2024	12:45	56	44	76	233	5.10
19/01/2024	13:00	54	44	77	229	3.50
19/01/2024	13:15	57	44	76	199	2.70
19/01/2024	13:30	53	45	78	207	4.00
19/01/2024	13:45	55	45	80	219	4.90
19/01/2024	14:00	55	45	77	215	3.20
19/01/2024	14:15	53	44	75	212	4.50
19/01/2024	14:30	54	44	78	206	4.80
19/01/2024	14:45	59	42	81	210	3.10
19/01/2024	15:00	60	43	89	205	3.30
19/01/2024	15:15	57	43	84	193	2.80
19/01/2024	15:30	51	43	73	192	3.50
19/01/2024	15:45	56	44	76	194	2.70
19/01/2024	16:00	62	45	78	192	2.50
19/01/2024	16:15	55	44	76	191	3.20
19/01/2024	16:30	50	43	70	188	4.10
19/01/2024	16:45	50	44	72	188	3.70
19/01/2024	17:00	50	43	73	191	2.70
19/01/2024	17:15	51	43	75	187	3.30
19/01/2024	17:30	51	44	75	194	3.50
19/01/2024	17:45	51	45	72	188	3.20

19/01/2024	18:00	53	47	74	188	2.80
19/01/2024	18:15	54	47	76	193	2.40
19/01/2024	18:30	51	46	73	190	2.10
19/01/2024	18:45	52	45	74	189	2.50
19/01/2024	19:00	51	46	74	191	2.20
19/01/2024	19:15	47	46	52	189	2.70
19/01/2024	19:30	51	45	72	190	2.00
19/01/2024	19:45	50	45	77	186	2.90
19/01/2024	20:00	49	45	71	185	3.20
19/01/2024	20:15	51	45	76	184	2.70
19/01/2024	20:30	49	45	74	190	1.50
19/01/2024	20:45	52	47	75	190	1.30
19/01/2024	21:00	48	47	53	189	2.80
19/01/2024	21:15	60	47	84	184	3.00
19/01/2024	21:30	46	45	51	183	2.40
19/01/2024	21:45	50	44	72	189	1.90
19/01/2024	22:00	45	44	57	187	2.20
19/01/2024	22:15	45	44	49	183	2.70
19/01/2024	22:30	45	44	51	184	2.20
19/01/2024	22:45	46	45	62	184	2.80
20/01/2024	07:00	44	42	56	185	3.30
20/01/2024	07:15	44	42	49	188	5.20
20/01/2024	07:30	50	43	76	188	4.70
20/01/2024	07:45	55	43	79	201	6.40
20/01/2024	08:00	51	44	73	192	4.20
20/01/2024	08:15	49	44	72	191	7.70
20/01/2024	08:30	49	44	71	190	5.20
20/01/2024	08:45	54	44	75	191	6.10
20/01/2024	09:00	53	45	74	196	3.50
20/01/2024	09:15	55	46	77	198	3.60
20/01/2024	09:30	56	45	76	190	3.40
20/01/2024	09:45	50	45	72	193	5.20
20/01/2024	10:00	53	45	79	197	4.90
20/01/2024	10:15	54	45	72	205	3.80
20/01/2024	10:30	55	45	76	200	5.80
20/01/2024	10:45	58	47	77	203	6.10
20/01/2024	11:00	53	45	73	197	6.30
20/01/2024	11:15	55	45	76	193	5.20
20/01/2024	11:30	56	46	75	193	5.20
20/01/2024	11:45	58	46	79	195	7.80
20/01/2024	12:00	58	45	76	190	4.90
20/01/2024	12:15	55	45	77	195	5.20
20/01/2024	12:30	56	47	75	195	7.40
20/01/2024	12:45	53	45	73	192	5.70
20/01/2024	13:00	56	45	76	193	4.80
20/01/2024	13:15	53	45	76	192	7.80
20/01/2024	13:30	55	45	74	197	5.30
20/01/2024	13:45	58	45	84	193	7.10
20/01/2024	14:00	54	45	75	195	5.60
20/01/2024	14:15	57	45	79	192	6.20
20/01/2024	14:30	56	45	78	193	6.60
20/01/2024	14:45	51	45	73	192	5.60
20/01/2024	15:00	51	45	72	193	7.10
20/01/2024	15:15	53	45	74	192	7.80
20/01/2024	15:30	60	45	88	192	6.60
20/01/2024	15:45	52	45	74	192	6.70

20/01/2024	16:00	53	46	73	195	7.10
20/01/2024	16:15	56	46	78	190	6.40
20/01/2024	16:30	53	46	77	190	6.40
20/01/2024	18:00	46	44	52	192	5.70
20/01/2024	18:15	57	44	84	194	4.40
20/01/2024	18:30	55	45	78	189	4.90
21/01/2024	08:00	46	43	54	205	5.20
21/01/2024	08:15	49	44	72	199	5.00
21/01/2024	08:30	46	44	55	205	5.20
21/01/2024	08:45	47	44	63	218	4.00
21/01/2024	09:00	52	45	73	205	5.60
22/01/2024	07:00	52	45	73	273	3.50
22/01/2024	07:15	48	46	60	276	4.10
22/01/2024	07:30	53	46	76	276	3.70
22/01/2024	07:45	50	46	73	287	5.30
22/01/2024	08:00	54	46	76	271	6.80
22/01/2024	08:15	53	46	76	272	4.70
22/01/2024	08:30	56	47	76	290	4.50
22/01/2024	08:45	53	47	76	281	4.40
22/01/2024	09:00	55	46	78	271	4.90
22/01/2024	09:15	52	46	74	279	6.10
22/01/2024	09:30	53	47	73	276	6.20
22/01/2024	09:45	53	46	77	279	5.90
22/01/2024	11:30	52	47	74	286	5.70
22/01/2024	11:45	57	47	76	281	5.90
22/01/2024	12:00	54	48	78	279	7.80
22/01/2024	18:15	50	47	62	302	5.70
22/01/2024	18:30	51	47	72	11	6.40
22/01/2024	18:45	51	46	71	316	7.30
22/01/2024	19:00	57	46	79	319	5.50
22/01/2024	19:15	56	46	75	349	8.00
22/01/2024	19:30	59	45	79	325	4.40
22/01/2024	19:45	57	45	77	309	4.50
22/01/2024	20:00	60	45	80	1	4.80
22/01/2024	20:15	60	45	80	310	5.20
22/01/2024	20:30	58	45	78	295	4.50
22/01/2024	20:45	54	45	74	343	5.20
22/01/2024	21:00	53	45	76	335	5.80
22/01/2024	21:15	57	45	77	316	5.90
22/01/2024	21:30	56	45	76	359	6.30
22/01/2024	21:45	57	45	77	15	5.50
22/01/2024	22:00	54	46	74	342	6.50
22/01/2024	22:15	52	45	74	344	5.60
22/01/2024	22:30	54	45	76	314	5.40
22/01/2024	22:45	52	45	75	318	5.80
23/01/2024	07:00	53	48	76	235	3.00
23/01/2024	07:15	51	49	70	237	2.70
23/01/2024	07:30	53	50	75	260	1.50
23/01/2024	07:45	51	48	71	238	2.50
23/01/2024	08:00	55	47	77	243	3.70
23/01/2024	18:45	55	49	77	266	5.40
23/01/2024	19:00	57	50	76	260	6.90
23/01/2024	19:15	57	52	76	263	6.60
23/01/2024	19:30	55	51	76	271	7.70
23/01/2024	21:30	51	49	67	272	7.40
23/01/2024	21:45	50	47	56	276	6.00

23/01/2024	22:00	52	49	71	275	8.40
23/01/2024	22:15	54	51	70	267	7.80
23/01/2024	22:30	60	54	83	277	7.80
23/01/2024	22:45	56	53	65	275	9.00
24/01/2024	07:00	57	46	85	313	5.50
24/01/2024	07:15	53	47	74	352	5.70
24/01/2024	07:30	53	48	73	352	6.30
24/01/2024	07:45	55	47	81	335	5.90
24/01/2024	08:00	57	47	83	343	5.20
24/01/2024	08:15	54	47	79	332	6.00
24/01/2024	08:30	58	47	77	314	6.20
24/01/2024	08:45	56	47	76	319	5.80
24/01/2024	09:00	58	47	78	335	5.80
24/01/2024	09:15	55	47	79	341	6.90
24/01/2024	09:30	56	48	77	7	7.30
24/01/2024	09:45	54	48	74	350	7.60
24/01/2024	10:00	57	47	79	337	6.00
24/01/2024	10:15	53	47	73	353	5.90
24/01/2024	10:30	55	47	76	341	5.50
24/01/2024	10:45	54	47	72	337	4.60
24/01/2024	11:00	55	47	76	309	5.50
24/01/2024	11:15	56	46	77	23	3.70
24/01/2024	11:30	52	45	72	323	4.20
24/01/2024	11:45	53	46	73	9	3.90
24/01/2024	12:00	56	46	82	42	3.60
24/01/2024	12:15	55	47	77	343	3.00
24/01/2024	12:30	54	45	77	319	3.80
24/01/2024	12:45	53	45	75	335	4.90
24/01/2024	13:00	47	45	54	38	3.90
24/01/2024	13:15	55	46	77	339	3.60
24/01/2024	13:30	55	45	78	327	4.60
24/01/2024	13:45	52	45	73	304	3.80
24/01/2024	14:00	55	45	79	327	7.00
24/01/2024	14:15	53	46	72	318	4.40
24/01/2024	14:30	53	46	73	334	3.80
24/01/2024	14:45	52	45	73	19	3.20
24/01/2024	15:00	57	44	81	57	3.60
24/01/2024	15:15	54	44	77	45	3.80
24/01/2024	15:30	55	44	76	325	3.10
24/01/2024	15:45	52	43	73	306	3.00
24/01/2024	16:00	55	43	76	299	4.20
24/01/2024	16:15	53	42	76	299	5.20
24/01/2024	16:30	54	42	76	309	3.30
24/01/2024	16:45	51	44	75	328	4.20
24/01/2024	17:00	53	44	75	63	4.50
24/01/2024	17:15	55	46	77	52	3.40
24/01/2024	17:30	53	44	76	313	4.00
24/01/2024	17:45	53	44	78	304	3.70
24/01/2024	18:00	47	45	61	315	3.30
24/01/2024	18:15	55	46	79	350	3.90
24/01/2024	18:30	51	44	74	304	3.30
24/01/2024	18:45	50	45	71	271	2.50
24/01/2024	19:00	50	49	55	39	2.10
24/01/2024	19:15	54	47	79	351	1.50
24/01/2024	19:30	49	44	69	310	2.20
24/01/2024	19:45	52	43	76	51	2.80

24/01/2024	20:00	47	43	70	316	3.10
24/01/2024	20:15	45	43	50	311	2.80
24/01/2024	20:30	46	44	54	285	2.30
24/01/2024	20:45	44	42	51	296	3.40
24/01/2024	21:00	55	42	81	314	2.40
24/01/2024	21:15	53	43	79	289	2.90
24/01/2024	21:30	45	43	50	283	2.20
24/01/2024	21:45	50	45	73	269	1.10
24/01/2024	22:00	51	45	77	260	1.60
24/01/2024	22:15	50	46	71	258	1.60
24/01/2024	22:30	47	45	54	216	1.00
24/01/2024	22:45	47	45	55	262	1.40
25/01/2024	07:00	53	46	75	273	2.40
25/01/2024	07:15	47	46	61	272	1.80
25/01/2024	07:30	55	46	78	275	2.10
25/01/2024	07:45	57	46	79	277	2.70
25/01/2024	08:00	56	46	78	265	2.10
25/01/2024	08:15	50	46	74	92	1.20
25/01/2024	08:30	54	50	76	104	1.30
25/01/2024	08:45	56	49	76	286	0.90
25/01/2024	09:00	56	48	79	282	1.00
25/01/2024	09:15	56	47	76	256	1.60
25/01/2024	09:30	54	48	77	263	1.80
25/01/2024	09:45	54	49	73	265	1.80
25/01/2024	10:00	53	49	72	260	1.80
25/01/2024	10:15	53	48	75	271	1.60
25/01/2024	10:30	51	47	70	263	3.30
25/01/2024	10:45	54	47	75	264	3.10
25/01/2024	11:00	55	47	81	263	2.90
25/01/2024	11:15	55	47	74	265	2.90
25/01/2024	11:30	50	46	72	267	3.10
25/01/2024	11:45	55	46	75	267	3.20
25/01/2024	12:00	52	46	74	273	3.90
25/01/2024	12:15	54	46	76	271	3.80
25/01/2024	12:30	56	44	79	275	4.00
25/01/2024	12:45	49	44	74	273	4.00
25/01/2024	13:00	52	45	74	276	4.10
25/01/2024	13:15	53	46	73	273	3.70
25/01/2024	13:30	54	45	74	270	2.70
25/01/2024	13:45	56	45	77	271	4.50
25/01/2024	14:00	52	45	74	270	4.00
25/01/2024	14:15	54	45	78	271	5.00
25/01/2024	14:30	57	46	79	270	3.80
25/01/2024	14:45	52	45	74	271	3.60
25/01/2024	15:00	51	46	73	274	4.50
25/01/2024	15:15	51	45	73	270	3.40
25/01/2024	15:30	53	45	79	268	3.00
25/01/2024	15:45	55	45	75	269	3.20
25/01/2024	16:00	56	45	78	270	2.90
25/01/2024	16:15	55	45	74	270	3.60
25/01/2024	20:00	49	43	75	271	3.20
25/01/2024	20:15	46	44	53	266	3.10
25/01/2024	20:30	47	46	52	267	2.30
26/01/2024	07:00	53	48	75	56	6.50
26/01/2024	07:15	54	48	76	61	7.00
26/01/2024	07:30	54	47	78	61	6.40

26/01/2024	07:45	51	47	73	65	5.00
26/01/2024	08:00	55	47	76	55	4.10
26/01/2024	08:15	55	47	78	53	5.20
26/01/2024	08:30	56	46	78	271	2.20
26/01/2024	08:45	56	46	76	278	3.30
26/01/2024	09:00	54	46	76	276	2.40
26/01/2024	09:15	54	46	74	262	3.00
26/01/2024	09:30	54	46	74	300	2.30
26/01/2024	09:45	54	45	77	295	3.70
26/01/2024	10:00	54	45	77	316	3.40
26/01/2024	10:15	54	45	76	330	3.20
26/01/2024	10:30	53	45	74	291	3.60
26/01/2024	10:45	57	45	80	293	3.50
26/01/2024	11:00	53	46	78	295	4.70
26/01/2024	11:15	56	45	75	290	5.70
26/01/2024	11:30	51	45	72	297	3.30
26/01/2024	11:45	57	47	78	308	3.90
26/01/2024	12:00	56	45	76	301	4.60
26/01/2024	12:15	55	44	75	303	4.20
26/01/2024	12:30	53	44	74	301	3.70
26/01/2024	12:45	54	44	76	313	5.80
26/01/2024	13:00	54	43	74	306	4.20
26/01/2024	13:15	51	43	73	323	4.60
26/01/2024	13:30	55	43	76	310	5.30
26/01/2024	13:45	56	45	76	316	4.90
26/01/2024	14:00	55	43	80	15	5.00
26/01/2024	14:15	55	45	85	306	6.30
26/01/2024	14:30	54	45	75	294	5.10
26/01/2024	14:45	54	45	75	318	3.70
26/01/2024	15:00	55	45	76	283	4.40
26/01/2024	15:15	53	44	76	299	4.10
26/01/2024	15:30	54	44	76	289	3.90
26/01/2024	15:45	46	44	64	285	3.30
26/01/2024	16:00	54	42	76	302	2.80
26/01/2024	16:15	54	42	73	299	2.60
26/01/2024	16:30	54	43	74	302	3.10
26/01/2024	16:45	53	44	73	299	3.30
26/01/2024	17:00	54	44	76	271	3.90
26/01/2024	17:15	49	44	72	272	2.80
26/01/2024	17:30	52	42	76	288	2.40
26/01/2024	17:45	52	42	76	289	2.60
26/01/2024	18:00	50	43	74	298	2.10
26/01/2024	18:15	51	43	73	287	2.30
26/01/2024	18:30	52	43	77	291	3.30
26/01/2024	18:45	53	44	77	291	2.90
26/01/2024	19:00	46	45	51	276	3.50
26/01/2024	19:15	50	46	75	273	2.70
26/01/2024	19:30	50	45	71	274	2.20
26/01/2024	19:45	51	45	74	272	2.20
26/01/2024	20:00	52	45	77	266	1.80
26/01/2024	20:15	50	45	77	274	1.80
26/01/2024	20:30	48	45	67	276	2.20
26/01/2024	20:45	52	45	77	266	1.90
26/01/2024	21:00	49	43	72	276	3.10
26/01/2024	21:15	52	43	78	312	3.40
26/01/2024	21:30	50	43	75	303	3.00

26/01/2024	21:45	46	45	51	278	3.10
26/01/2024	22:00	47	44	70	275	2.20
26/01/2024	22:15	45	44	50	274	1.90
26/01/2024	22:30	45	43	49	269	1.90
26/01/2024	22:45	52	44	78	269	2.40
27/01/2024	07:00	48	45	69	268	2.00
27/01/2024	07:15	48	46	70	257	2.30
27/01/2024	07:30	47	46	67	260	1.90
27/01/2024	07:45	49	47	69	268	1.70
27/01/2024	08:00	50	47	71	271	1.70
27/01/2024	08:15	48	46	59	263	2.30
27/01/2024	08:30	53	46	73	275	1.90
27/01/2024	08:45	56	47	76	266	1.40
27/01/2024	09:00	65	47	91	269	3.30
27/01/2024	09:15	51	47	71	263	2.70
27/01/2024	09:30	52	46	77	265	1.80
27/01/2024	09:45	55	46	76	262	2.20
27/01/2024	10:00	56	46	79	271	2.60
27/01/2024	10:15	58	45	80	269	2.70
27/01/2024	10:30	57	46	75	271	2.00
27/01/2024	10:45	56	44	77	276	2.50
27/01/2024	11:00	57	45	79	271	3.60
27/01/2024	11:15	57	46	80	277	3.60
27/01/2024	11:30	53	46	72	275	3.50
27/01/2024	11:45	57	48	74	269	3.90
27/01/2024	12:00	60	48	78	272	3.80
27/01/2024	12:15	57	48	75	269	3.00
27/01/2024	12:30	61	47	87	269	2.90
27/01/2024	12:45	54	47	75	267	3.50
27/01/2024	13:00	53	47	73	266	2.90
27/01/2024	13:15	56	46	75	272	4.20
27/01/2024	13:30	56	46	75	273	3.60
27/01/2024	13:45	57	45	74	272	4.60
27/01/2024	14:00	52	46	73	275	3.20
27/01/2024	14:15	56	46	74	274	3.10
27/01/2024	14:30	55	46	73	278	3.90
27/01/2024	14:45	55	46	76	273	3.20
27/01/2024	15:00	54	46	76	271	3.80
27/01/2024	15:15	53	46	71	273	3.30
27/01/2024	15:30	56	46	75	271	4.80
27/01/2024	15:45	55	47	75	270	3.30
27/01/2024	16:00	50	46	71	272	4.70
27/01/2024	16:15	53	47	74	273	3.40
27/01/2024	16:30	52	47	72	268	2.90
27/01/2024	16:45	53	47	74	268	2.70
27/01/2024	17:00	51	46	72	273	4.90
27/01/2024	17:15	52	45	77	268	3.00
27/01/2024	17:30	47	44	71	272	3.00
27/01/2024	17:45	50	45	74	274	3.60
27/01/2024	18:00	46	45	51	273	3.50
27/01/2024	18:15	52	45	75	272	3.20
27/01/2024	18:30	51	45	78	275	3.40
27/01/2024	18:45	46	44	53	272	3.60
27/01/2024	19:00	47	45	59	270	3.70
27/01/2024	19:15	49	45	71	270	3.00
27/01/2024	19:30	54	45	78	272	2.90

