

COLLGAR RENEWABLES

TANDEGIN WIND FARM MERREDIN

NOISE IMPACT ASSESSMENT

JULY 2026

OUR REFERENCE: 36877-1-25396

DOCUMENT CONTROL PAGE

NOISE IMPACT ASSESSMENT
TANDEGIN WIND FARM, MERREDIN

Job No: 25396

Document Reference: 36877-1-25396

FOR

COLLGAR RENEWABLES

DOCUMENT INFORMATION				
Author:	George Watts	Checked By:	Tim Reynolds	
Date of Issue:	27 July 2026			
REVISION HISTORY				
Revision	Description	Date	Author	Checked
DOCUMENT DISTRIBUTION				
Revision	Destination			
1	Collgar Renewables Attn: Francois Giraud Email: francois.giraud@collgar.com.au			

This report has been prepared in accordance with the scope of services and on the basis of information and documents provided to Herring Storer Acoustics by the client. To the extent that this report relies on data and measurements taken at or under the times and conditions specified within the report and any findings, conclusions or recommendations only apply to those circumstances and no greater reliance should be assumed. The client acknowledges and agrees that the reports or presentations are provided by Herring Storer Acoustics to assist the client to conduct its own independent assessment.

CONTENTS

1.	INTRODUCTION	1
2.	SUMMARY	1
3.	CRITERIA	2
3.1	South Australian Guidelines	3
3.2	Environmental Protection (Noise) Regulations 1997	5
4.	MODELLING	6
4.1	South Australian Guidelines Modelling	7
4.2	Environmental Protection (noise) Regulations 1997 Modelling	8
5.	RESULTS	9
6.	ASSESSMENT	10
6.1	South Australian Guidelines Assessment	10
6.2	Environmental Protection (noise) Regulations 1997 Assessment	12
7.	CONCLUSION	14

APPENDICES

A	RESIDENTIAL AND TURBINE LOCATIONS
B	PREDICTED NOISE LEVEL CONTOURS
C	BACKGROUND NOISE MONITORING REPORT
D	TURBINE SPECIFICATIONS

1. INTRODUCTION

Herring Storer Acoustics were commissioned to carry out a noise impact assessment for the proposed Tandegin Wind Farm development, to be located approximately 20kms south-east of Merredin.

The proposed wind farm is understood to consist of 50 wind turbines.

See Appendix A for preliminary locations of turbines and noise sensitive premises.

As part of the approvals process, a noise impact assessment in accordance with the EPA of South Australia *“Wind Farms – Environmental noise guidelines– July 2009, Updated November 2021”* (Guidelines) is required to be undertaken. This aligns with the Western Australian Planning Position Statement: Renewable energy facilities - March 2020.

The Guidelines requires the comparison of calculated noise level impacts associated with the proposed wind farm against a criteria based upon background noise monitoring undertaken at nearby noise sensitive premises.

This assessment has been undertaken to accompany the development application for the project.

2. SUMMARY

Noise levels were assessed at 33 identified receiver points, with these locations shown in Appendix A.

Noise emissions at all locations have been found to comply with the noise criteria based on the SA Guidelines background noise monitoring, with the exception of “R4”, which complies with the recommended noise levels for “stake holder” premises.

Additionally, noise impacts have been calculated to comply with the most stringent Assigned Noise Level stipulated by the Environmental Protection (Noise) Regulations 1997 at all times – even for wind speeds that are not considered to be a valid comparison against the Regulations as it is outside of the wind speeds stipulated by the DWER *“Guideline Assessment of Environmental Noise Emissions”* – again, with the exception of “R4”, which complies with the recommended noise levels for “stake holder” premises.

Given the layout / location of the wind turbines, “R4” is likely to be classified as a “stake holder” premise, as it is located within the project area. Once this classification has been confirmed, noise impacts at the surrounding noise sensitive premises to the proposed wind farm are considered to comply with all the relevant requirements.

The above findings include the impact of the proposed transformers and BESS system.

3. CRITERIA

According to the Western Australian Planning Position Statement: Renewable energy facilities - March 2020, the noise impact of proposed wind farms in Western Australia should be assessed in accordance with the criteria and approach of assessing wind farms described in the EPA of South Australia "*Wind Farms – Environmental noise guidelines– July 2009, Updated November 2021*" (Guidelines).