27/01/2024	19:45	52	45	78	274	2.50
27/01/2024	20:00	46	45	50	272	2.40
27/01/2024	20:15	46	45	52	273	3.50
27/01/2024	20:30	48	45	70	276	2.70
27/01/2024	20:45	49	45	72	277	3.30
27/01/2024	21:00	48	46	69	278	3.00
27/01/2024	21:15	47	45	51	277	3.60
27/01/2024	21:30	47	46	53	271	3.00
27/01/2024	21:45	48	46	53	271	3.00
27/01/2024	22:00	48	47	57	275	2.60
27/01/2024	22:15	47	46	52	278	2.60
27/01/2024	22:30	48	46	63	272	2.70
27/01/2024	22:45	51	47	77	272	2.80
28/01/2024	07:00	49	46	67	267	2.70
28/01/2024	07:15	48	46	66	270	3.10
28/01/2024	07:30	47	45	57	272	3.40
28/01/2024	07:45	49	46	70	279	3.80
28/01/2024	08:00	47	45	59	275	3.20
28/01/2024	08:15	50	46	75	271	3.50
28/01/2024	08:30	53	46	74	272	2.90
28/01/2024	08:45	55	46	83	275	2.30
28/01/2024	09:00	53	46	77	271	2.20
28/01/2024	09:15	52	46	75	270	3.70
28/01/2024	09:30	56	47	76	270	2.40
28/01/2024	09:45	56	46	76	269	3.40
28/01/2024	10:00	54	46	72	267	3.40
28/01/2024	10:15	56	46	78	277	3.10
28/01/2024	10:30	57	46	75	276	3.00
28/01/2024	10:45	58	45	77	277	2.80
28/01/2024	11:00	58	46	79	262	1.90
28/01/2024	11:15	57	46	73	268	3.10
28/01/2024	11:30	57	46	75	282	3.10
28/01/2024	11:45	58	46	76	267	4.20
28/01/2024	12:00	57	45	74	264	3.20
28/01/2024	12:15	58	46	75	266	3.70
28/01/2024	12:30	55	45	75	273	3.50
28/01/2024	12:45	60	45	85	273	4.20
28/01/2024	13:00	57	45	76	272	2.50
28/01/2024	13:15	59	46	79	264	3.40
28/01/2024	13:30	52	45	76	270	4.20
28/01/2024	13:45	56	45	76	271	3.00
28/01/2024	14:00	58	45	78	275	2.70
28/01/2024	14:15	56	44	74	274	3.10
28/01/2024	14:30	55	45	74	275	3.90
28/01/2024	14:45	55	46	75	277	3.30
28/01/2024	15:00	55	45	75	272	2.80
28/01/2024	15:15	54	46	74	269	2.60
28/01/2024	15:30	54	46	75	272	2.70
28/01/2024	15:45	53	47	74	271	2.60
28/01/2024	16:00	54	47	76	48	1.30
28/01/2024	16:15	55	47	79	304	1.40
28/01/2024	16:30	52	47	70	285	1.90
28/01/2024	16:45	50	45	71	270	1.90
28/01/2024	17:00	56	45	76	273	2.10
28/01/2024	17:15	48	43	71	269	5.00
28/01/2024	17:30	48	42	73	277	4.30

28/01/2024	17:45	46	42	69	279	4.40
28/01/2024	18:00	43	41	49	274	3.10
28/01/2024	18:15	53	41	79	271	3.50
28/01/2024	18:30	47	41	73	275	4.10
28/01/2024	18:45	43	41	47	277	4.20
28/01/2024	19:00	44	42	49	273	4.70
28/01/2024	19:15	44	43	48	271	3.10
28/01/2024	19:30	49	43	76	263	2.10
28/01/2024	19:45	49	43	75	271	2.70
28/01/2024	20:00	48	44	70	258	1.70
28/01/2024	20:15	51	44	74	265	1.90
28/01/2024	20:30	49	44	75	273	2.40
28/01/2024	20:45	49	43	72	266	3.70
28/01/2024	21:00	45	42	57	271	4.30
28/01/2024	21:15	55	43	80	314	1.80
28/01/2024	21:30	47	43	71	264	3.70
28/01/2024	21:45	44	42	51	270	3.40
28/01/2024	22:00	49	43	72	280	2.20
28/01/2024	22:15	47	42	71	286	2.10
28/01/2024	22:30	44	43	50	268	2.50
28/01/2024	22:45	44	43	48	268	1.90
29/01/2024	10:15	58	49	84	57	0.50
29/01/2024	10:30	55	49	76	89	1.00
29/01/2024	13:45	56	50	78	78	0.60
29/01/2024	14:00	55	50	77	76	0.70
29/01/2024	14:15	55	49	75	97	0.80
29/01/2024	14:30	58	49	81	290	0.60
29/01/2024	14:45	52	49	74	28	0.60
29/01/2024	15:00	56	49	75	87	0.90
29/01/2024	15:15	55	49	75	62	1.30
29/01/2024	15:30	57	49	78	278	0.80
29/01/2024	15:45	54	49	74	283	0.50
29/01/2024	16:00	55	50	74	337	0.60
29/01/2024	19:00	56	47	78	209	0.70
29/01/2024	19:15	52	46	75	264	1.70
29/01/2024	19:30	55	46	80	258	1.20
29/01/2024	19:45	47	46	52	245	1.00
29/01/2024	20:00	50	46	72	264	0.80
29/01/2024	20:15	47	47	52	262	0.80
29/01/2024	20:30	47	46	51	255	0.90
29/01/2024	20:45	46	46	55	267	1.10
29/01/2024	21:00	48	46	69	264	1.10
29/01/2024	21:15	48	45	72	263	1.10
29/01/2024	22:45	45	44	52	265	1.20
30/01/2024	07:00	54	48	74	66	5.10
30/01/2024	07:15	53	49	74	68	5.90
30/01/2024	07:30	58	49	79	68	3.90
30/01/2024	07:45	53	49	74	67	3.80
30/01/2024	08:00	59	50	82	72	4.30
30/01/2024	08:15	59	49	83	66	3.80
30/01/2024	08:30	62	49	85	70	3.40
30/01/2024	08:45	58	49	79	69	3.50
30/01/2024	09:00	60	50	84	68	3.80
30/01/2024	09:15	60	50	85	72	5.10
30/01/2024	09:30	56	49	82	74	5.20
30/01/2024	09:45	60	49	84	69	5.70

30/01/2024	10:00	60	49	83	71	4.50
30/01/2024	10:15	57	49	77	73	4.40
30/01/2024	10:30	59	49	84	68	4.10
30/01/2024	10:45	59	49	84	71	3.80
30/01/2024	11:00	64	49	94	71	4.50
30/01/2024	11:15	60	49	85	70	4.10
30/01/2024	11:30	60	49	82	73	5.40
30/01/2024	11:45	60	49	87	77	3.30
30/01/2024	12:00	59	49	85	73	3.50
30/01/2024	12:15	59	49	82	70	4.00
30/01/2024	12:30	61	48	87	77	3.00
30/01/2024	12:45	60	48	85	76	3.40
30/01/2024	13:00	58	49	82	71	3.00
30/01/2024	13:15	62	49	93	70	3.30
30/01/2024	13:30	60	49	84	73	2.60
30/01/2024	13:45	61	50	85	69	3.30
30/01/2024	14:00	60	50	89	71	2.90
30/01/2024	14:15	59	50	84	70	1.60
30/01/2024	14:30	54	50	73	66	1.90
30/01/2024	14:45	57	48	75	68	1.50
30/01/2024	15:00	60	48	84	73	1.80
30/01/2024	15:15	62	48	92	326	2.00
30/01/2024	15:30	54	46	75	319	1.90
30/01/2024	15:45	61	46	85	40	2.00
30/01/2024	16:00	60	46	86	30	1.40
30/01/2024	16:15	59	46	84	287	1.10
30/01/2024	16:30	59	45	84	253	0.90
30/01/2024	16:45	59	45	91	282	0.90
30/01/2024	17:00	59	45	84	275	0.70
30/01/2024	17:15	60	44	84	286	0.70
30/01/2024	17:30	58	43	83	71	1.00
30/01/2024	17:45	55	45	77	248	1.30
30/01/2024	18:00	55	44	78	87	0.80
30/01/2024	18:15	52	46	78	216	0.80
30/01/2024	18:30	56	45	80	260	0.50
30/01/2024	18:45	51	45	72	200	0.70
30/01/2024	19:00	51	48	72	239	0.60
30/01/2024	19:15	52	47	77	106	1.10
30/01/2024	19:30	47	46	53	255	0.60
30/01/2024	19:45	47	46	53	239	0.80
30/01/2024	20:00	49	46	68	255	0.90
30/01/2024	20:15	55	47	82	29	1.00
30/01/2024	20:30	49	46	56	280	1.60
30/01/2024	20:45	50	46	73	265	1.10
30/01/2024	21:00	49	46	73	210	0.90
30/01/2024	21:15	50	47	75	242	1.20
30/01/2024	21:30	50	47	71	279	0.80
30/01/2024	21:45	47	46	55	245	1.10
30/01/2024	22:00	47	46	52	263	1.50
30/01/2024	22:15	49	47	59	261	1.60
30/01/2024	22:30	47	46	52	262	0.90
30/01/2024	22:45	47	45	52	260	0.90
31/01/2024	07:00	54	49	77	265	4.00
31/01/2024	07:15	54	48	75	263	3.70
31/01/2024	07:30	55	47	76	265	2.90
31/01/2024	07:45	55	46	75	264	4.20

31/01/2024	08:00	56	46	76	267	3.20
31/01/2024	08:15	53	46	76	272	2.40
31/01/2024	08:30	58	45	80	270	4.30
31/01/2024	08:45	52	46	74	293	4.40
31/01/2024	09:00	60	47	84	285	5.20
31/01/2024	09:15	59	47	84	281	4.70
31/01/2024	09:30	57	46	82	290	3.50
31/01/2024	09:45	60	47	87	291	7.10
31/01/2024	10:00	57	46	83	288	6.00
31/01/2024	10:15	57	46	81	296	5.80
31/01/2024	10:30	62	46	91	280	3.70
31/01/2024	10:45	61	45	83	275	4.80
31/01/2024	11:00	61	45	84	287	4.20
31/01/2024	11:15	61	45	90	279	4.20
31/01/2024	11:30	54	44	73	286	4.20
31/01/2024	11:45	60	44	83	283	4.90
31/01/2024	12:00	60	46	89	275	4.40
31/01/2024	12:15	56	45	80	277	4.20
31/01/2024	12:30	63	46	89	270	4.20
31/01/2024	12:45	60	46	82	277	4.10
31/01/2024	13:00	60	47	83	277	5.60
31/01/2024	13:15	63	49	92	292	6.20
31/01/2024	13:30	54	49	72	304	7.50
31/01/2024	13:45	61	50	85	290	6.90

Raw data and central tendencies for location NSR 3: Residence on Lwyn-y-cil Road

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	46	45	50
Mean	47	45	56
Mean - 1 s.d.	45	43	-
Log Average	48	-	-

Table 7.1.3 (b): Night-time period (23:00 to 07:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:00	43	42	47	248	0.80
15/01/2024	23:15	44	42	48	202	0.60
15/01/2024	23:30	43	42	48	265	0.60
15/01/2024	23:45	44	42	48	241	0.90
16/01/2024	00:00	45	43	51	212	1.20
16/01/2024	00:15	45	43	49	234	1.20
16/01/2024	00:30	45	44	50	191	1.60
16/01/2024	00:45	47	44	65	226	1.30
16/01/2024	01:00	45	43	49	190	1.40
16/01/2024	01:15	44	43	49	210	1.90
16/01/2024	01:30	44	43	49	202	1.10
16/01/2024	01:45	44	43	48	199	1.60
16/01/2024	02:00	45	44	50	188	1.30
16/01/2024	02:15	46	45	51	204	1.40
16/01/2024	02:30	47	46	53	217	0.90
16/01/2024	02:45	47	46	53	298	0.90
16/01/2024	03:00	46	45	50	319	0.80
16/01/2024	03:15	46	46	52	223	0.70
16/01/2024	03:30	46	45	51	192	1.20
16/01/2024	03:45	46	45	50	188	1.70
16/01/2024	04:00	47	46	53	197	1.50
16/01/2024	04:15	47	47	55	204	1.30
16/01/2024	04:30	48	47	54	257	1.10
16/01/2024	04:45	48	47	54	267	0.60
16/01/2024	05:00	48	47	55	219	0.70
16/01/2024	05:15	47	46	52	201	1.50
16/01/2024	05:30	47	46	53	190	2.20
16/01/2024	05:45	48	47	54	189	2.20
16/01/2024	06:00	48	45	72	194	2.40
16/01/2024	06:15	46	45	54	202	3.20
16/01/2024	06:30	57	46	73	226	2.50
16/01/2024	06:45	57	49	84	208	2.40
16/01/2024	23:00	45	43	55	269	3.40
16/01/2024	23:15	46	44	54	331	4.00
16/01/2024	23:30	45	43	50	319	3.10
16/01/2024	23:45	46	44	53	315	3.90
17/01/2024	00:00	45	43	52	317	4.00
17/01/2024	00:15	45	43	53	320	3.80
17/01/2024	00:30	44	43	52	261	3.80
17/01/2024	00:45	45	43	50	314	3.20
17/01/2024	01:00	45	43	50	303	3.40

17/01/2024	01:15	45	43	53	277	3.40
17/01/2024	01:30	45	43	53	299	3.50
17/01/2024	01:45	45	43	49	274	3.80
17/01/2024	02:00	45	42	52	319	3.10
17/01/2024	02:15	44	43	50	335	3.00
17/01/2024	02:30	45	44	51	334	3.80
17/01/2024	02:45	46	45	53	333	2.70
17/01/2024	03:00	47	46	53	332	2.80
17/01/2024	03:15	47	46	55	335	3.10
17/01/2024	03:30	47	45	53	245	0.80
17/01/2024	03:45	52	47	74	293	0.80
17/01/2024	04:00	48	47	54	249	0.50
17/01/2024	04:15	48	47	57	318	0.90
17/01/2024	04:30	49	48	56	332	1.10
17/01/2024	04:45	49	48	56	332	1.30
17/01/2024	05:00	50	48	57	342	1.40
17/01/2024	05:15	50	49	59	351	1.60
17/01/2024	05:30	51	49	73	345	1.40
17/01/2024	05:45	50	49	57	338	1.80
17/01/2024	06:00	51	49	68	348	2.60
17/01/2024	06:15	49	48	56	346	1.90
17/01/2024	06:30	52	48	77	347	2.00
17/01/2024	06:45	55	48	80	341	1.20
17/01/2024	23:00	48	46	54	220	0.70
17/01/2024	23:15	48	46	58	235	0.50
17/01/2024	23:30	48	46	57	214	0.60
17/01/2024	23:45	47	46	58	201	0.60
18/01/2024	00:00	49	48	54	224	0.50
18/01/2024	00:15	48	47	52	198	0.60
18/01/2024	00:30	49	48	58	218	0.70
18/01/2024	00:45	48	47	55	238	0.80
18/01/2024	01:00	47	46	55	220	0.50
18/01/2024	01:15	47	46	54	229	0.80
18/01/2024	01:30	47	46	52	205	0.80
18/01/2024	01:45	48	45	59	236	0.70
18/01/2024	02:00	45	43	53	228	0.60
18/01/2024	02:15	46	44	54	269	0.80
18/01/2024	02:30	45	43	52	320	1.00
18/01/2024	02:45	44	43	50	333	2.30
18/01/2024	03:00	44	43	50	334	3.40
18/01/2024	03:15	44	42	53	335	3.50
18/01/2024	03:30	43	42	53	333	3.10
18/01/2024	03:45	44	42	51	338	2.70
18/01/2024	04:00	45	44	55	343	2.30
18/01/2024	04:15	45	44	54	333	2.30
18/01/2024	04:30	45	44	53	331	2.50
18/01/2024	04:45	45	44	54	331	2.40
18/01/2024	05:00	44	43	52	332	2.80
18/01/2024	05:15	45	44	52	331	2.30
18/01/2024	05:30	46	44	53	333	3.00
18/01/2024	05:45	46	45	54	337	2.10
18/01/2024	06:00	52	46	73	342	1.50
18/01/2024	06:15	59	47	84	349	1.50
18/01/2024	06:30	59	47	85	355	1.10
18/01/2024	06:45	50	48	54	339	0.90
18/01/2024	23:00	51	47	75	333	1.80