Whilst the Western Australian Planning Position Statement additionally refers to the requirement of wind farms to meet the standards prescribed under the *Environmental Protection (Noise) Regulations 1997*, which relates to "unreasonable noise". The Environmental Protection Act 1986 under Part 1, Section 3, Clause 3 defines "unreasonable noise" as follows:

For the purposes of the Act, noise is to be unreasonable if –

- a) *It is emitted, or the equipment emitting it is used, in contravention of –*
 - i) *this Act;*
 - ii) *any subsidiary legislation made under this Act; or*
 - iii) *any requirement or permission (by whatever name called) made or given by or under this Act;*
- b) *having regard to the nature and duration of the noise emissions, the frequency of similar noise emissions from the same sources (or a source under the control of the same person or persons) and the time of day at which the noise is emitted, the noise unreasonably interferes with the health, welfare, convenience, comfort or amenity of any person; or*
- c) *it is prescribed to be unreasonable for the purposes of the Act.*

Given that the Regulations, and associated guidelines, were established prior to wind farms being a realistic consideration in Western Australia, and the meteorological conditions dictated within the DWER guidance on environmental noise for the modelling and assessment of proposed noise sources does not align with the maximum noise generated by wind turbines, the SA Guidelines is considered to provide an appropriate criteria to utilise for assessment purposes, and determination of if wind turbine noise is "unreasonable", based upon part b) of Clause 3 of the Act above. Hence, the Guidelines has been utilised in this assessment.

Notwithstanding the above, due to uncertainty in assessment methodologies introduced by the Department of Water Environment Regulation Noise branch, an assessment against both the SA Guidelines and the *Environmental Protection (Noise) Regulations 1997* has been undertaken, with the relevant criteria listed below.

As a part of the proposed development a Battery Energy Storage System (BESS) – or alternative Grid Support - is proposed to be sited within the wind farm development envelope, along with a transformer/substation. The noise levels associated with these noise sources are appropriate to be assessed against the requirements of the *Environmental Protection (Noise) Regulations 1997*.

3.1 SOUTH AUSTRALIAN GUIDELINES

The Guidelines recommend the following criteria for the assessment of noise levels associated with proposed wind farms.

The predicted equivalent noise level ($L_{Aeq, 10 \text{ minutes}}$), adjusted for tonality in accordance with the Guidelines, should not exceed:

- 35 dB(A), or
- 40 dB(A) in a primary production / rural industry zone, or
- the “Alternative Minimum Criteria” (Varying with Wind Speed); or
- the background noise ($L_{A90, 10 \text{ minutes}}$) by more than 5 dB(A).

The criteria for background noise levels will vary with wind speed, as will wind turbine generated noise.

The alternative minimum criterion, varying with wind speed, is listed below in Table 3.1. This conservative minimum criterion has been determined based on a comparison of background noise levels at a number of existing and proposed wind farm sites around Australia.

TABLE 3.1 – ALTERNATIVE MINIMUM CRITERIA (VARYING WITH WIND SPEED)

	Wind Speed at 10m above ground level					
	≤ 5	6	7	8	9	≥ 10
Minimum Criteria L_{Aeq} [dB(A)]	35	37	38	40	41	43

Based on the results of background noise monitoring undertaken between February 2026 and April 2026 (presented in the Herring Storer Acoustics report, attached in Appendix D), the criteria for wind turbine noise are as presented in Table 3.2. The background noise criteria establish for a hub height of 150m has been utilised in our assessment, as it is understood this is the intended hub height for the proposed wind turbine generators.

TABLE 3.2 – NOISE CRITERIA BASED ON BACKGROUND NOISE LEVELS, dB(A)

Background Monitoring Location	WIND SPEED AT 150m ABOVE GROUND LEVEL (m/s)										
	3	4	5	6	7	8	9	10	11	12	13
1	35	35	35	35	35	37	39	41	42	43	44
2	35	35	35	35	35	35	36	38	41	41	44
3	35	35	35	35	35	35	36	36	39	41	43
4	35	35	35	35	35	35	37	39	42	42	45
5	35	35	35	35	35	35	35	35	35	35	37
6	35	35	35	35	35	35	37	37	39	41	43
7	35	35	35	35	35	35	35	35	36	40	42

Utilising the nearest background noise monitoring location to each receiver point considered, results in the following background noise monitoring locations being utilised as shown in Table 3.3 below.