18/01/2024	23:15	49	47	54	282	1.30
18/01/2024	23:30	49	48	55	203	1.00
18/01/2024	23:45	49	47	56	195	1.90
19/01/2024	00:00	48	48	59	248	1.50
19/01/2024	00:15	51	47	72	202	0.80
19/01/2024	00:30	48	47	52	214	1.00
19/01/2024	00:45	49	47	55	188	1.40
19/01/2024	01:00	49	48	54	200	1.20
19/01/2024	01:15	48	47	55	314	1.20
19/01/2024	01:30	47	47	52	297	1.20
19/01/2024	01:45	50	47	63	344	1.30
19/01/2024	02:00	50	48	57	228	1.20
19/01/2024	02:15	51	49	58	228	0.90
19/01/2024	02:30	49	48	54	269	1.00
19/01/2024	02:45	50	48	57	297	0.70
19/01/2024	03:00	50	49	54	195	0.80
19/01/2024	03:15	49	48	53	116	1.10
19/01/2024	03:30	49	48	54	223	1.60
19/01/2024	03:45	48	47	53	226	1.40
19/01/2024	04:00	48	47	56	197	1.20
19/01/2024	04:15	48	46	52	207	1.50
19/01/2024	04:30	48	47	53	317	0.90
19/01/2024	04:45	50	46	73	185	1.70
19/01/2024	05:00	50	47	72	201	1.60
19/01/2024	05:15	48	47	53	194	1.20
19/01/2024	05:30	48	47	55	216	0.90
19/01/2024	05:45	50	45	75	199	1.40
19/01/2024	06:00	47	45	57	239	1.40
19/01/2024	06:15	50	48	69	252	0.90
19/01/2024	06:30	49	48	53	184	1.80
19/01/2024	06:45	48	47	67	194	1.70
19/01/2024	23:00	47	45	52	187	2.30
19/01/2024	23:15	45	44	51	186	2.70
19/01/2024	23:30	45	44	50	189	2.20
19/01/2024	23:45	46	45	51	184	2.70
20/01/2024	00:00	47	45	53	185	3.10
20/01/2024	00:15	47	46	53	192	3.00
20/01/2024	00:30	47	45	53	210	2.20
20/01/2024	00:45	44	42	49	201	1.70
20/01/2024	01:00	44	42	53	193	3.60
20/01/2024	01:15	45	42	68	199	5.20
20/01/2024	01:30	43	41	49	204	3.30
20/01/2024	01:45	43	41	49	191	3.80
20/01/2024	02:00	44	42	49	191	7.70
20/01/2024	02:15	43	41	48	192	4.40
20/01/2024	02:30	44	42	50	189	4.50
20/01/2024	02:45	43	42	48	191	4.10
20/01/2024	03:00	43	42	49	204	4.70
20/01/2024	03:15	43	42	48	198	4.20
20/01/2024	03:30	43	41	51	190	4.00
20/01/2024	03:45	43	41	53	191	6.20
20/01/2024	04:00	49	42	74	187	4.40
20/01/2024	04:15	45	43	51	190	4.60
20/01/2024	04:30	46	44	53	187	3.70
20/01/2024	04:45	46	44	50	185	3.80
20/01/2024	05:00	45	44	52	183	3.70

20/01/2024	05:15	44	43	49	183	2.90
20/01/2024	05:30	44	42	51	183	4.60
20/01/2024	05:45	47	42	71	183	3.80
20/01/2024	06:00	44	42	50	185	3.10
20/01/2024	06:15	45	43	50	182	3.20
20/01/2024	06:30	45	43	50	188	3.70
20/01/2024	06:45	45	43	58	187	3.30
21/01/2024	04:30	44	42	49	201	3.30
21/01/2024	04:45	44	42	60	201	3.20
21/01/2024	05:00	45	43	51	197	4.00
21/01/2024	05:15	44	42	50	197	2.60
21/01/2024	05:30	50	43	77	210	3.20
22/01/2024	01:30	49	46	59	277	5.30
22/01/2024	01:45	50	46	69	271	7.10
22/01/2024	02:00	50	47	63	281	6.10
22/01/2024	02:15	52	48	76	279	5.40
22/01/2024	02:30	49	47	61	263	7.40
22/01/2024	02:45	50	46	66	267	5.70
22/01/2024	03:00	49	46	60	309	6.20
22/01/2024	03:15	52	47	79	278	7.00
22/01/2024	03:30	49	46	61	309	4.80
22/01/2024	03:45	49	46	69	278	5.80
22/01/2024	04:00	47	44	57	269	5.60
22/01/2024	04:15	48	45	61	278	4.80
22/01/2024	04:30	47	45	60	255	5.50
22/01/2024	04:45	47	44	57	259	4.60
22/01/2024	05:00	47	44	68	261	5.00
22/01/2024	05:15	50	44	76	266	4.20
22/01/2024	05:30	48	44	67	291	3.80
22/01/2024	05:45	51	45	76	284	7.20
22/01/2024	06:00	47	44	53	275	4.80
22/01/2024	06:15	47	45	52	285	6.10
22/01/2024	06:30	46	44	52	286	4.50
22/01/2024	06:45	46	44	52	294	4.60
22/01/2024	23:00	46	44	58	346	4.10
22/01/2024	23:15	49	44	72	328	4.70
22/01/2024	23:30	50	44	74	301	4.90
22/01/2024	23:45	46	44	55	272	3.80
23/01/2024	00:00	46	44	50	253	3.90
23/01/2024	00:15	45	43	50	271	2.90
23/01/2024	00:30	48	43	73	264	3.90
23/01/2024	00:45	51	43	76	283	3.60
23/01/2024	01:00	57	44	84	299	4.00
23/01/2024	01:15	45	44	50	315	3.20
23/01/2024	01:30	44	42	49	279	3.30
23/01/2024	01:45	44	42	50	277	3.90
23/01/2024	02:00	45	42	55	286	3.80
23/01/2024	02:15	45	43	55	311	5.40
23/01/2024	02:30	45	43	53	350	5.80
23/01/2024	02:45	45	43	51	26	3.80
23/01/2024	03:00	46	44	53	10	5.20
23/01/2024	03:15	48	46	54	287	1.70
23/01/2024	03:30	47	45	51	284	1.00
23/01/2024	03:45	45	44	49	210	0.60
23/01/2024	04:00	46	45	52	87	1.50
23/01/2024	04:15	46	44	52	233	2.20

23/01/2024	04:30	47	46	51	206	1.20
23/01/2024	04:45	48	46	69	239	1.90
23/01/2024	05:00	49	45	73	242	2.00
23/01/2024	05:15	44	42	50	254	3.50
23/01/2024	05:30	52	44	78	245	1.60
23/01/2024	05:45	45	43	50	259	2.90
23/01/2024	06:00	45	43	50	266	2.90
23/01/2024	06:15	45	43	49	242	4.70
23/01/2024	06:30	46	45	51	238	3.00
23/01/2024	06:45	53	48	74	236	3.20
23/01/2024	23:00	57	52	76	274	8.80
23/01/2024	23:15	52	49	69	271	7.60
24/01/2024	02:45	54	50	65	37	6.40
24/01/2024	03:00	55	50	65	335	6.90
24/01/2024	03:15	54	51	70	297	6.50
24/01/2024	03:30	53	50	69	293	6.90
24/01/2024	03:45	54	49	75	291	4.90
24/01/2024	04:00	54	49	75	282	5.50
24/01/2024	04:15	55	49	79	15	5.80
24/01/2024	06:00	56	46	84	15	6.30
24/01/2024	06:15	49	47	59	41	6.30
24/01/2024	06:30	56	47	83	22	6.50
24/01/2024	06:45	57	47	78	357	6.20
24/01/2024	23:00	47	45	56	277	1.30
24/01/2024	23:15	46	45	55	262	1.20
24/01/2024	23:30	45	43	53	266	1.60
24/01/2024	23:45	46	44	54	65	0.70
25/01/2024	00:00	47	45	52	264	1.50
25/01/2024	00:15	46	45	50	23	0.40
25/01/2024	00:30	46	45	52	234	1.10
25/01/2024	00:45	48	46	54	265	1.60
25/01/2024	01:00	47	45	52	266	1.30
25/01/2024	01:15	46	45	50	266	2.40
25/01/2024	01:30	46	45	51	260	2.00
25/01/2024	01:45	48	46	56	259	1.40
25/01/2024	02:00	53	44	81	263	1.20
25/01/2024	02:15	51	46	77	266	0.80
25/01/2024	02:30	46	46	50	260	1.10
25/01/2024	02:45	46	45	50	256	0.80
25/01/2024	03:00	45	43	51	279	1.30
25/01/2024	03:15	45	44	50	266	1.80
25/01/2024	03:30	45	44	49	263	1.40
25/01/2024	03:45	45	44	50	267	1.50
25/01/2024	04:00	46	45	50	262	2.10
25/01/2024	04:15	47	45	50	268	1.60
25/01/2024	04:30	47	46	51	265	1.90
25/01/2024	04:45	47	46	51	264	2.20
25/01/2024	06:30	53	46	81	265	1.70
25/01/2024	06:45	53	46	76	268	2.40
25/01/2024	23:30	46	44	53	277	6.00
25/01/2024	23:45	48	45	65	287	6.10
26/01/2024	00:00	48	46	56	291	5.50
26/01/2024	00:15	51	48	62	294	7.60
26/01/2024	00:30	56	50	79	286	6.70
26/01/2024	00:45	52	48	73	292	5.90
26/01/2024	01:00	48	46	62	289	6.40

26/01/2024	01:15	46	43	51	286	5.60
26/01/2024	01:30	46	43	57	285	5.40
26/01/2024	01:45	48	45	65	285	6.50
26/01/2024	05:30	53	44	77	61	7.00
26/01/2024	05:45	46	44	52	23	4.90
26/01/2024	06:00	47	45	58	49	4.90
26/01/2024	06:15	53	47	77	47	6.20
26/01/2024	06:30	50	47	67	29	6.10
26/01/2024	06:45	55	50	77	57	7.50
26/01/2024	23:00	52	44	78	273	1.90
26/01/2024	23:15	46	43	58	270	1.30
26/01/2024	23:30	45	44	50	264	1.50
26/01/2024	23:45	44	43	49	269	1.70
27/01/2024	00:00	45	43	49	269	2.40
27/01/2024	00:15	43	42	49	273	2.40
27/01/2024	00:30	46	43	55	277	2.70
27/01/2024	00:45	46	44	53	272	2.90
27/01/2024	01:00	45	43	52	266	2.50
27/01/2024	01:15	45	43	54	267	3.30
27/01/2024	01:30	46	45	52	281	2.90
27/01/2024	01:45	46	44	52	270	2.00
27/01/2024	02:00	45	44	50	266	2.60
27/01/2024	02:15	45	44	50	261	2.40
27/01/2024	02:30	46	45	52	267	2.30
27/01/2024	02:45	45	44	49	271	2.20
27/01/2024	03:00	45	44	50	273	2.10
27/01/2024	03:15	46	45	49	259	2.70
27/01/2024	03:30	46	45	50	266	2.50
27/01/2024	03:45	50	45	75	259	1.50
27/01/2024	04:00	46	45	50	271	1.60
27/01/2024	04:15	46	45	50	263	2.20
27/01/2024	04:30	46	45	52	252	1.70
27/01/2024	04:45	48	47	54	268	1.90
27/01/2024	05:00	47	46	53	262	1.90
27/01/2024	05:15	48	46	71	274	1.80
27/01/2024	05:30	50	46	76	267	1.50
27/01/2024	05:45	48	47	54	268	1.60
27/01/2024	06:00	48	47	57	285	1.40
27/01/2024	06:15	48	47	53	227	0.90
27/01/2024	06:30	48	47	55	272	1.40
27/01/2024	06:45	47	46	53	264	2.00
27/01/2024	23:00	48	46	53	274	2.50
27/01/2024	23:15	48	47	53	270	3.30
27/01/2024	23:30	52	47	76	270	2.40
27/01/2024	23:45	47	46	54	269	1.80
28/01/2024	00:00	47	46	53	267	1.00
28/01/2024	00:15	54	47	77	82	0.80
28/01/2024	00:30	48	47	55	282	1.30
28/01/2024	00:45	47	46	52	264	1.50
28/01/2024	01:00	47	46	53	259	1.30
28/01/2024	01:15	47	46	52	83	1.00
28/01/2024	01:30	46	45	51	270	1.30
28/01/2024	01:45	46	45	53	283	1.40
28/01/2024	02:00	46	45	53	91	1.40
28/01/2024	02:15	47	45	54	271	1.80
28/01/2024	02:30	46	45	51	257	1.80

28/01/2024	02:45	47	45	52	271	2.00
28/01/2024	03:00	47	45	54	254	2.60
28/01/2024	03:15	46	45	56	271	2.20
28/01/2024	03:30	46	44	51	266	2.20
28/01/2024	03:45	46	44	52	272	2.10
28/01/2024	04:00	48	44	73	265	2.60
28/01/2024	04:15	45	44	51	266	2.00
28/01/2024	04:30	46	45	52	268	1.90
28/01/2024	04:45	47	46	52	102	1.30
28/01/2024	05:00	47	46	53	278	1.60
28/01/2024	05:15	48	46	55	231	1.60
28/01/2024	05:30	47	47	53	260	2.20
28/01/2024	05:45	47	46	53	260	1.90
28/01/2024	06:00	48	47	53	271	1.90
28/01/2024	06:15	48	47	56	268	2.20
28/01/2024	06:30	49	47	69	239	2.60
28/01/2024	06:45	49	47	70	272	2.00
28/01/2024	23:00	45	43	50	275	2.40
28/01/2024	23:15	44	43	49	289	1.10
28/01/2024	23:30	45	44	54	265	1.30
28/01/2024	23:45	45	44	49	265	1.60
29/01/2024	00:00	46	45	50	252	1.60
29/01/2024	00:15	46	45	51	269	1.90
29/01/2024	00:30	46	45	50	264	1.50
29/01/2024	00:45	46	45	50	261	1.40
29/01/2024	01:00	45	43	50	257	1.90
29/01/2024	01:15	45	44	51	262	1.70
29/01/2024	01:30	45	44	49	263	1.90
29/01/2024	01:45	44	43	51	271	1.10
29/01/2024	02:00	46	45	54	97	1.30
29/01/2024	02:15	49	48	56	87	1.40
29/01/2024	02:30	50	49	56	84	1.70
29/01/2024	02:45	51	49	59	105	1.70
29/01/2024	03:00	50	49	57	91	2.30
29/01/2024	03:15	50	48	58	90	1.80
29/01/2024	03:30	50	49	56	88	2.20
29/01/2024	03:45	50	49	55	87	1.80
29/01/2024	23:00	45	44	50	264	1.00
29/01/2024	23:15	46	45	54	79	3.00
29/01/2024	23:30	46	45	54	68	3.60
29/01/2024	23:45	48	45	69	69	3.90
30/01/2024	01:15	46	44	55	100	1.70
30/01/2024	01:30	47	45	54	74	3.90
30/01/2024	01:45	46	45	56	66	3.30
30/01/2024	02:00	47	45	54	69	2.50
30/01/2024	02:15	48	46	56	74	2.70
30/01/2024	02:30	49	47	61	75	3.00
30/01/2024	02:45	48	47	60	76	4.30
30/01/2024	03:00	48	46	55	75	4.50
30/01/2024	03:15	48	46	56	70	4.90
30/01/2024	03:30	48	47	57	66	5.00
30/01/2024	03:45	48	47	60	69	4.00
30/01/2024	04:00	49	47	56	67	6.10
30/01/2024	04:15	48	47	56	68	6.60
30/01/2024	04:30	49	47	56	69	5.60
30/01/2024	04:45	48	47	56	66	5.60

30/01/2024	05:00	49	47	61	67	5.20
30/01/2024	05:15	48	46	56	66	4.10
30/01/2024	05:30	48	46	58	71	3.40
30/01/2024	05:45	52	47	75	67	4.90
30/01/2024	06:00	50	46	75	68	4.10
30/01/2024	06:15	48	47	58	70	4.40
30/01/2024	06:30	48	46	57	68	4.30
30/01/2024	06:45	51	48	73	68	4.00
30/01/2024	23:00	50	44	77	260	1.00
30/01/2024	23:15	47	45	57	250	1.20
30/01/2024	23:30	46	45	51	263	1.50
30/01/2024	23:45	44	43	48	270	1.50
31/01/2024	00:00	47	45	52	272	2.60
31/01/2024	00:15	45	43	62	265	1.50
31/01/2024	00:30	43	42	46	271	1.70
31/01/2024	00:45	45	44	48	274	1.70
31/01/2024	01:00	47	45	49	263	1.20
31/01/2024	01:15	46	46	50	283	1.50
31/01/2024	01:30	47	46	50	253	1.20
31/01/2024	01:45	49	47	56	200	0.80
31/01/2024	02:00	48	47	52	263	1.60
31/01/2024	02:15	47	46	52	269	1.80
31/01/2024	02:30	47	45	51	268	1.80
31/01/2024	02:45	48	47	51	224	1.00
31/01/2024	03:00	47	46	51	251	0.80
31/01/2024	03:15	46	46	51	99	0.50
31/01/2024	03:30	46	45	50	70	0.90
31/01/2024	03:45	46	45	50	66	1.10
31/01/2024	04:00	47	45	52	257	0.80
31/01/2024	04:15	48	46	52	99	0.70
31/01/2024	04:30	47	46	51	41	0.90
31/01/2024	04:45	47	46	51	117	0.60
31/01/2024	05:00	47	46	50	263	1.50
31/01/2024	05:15	47	47	50	272	1.90
31/01/2024	05:30	46	45	51	103	1.60
31/01/2024	05:45	46	45	49	266	2.00
31/01/2024	06:00	47	46	52	272	2.10
31/01/2024	06:15	50	47	70	272	2.10
31/01/2024	06:30	47	46	53	271	2.60
31/01/2024	06:45	56	48	79	264	2.60

Raw data and central tendencies for location NSR 3: Residence on Lwyn-y-cil Road

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	46	45	50
Mean	47	45	54
Mean - 1 s.d.	44	43	-
Log Average	47	-	-

Table 7.1.3 (c): Night-time period (23:45 to 04:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:45	44	42	48	241	0.90
16/01/2024	00:00	45	43	51	212	1.20
16/01/2024	00:15	45	43	49	234	1.20
16/01/2024	00:30	45	44	50	191	1.60
16/01/2024	00:45	47	44	65	226	1.30
16/01/2024	01:00	45	43	49	190	1.40
16/01/2024	01:15	44	43	49	210	1.90
16/01/2024	01:30	44	43	49	202	1.10
16/01/2024	01:45	44	43	48	199	1.60
16/01/2024	02:00	45	44	50	188	1.30
16/01/2024	02:15	46	45	51	204	1.40
16/01/2024	02:30	47	46	53	217	0.90
16/01/2024	02:45	47	46	53	298	0.90
16/01/2024	03:00	46	45	50	319	0.80
16/01/2024	03:15	46	46	52	223	0.70
16/01/2024	03:30	46	45	51	192	1.20
16/01/2024	03:45	46	45	50	188	1.70
16/01/2024	23:45	46	44	53	315	3.90
17/01/2024	00:00	45	43	52	317	4.00
17/01/2024	00:15	45	43	53	320	3.80
17/01/2024	00:30	44	43	52	261	3.80
17/01/2024	00:45	45	43	50	314	3.20
17/01/2024	01:00	45	43	50	303	3.40
17/01/2024	01:15	45	43	53	277	3.40
17/01/2024	01:30	45	43	53	299	3.50
17/01/2024	01:45	45	43	49	274	3.80
17/01/2024	02:00	45	42	52	319	3.10
17/01/2024	02:15	44	43	50	335	3.00
17/01/2024	02:30	45	44	51	334	3.80
17/01/2024	02:45	46	45	53	333	2.70
17/01/2024	03:00	47	46	53	332	2.80
17/01/2024	03:15	47	46	55	335	3.10
17/01/2024	03:30	47	45	53	245	0.80
17/01/2024	03:45	52	47	74	293	0.80
17/01/2024	23:45	47	46	58	201	0.60
18/01/2024	00:00	49	48	54	224	0.50
18/01/2024	00:15	48	47	52	198	0.60
18/01/2024	00:30	49	48	58	218	0.70
18/01/2024	00:45	48	47	55	238	0.80
18/01/2024	01:00	47	46	55	220	0.50
18/01/2024	01:15	47	46	54	229	0.80

18/01/2024	01:30	47	46	52	205	0.80
18/01/2024	01:45	48	45	59	236	0.70
18/01/2024	02:00	45	43	53	228	0.60
18/01/2024	02:15	46	44	54	269	0.80
18/01/2024	02:30	45	43	52	320	1.00
18/01/2024	02:45	44	43	50	333	2.30
18/01/2024	03:00	44	43	50	334	3.40
18/01/2024	03:15	44	42	53	335	3.50
18/01/2024	03:30	43	42	53	333	3.10
18/01/2024	03:45	44	42	51	338	2.70
18/01/2024	23:45	49	47	56	195	1.90
19/01/2024	00:00	48	48	59	248	1.50
19/01/2024	00:15	51	47	72	202	0.80
19/01/2024	00:30	48	47	52	214	1.00
19/01/2024	00:45	49	47	55	188	1.40
19/01/2024	01:00	49	48	54	200	1.20
19/01/2024	01:15	48	47	55	314	1.20
19/01/2024	01:30	47	47	52	297	1.20
19/01/2024	01:45	50	47	63	344	1.30
19/01/2024	02:00	50	48	57	228	1.20
19/01/2024	02:15	51	49	58	228	0.90
19/01/2024	02:30	49	48	54	269	1.00
19/01/2024	02:45	50	48	57	297	0.70
19/01/2024	03:00	50	49	54	195	0.80
19/01/2024	03:15	49	48	53	116	1.10
19/01/2024	03:30	49	48	54	223	1.60
19/01/2024	03:45	48	47	53	226	1.40
19/01/2024	23:45	46	45	51	184	2.70
20/01/2024	00:00	47	45	53	185	3.10
20/01/2024	00:15	47	46	53	192	3.00
20/01/2024	00:30	47	45	53	210	2.20
20/01/2024	00:45	44	42	49	201	1.70
20/01/2024	01:00	44	42	53	193	3.60
20/01/2024	01:15	45	42	68	199	5.20
20/01/2024	01:30	43	41	49	204	3.30
20/01/2024	01:45	43	41	49	191	3.80
20/01/2024	02:00	44	42	49	191	7.70
20/01/2024	02:15	43	41	48	192	4.40
20/01/2024	02:30	44	42	50	189	4.50
20/01/2024	02:45	43	42	48	191	4.10
20/01/2024	03:00	43	42	49	204	4.70
20/01/2024	03:15	43	42	48	198	4.20
20/01/2024	03:30	43	41	51	190	4.00
20/01/2024	03:45	43	41	53	191	6.20
22/01/2024	01:30	49	46	59	277	5.30
22/01/2024	01:45	50	46	69	271	7.10
22/01/2024	02:00	50	47	63	281	6.10
22/01/2024	02:15	52	48	76	279	5.40
22/01/2024	02:30	49	47	61	263	7.40
22/01/2024	02:45	50	46	66	267	5.70
22/01/2024	03:00	49	46	60	309	6.20
22/01/2024	03:15	52	47	79	278	7.00
22/01/2024	03:30	49	46	61	309	4.80
22/01/2024	03:45	49	46	69	278	5.80
22/01/2024	23:45	46	44	55	272	3.80
23/01/2024	00:00	46	44	50	253	3.90

23/01/2024	00:15	45	43	50	271	2.90
23/01/2024	00:30	48	43	73	264	3.90
23/01/2024	00:45	51	43	76	283	3.60
23/01/2024	01:00	57	44	84	299	4.00
23/01/2024	01:15	45	44	50	315	3.20
23/01/2024	01:30	44	42	49	279	3.30
23/01/2024	01:45	44	42	50	277	3.90
23/01/2024	02:00	45	42	55	286	3.80
23/01/2024	02:15	45	43	55	311	5.40
23/01/2024	02:30	45	43	53	350	5.80
23/01/2024	02:45	45	43	51	26	3.80
23/01/2024	03:00	46	44	53	10	5.20
23/01/2024	03:15	48	46	54	287	1.70
23/01/2024	03:30	47	45	51	284	1.00
23/01/2024	03:45	45	44	49	210	0.60
24/01/2024	02:45	54	50	65	37	6.40
24/01/2024	03:00	55	50	65	335	6.90
24/01/2024	03:15	54	51	70	297	6.50
24/01/2024	03:30	53	50	69	293	6.90
24/01/2024	03:45	54	49	75	291	4.90
24/01/2024	23:45	46	44	54	65	0.70
25/01/2024	00:00	47	45	52	264	1.50
25/01/2024	00:15	46	45	50	23	0.40
25/01/2024	00:30	46	45	52	234	1.10
25/01/2024	00:45	48	46	54	265	1.60
25/01/2024	01:00	47	45	52	266	1.30
25/01/2024	01:15	46	45	50	266	2.40
25/01/2024	01:30	46	45	51	260	2.00
25/01/2024	01:45	48	46	56	259	1.40
25/01/2024	02:00	53	44	81	263	1.20
25/01/2024	02:15	51	46	77	266	0.80
25/01/2024	02:30	46	46	50	260	1.10
25/01/2024	02:45	46	45	50	256	0.80
25/01/2024	03:00	45	43	51	279	1.30
25/01/2024	03:15	45	44	50	266	1.80
25/01/2024	03:30	45	44	49	263	1.40
25/01/2024	03:45	45	44	50	267	1.50
25/01/2024	23:45	48	45	65	287	6.10
26/01/2024	00:00	48	46	56	291	5.50
26/01/2024	00:15	51	48	62	294	7.60
26/01/2024	00:30	56	50	79	286	6.70
26/01/2024	00:45	52	48	73	292	5.90
26/01/2024	01:00	48	46	62	289	6.40
26/01/2024	01:15	46	43	51	286	5.60
26/01/2024	01:30	46	43	57	285	5.40
26/01/2024	01:45	48	45	65	285	6.50
26/01/2024	23:45	44	43	49	269	1.70
27/01/2024	00:00	45	43	49	269	2.40
27/01/2024	00:15	43	42	49	273	2.40
27/01/2024	00:30	46	43	55	277	2.70
27/01/2024	00:45	46	44	53	272	2.90
27/01/2024	01:00	45	43	52	266	2.50
27/01/2024	01:15	45	43	54	267	3.30
27/01/2024	01:30	46	45	52	281	2.90
27/01/2024	01:45	46	44	52	270	2.00
27/01/2024	02:00	45	44	50	266	2.60

27/01/2024	02:15	45	44	50	261	2.40
27/01/2024	02:30	46	45	52	267	2.30
27/01/2024	02:45	45	44	49	271	2.20
27/01/2024	03:00	45	44	50	273	2.10
27/01/2024	03:15	46	45	49	259	2.70
27/01/2024	03:30	46	45	50	266	2.50
27/01/2024	03:45	50	45	75	259	1.50
27/01/2024	23:45	47	46	54	269	1.80
28/01/2024	00:00	47	46	53	267	1.00
28/01/2024	00:15	54	47	77	82	0.80
28/01/2024	00:30	48	47	55	282	1.30
28/01/2024	00:45	47	46	52	264	1.50
28/01/2024	01:00	47	46	53	259	1.30
28/01/2024	01:15	47	46	52	83	1.00
28/01/2024	01:30	46	45	51	270	1.30
28/01/2024	01:45	46	45	53	283	1.40
28/01/2024	02:00	46	45	53	91	1.40
28/01/2024	02:15	47	45	54	271	1.80
28/01/2024	02:30	46	45	51	257	1.80
28/01/2024	02:45	47	45	52	271	2.00
28/01/2024	03:00	47	45	54	254	2.60
28/01/2024	03:15	46	45	56	271	2.20
28/01/2024	03:30	46	44	51	266	2.20
28/01/2024	03:45	46	44	52	272	2.10
28/01/2024	23:45	45	44	49	265	1.60
29/01/2024	00:00	46	45	50	252	1.60
29/01/2024	00:15	46	45	51	269	1.90
29/01/2024	00:30	46	45	50	264	1.50
29/01/2024	00:45	46	45	50	261	1.40
29/01/2024	01:00	45	43	50	257	1.90
29/01/2024	01:15	45	44	51	262	1.70
29/01/2024	01:30	45	44	49	263	1.90
29/01/2024	01:45	44	43	51	271	1.10
29/01/2024	02:00	46	45	54	97	1.30
29/01/2024	02:15	49	48	56	87	1.40
29/01/2024	02:30	50	49	56	84	1.70
29/01/2024	02:45	51	49	59	105	1.70
29/01/2024	03:00	50	49	57	91	2.30
29/01/2024	03:15	50	48	58	90	1.80
29/01/2024	03:30	50	49	56	88	2.20
29/01/2024	03:45	50	49	55	87	1.80
29/01/2024	23:45	48	45	69	69	3.90
30/01/2024	01:15	46	44	55	100	1.70
30/01/2024	01:30	47	45	54	74	3.90
30/01/2024	01:45	46	45	56	66	3.30
30/01/2024	02:00	47	45	54	69	2.50
30/01/2024	02:15	48	46	56	74	2.70
30/01/2024	02:30	49	47	61	75	3.00
30/01/2024	02:45	48	47	60	76	4.30
30/01/2024	03:00	48	46	55	75	4.50
30/01/2024	03:15	48	46	56	70	4.90
30/01/2024	03:30	48	47	57	66	5.00
30/01/2024	03:45	48	47	60	69	4.00
30/01/2024	23:45	44	43	48	270	1.50
31/01/2024	00:00	47	45	52	272	2.60
31/01/2024	00:15	45	43	62	265	1.50

31/01/2024	00:30	43	42	46	271	1.70
31/01/2024	00:45	45	44	48	274	1.70
31/01/2024	01:00	47	45	49	263	1.20
31/01/2024	01:15	46	46	50	283	1.50
31/01/2024	01:30	47	46	50	253	1.20
31/01/2024	01:45	49	47	56	200	0.80
31/01/2024	02:00	48	47	52	263	1.60
31/01/2024	02:15	47	46	52	269	1.80
31/01/2024	02:30	47	45	51	268	1.80
31/01/2024	02:45	48	47	51	224	1.00
31/01/2024	03:00	47	46	51	251	0.80
31/01/2024	03:15	46	46	51	99	0.50
31/01/2024	03:30	46	45	50	70	0.90
31/01/2024	03:45	46	45	50	66	1.10

Raw data and central tendencies for location NSR 4: Hall Farm

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	48	45	64
Mean	47	41	66
Mean - 1 s.d.	43	36	-
Log Average	49	-	-

Table 7.1.4 (a): Daytime period (07:00 to 23:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	15:15	50	35	70	336	2.10
15/01/2024	15:30	42	36	65	330	2.30
15/01/2024	15:45	45	37	65	329	1.50
15/01/2024	16:00	51	38	72	330	1.30
15/01/2024	16:15	49	46	65	344	1.90
15/01/2024	16:30	48	43	64	333	1.30
15/01/2024	16:45	47	45	67	304	0.70
15/01/2024	17:00	45	36	65	303	0.90
15/01/2024	17:15	41	37	61	197	0.70
15/01/2024	17:30	45	37	69	344	0.60
15/01/2024	17:45	44	38	62	244	0.80
15/01/2024	18:00	38	34	50	255	0.60
15/01/2024	18:15	36	33	48	307	0.70
15/01/2024	18:30	43	36	63	221	0.60
15/01/2024	18:45	43	33	65	319	0.80
15/01/2024	19:00	41	33	64	193	0.60
15/01/2024	19:15	41	33	65	335	0.90
15/01/2024	19:30	41	33	63	224	0.90
15/01/2024	19:45	35	34	43	315	1.00
15/01/2024	20:00	35	33	46	226	0.90
15/01/2024	20:15	36	34	45	315	0.80
15/01/2024	20:30	42	35	63	266	0.50
15/01/2024	20:45	36	34	46	185	1.20
15/01/2024	21:00	34	32	42	308	0.90
15/01/2024	21:15	39	32	61	203	0.60
15/01/2024	21:30	35	33	48	258	1.10
15/01/2024	21:45	42	31	65	209	1.00
15/01/2024	22:00	33	31	44	211	1.00
15/01/2024	22:15	31	30	43	298	0.90
15/01/2024	22:30	31	30	47	232	1.20
15/01/2024	22:45	32	30	47	294	0.70
16/01/2024	07:00	44	40	59	214	3.40
16/01/2024	07:15	49	43	59	215	2.70
16/01/2024	07:30	51	43	73	263	1.70
16/01/2024	07:45	53	45	76	256	2.00
16/01/2024	08:00	54	48	72	192	1.60
16/01/2024	08:15	54	49	73	203	1.70
16/01/2024	08:30	54	49	74	202	1.60
16/01/2024	08:45	55	48	71	193	3.20
16/01/2024	09:00	53	47	72	192	1.70
16/01/2024	09:15	53	43	75	188	2.00

16/01/2024	09:30	49	37	72	187	1.50
16/01/2024	09:45	47	39	71	217	2.30
16/01/2024	10:00	52	40	74	230	3.20
16/01/2024	10:15	49	40	73	223	3.00
16/01/2024	10:30	49	40	72	227	2.30
16/01/2024	10:45	50	42	72	224	2.80
16/01/2024	11:00	51	41	75	222	2.20
16/01/2024	11:15	52	41	75	233	3.20
16/01/2024	11:30	50	41	76	220	2.90
16/01/2024	11:45	44	38	71	208	3.20
16/01/2024	12:00	52	39	73	226	2.90
16/01/2024	12:15	44	39	61	214	4.90
16/01/2024	12:30	50	40	76	212	5.00
16/01/2024	12:45	49	40	69	227	3.70
16/01/2024	13:00	50	42	67	218	4.50
16/01/2024	13:15	52	41	73	230	4.10
16/01/2024	13:30	50	40	70	209	6.40
16/01/2024	13:45	46	37	67	237	3.20
16/01/2024	14:00	48	39	69	222	4.20
16/01/2024	14:15	51	41	81	233	3.40
16/01/2024	14:30	53	42	73	222	3.20
16/01/2024	14:45	50	41	77	202	5.60
16/01/2024	15:00	49	41	67	208	4.20
16/01/2024	15:15	48	41	66	210	4.10
16/01/2024	15:30	45	41	59	194	4.00
16/01/2024	15:45	51	44	69	192	3.50
16/01/2024	16:00	49	42	70	193	4.20
16/01/2024	16:15	52	42	69	224	3.00
16/01/2024	16:30	46	41	63	205	4.50
16/01/2024	16:45	52	41	70	199	5.90
16/01/2024	17:00	48	41	66	209	3.40
16/01/2024	17:15	46	41	64	204	4.60
16/01/2024	17:30	47	42	63	213	4.50
16/01/2024	17:45	53	41	75	211	4.30
16/01/2024	18:00	47	41	65	221	5.30
16/01/2024	18:15	48	41	71	218	5.50
16/01/2024	18:30	44	41	57	192	6.40
16/01/2024	18:45	48	44	70	202	2.90
16/01/2024	19:00	54	44	75	210	2.70
16/01/2024	19:15	45	40	66	202	4.10
16/01/2024	19:30	43	38	63	193	3.50
16/01/2024	19:45	43	38	64	217	3.80
16/01/2024	20:00	41	38	55	229	3.90
16/01/2024	20:15	41	38	61	210	3.00
16/01/2024	20:30	42	38	59	207	3.40
16/01/2024	20:45	41	38	52	203	3.50
16/01/2024	21:00	42	40	53	200	3.90
16/01/2024	21:15	45	42	61	328	1.20
16/01/2024	21:30	43	39	57	210	1.40
16/01/2024	21:45	42	40	53	207	1.40
16/01/2024	22:00	41	38	52	223	2.00
16/01/2024	22:15	40	37	53	217	2.80
16/01/2024	22:30	42	38	56	257	3.80
16/01/2024	22:45	39	37	49	244	4.10
17/01/2024	07:00	44	40	66	325	1.30
17/01/2024	07:15	43	39	64	330	1.20