**TABLE 3.3 – BACKGROUND NOISE MONITORING LOCATION UTILISED TO
DETERMINE NOISE CRITERIA FOR EACH RECEIVER LOCATION**

ID#	Background Noise Monitoring Location Utilised
1	1
2	4
3	6
4	2
5	3
6	3
7	4
8	4
9	3
10	1
11	7
12	7
13	7
14	7
15	5
16	7
17	3
18	3
19	2
20	2
21	2
22	3
23	3
24	7
25	7
26	7
27	7
28	5
29	7
30	5
31	5
32	5
33	5

This assessment has been based on the noise criteria based on monitored background noise levels. It is noted that the Guidelines have been developed to minimise the impact on the amenity of premises that do not have an agreement with wind farm developers. Our assessment includes all identified residential premises in the surrounding area, some of which may have such an agreement. The status of agreements is not known.

The Guidelines recommend that a noise level criteria of not greater than 30 dB(A) indoors and 45 dB(A) outdoor is considered acceptable for “Stake-Holder” premises.

3.2 ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997

The *Environmental Protection (Noise) Regulations 1997* stipulate the allowable noise levels at any noise sensitive premises from other premises. The allowable or assigned noise levels for noise sensitive premises are determined by the calculation of an influencing factor, which is added to the baseline criteria set out in Table 1 of the Regulations. The baseline assigned noise levels are listed in Table 3.4. For commercial premises, the allowable or assigned noise levels are the same for all hours of the day. Table 3.4 also lists the assigned noise levels for commercial premises.

TABLE 3.4 – ASSIGNED NOISE LEVELS

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A 10}	L _{A 1}	L _{A max}
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	35 + IF	45 + IF	55 + IF

Note: The L_{A10} noise level is the noise that is exceeded for 10% of the time.
The L_{A1} noise level is the noise that is exceeded for 1% of the time.
The L_{Amax} noise level is the maximum noise level recorded.

It is a requirement that noise from the site be free of annoying characteristics (tonality, modulation and impulsiveness) at other premises, defined below as per Regulation 9.

- “impulsiveness”** means a variation in the emission of a noise where the difference between L_{Apeak} and L_{Amax Slow} is more than 15dB when determined for a single representative event;
- “modulation”** means a variation in the emission of noise that –
- is more than 3dB L_{A Fast} or is more than 3dB L_{A Fast} in any one-third octave band;
 - is present for more at least 10% of the representative assessment period; and
 - is regular, cyclic and audible;
- “tonality”** means the presence in the noise emission of tonal characteristics where the difference between –
- the A-weighted sound pressure level in any one-third octave band; and
 - the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,
- is greater than 3 dB when the sound pressure levels are determined as L_{Aeq,T} levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as L_{A Slow} levels.

Where the above characteristics are present and cannot be practicably removed, the following adjustments are made to the measured or predicted level at other premises.

TABLE 3.5 – ADJUSTMENTS FOR ANNOYING CHARACTERISTICS

Where tonality is present	Where modulation is present	Where impulsiveness is present
+ 5 dB	+ 5 dB	+ 10 dB

The area surrounding the proposed development is considered likely to be zoned rural, and the surrounding road network is not considered to be classified as a major or secondary road – hence the influencing factor in the surrounding area would be estimated at 0 dB.

Hence the assigned noise levels would be as listed in Table 3.6.

TABLE 3.6 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises within 15 metres of a dwelling	0700 - 1900 hours Monday to Saturday	45	55	65
	0900 - 1900 hours Sunday and Public Holidays	40	50	65
	1900 - 2200 hours all days	40	50	55
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	35	45	55

Note: L_{A10} is the noise level exceeded for 10% of the time.
L_{A1} is the noise level exceeded for 1% of the time.
L_{Amax} is the maximum noise level.

4. MODELLING

Noise immissions at residential premises, due to the proposed wind farm, were determined by noise modelling, using the computer program “SoundPlan” version 9.1.

SoundPlan uses the theoretical sound power levels determined from measured sound pressure levels to calculate the noise level at any location.

The following input data was used in the SoundPlan model for the wind farm:

- Topographical Information – Ground contours of the development area;
- Residential and Wind Turbine Locations – See Appendix A. It is noted that the WTG layout is “Rev G” in accordance with Collgar Renewables nomenclature; and
- Wind Turbine Sound Power Levels, varying with wind speed, of the wind turbines intended to be utilised. The turbine proposed to be utilised is as follows:

Vestas V172-7.2 MW, 150m hub height
Blades with serrated trailing edges in normal operating mode (Noise Mode 0).

- Sound Power Levels for the Battery Energy Storage System, and transformer, have been based upon the following preliminary information provided:

Transformer (x2 off) – Sound Power Level of 83 dB(A).
Batteries (432 battery units) – Sound Power Level of 92 dB(A).
Inverters (108 units) – Sound Power Level of 91 dB(A).

See Appendix A for locations and Appendix E for turbine specifications. The preliminary location of the transformers and BESS system are listed below:

TABLE 3.7 - BESS & TRANSFORMER LOCATION INFORMATION

Equipment	Number of	Easting, m	Northing, m
Transformer	2	637976	6496661
Batteries	432	637288	6496694
Inverters	108	637288	6496694

In the event a “Grid Support” system is utilised, this would be at the same location as the BESS system – and in place of it. The noise levels notionally provided in regards to a “Grid support” system is lower than the BESS, therefore, assessment of the proposed BESS system alone as a part of the development application presents and assessment of the “worst case” noise impact, and therefore, the impact of the “Grid Support” is not considered necessary at this stage of the development.

The layout/selections of the batteries/inverters are not known at this stage, hence, the modelling locates all of the batteries and inverters at the one location at a height of 1.5m above ground level.

Similarly, both transformers proposed as a part of the development are located at the same location.

4.1 SOUTH AUSTRALIAN GUIDELINES MODELLING

The SA Guidelines indicate that noise emissions should be modelled to reflect typical, (but not extreme) “worst case” meteorological conditions for sound propagation towards the receiver.

After a review of the literature available on the subject, noise level emissions were modelled using the ISO 9613-2:2024 algorithm, with the conditions listed in Table 4.1. These conditions and calculating noise levels utilising a “G=0” ground absorption have been found to provide a generally realistic, but conservative assessment of noise levels associated with wind turbines. This is also listed in Annex D of ISO 9613-2:2024 “Calculation of sound pressure levels caused by wind turbines” – hence is considered appropriate. Receiver heights are calculated at a height of 1.5m above ground level.

TABLE 4.1 – METEOROLOGICAL CONDITIONS

Condition	Value
Temperature	15 °C
Relative humidity	70%
Atmospheric Pressure	101.325 kPa

Noise levels attributable to the proposed wind farm were calculated for integer wind speeds 3 – 10m/s at a height of 150m above ground level (proposed hub height), 10 m/s being representative of maximum operating noise levels associated with the turbines.

The sound power level of the turbines were varied for each integer wind speed, however the other weather conditions within the model remained constant at the conditions stipulated in Table 4.1 above.

4.2 ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997 MODELLING

Noise modelling for assessment against the Regulations is required to be undertaken utilising the conditions stipulated to be utilised by the DWER to be used in prediction of noise impacts for developments – these conditions being listed in the DWER *“Guideline Assessment of Environmental Noise Emissions”*. These conditions are listed in the extract below:

Parameter	'Day' 0700–1900	'Night' 1900–0700
Wind speed	4 m/s	3 m/s
Temperature inversion lapse rate	0 °C /100 m	2 °C /100 m
Pasquill stability (CONCAWE)	E	F
Temperature	20 °C	15 °C
Relative humidity	50%	50%

The above table is accompanied with the following note:

“Wind speeds greater than those in Table 4 may elevate background noise levels from local vegetation and can dominate the noise emission”

The above meteorological conditions specify a “Pasquill stability” that is in reference to the CONCAWE algorithms for noise prediction. The DWER *“Guideline Assessment of Environmental Noise Emissions”* also states that “the method described by ISO 9613:1996 may also be used for the purpose of modelling. Note the method does not allow the input of specific meteorological conditions but does predict for moderate temperature inversions under downwind conditions. In applying the ISO method, it is expected the model inputs and options will be selected with a view to achieve comparable modelling output to the SoundPLAN implementation of CONCAWE.