17/01/2024	07:30	45	41	71	329	0.70
17/01/2024	07:45	47	41	65	332	0.90
17/01/2024	08:00	49	41	71	326	0.90
17/01/2024	08:15	52	40	72	316	0.80
17/01/2024	08:30	50	39	73	326	0.70
17/01/2024	08:45	49	39	69	341	0.70
17/01/2024	09:00	46	39	65	334	1.10
17/01/2024	09:15	51	40	70	344	1.20
17/01/2024	09:30	55	41	75	343	0.80
17/01/2024	09:45	49	41	69	314	0.60
17/01/2024	10:00	47	43	75	338	1.00
17/01/2024	10:15	48	37	74	335	1.70
17/01/2024	10:30	42	37	64	338	1.50
17/01/2024	10:45	44	38	69	347	1.70
17/01/2024	11:00	45	40	66	350	2.80
17/01/2024	11:15	44	39	65	352	2.50
17/01/2024	11:30	45	41	62	352	2.60
17/01/2024	11:45	46	41	68	349	2.10
17/01/2024	12:00	45	40	63	347	2.60
17/01/2024	12:15	45	40	67	344	2.70
17/01/2024	12:30	45	40	60	348	1.90
17/01/2024	12:45	50	41	68	339	2.30
17/01/2024	13:00	52	40	74	349	2.10
17/01/2024	13:15	47	40	66	345	2.90
17/01/2024	13:30	44	40	69	350	2.40
17/01/2024	13:45	44	40	63	346	2.20
17/01/2024	14:00	45	38	64	348	2.40
17/01/2024	14:15	42	36	68	345	2.20
17/01/2024	14:30	48	36	71	352	2.50
17/01/2024	14:45	48	37	69	335	2.90
17/01/2024	15:00	50	37	71	343	2.30
17/01/2024	15:15	44	36	63	340	1.90
17/01/2024	15:30	47	38	67	344	2.20
17/01/2024	15:45	46	37	69	334	1.80
17/01/2024	16:00	50	39	74	336	1.40
17/01/2024	16:15	51	37	71	338	1.60
17/01/2024	16:30	45	37	66	334	1.10
17/01/2024	16:45	43	34	62	319	1.10
17/01/2024	17:00	44	33	66	308	1.20
17/01/2024	17:15	49	34	69	337	1.70
17/01/2024	17:30	44	34	66	333	1.10
17/01/2024	17:45	47	33	69	328	1.00
17/01/2024	18:00	40	33	65	331	0.90
17/01/2024	18:15	41	35	62	331	1.10
17/01/2024	18:30	38	34	63	252	0.70
17/01/2024	18:45	51	34	76	236	0.70
17/01/2024	19:00	45	34	71	206	0.40
17/01/2024	19:15	34	33	43	269	0.40
17/01/2024	19:30	43	34	67	331	0.40
17/01/2024	19:45	43	35	64	352	0.90
17/01/2024	20:00	36	34	51	352	1.10
17/01/2024	20:15	40	33	64	337	0.90
17/01/2024	20:30	34	32	54	355	1.60
17/01/2024	20:45	37	33	61	344	1.20
17/01/2024	21:00	34	33	46	346	1.40
17/01/2024	21:15	34	33	46	352	1.60

17/01/2024	21:30	37	33	48	353	1.00
17/01/2024	21:45	39	33	62	348	1.10
17/01/2024	22:00	34	33	47	285	0.60
17/01/2024	22:15	33	31	41	261	0.80
17/01/2024	22:30	33	31	47	223	0.70
17/01/2024	22:45	41	37	52	212	0.60
18/01/2024	07:00	52	37	76	347	1.00
18/01/2024	07:15	48	36	71	336	2.20
18/01/2024	07:30	45	38	63	333	3.10
18/01/2024	07:45	51	39	72	335	3.40
18/01/2024	08:00	50	39	71	340	2.30
18/01/2024	08:15	53	37	72	351	1.60
18/01/2024	08:30	52	37	73	267	1.20
18/01/2024	08:45	53	39	73	220	0.70
18/01/2024	09:00	51	45	70	260	0.70
18/01/2024	09:15	54	43	75	349	1.20
18/01/2024	09:30	48	38	69	346	1.50
18/01/2024	09:45	51	41	73	344	0.70
18/01/2024	10:00	51	40	73	352	1.00
18/01/2024	10:15	51	36	69	341	1.20
18/01/2024	10:30	46	34	68	335	3.00
18/01/2024	10:45	51	37	71	335	2.00
18/01/2024	11:00	49	36	72	333	2.40
18/01/2024	11:15	49	35	78	336	2.80
18/01/2024	11:30	51	36	74	336	3.00
18/01/2024	11:45	52	36	74	336	2.80
18/01/2024	12:00	48	35	70	338	3.70
18/01/2024	12:15	49	34	72	333	3.40
18/01/2024	12:30	50	35	70	336	3.30
18/01/2024	12:45	41	35	61	334	3.30
18/01/2024	13:00	44	34	63	336	3.50
18/01/2024	13:15	41	34	61	334	3.20
18/01/2024	13:30	43	34	60	336	2.60
18/01/2024	13:45	47	35	68	337	3.70
18/01/2024	14:00	42	33	64	335	4.30
18/01/2024	14:15	42	34	63	334	3.80
18/01/2024	14:30	48	35	69	334	3.10
18/01/2024	14:45	43	36	64	337	3.30
18/01/2024	15:00	45	35	65	336	2.80
18/01/2024	15:15	48	36	68	335	2.70
18/01/2024	15:30	54	35	70	331	3.20
18/01/2024	15:45	45	35	68	333	2.50
18/01/2024	16:00	50	40	67	335	4.30
18/01/2024	16:15	52	39	70	335	5.00
18/01/2024	16:30	51	37	75	336	4.30
18/01/2024	16:45	47	35	70	335	3.00
18/01/2024	17:00	51	38	69	334	5.10
18/01/2024	17:15	50	37	69	335	6.00
18/01/2024	17:30	51	37	69	335	4.10
18/01/2024	17:45	47	36	70	333	3.60
18/01/2024	18:00	45	38	63	334	4.30
18/01/2024	18:15	42	37	66	326	4.90
18/01/2024	18:30	40	32	59	294	2.10
18/01/2024	18:45	50	32	72	330	2.30
18/01/2024	19:00	37	34	54	338	1.00
18/01/2024	19:15	49	32	72	338	2.00

18/01/2024	19:30	39	34	57	338	1.20
18/01/2024	19:45	40	33	58	357	1.10
18/01/2024	20:00	36	33	58	288	2.90
18/01/2024	20:15	35	33	54	320	2.70
18/01/2024	20:30	39	34	59	334	4.10
18/01/2024	20:45	36	34	47	335	2.20
18/01/2024	21:00	40	34	59	336	2.80
18/01/2024	21:15	39	34	61	334	3.00
18/01/2024	21:30	36	33	46	335	3.00
18/01/2024	21:45	37	34	48	331	3.10
18/01/2024	22:00	37	35	49	336	2.30
18/01/2024	22:15	37	34	49	332	3.20
18/01/2024	22:30	42	38	59	342	2.00
18/01/2024	22:45	41	39	55	343	1.80
19/01/2024	07:00	47	43	66	184	1.90
19/01/2024	07:15	44	41	62	201	1.60
19/01/2024	07:30	48	41	67	226	2.00
19/01/2024	07:45	48	45	66	203	2.00
19/01/2024	08:00	47	38	65	225	1.20
19/01/2024	08:15	42	38	57	229	1.30
19/01/2024	08:30	49	41	63	201	1.30
19/01/2024	08:45	53	46	72	196	1.70
19/01/2024	09:00	53	42	70	181	2.40
19/01/2024	09:15	46	39	68	180	2.70
19/01/2024	09:30	53	38	75	190	1.30
19/01/2024	09:45	48	37	70	196	1.00
19/01/2024	10:00	42	37	60	185	2.00
19/01/2024	10:15	42	37	65	213	3.80
19/01/2024	10:30	49	38	70	225	2.80
19/01/2024	10:45	44	40	60	197	2.30
19/01/2024	11:00	48	43	64	190	2.10
19/01/2024	11:15	48	42	64	227	1.30
19/01/2024	11:30	49	41	67	195	3.10
19/01/2024	11:45	58	40	77	217	2.60
19/01/2024	12:00	45	39	62	233	4.20
19/01/2024	12:15	43	38	61	242	4.50
19/01/2024	12:30	45	39	63	224	4.30
19/01/2024	12:45	44	39	64	233	5.10
19/01/2024	13:00	48	39	67	229	3.50
19/01/2024	13:15	46	40	64	199	2.70
19/01/2024	13:30	44	38	65	207	4.00
19/01/2024	13:45	48	39	67	219	4.90
19/01/2024	14:00	48	41	64	215	3.20
19/01/2024	14:15	51	40	72	212	4.50
19/01/2024	14:30	51	42	71	206	4.80
19/01/2024	14:45	53	41	72	210	3.10
19/01/2024	15:00	48	41	74	205	3.30
19/01/2024	15:15	48	42	67	193	2.80
19/01/2024	15:30	52	43	70	192	3.50
19/01/2024	15:45	53	46	69	194	2.70
19/01/2024	16:00	51	43	68	192	2.50
19/01/2024	16:15	47	42	65	191	3.20
19/01/2024	16:30	46	43	63	188	4.10
19/01/2024	16:45	50	42	69	188	3.70
19/01/2024	17:00	47	42	66	191	2.70
19/01/2024	17:15	47	42	69	187	3.30

19/01/2024	17:30	47	42	70	194	3.50
19/01/2024	17:45	51	44	58	188	3.20
19/01/2024	18:00	49	45	65	188	2.80
19/01/2024	18:15	51	46	70	193	2.40
19/01/2024	18:30	49	46	66	190	2.10
19/01/2024	18:45	48	45	58	189	2.50
19/01/2024	19:00	54	48	68	191	2.20
19/01/2024	19:15	48	45	63	189	2.70
19/01/2024	19:30	52	45	68	190	2.00
19/01/2024	19:45	48	46	63	186	2.90
19/01/2024	20:00	48	45	65	185	3.20
19/01/2024	20:15	47	45	60	184	2.70
19/01/2024	20:30	46	44	59	190	1.50
19/01/2024	20:45	50	46	70	190	1.30
19/01/2024	21:00	49	47	69	189	2.80
19/01/2024	21:15	53	47	73	184	3.00
19/01/2024	21:30	49	47	59	183	2.40
19/01/2024	21:45	47	43	60	189	1.90
19/01/2024	22:00	43	41	59	187	2.20
19/01/2024	22:15	44	41	66	183	2.70
19/01/2024	22:30	45	43	56	184	2.20
19/01/2024	22:45	47	45	59	184	2.80
20/01/2024	07:00	47	44	61	185	3.30
20/01/2024	07:15	46	44	57	188	5.20
20/01/2024	07:30	46	44	64	188	4.70
20/01/2024	07:45	49	45	65	201	6.40
20/01/2024	08:00	50	45	64	192	4.20
20/01/2024	08:15	51	45	73	191	7.70
20/01/2024	08:30	51	44	69	190	5.20
20/01/2024	08:45	50	44	68	191	6.10
20/01/2024	09:00	52	44	80	196	3.50
20/01/2024	09:15	48	45	64	198	3.60
20/01/2024	09:30	51	45	70	190	3.40
20/01/2024	09:45	54	45	81	193	5.20
20/01/2024	10:00	50	46	64	197	4.90
20/01/2024	10:15	52	47	68	205	3.80
20/01/2024	10:30	50	45	68	200	5.80
20/01/2024	10:45	50	46	66	203	6.10
20/01/2024	11:00	50	46	66	197	6.30
20/01/2024	11:15	53	47	70	193	5.20
20/01/2024	11:30	51	46	66	193	5.20
20/01/2024	11:45	50	46	68	195	7.80
20/01/2024	12:00	51	46	68	190	4.90
20/01/2024	12:15	49	45	66	195	5.20
20/01/2024	12:30	50	46	71	195	7.40
20/01/2024	12:45	50	45	66	192	5.70
20/01/2024	13:00	49	44	66	193	4.80
20/01/2024	13:15	49	44	66	192	7.80
20/01/2024	13:30	48	44	77	197	5.30
20/01/2024	13:45	49	45	64	193	7.10
20/01/2024	14:00	50	45	69	195	5.60
20/01/2024	14:15	49	45	66	192	6.20
20/01/2024	14:30	53	45	76	193	6.60
20/01/2024	14:45	49	45	65	192	5.60
20/01/2024	15:00	48	45	61	193	7.10
20/01/2024	15:15	52	46	67	192	7.80

20/01/2024	15:30	58	46	87	192	6.60
20/01/2024	15:45	49	45	67	192	6.70
20/01/2024	16:00	49	46	67	195	7.10
20/01/2024	16:15	53	45	73	190	6.40
20/01/2024	16:30	53	47	66	190	6.40
20/01/2024	18:00	47	45	62	192	5.70
20/01/2024	18:15	48	45	61	194	4.40
20/01/2024	18:30	50	46	65	189	4.90
21/01/2024	08:00	49	45	67	205	5.20
21/01/2024	08:15	48	44	64	199	5.00
21/01/2024	08:30	47	43	64	205	5.20
21/01/2024	08:45	48	44	70	218	4.00
21/01/2024	09:00	49	45	72	205	5.60
22/01/2024	07:00	44	39	65	273	3.50
22/01/2024	07:15	49	39	74	276	4.10
22/01/2024	07:30	51	41	73	276	3.70
22/01/2024	07:45	52	41	72	287	5.30
22/01/2024	08:00	53	44	77	271	6.80
22/01/2024	08:15	51	42	79	272	4.70
22/01/2024	08:30	48	39	70	290	4.50
22/01/2024	08:45	47	40	65	281	4.40
22/01/2024	09:00	51	41	72	271	4.90
22/01/2024	09:15	50	41	75	279	6.10
22/01/2024	09:30	52	41	72	276	6.20
22/01/2024	09:45	47	42	64	279	5.90
22/01/2024	11:30	52	44	70	286	5.70
22/01/2024	11:45	53	45	72	281	5.90
22/01/2024	12:00	51	46	65	279	7.80
22/01/2024	18:15	49	44	63	302	5.70
22/01/2024	18:30	50	44	69	11	6.40
22/01/2024	18:45	49	43	67	316	7.30
22/01/2024	19:00	48	43	66	319	5.50
22/01/2024	19:15	49	42	65	349	8.00
22/01/2024	19:30	51	41	66	325	4.40
22/01/2024	19:45	49	40	66	309	4.50
22/01/2024	20:00	49	40	66	1	4.80
22/01/2024	20:15	53	41	74	310	5.20
22/01/2024	20:30	49	41	69	295	4.50
22/01/2024	20:45	47	40	64	343	5.20
22/01/2024	21:00	47	40	64	335	5.80
22/01/2024	21:15	49	41	65	316	5.90
22/01/2024	21:30	49	41	66	359	6.30
22/01/2024	21:45	47	41	66	15	5.50
22/01/2024	22:00	48	42	64	342	6.50
22/01/2024	22:15	50	43	73	344	5.60
22/01/2024	22:30	49	42	66	314	5.40
22/01/2024	22:45	48	41	65	318	5.80
23/01/2024	07:00	49	48	63	235	3.00
23/01/2024	07:15	48	47	62	237	2.70
23/01/2024	07:30	51	48	67	260	1.50
23/01/2024	07:45	49	46	65	238	2.50
23/01/2024	08:00	54	47	74	243	3.70
23/01/2024	18:45	55	49	75	266	5.40
23/01/2024	19:00	59	51	76	260	6.90
23/01/2024	19:15	56	50	71	263	6.60
23/01/2024	19:30	59	52	76	271	7.70

23/01/2024	21:30	59	51	81	272	7.40
23/01/2024	21:45	54	48	70	276	6.00
23/01/2024	22:00	59	52	77	275	8.40
23/01/2024	22:15	60	51	78	267	7.80
23/01/2024	22:30	59	52	76	277	7.80
23/01/2024	22:45	63	53	80	275	9.00
24/01/2024	07:00	46	41	63	313	5.50
24/01/2024	07:15	49	42	67	352	5.70
24/01/2024	07:30	49	44	71	352	6.30
24/01/2024	07:45	50	43	69	335	5.90
24/01/2024	08:00	50	43	75	343	5.20
24/01/2024	08:15	47	42	63	332	6.00
24/01/2024	08:30	52	42	69	314	6.20
24/01/2024	08:45	49	42	67	319	5.80
24/01/2024	09:00	50	42	70	335	5.80
24/01/2024	09:15	52	43	70	341	6.90
24/01/2024	09:30	49	43	64	7	7.30
24/01/2024	09:45	49	44	61	350	7.60
24/01/2024	10:00	48	42	67	337	6.00
24/01/2024	10:15	46	42	62	353	5.90
24/01/2024	10:30	49	42	65	341	5.50
24/01/2024	10:45	48	40	68	337	4.60
24/01/2024	11:00	49	39	68	309	5.50
24/01/2024	11:15	47	40	66	23	3.70
24/01/2024	11:30	46	40	68	323	4.20
24/01/2024	11:45	45	39	66	9	3.90
24/01/2024	12:00	52	39	66	42	3.60
24/01/2024	12:15	49	44	66	343	3.00
24/01/2024	12:30	57	44	65	319	3.80
24/01/2024	12:45	47	42	63	335	4.90
24/01/2024	13:00	51	38	70	38	3.90
24/01/2024	13:15	46	39	66	339	3.60
24/01/2024	13:30	47	40	66	327	4.60
24/01/2024	13:45	43	37	63	304	3.80
24/01/2024	14:00	47	39	62	327	7.00
24/01/2024	14:15	44	37	61	318	4.40
24/01/2024	14:30	46	38	68	334	3.80
24/01/2024	14:45	49	37	70	19	3.20
24/01/2024	15:00	53	38	69	57	3.60
24/01/2024	15:15	50	39	68	45	3.80
24/01/2024	15:30	50	43	68	325	3.10
24/01/2024	15:45	46	40	65	306	3.00
24/01/2024	16:00	50	37	75	299	4.20
24/01/2024	16:15	48	39	71	299	5.20
24/01/2024	16:30	45	38	67	309	3.30
24/01/2024	16:45	52	38	77	328	4.20
24/01/2024	17:00	45	38	65	63	4.50
24/01/2024	17:15	48	36	73	52	3.40
24/01/2024	17:30	41	36	64	313	4.00
24/01/2024	17:45	49	37	73	304	3.70
24/01/2024	18:00	49	37	72	315	3.30
24/01/2024	18:15	41	37	62	350	3.90
24/01/2024	18:30	42	36	67	304	3.30
24/01/2024	18:45	40	37	49	271	2.50
24/01/2024	19:00	43	40	60	39	2.10
24/01/2024	19:15	46	45	60	351	1.50