On the basis of the above noise level emissions were modelled using the ISO 9613-2:2024 algorithm, with the conditions listed in Table 4.3. These conditions and calculating noise levels utilising a “G=0” ground absorption have been found to provide a generally realistic, but conservative assessment of noise levels associated with wind turbines. This is also listed in Annex D of ISO 9613-2:2024 “Calculation of sound pressure levels caused by wind turbines” – hence is considered appropriate. Receiver heights are calculated at a height of 1.5m above ground level. Therefore, the calculated noise levels are the same as those determined in accordance with the SA Guidelines methodology.

5. RESULTS

Noise contour plots are attached in Appendix B.

The predicted noise level at each identified residential premises, associated with the wind turbines are listed in Table 5.1 below for each of the hub height wind speeds considered.

**TABLE 5.1 – PREDICTED NOISE LEVELS AT IDENTIFIED RECEIVER LOCATIONS
VARYING WITH WINDSPEED AT HUB HEIGHT**

Receiver ID#	Predicted Noise Level, L_{Aeq} [dB(A)]							
	3m/s	4m/s	5m/s	6m/s	7m/s	8m/s	9m/s	10m/s
1	28	28	28	29	31	33	34	35
2	26	27	27	28	30	31	31	33
3	29	29	29	31	33	34	35	37
4	32	32	32	34	35	38	39	40
5	26	27	27	28	30	31	32	33
6	26	26	27	28	29	31	31	33
7	24	25	25	26	28	29	29	31
8	24	25	25	26	28	29	29	31
9	20	21	21	22	24	25	24	26
10	27	27	27	29	30	32	32	34
11	23	23	24	25	26	28	28	30
12	23	23	24	25	26	28	27	29
13	21	21	21	23	24	25	25	27
14	21	21	21	23	24	25	25	27
15	27	27	28	29	31	33	33	35
16	28	28	28	29	31	33	34	35
17	21	22	22	23	25	26	25	27
18	21	21	22	23	24	26	25	27
19	27	27	27	29	30	32	32	34
20	25	26	26	27	29	30	30	32
21	24	24	25	26	27	29	29	30
22	24	24	25	26	27	29	28	30
23	27	28	28	29	31	33	33	35
24	22	23	23	24	26	27	27	29
25	22	23	23	24	26	27	27	29
26	22	23	23	24	26	27	27	29
27	22	22	23	24	25	27	27	28
28	22	22	23	24	25	27	27	29
29	22	22	23	24	25	27	27	28
30	22	22	23	24	25	27	26	28
31	22	22	22	24	25	27	26	28
32	22	22	23	24	25	27	26	28
33	22	22	22	24	25	27	26	28

The predicted noise level associated with the transformers and BESS system are listed below in Table 5.2.

**TABLE 5.2 – PREDICTED NOISE LEVELS AT IDENTIFIED RECEIVER LOCATIONS
ASSOCIATED WITH TRANSFORMERS AND BESS SYSTEM**

Receiver ID#	Predicted Noise Level, L_{Aeq} [dB(A)]
1	18
2	16
3	-
4	19
5	13
6	13
7	16
8	16
9	-
10	20
11	-
12	-
13	-
14	-
15	-
16	-
17	-
18	-
19	15
20	10
21	7
22	11
23	10
24	-
25	-
26	-
27	-
28	-
29	-
30	-
31	-
32	-
33	-

6. ASSESSMENT

6.1 SOUTH AUSTRALIAN GUIDELINES ASSESSMENT

Table 6.1 below summarises the level of exceedance to the noise criteria based on background noise monitoring, with the predicted levels exceeding the criteria highlighted in red and the level of exceedance listed in brackets adjacent. The noise criteria at each location is based upon the background noise levels listed in Table 3.2, cross referenced with Table 3.3.