24/01/2024	19:30	43	38	60	310	2.20
24/01/2024	19:45	41	34	64	51	2.80
24/01/2024	20:00	41	33	61	316	3.10
24/01/2024	20:15	36	34	46	311	2.80
24/01/2024	20:30	41	35	64	285	2.30
24/01/2024	20:45	39	34	62	296	3.40
24/01/2024	21:00	36	34	53	314	2.40
24/01/2024	21:15	38	34	57	289	2.90
24/01/2024	21:30	40	34	63	283	2.20
24/01/2024	21:45	40	38	54	269	1.10
24/01/2024	22:00	41	38	55	260	1.60
24/01/2024	22:15	48	42	63	258	1.60
24/01/2024	22:30	46	44	61	216	1.00
24/01/2024	22:45	48	45	63	262	1.40
25/01/2024	07:00	48	46	66	273	2.40
25/01/2024	07:15	50	47	68	272	1.80
25/01/2024	07:30	54	47	72	275	2.10
25/01/2024	07:45	55	46	74	277	2.70
25/01/2024	08:00	51	46	69	265	2.10
25/01/2024	08:15	51	46	73	92	1.20
25/01/2024	08:30	53	45	70	104	1.30
25/01/2024	08:45	53	47	71	286	0.90
25/01/2024	09:00	55	46	71	282	1.00
25/01/2024	09:15	54	46	74	256	1.60
25/01/2024	09:30	49	46	64	263	1.80
25/01/2024	09:45	51	47	64	265	1.80
25/01/2024	10:00	50	46	73	260	1.80
25/01/2024	10:15	53	46	72	271	1.60
25/01/2024	10:30	54	47	73	263	3.30
25/01/2024	10:45	50	45	66	264	3.10
25/01/2024	11:00	50	45	66	263	2.90
25/01/2024	11:15	49	45	67	265	2.90
25/01/2024	11:30	47	43	67	267	3.10
25/01/2024	11:45	47	43	64	267	3.20
25/01/2024	12:00	54	43	70	273	3.90
25/01/2024	12:15	50	43	67	271	3.80
25/01/2024	12:30	53	42	76	275	4.00
25/01/2024	12:45	47	43	66	273	4.00
25/01/2024	13:00	47	43	67	276	4.10
25/01/2024	13:15	51	44	72	273	3.70
25/01/2024	13:30	51	43	72	270	2.70
25/01/2024	13:45	45	43	64	271	4.50
25/01/2024	14:00	48	43	67	270	4.00
25/01/2024	14:15	46	44	60	271	5.00
25/01/2024	14:30	47	44	67	270	3.80
25/01/2024	14:45	48	45	64	271	3.60
25/01/2024	15:00	46	44	57	274	4.50
25/01/2024	15:15	50	45	74	270	3.40
25/01/2024	15:30	54	46	70	268	3.00
25/01/2024	15:45	51	45	70	269	3.20
25/01/2024	16:00	49	45	65	270	2.90
25/01/2024	16:15	49	44	67	270	3.60
25/01/2024	20:00	45	43	59	271	3.20
25/01/2024	20:15	45	43	58	266	3.10
25/01/2024	20:30	48	44	70	267	2.30
26/01/2024	07:00	51	45	66	56	6.50

26/01/2024	07:15	53	45	72	61	7.00
26/01/2024	07:30	49	42	69	61	6.40
26/01/2024	07:45	48	41	64	65	5.00
26/01/2024	08:00	49	40	66	55	4.10
26/01/2024	08:15	47	41	67	53	5.20
26/01/2024	08:30	50	41	75	271	2.20
26/01/2024	08:45	48	43	66	278	3.30
26/01/2024	09:00	53	43	76	276	2.40
26/01/2024	09:15	51	41	77	262	3.00
26/01/2024	09:30	53	39	74	300	2.30
26/01/2024	09:45	47	39	69	295	3.70
26/01/2024	10:00	48	40	73	316	3.40
26/01/2024	10:15	53	40	72	330	3.20
26/01/2024	10:30	53	40	82	291	3.60
26/01/2024	10:45	47	39	68	293	3.50
26/01/2024	11:00	44	38	64	295	4.70
26/01/2024	11:15	45	38	66	290	5.70
26/01/2024	11:30	43	38	61	297	3.30
26/01/2024	11:45	48	39	68	308	3.90
26/01/2024	12:00	46	40	63	301	4.60
26/01/2024	12:15	47	42	66	303	4.20
26/01/2024	12:30	47	42	68	301	3.70
26/01/2024	12:45	46	42	61	313	5.80
26/01/2024	13:00	48	43	65	306	4.20
26/01/2024	13:15	48	43	65	323	4.60
26/01/2024	13:30	46	44	62	310	5.30
26/01/2024	13:45	50	41	72	316	4.90
26/01/2024	14:00	46	38	64	15	5.00
26/01/2024	14:15	47	40	68	306	6.30
26/01/2024	14:30	48	40	72	294	5.10
26/01/2024	14:45	49	40	67	318	3.70
26/01/2024	15:00	46	42	63	283	4.40
26/01/2024	15:15	47	41	67	299	4.10
26/01/2024	15:30	47	40	67	289	3.90
26/01/2024	15:45	44	38	60	285	3.30
26/01/2024	16:00	48	42	65	302	2.80
26/01/2024	16:15	46	40	63	299	2.60
26/01/2024	16:30	53	39	76	302	3.10
26/01/2024	16:45	53	39	72	299	3.30
26/01/2024	17:00	46	41	65	271	3.90
26/01/2024	17:15	49	42	76	272	2.80
26/01/2024	17:30	45	40	62	288	2.40
26/01/2024	17:45	48	40	70	289	2.60
26/01/2024	18:00	44	40	62	298	2.10
26/01/2024	18:15	44	39	65	287	2.30
26/01/2024	18:30	42	37	62	291	3.30
26/01/2024	18:45	47	37	70	291	2.90
26/01/2024	19:00	47	40	65	276	3.50
26/01/2024	19:15	50	46	69	273	2.70
26/01/2024	19:30	48	46	62	274	2.20
26/01/2024	19:45	48	45	63	272	2.20
26/01/2024	20:00	47	44	62	266	1.80
26/01/2024	20:15	46	45	61	274	1.80
26/01/2024	20:30	45	41	58	276	2.20
26/01/2024	20:45	42	39	60	266	1.90
26/01/2024	21:00	39	37	48	276	3.10

26/01/2024	21:15	40	37	58	312	3.40
26/01/2024	21:30	39	37	52	303	3.00
26/01/2024	21:45	40	37	56	278	3.10
26/01/2024	22:00	46	42	70	275	2.20
26/01/2024	22:15	45	43	60	274	1.90
26/01/2024	22:30	44	43	58	269	1.90
26/01/2024	22:45	45	43	60	269	2.40
27/01/2024	07:00	46	44	59	268	2.00
27/01/2024	07:15	50	44	66	257	2.30
27/01/2024	07:30	48	45	59	260	1.90
27/01/2024	07:45	53	44	69	268	1.70
27/01/2024	08:00	51	45	77	271	1.70
27/01/2024	08:15	49	45	67	263	2.30
27/01/2024	08:30	48	44	62	275	1.90
27/01/2024	08:45	48	44	66	266	1.40
27/01/2024	09:00	50	45	67	269	3.30
27/01/2024	09:15	50	44	72	263	2.70
27/01/2024	09:30	46	44	66	265	1.80
27/01/2024	09:45	47	43	67	262	2.20
27/01/2024	10:00	49	43	71	271	2.60
27/01/2024	10:15	49	44	65	269	2.70
27/01/2024	10:30	48	44	65	271	2.00
27/01/2024	10:45	49	46	65	276	2.50
27/01/2024	11:00	50	45	67	271	3.60
27/01/2024	11:15	48	44	66	277	3.60
27/01/2024	11:30	48	44	64	275	3.50
27/01/2024	11:45	50	46	70	269	3.90
27/01/2024	12:00	49	47	64	272	3.80
27/01/2024	12:15	53	47	66	269	3.00
27/01/2024	12:30	56	46	79	269	2.90
27/01/2024	12:45	55	48	65	267	3.50
27/01/2024	13:00	48	44	61	266	2.90
27/01/2024	13:15	47	44	63	272	4.20
27/01/2024	13:30	48	44	64	273	3.60
27/01/2024	13:45	50	45	64	272	4.60
27/01/2024	14:00	51	44	67	275	3.20
27/01/2024	14:15	49	44	66	274	3.10
27/01/2024	14:30	51	45	70	278	3.90
27/01/2024	14:45	48	45	65	273	3.20
27/01/2024	15:00	49	45	64	271	3.80
27/01/2024	15:15	48	44	65	273	3.30
27/01/2024	15:30	53	45	69	271	4.80
27/01/2024	15:45	54	44	79	270	3.30
27/01/2024	16:00	51	45	70	272	4.70
27/01/2024	16:15	51	45	73	273	3.40
27/01/2024	16:30	47	44	63	268	2.90
27/01/2024	16:45	48	45	68	268	2.70
27/01/2024	17:00	48	45	63	273	4.90
27/01/2024	17:15	46	44	62	268	3.00
27/01/2024	17:30	46	44	64	272	3.00
27/01/2024	17:45	47	45	66	274	3.60
27/01/2024	18:00	47	45	63	273	3.50
27/01/2024	18:15	47	46	58	272	3.20
27/01/2024	18:30	47	45	61	275	3.40
27/01/2024	18:45	47	45	62	272	3.60
27/01/2024	19:00	47	45	62	270	3.70

27/01/2024	19:15	47	45	61	270	3.00
27/01/2024	19:30	47	45	64	272	2.90
27/01/2024	19:45	47	45	63	274	2.50
27/01/2024	20:00	48	45	65	272	2.40
27/01/2024	20:15	47	45	58	273	3.50
27/01/2024	20:30	48	46	60	276	2.70
27/01/2024	20:45	48	46	64	277	3.30
27/01/2024	21:00	47	45	60	278	3.00
27/01/2024	21:15	47	45	60	277	3.60
27/01/2024	21:30	47	45	61	271	3.00
27/01/2024	21:45	47	46	62	271	3.00
27/01/2024	22:00	47	46	63	275	2.60
27/01/2024	22:15	48	46	61	278	2.60
27/01/2024	22:30	47	46	59	272	2.70
27/01/2024	22:45	47	45	60	272	2.80
28/01/2024	07:00	50	43	69	267	2.70
28/01/2024	07:15	47	45	63	270	3.10
28/01/2024	07:30	53	45	68	272	3.40
28/01/2024	07:45	52	45	71	279	3.80
28/01/2024	08:00	49	44	70	275	3.20
28/01/2024	08:15	50	45	76	271	3.50
28/01/2024	08:30	53	46	72	272	2.90
28/01/2024	08:45	53	47	76	275	2.30
28/01/2024	09:00	53	46	69	271	2.20
28/01/2024	09:15	51	47	71	270	3.70
28/01/2024	09:30	52	47	76	270	2.40
28/01/2024	09:45	50	46	69	269	3.40
28/01/2024	10:00	48	45	63	267	3.40
28/01/2024	10:15	50	45	70	277	3.10
28/01/2024	10:30	49	45	68	276	3.00
28/01/2024	10:45	50	46	65	277	2.80
28/01/2024	11:00	49	46	64	262	1.90
28/01/2024	11:15	50	46	65	268	3.10
28/01/2024	11:30	56	47	77	282	3.10
28/01/2024	11:45	51	46	69	267	4.20
28/01/2024	12:00	51	46	76	264	3.20
28/01/2024	12:15	50	47	65	266	3.70
28/01/2024	12:30	58	46	75	273	3.50
28/01/2024	12:45	51	45	71	273	4.20
28/01/2024	13:00	51	44	74	272	2.50
28/01/2024	13:15	49	44	70	264	3.40
28/01/2024	13:30	48	44	64	270	4.20
28/01/2024	13:45	47	43	61	271	3.00
28/01/2024	14:00	50	44	70	275	2.70
28/01/2024	14:15	48	44	66	274	3.10
28/01/2024	14:30	48	44	64	275	3.90
28/01/2024	14:45	48	44	69	277	3.30
28/01/2024	15:00	48	44	62	272	2.80
28/01/2024	15:15	51	45	69	269	2.60
28/01/2024	15:30	52	45	73	272	2.70
28/01/2024	15:45	52	45	69	271	2.60
28/01/2024	16:00	47	45	62	48	1.30
28/01/2024	16:15	53	43	72	304	1.40
28/01/2024	16:30	48	44	64	285	1.90
28/01/2024	16:45	51	43	68	270	1.90
28/01/2024	17:00	48	42	69	273	2.10

28/01/2024	17:15	49	44	63	269	5.00
28/01/2024	17:30	48	42	63	277	4.30
28/01/2024	17:45	45	42	64	279	4.40
28/01/2024	18:00	49	41	70	274	3.10
28/01/2024	18:15	44	42	58	271	3.50
28/01/2024	18:30	46	42	67	275	4.10
28/01/2024	18:45	46	41	67	277	4.20
28/01/2024	19:00	45	41	64	273	4.70
28/01/2024	19:15	43	40	62	271	3.10
28/01/2024	19:30	43	40	55	263	2.10
28/01/2024	19:45	44	41	56	271	2.70
28/01/2024	20:00	45	41	63	258	1.70
28/01/2024	20:15	44	42	60	265	1.90
28/01/2024	20:30	43	41	57	273	2.40
28/01/2024	20:45	43	41	55	266	3.70
28/01/2024	21:00	44	42	55	271	4.30
28/01/2024	21:15	44	41	60	314	1.80
28/01/2024	21:30	44	41	60	264	3.70
28/01/2024	21:45	51	42	78	270	3.40
28/01/2024	22:00	44	41	55	280	2.20
28/01/2024	22:15	46	41	71	286	2.10
28/01/2024	22:30	44	41	62	268	2.50
28/01/2024	22:45	43	41	58	268	1.90
29/01/2024	13:45	51	45	71	78	0.60
29/01/2024	14:00	53	44	72	76	0.70
29/01/2024	14:15	49	44	65	97	0.80
29/01/2024	14:30	52	45	72	290	0.60
29/01/2024	14:45	50	46	66	28	0.60
29/01/2024	15:00	49	45	66	87	0.90
29/01/2024	15:15	54	45	75	62	1.30
29/01/2024	15:30	48	45	64	278	0.80
29/01/2024	15:45	51	48	65	283	0.50
29/01/2024	16:00	51	49	64	337	0.60
29/01/2024	19:00	50	47	61	209	0.70
29/01/2024	19:15	48	46	62	264	1.70
29/01/2024	19:30	48	46	61	258	1.20
29/01/2024	19:45	48	46	66	245	1.00
29/01/2024	20:00	47	46	60	264	0.80
29/01/2024	20:15	47	46	60	262	0.80
29/01/2024	20:30	48	47	63	255	0.90
29/01/2024	20:45	49	47	64	267	1.10
29/01/2024	21:00	49	47	68	264	1.10
29/01/2024	21:15	49	47	62	263	1.10
29/01/2024	22:45	47	45	59	265	1.20
30/01/2024	07:00	54	43	74	66	5.10
30/01/2024	07:15	50	42	65	68	5.90
30/01/2024	07:30	49	40	67	68	3.90
30/01/2024	07:45	52	40	71	67	3.80
30/01/2024	08:00	53	41	69	72	4.30
30/01/2024	08:15	55	40	77	66	3.80
30/01/2024	08:30	56	41	76	70	3.40
30/01/2024	08:45	52	41	71	69	3.50
30/01/2024	09:00	56	43	73	68	3.80
30/01/2024	09:15	55	43	75	72	5.10
30/01/2024	09:30	50	42	65	74	5.20
30/01/2024	09:45	52	40	72	69	5.70

30/01/2024	10:00	54	40	76	71	4.50
30/01/2024	10:15	50	40	72	73	4.40
30/01/2024	10:30	53	39	75	68	4.10
30/01/2024	10:45	53	40	75	71	3.80
30/01/2024	11:00	51	38	74	71	4.50
30/01/2024	11:15	55	38	76	70	4.10
30/01/2024	11:30	53	40	70	73	5.40
30/01/2024	11:45	56	40	74	77	3.30
30/01/2024	12:00	54	40	74	73	3.50
30/01/2024	12:15	55	40	75	70	4.00
30/01/2024	12:30	55	37	77	77	3.00
30/01/2024	12:45	52	36	76	76	3.40
30/01/2024	13:00	51	35	71	71	3.00
30/01/2024	13:15	54	34	73	70	3.30
30/01/2024	13:30	46	35	67	73	2.60
30/01/2024	13:45	48	34	71	69	3.30
30/01/2024	14:00	53	35	75	71	2.90
30/01/2024	14:15	52	36	76	70	1.60
30/01/2024	14:30	41	34	62	66	1.90
30/01/2024	14:45	48	39	69	68	1.50
30/01/2024	15:00	54	38	74	73	1.80
30/01/2024	15:15	58	40	74	326	2.00
30/01/2024	15:30	48	39	67	319	1.90
30/01/2024	15:45	56	37	75	40	2.00
30/01/2024	16:00	52	38	75	30	1.40
30/01/2024	16:15	45	37	64	287	1.10
30/01/2024	16:30	55	38	75	253	0.90
30/01/2024	16:45	50	38	72	282	0.90
30/01/2024	17:00	52	36	73	275	0.70
30/01/2024	17:15	54	36	74	286	0.70
30/01/2024	17:30	49	36	79	71	1.00
30/01/2024	17:45	45	32	68	248	1.30
30/01/2024	18:00	51	34	74	87	0.80
30/01/2024	18:15	43	32	67	216	0.80
30/01/2024	18:30	49	34	67	260	0.50
30/01/2024	18:45	47	36	66	200	0.70
30/01/2024	19:00	43	35	63	239	0.60
30/01/2024	19:15	43	36	66	106	1.10
30/01/2024	19:30	39	38	55	255	0.60
30/01/2024	19:45	40	38	54	239	0.80
30/01/2024	20:00	40	35	61	255	0.90
30/01/2024	20:15	39	35	59	29	1.00
30/01/2024	20:30	44	38	54	280	1.60
30/01/2024	20:45	45	41	63	265	1.10
30/01/2024	21:00	46	44	56	210	0.90
30/01/2024	21:15	43	36	65	242	1.20
30/01/2024	21:30	39	37	49	279	0.80
30/01/2024	21:45	38	35	50	245	1.10
30/01/2024	22:00	39	37	45	263	1.50
30/01/2024	22:15	43	38	59	261	1.60
30/01/2024	22:30	43	41	54	262	0.90
30/01/2024	22:45	42	36	64	260	0.90
31/01/2024	07:00	49	46	62	265	4.00
31/01/2024	07:15	48	46	66	263	3.70
31/01/2024	07:30	51	44	72	265	2.90
31/01/2024	07:45	49	44	67	264	4.20

31/01/2024	08:00	50	44	71	267	3.20
31/01/2024	08:15	53	43	72	272	2.40
31/01/2024	08:30	51	44	70	270	4.30
31/01/2024	08:45	49	42	66	293	4.40
31/01/2024	09:00	56	44	75	285	5.20
31/01/2024	09:15	53	44	73	281	4.70
31/01/2024	09:30	49	43	68	290	3.50
31/01/2024	09:45	54	44	73	291	7.10
31/01/2024	10:00	54	46	74	288	6.00
31/01/2024	10:15	53	45	70	296	5.80
31/01/2024	10:30	53	43	72	280	3.70
31/01/2024	10:45	52	42	72	275	4.80
31/01/2024	11:00	48	41	67	287	4.20
31/01/2024	11:15	55	43	73	279	4.20
31/01/2024	11:30	50	42	71	286	4.20
31/01/2024	11:45	56	44	75	283	4.90
31/01/2024	12:00	53	43	75	275	4.40
31/01/2024	12:15	51	43	73	277	4.20
31/01/2024	12:30	56	44	76	270	4.20
31/01/2024	12:45	53	45	72	277	4.10
31/01/2024	13:00	54	48	73	277	5.60
31/01/2024	13:15	57	48	75	292	6.20
31/01/2024	13:30	52	46	73	304	7.50
31/01/2024	13:45	56	47	75	290	6.90

Raw data and central tendencies for location NSR 4: Hall Farm

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	47	45	59
Mean	44	41	58
Mean - 1 s.d.	39	36	-
Log Average	45	-	-

Table 7.1.4 (b): Night-time period (23:00 to 07:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:00	31	30	43	248	0.80
15/01/2024	23:15	33	31	42	202	0.60
15/01/2024	23:30	33	32	44	265	0.60
15/01/2024	23:45	33	31	44	241	0.90
16/01/2024	00:00	33	31	51	212	1.20
16/01/2024	00:15	34	32	47	234	1.20
16/01/2024	00:30	39	35	55	191	1.60
16/01/2024	00:45	38	34	52	226	1.30
16/01/2024	01:00	34	32	42	190	1.40
16/01/2024	01:15	32	30	43	210	1.90
16/01/2024	01:30	32	31	42	202	1.10
16/01/2024	01:45	34	32	44	199	1.60
16/01/2024	02:00	39	35	57	188	1.30
16/01/2024	02:15	43	41	56	204	1.40
16/01/2024	02:30	47	43	59	217	0.90
16/01/2024	02:45	48	46	63	298	0.90
16/01/2024	03:00	45	40	57	319	0.80
16/01/2024	03:15	39	37	56	223	0.70
16/01/2024	03:30	36	34	47	192	1.20
16/01/2024	03:45	36	34	45	188	1.70
16/01/2024	04:00	37	35	48	197	1.50
16/01/2024	04:15	42	38	55	204	1.30
16/01/2024	04:30	47	44	59	257	1.10
16/01/2024	04:45	47	44	58	267	0.60
16/01/2024	05:00	49	45	73	219	0.70
16/01/2024	05:15	47	41	59	201	1.50
16/01/2024	05:30	39	37	54	190	2.20
16/01/2024	05:45	40	36	60	189	2.20
16/01/2024	06:00	39	37	59	194	2.40
16/01/2024	06:15	45	37	57	202	3.20
16/01/2024	06:30	51	37	72	226	2.50
16/01/2024	06:45	47	38	68	208	2.40
16/01/2024	23:00	38	36	48	269	3.40
16/01/2024	23:15	38	35	52	331	4.00
16/01/2024	23:30	37	35	56	319	3.10
16/01/2024	23:45	35	33	53	315	3.90
17/01/2024	00:00	37	34	49	317	4.00
17/01/2024	00:15	37	34	47	320	3.80
17/01/2024	00:30	38	35	57	261	3.80
17/01/2024	00:45	36	34	45	314	3.20
17/01/2024	01:00	36	33	47	303	3.40

17/01/2024	01:15	36	33	51	277	3.40
17/01/2024	01:30	35	33	45	299	3.50
17/01/2024	01:45	37	34	46	274	3.80
17/01/2024	02:00	38	34	48	319	3.10
17/01/2024	02:15	36	33	51	335	3.00
17/01/2024	02:30	35	32	49	334	3.80
17/01/2024	02:45	34	32	42	333	2.70
17/01/2024	03:00	37	33	51	332	2.80
17/01/2024	03:15	36	33	47	335	3.10
17/01/2024	03:30	36	34	47	245	0.80
17/01/2024	03:45	35	33	44	293	0.80
17/01/2024	04:00	35	33	46	249	0.50
17/01/2024	04:15	37	35	52	318	0.90
17/01/2024	04:30	39	37	53	332	1.10
17/01/2024	04:45	37	35	50	332	1.30
17/01/2024	05:00	39	37	52	342	1.40
17/01/2024	05:15	42	38	65	351	1.60
17/01/2024	05:30	41	38	66	345	1.40
17/01/2024	05:45	43	39	63	338	1.80
17/01/2024	06:00	42	40	58	348	2.60
17/01/2024	06:15	42	40	54	346	1.90
17/01/2024	06:30	43	41	56	347	2.00
17/01/2024	06:45	47	41	66	341	1.20
17/01/2024	23:00	39	34	52	220	0.70
17/01/2024	23:15	36	33	46	235	0.50
17/01/2024	23:30	38	34	50	214	0.60
17/01/2024	23:45	35	32	48	201	0.60
18/01/2024	00:00	39	34	53	224	0.50
18/01/2024	00:15	39	36	50	198	0.60
18/01/2024	00:30	36	34	52	218	0.70
18/01/2024	00:45	39	35	51	238	0.80
18/01/2024	01:00	38	34	47	220	0.50
18/01/2024	01:15	33	32	45	229	0.80
18/01/2024	01:30	34	32	49	205	0.80
18/01/2024	01:45	32	31	45	236	0.70
18/01/2024	02:00	32	31	45	228	0.60
18/01/2024	02:15	32	30	43	269	0.80
18/01/2024	02:30	32	31	44	320	1.00
18/01/2024	02:45	33	31	45	333	2.30
18/01/2024	03:00	34	31	45	334	3.40
18/01/2024	03:15	34	32	43	335	3.50
18/01/2024	03:30	34	30	59	333	3.10
18/01/2024	03:45	32	31	42	338	2.70
18/01/2024	04:00	35	32	52	343	2.30
18/01/2024	04:15	33	31	43	333	2.30
18/01/2024	04:30	35	31	50	331	2.50
18/01/2024	04:45	35	33	44	331	2.40
18/01/2024	05:00	35	33	46	332	2.80
18/01/2024	05:15	39	32	65	331	2.30
18/01/2024	05:30	36	33	53	333	3.00
18/01/2024	05:45	46	35	69	337	2.10
18/01/2024	06:00	52	36	75	342	1.50
18/01/2024	06:15	48	35	70	349	1.50
18/01/2024	06:30	52	34	74	355	1.10
18/01/2024	06:45	51	37	74	339	0.90
18/01/2024	23:00	42	39	59	333	1.80

18/01/2024	23:15	44	40	54	282	1.30
18/01/2024	23:30	42	40	50	203	1.00
18/01/2024	23:45	43	41	55	195	1.90
19/01/2024	00:00	48	43	58	248	1.50
19/01/2024	00:15	47	44	55	202	0.80
19/01/2024	00:30	47	45	58	214	1.00
19/01/2024	00:45	45	43	55	188	1.40
19/01/2024	01:00	46	44	58	200	1.20
19/01/2024	01:15	41	38	57	314	1.20
19/01/2024	01:30	38	35	52	297	1.20
19/01/2024	01:45	40	38	52	344	1.30
19/01/2024	02:00	43	40	57	228	1.20
19/01/2024	02:15	45	42	58	228	0.90
19/01/2024	02:30	48	45	59	269	1.00
19/01/2024	02:45	47	45	59	297	0.70
19/01/2024	03:00	49	46	58	195	0.80
19/01/2024	03:15	48	46	60	116	1.10
19/01/2024	03:30	47	42	60	223	1.60
19/01/2024	03:45	41	39	55	226	1.40
19/01/2024	04:00	39	36	52	197	1.20
19/01/2024	04:15	45	41	68	207	1.50
19/01/2024	04:30	45	43	59	317	0.90
19/01/2024	04:45	45	43	58	185	1.70
19/01/2024	05:00	43	42	54	201	1.60
19/01/2024	05:15	45	42	62	194	1.20
19/01/2024	05:30	45	40	61	216	0.90
19/01/2024	05:45	41	38	55	199	1.40
19/01/2024	06:00	40	36	54	239	1.40
19/01/2024	06:15	45	39	65	252	0.90
19/01/2024	06:30	51	44	70	184	1.80
19/01/2024	06:45	46	42	59	194	1.70
19/01/2024	23:00	48	46	60	187	2.30
19/01/2024	23:15	48	46	59	186	2.70
19/01/2024	23:30	47	45	57	189	2.20
19/01/2024	23:45	48	46	62	184	2.70
20/01/2024	00:00	48	46	59	185	3.10
20/01/2024	00:15	48	46	63	192	3.00
20/01/2024	00:30	46	43	57	210	2.20
20/01/2024	00:45	43	41	55	201	1.70
20/01/2024	01:00	45	42	57	193	3.60
20/01/2024	01:15	44	42	58	199	5.20
20/01/2024	01:30	46	43	59	204	3.30
20/01/2024	01:45	44	41	57	191	3.80
20/01/2024	02:00	43	41	54	191	7.70
20/01/2024	02:15	44	42	58	192	4.40
20/01/2024	02:30	44	42	57	189	4.50
20/01/2024	02:45	47	43	61	191	4.10
20/01/2024	03:00	45	43	57	204	4.70
20/01/2024	03:15	46	43	58	198	4.20
20/01/2024	03:30	46	42	57	190	4.00
20/01/2024	03:45	46	43	64	191	6.20
20/01/2024	04:00	45	42	57	187	4.40
20/01/2024	04:15	44	42	54	190	4.60
20/01/2024	04:30	45	43	57	187	3.70
20/01/2024	04:45	45	43	57	185	3.80
20/01/2024	05:00	46	44	59	183	3.70

20/01/2024	05:15	45	43	65	183	2.90
20/01/2024	05:30	45	43	58	183	4.60
20/01/2024	05:45	46	43	63	183	3.80
20/01/2024	06:00	45	43	58	185	3.10
20/01/2024	06:15	46	43	61	182	3.20
20/01/2024	06:30	49	44	71	188	3.70
20/01/2024	06:45	47	44	61	187	3.30
21/01/2024	04:30	43	41	54	201	3.30
21/01/2024	04:45	43	41	57	201	3.20
21/01/2024	05:00	45	41	63	197	4.00
21/01/2024	05:15	43	40	53	197	2.60
21/01/2024	05:30	43	41	64	210	3.20
22/01/2024	01:30	50	43	67	277	5.30
22/01/2024	01:45	51	45	68	271	7.10
22/01/2024	02:00	50	43	67	281	6.10
22/01/2024	02:15	50	45	67	279	5.40
22/01/2024	02:30	52	44	70	263	7.40
22/01/2024	02:45	46	43	61	267	5.70
22/01/2024	03:00	51	42	69	309	6.20
22/01/2024	03:15	48	44	65	278	7.00
22/01/2024	03:30	49	44	65	309	4.80
22/01/2024	03:45	49	44	70	278	5.80
22/01/2024	04:00	46	42	61	269	5.60
22/01/2024	04:15	47	42	66	278	4.80
22/01/2024	04:30	47	41	67	255	5.50
22/01/2024	04:45	44	40	64	259	4.60
22/01/2024	05:00	44	40	63	261	5.00
22/01/2024	05:15	44	39	60	266	4.20
22/01/2024	05:30	46	40	63	291	3.80
22/01/2024	05:45	50	41	71	284	7.20
22/01/2024	06:00	44	39	61	275	4.80
22/01/2024	06:15	44	39	63	285	6.10
22/01/2024	06:30	50	46	63	286	4.50
22/01/2024	06:45	48	42	62	294	4.60
22/01/2024	23:00	43	40	57	346	4.10
22/01/2024	23:15	45	40	61	328	4.70
22/01/2024	23:30	46	40	63	301	4.90
22/01/2024	23:45	43	39	59	272	3.80
23/01/2024	00:00	42	39	61	253	3.90
23/01/2024	00:15	40	37	52	271	2.90
23/01/2024	00:30	43	37	64	264	3.90
23/01/2024	00:45	44	36	68	283	3.60
23/01/2024	01:00	48	36	74	299	4.00
23/01/2024	01:15	38	35	53	315	3.20
23/01/2024	01:30	39	36	51	279	3.30
23/01/2024	01:45	39	36	50	277	3.90
23/01/2024	02:00	39	36	51	286	3.80
23/01/2024	02:15	37	33	51	311	5.40
23/01/2024	02:30	37	34	50	350	5.80
23/01/2024	02:45	37	34	50	26	3.80
23/01/2024	03:00	38	35	52	10	5.20
23/01/2024	03:15	47	40	58	287	1.70
23/01/2024	03:30	47	46	61	284	1.00
23/01/2024	03:45	47	45	60	210	0.60
23/01/2024	04:00	46	42	59	87	1.50
23/01/2024	04:15	44	40	56	233	2.20

23/01/2024	04:30	45	43	57	206	1.20
23/01/2024	04:45	45	43	57	239	1.90
23/01/2024	05:00	46	43	64	242	2.00
23/01/2024	05:15	43	40	56	254	3.50
23/01/2024	05:30	45	43	64	245	1.60
23/01/2024	05:45	44	41	64	259	2.90
23/01/2024	06:00	44	41	56	266	2.90
23/01/2024	06:15	46	44	59	242	4.70
23/01/2024	06:30	47	45	66	238	3.00
23/01/2024	06:45	49	46	65	236	3.20
23/01/2024	23:00	62	53	83	274	8.80
23/01/2024	23:15	53	49	74	271	7.60
24/01/2024	02:45	56	48	75	37	6.40
24/01/2024	03:00	58	48	85	335	6.90
24/01/2024	03:15	53	47	72	297	6.50
24/01/2024	03:30	56	47	77	293	6.90
24/01/2024	03:45	50	45	72	291	4.90
24/01/2024	04:00	52	45	67	282	5.50
24/01/2024	04:15	52	46	72	15	5.80
24/01/2024	06:00	47	42	65	15	6.30
24/01/2024	06:15	48	43	67	41	6.30
24/01/2024	06:30	50	43	73	22	6.50
24/01/2024	06:45	48	42	67	357	6.20
24/01/2024	23:00	48	46	59	277	1.30
24/01/2024	23:15	48	47	60	262	1.20
24/01/2024	23:30	48	47	60	266	1.60
24/01/2024	23:45	47	45	60	65	0.70
25/01/2024	00:00	46	45	58	264	1.50
25/01/2024	00:15	49	47	61	23	0.40
25/01/2024	00:30	48	46	59	234	1.10
25/01/2024	00:45	47	45	59	265	1.60
25/01/2024	01:00	49	47	60	266	1.30
25/01/2024	01:15	45	43	60	266	2.40
25/01/2024	01:30	45	43	59	260	2.00
25/01/2024	01:45	46	43	58	259	1.40
25/01/2024	02:00	49	46	61	263	1.20
25/01/2024	02:15	45	44	59	266	0.80
25/01/2024	02:30	45	43	57	260	1.10
25/01/2024	02:45	46	44	64	256	0.80
25/01/2024	03:00	45	44	59	279	1.30
25/01/2024	03:15	47	45	60	266	1.80
25/01/2024	03:30	47	45	61	263	1.40
25/01/2024	03:45	46	45	57	267	1.50
25/01/2024	04:00	45	43	60	262	2.10
25/01/2024	04:15	48	46	60	268	1.60
25/01/2024	04:30	49	47	68	265	1.90
25/01/2024	04:45	48	47	61	264	2.20
25/01/2024	06:30	48	46	59	265	1.70
25/01/2024	06:45	49	47	66	268	2.40
25/01/2024	23:30	51	45	70	277	6.00
25/01/2024	23:45	51	46	70	287	6.10
26/01/2024	00:00	51	46	68	291	5.50
26/01/2024	00:15	54	48	71	294	7.60
26/01/2024	00:30	56	51	74	286	6.70
26/01/2024	00:45	55	49	74	292	5.90
26/01/2024	01:00	50	46	64	289	6.40

26/01/2024	01:15	48	42	69	286	5.60
26/01/2024	01:30	47	42	69	285	5.40
26/01/2024	01:45	53	46	76	285	6.50
26/01/2024	05:30	43	37	68	61	7.00
26/01/2024	05:45	40	37	55	23	4.90
26/01/2024	06:00	47	40	65	49	4.90
26/01/2024	06:15	53	43	74	47	6.20
26/01/2024	06:30	51	44	70	29	6.10
26/01/2024	06:45	52	45	72	57	7.50
26/01/2024	23:00	43	41	56	273	1.90
26/01/2024	23:15	43	41	56	270	1.30
26/01/2024	23:30	43	42	57	264	1.50
26/01/2024	23:45	44	42	60	269	1.70
27/01/2024	00:00	45	43	57	269	2.40
27/01/2024	00:15	43	41	58	273	2.40
27/01/2024	00:30	45	42	64	277	2.70
27/01/2024	00:45	46	44	56	272	2.90
27/01/2024	01:00	46	44	60	266	2.50
27/01/2024	01:15	44	42	60	267	3.30
27/01/2024	01:30	45	42	57	281	2.90
27/01/2024	01:45	45	43	59	270	2.00
27/01/2024	02:00	43	40	58	266	2.60
27/01/2024	02:15	44	42	56	261	2.40
27/01/2024	02:30	47	45	65	267	2.30
27/01/2024	02:45	46	45	58	271	2.20
27/01/2024	03:00	47	45	60	273	2.10
27/01/2024	03:15	47	46	59	259	2.70
27/01/2024	03:30	47	46	60	266	2.50
27/01/2024	03:45	47	45	59	259	1.50
27/01/2024	04:00	48	46	64	271	1.60
27/01/2024	04:15	48	47	65	263	2.20
27/01/2024	04:30	47	45	60	252	1.70
27/01/2024	04:45	47	45	62	268	1.90
27/01/2024	05:00	47	46	61	262	1.90
27/01/2024	05:15	47	46	61	274	1.80
27/01/2024	05:30	47	45	61	267	1.50
27/01/2024	05:45	46	44	58	268	1.60
27/01/2024	06:00	47	45	60	285	1.40
27/01/2024	06:15	46	44	59	227	0.90
27/01/2024	06:30	47	45	62	272	1.40
27/01/2024	06:45	46	44	61	264	2.00
27/01/2024	23:00	46	45	61	274	2.50
27/01/2024	23:15	46	44	63	270	3.30
27/01/2024	23:30	47	45	63	270	2.40
27/01/2024	23:45	47	45	67	269	1.80
28/01/2024	00:00	46	44	56	267	1.00
28/01/2024	00:15	46	44	58	82	0.80
28/01/2024	00:30	47	45	61	282	1.30
28/01/2024	00:45	47	45	60	264	1.50
28/01/2024	01:00	47	45	58	259	1.30
28/01/2024	01:15	46	45	58	83	1.00
28/01/2024	01:30	46	45	58	270	1.30
28/01/2024	01:45	47	45	62	283	1.40
28/01/2024	02:00	46	44	61	91	1.40
28/01/2024	02:15	46	44	58	271	1.80
28/01/2024	02:30	46	45	61	257	1.80

28/01/2024	02:45	47	45	62	271	2.00
28/01/2024	03:00	47	45	60	254	2.60
28/01/2024	03:15	47	45	61	271	2.20
28/01/2024	03:30	47	45	62	266	2.20
28/01/2024	03:45	47	45	61	272	2.10
28/01/2024	04:00	47	45	58	265	2.60
28/01/2024	04:15	47	45	59	266	2.00
28/01/2024	04:30	46	45	59	268	1.90
28/01/2024	04:45	46	45	60	102	1.30
28/01/2024	05:00	46	45	58	278	1.60
28/01/2024	05:15	47	45	60	231	1.60
28/01/2024	05:30	47	45	58	260	2.20
28/01/2024	05:45	46	44	60	260	1.90
28/01/2024	06:00	46	44	59	271	1.90
28/01/2024	06:15	45	44	59	268	2.20
28/01/2024	06:30	49	45	72	239	2.60
28/01/2024	06:45	46	44	62	272	2.00
28/01/2024	23:00	43	41	58	275	2.40
28/01/2024	23:15	43	41	60	289	1.10
28/01/2024	23:30	44	42	59	265	1.30
28/01/2024	23:45	42	41	58	265	1.60
29/01/2024	00:00	42	40	59	252	1.60
29/01/2024	00:15	43	42	59	269	1.90
29/01/2024	00:30	44	42	60	264	1.50
29/01/2024	00:45	46	44	63	261	1.40
29/01/2024	01:00	45	43	61	257	1.90
29/01/2024	01:15	45	43	60	262	1.70
29/01/2024	01:30	45	44	62	263	1.90
29/01/2024	01:45	46	45	59	271	1.10
29/01/2024	02:00	46	43	62	97	1.30
29/01/2024	02:15	44	42	62	87	1.40
29/01/2024	02:30	45	43	60	84	1.70
29/01/2024	02:45	45	43	61	105	1.70
29/01/2024	03:00	44	42	59	91	2.30
29/01/2024	03:15	44	41	58	90	1.80
29/01/2024	03:30	43	41	63	88	2.20
29/01/2024	03:45	43	41	59	87	1.80
29/01/2024	23:00	46	44	59	264	1.00
29/01/2024	23:15	41	36	54	79	3.00
29/01/2024	23:30	40	35	62	68	3.60
29/01/2024	23:45	45	39	62	69	3.90
30/01/2024	01:15	44	39	63	100	1.70
30/01/2024	01:30	47	41	68	74	3.90
30/01/2024	01:45	42	36	62	66	3.30
30/01/2024	02:00	40	37	57	69	2.50
30/01/2024	02:15	41	38	54	74	2.70
30/01/2024	02:30	42	37	58	75	3.00
30/01/2024	02:45	42	37	58	76	4.30
30/01/2024	03:00	39	36	53	75	4.50
30/01/2024	03:15	45	36	66	70	4.90
30/01/2024	03:30	40	36	55	66	5.00
30/01/2024	03:45	42	36	60	69	4.00
30/01/2024	04:00	40	36	54	67	6.10
30/01/2024	04:15	42	36	61	68	6.60
30/01/2024	04:30	49	37	66	69	5.60
30/01/2024	04:45	45	37	60	66	5.60

30/01/2024	05:00	50	38	68	67	5.20
30/01/2024	05:15	45	37	61	66	4.10
30/01/2024	05:30	43	36	59	71	3.40
30/01/2024	05:45	48	36	69	67	4.90
30/01/2024	06:00	41	36	54	68	4.10
30/01/2024	06:15	46	38	62	70	4.40
30/01/2024	06:30	47	41	61	68	4.30
30/01/2024	06:45	49	44	68	68	4.00
30/01/2024	23:00	39	35	52	260	1.00
30/01/2024	23:15	37	33	54	250	1.20
30/01/2024	23:30	38	35	53	263	1.50
30/01/2024	23:45	45	41	60	270	1.50
31/01/2024	00:00	47	45	56	272	2.60
31/01/2024	00:15	44	42	55	265	1.50
31/01/2024	00:30	45	43	58	271	1.70
31/01/2024	00:45	46	44	61	274	1.70
31/01/2024	01:00	47	45	59	263	1.20
31/01/2024	01:15	47	46	60	283	1.50
31/01/2024	01:30	48	46	60	253	1.20
31/01/2024	01:45	50	48	62	200	0.80
31/01/2024	02:00	49	48	60	263	1.60
31/01/2024	02:15	48	46	58	269	1.80
31/01/2024	02:30	45	44	58	268	1.80
31/01/2024	02:45	47	45	58	224	1.00
31/01/2024	03:00	49	47	61	251	0.80
31/01/2024	03:15	49	47	63	99	0.50
31/01/2024	03:30	50	48	61	70	0.90
31/01/2024	03:45	48	47	60	66	1.10
31/01/2024	04:00	47	46	58	257	0.80
31/01/2024	04:15	49	47	58	99	0.70
31/01/2024	04:30	49	47	59	41	0.90
31/01/2024	04:45	46	44	56	117	0.60
31/01/2024	05:00	43	41	55	263	1.50
31/01/2024	05:15	44	42	57	272	1.90
31/01/2024	05:30	50	48	62	103	1.60
31/01/2024	05:45	48	44	64	266	2.00
31/01/2024	06:00	45	44	59	272	2.10
31/01/2024	06:15	46	43	59	272	2.10
31/01/2024	06:30	47	44	63	271	2.60
31/01/2024	06:45	50	46	66	264	2.60

Raw data and central tendencies for location NSR 4: Hall Farm

Measure of central tendency	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)
Modes	47	45	58
Mean	43	40	56
Mean - 1 s.d.	38	35	-
Log Average	45	-	-

Table 7.1.4 (c): Night-time period (23:45 to 04:00)

Date	Time	L_{Aeq} (dB)	L_{A90} (dB)	L_{AFMax} (dB)	Wind direction (°)	Wind speed (m/s)
15/01/2024	23:45	33	31	44	241	0.90
16/01/2024	00:00	33	31	51	212	1.20
16/01/2024	00:15	34	32	47	234	1.20
16/01/2024	00:30	39	35	55	191	1.60
16/01/2024	00:45	38	34	52	226	1.30
16/01/2024	01:00	34	32	42	190	1.40
16/01/2024	01:15	32	30	43	210	1.90
16/01/2024	01:30	32	31	42	202	1.10
16/01/2024	01:45	34	32	44	199	1.60
16/01/2024	02:00	39	35	57	188	1.30
16/01/2024	02:15	43	41	56	204	1.40
16/01/2024	02:30	47	43	59	217	0.90
16/01/2024	02:45	48	46	63	298	0.90
16/01/2024	03:00	45	40	57	319	0.80
16/01/2024	03:15	39	37	56	223	0.70
16/01/2024	03:30	36	34	47	192	1.20
16/01/2024	03:45	36	34	45	188	1.70
16/01/2024	23:45	35	33	53	315	3.90
17/01/2024	00:00	37	34	49	317	4.00
17/01/2024	00:15	37	34	47	320	3.80
17/01/2024	00:30	38	35	57	261	3.80
17/01/2024	00:45	36	34	45	314	3.20
17/01/2024	01:00	36	33	47	303	3.40
17/01/2024	01:15	36	33	51	277	3.40
17/01/2024	01:30	35	33	45	299	3.50
17/01/2024	01:45	37	34	46	274	3.80
17/01/2024	02:00	38	34	48	319	3.10
17/01/2024	02:15	36	33	51	335	3.00
17/01/2024	02:30	35	32	49	334	3.80
17/01/2024	02:45	34	32	42	333	2.70
17/01/2024	03:00	37	33	51	332	2.80
17/01/2024	03:15	36	33	47	335	3.10
17/01/2024	03:30	36	34	47	245	0.80
17/01/2024	03:45	35	33	44	293	0.80
17/01/2024	23:45	35	32	48	201	0.60
18/01/2024	00:00	39	34	53	224	0.50
18/01/2024	00:15	39	36	50	198	0.60
18/01/2024	00:30	36	34	52	218	0.70
18/01/2024	00:45	39	35	51	238	0.80
18/01/2024	01:00	38	34	47	220	0.50
18/01/2024	01:15	33	32	45	229	0.80

18/01/2024	01:30	34	32	49	205	0.80
18/01/2024	01:45	32	31	45	236	0.70
18/01/2024	02:00	32	31	45	228	0.60
18/01/2024	02:15	32	30	43	269	0.80
18/01/2024	02:30	32	31	44	320	1.00
18/01/2024	02:45	33	31	45	333	2.30
18/01/2024	03:00	34	31	45	334	3.40
18/01/2024	03:15	34	32	43	335	3.50
18/01/2024	03:30	34	30	59	333	3.10
18/01/2024	03:45	32	31	42	338	2.70
18/01/2024	23:45	43	41	55	195	1.90
19/01/2024	00:00	48	43	58	248	1.50
19/01/2024	00:15	47	44	55	202	0.80
19/01/2024	00:30	47	45	58	214	1.00
19/01/2024	00:45	45	43	55	188	1.40
19/01/2024	01:00	46	44	58	200	1.20
19/01/2024	01:15	41	38	57	314	1.20
19/01/2024	01:30	38	35	52	297	1.20
19/01/2024	01:45	40	38	52	344	1.30
19/01/2024	02:00	43	40	57	228	1.20
19/01/2024	02:15	45	42	58	228	0.90
19/01/2024	02:30	48	45	59	269	1.00
19/01/2024	02:45	47	45	59	297	0.70
19/01/2024	03:00	49	46	58	195	0.80
19/01/2024	03:15	48	46	60	116	1.10
19/01/2024	03:30	47	42	60	223	1.60
19/01/2024	03:45	41	39	55	226	1.40
19/01/2024	23:45	48	46	62	184	2.70
20/01/2024	00:00	48	46	59	185	3.10
20/01/2024	00:15	48	46	63	192	3.00
20/01/2024	00:30	46	43	57	210	2.20
20/01/2024	00:45	43	41	55	201	1.70
20/01/2024	01:00	45	42	57	193	3.60
20/01/2024	01:15	44	42	58	199	5.20
20/01/2024	01:30	46	43	59	204	3.30
20/01/2024	01:45	44	41	57	191	3.80
20/01/2024	02:00	43	41	54	191	7.70
20/01/2024	02:15	44	42	58	192	4.40
20/01/2024	02:30	44	42	57	189	4.50
20/01/2024	02:45	47	43	61	191	4.10
20/01/2024	03:00	45	43	57	204	4.70
20/01/2024	03:15	46	43	58	198	4.20
20/01/2024	03:30	46	42	57	190	4.00
20/01/2024	03:45	46	43	64	191	6.20
22/01/2024	01:30	50	43	67	277	5.30
22/01/2024	01:45	51	45	68	271	7.10
22/01/2024	02:00	50	43	67	281	6.10
22/01/2024	02:15	50	45	67	279	5.40
22/01/2024	02:30	52	44	70	263	7.40
22/01/2024	02:45	46	43	61	267	5.70
22/01/2024	03:00	51	42	69	309	6.20
22/01/2024	03:15	48	44	65	278	7.00
22/01/2024	03:30	49	44	65	309	4.80
22/01/2024	03:45	49	44	70	278	5.80
22/01/2024	23:45	43	39	59	272	3.80
23/01/2024	00:00	42	39	61	253	3.90


23/01/2024	00:15	40	37	52	271	2.90
23/01/2024	00:30	43	37	64	264	3.90
23/01/2024	00:45	44	36	68	283	3.60
23/01/2024	01:00	48	36	74	299	4.00
23/01/2024	01:15	38	35	53	315	3.20
23/01/2024	01:30	39	36	51	279	3.30
23/01/2024	01:45	39	36	50	277	3.90
23/01/2024	02:00	39	36	51	286	3.80
23/01/2024	02:15	37	33	51	311	5.40
23/01/2024	02:30	37	34	50	350	5.80
23/01/2024	02:45	37	34	50	26	3.80
23/01/2024	03:00	38	35	52	10	5.20
23/01/2024	03:15	47	40	58	287	1.70
23/01/2024	03:30	47	46	61	284	1.00
23/01/2024	03:45	47	45	60	210	0.60
24/01/2024	02:45	56	48	75	37	6.40
24/01/2024	03:00	58	48	85	335	6.90
24/01/2024	03:15	53	47	72	297	6.50
24/01/2024	03:30	56	47	77	293	6.90
24/01/2024	03:45	50	45	72	291	4.90
24/01/2024	23:45	47	45	60	65	0.70
25/01/2024	00:00	46	45	58	264	1.50
25/01/2024	00:15	49	47	61	23	0.40
25/01/2024	00:30	48	46	59	234	1.10
25/01/2024	00:45	47	45	59	265	1.60
25/01/2024	01:00	49	47	60	266	1.30
25/01/2024	01:15	45	43	60	266	2.40
25/01/2024	01:30	45	43	59	260	2.00
25/01/2024	01:45	46	43	58	259	1.40
25/01/2024	02:00	49	46	61	263	1.20
25/01/2024	02:15	45	44	59	266	0.80
25/01/2024	02:30	45	43	57	260	1.10
25/01/2024	02:45	46	44	64	256	0.80
25/01/2024	03:00	45	44	59	279	1.30
25/01/2024	03:15	47	45	60	266	1.80
25/01/2024	03:30	47	45	61	263	1.40
25/01/2024	03:45	46	45	57	267	1.50
25/01/2024	23:45	51	46	70	287	6.10
26/01/2024	00:00	51	46	68	291	5.50
26/01/2024	00:15	54	48	71	294	7.60
26/01/2024	00:30	56	51	74	286	6.70
26/01/2024	00:45	55	49	74	292	5.90
26/01/2024	01:00	50	46	64	289	6.40
26/01/2024	01:15	48	42	69	286	5.60
26/01/2024	01:30	47	42	69	285	5.40
26/01/2024	01:45	53	46	76	285	6.50
26/01/2024	23:45	44	42	60	269	1.70
27/01/2024	00:00	45	43	57	269	2.40
27/01/2024	00:15	43	41	58	273	2.40
27/01/2024	00:30	45	42	64	277	2.70
27/01/2024	00:45	46	44	56	272	2.90
27/01/2024	01:00	46	44	60	266	2.50
27/01/2024	01:15	44	42	60	267	3.30
27/01/2024	01:30	45	42	57	281	2.90
27/01/2024	01:45	45	43	59	270	2.00
27/01/2024	02:00	43	40	58	266	2.60

27/01/2024	02:15	44	42	56	261	2.40
27/01/2024	02:30	47	45	65	267	2.30
27/01/2024	02:45	46	45	58	271	2.20
27/01/2024	03:00	47	45	60	273	2.10
27/01/2024	03:15	47	46	59	259	2.70
27/01/2024	03:30	47	46	60	266	2.50
27/01/2024	03:45	47	45	59	259	1.50
27/01/2024	23:45	47	45	67	269	1.80
28/01/2024	00:00	46	44	56	267	1.00
28/01/2024	00:15	46	44	58	82	0.80
28/01/2024	00:30	47	45	61	282	1.30
28/01/2024	00:45	47	45	60	264	1.50
28/01/2024	01:00	47	45	58	259	1.30
28/01/2024	01:15	46	45	58	83	1.00
28/01/2024	01:30	46	45	58	270	1.30
28/01/2024	01:45	47	45	62	283	1.40
28/01/2024	02:00	46	44	61	91	1.40
28/01/2024	02:15	46	44	58	271	1.80
28/01/2024	02:30	46	45	61	257	1.80
28/01/2024	02:45	47	45	62	271	2.00
28/01/2024	03:00	47	45	60	254	2.60
28/01/2024	03:15	47	45	61	271	2.20
28/01/2024	03:30	47	45	62	266	2.20
28/01/2024	03:45	47	45	61	272	2.10
28/01/2024	23:45	42	41	58	265	1.60
29/01/2024	00:00	42	40	59	252	1.60
29/01/2024	00:15	43	42	59	269	1.90
29/01/2024	00:30	44	42	60	264	1.50
29/01/2024	00:45	46	44	63	261	1.40
29/01/2024	01:00	45	43	61	257	1.90
29/01/2024	01:15	45	43	60	262	1.70
29/01/2024	01:30	45	44	62	263	1.90
29/01/2024	01:45	46	45	59	271	1.10
29/01/2024	02:00	46	43	62	97	1.30
29/01/2024	02:15	44	42	62	87	1.40
29/01/2024	02:30	45	43	60	84	1.70
29/01/2024	02:45	45	43	61	105	1.70
29/01/2024	03:00	44	42	59	91	2.30
29/01/2024	03:15	44	41	58	90	1.80
29/01/2024	03:30	43	41	63	88	2.20
29/01/2024	03:45	43	41	59	87	1.80
29/01/2024	23:45	45	39	62	69	3.90
30/01/2024	01:15	44	39	63	100	1.70
30/01/2024	01:30	47	41	68	74	3.90
30/01/2024	01:45	42	36	62	66	3.30
30/01/2024	02:00	40	37	57	69	2.50
30/01/2024	02:15	41	38	54	74	2.70
30/01/2024	02:30	42	37	58	75	3.00
30/01/2024	02:45	42	37	58	76	4.30
30/01/2024	03:00	39	36	53	75	4.50
30/01/2024	03:15	45	36	66	70	4.90
30/01/2024	03:30	40	36	55	66	5.00
30/01/2024	03:45	42	36	60	69	4.00
30/01/2024	23:45	45	41	60	270	1.50
31/01/2024	00:00	47	45	56	272	2.60
31/01/2024	00:15	44	42	55	265	1.50


31/01/2024	00:30	45	43	58	271	1.70
31/01/2024	00:45	46	44	61	274	1.70
31/01/2024	01:00	47	45	59	263	1.20
31/01/2024	01:15	47	46	60	283	1.50
31/01/2024	01:30	48	46	60	253	1.20
31/01/2024	01:45	50	48	62	200	0.80
31/01/2024	02:00	49	48	60	263	1.60
31/01/2024	02:15	48	46	58	269	1.80
31/01/2024	02:30	45	44	58	268	1.80
31/01/2024	02:45	47	45	58	224	1.00
31/01/2024	03:00	49	47	61	251	0.80
31/01/2024	03:15	49	47	63	99	0.50
31/01/2024	03:30	50	48	61	70	0.90
31/01/2024	03:45	48	47	60	66	1.10

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