TABLE 6.1 – ASSESSMENT OF NOISE LEVELS AT IDENTIFIED RECEIVER LOCATIONS

Receiver ID#	Predicted Noise Level, L_{Aeq} [dB(A)]							
	3m/s	4m/s	5m/s	6m/s	7m/s	8m/s	9m/s	10m/s
1	28	28	28	29	31	33	34	35
2	26	26	27	28	30	31	31	33
3	29	29	29	31	33	34	35	37
4	32	32	32	34	35	38 (+ 3)	39 (+ 3)	40 (+ 2)
5	26	27	27	28	30	31	32	33
6	26	26	27	28	29	31	31	33
7	24	25	25	26	28	29	29	31
8	24	25	25	26	28	29	29	31
9	20	21	21	22	24	25	24	26
10	27	27	27	29	30	32	32	34
11	23	23	24	25	27	28	28	30
12	23	23	24	25	26	28	27	29
13	21	21	21	23	24	25	25	27
14	21	21	21	23	24	26	25	27
15	28	28	28	29	31	33	34	35
16	28	28	28	29	31	33	34	35
17	21	22	22	23	25	26	25	27
18	21	21	22	23	24	26	25	27
19	27	27	27	29	30	32	32	34
20	25	26	26	27	29	30	30	32
21	24	24	25	26	27	29	29	30
22	24	24	25	26	27	29	28	30
23	27	28	28	29	31	33	33	35
24	22	23	23	24	26	27	27	29
25	22	23	23	24	26	27	27	29
26	22	23	23	24	26	27	27	29
27	22	22	23	24	25	27	27	28
28	22	23	23	24	26	27	27	29
29	22	22	23	24	25	27	27	28
30	22	22	23	24	25	27	27	28
31	22	22	23	24	25	27	26	28
32	22	22	23	24	25	27	27	28
33	22	22	23	24	25	27	26	28

As can be seen from the above tables, calculated noise levels comply with the noise criteria based upon background noise monitoring, at all noise sensitive premises, with the exception of “R4”.

Given the layout / location of the wind turbines, “R4” is located within the project area, and is likely to be classified as a “stake holder” with regards to the SA Guidelines. Whilst this needs to be confirmed, in the event that this location is a “stake holder” noise levels comply with the recommended noise level criteria of less than 45 dB(A) for “stake holder” premises.

Hence, following confirmation of the classification of “R4”, the proposed wind farm is considered to meet all relevant criteria established by the Guidelines.

6.2 ENVIRONMENTAL PROTECTION (NOISE) REGULATIONS 1997 ASSESSMENT

Wind Turbine Noise Only

Predicted noise levels associated with the wind farm were considered for the presence of annoying characteristics.

On the basis of the predicted noise levels, and the one-third octave band data for the sound power levels, the noise emissions associated with the wind farm are not considered to contain tonal characteristics. Additionally, modulation is not considered to be present in accordance with the *Environmental Protection (Noise) Regulations 1997*, as due to wind turbines not being “in sync” with each other –from a distance from each receiver prospective, power (noise) level output and rotational synchronicity – the wind farm noise emissions would not satisfy the requirements for modulating characteristics in accordance with the *Environmental Protection (Noise) Regulations 1997*, hence, Table 6.2 below summarises the predicted noise levels determined in accordance with the DWER “*Guideline Assessment of Environmental Noise Emissions*”, for the most stringent time period defined by the Regulations (the night period) – noting that wind speeds greater than 4m/s are not considered to be a valid comparison against the Regulations as it is outside of the winds speeds stipulated by the DWER “*Guideline Assessment of Environmental Noise Emissions*”.

TABLE 6.2 – ASSESSMENT IDENTIFIED RECEIVER LOCATIONS AGAINST REGULATIONS

Receiver ID#	Predicted Noise Level, L _{Aeq} [dB(A)]							
	3m/s	4m/s	5m/s	6m/s	7m/s	8m/s	9m/s	10m/s
1	28	28	28	29	31	33	34	35
2	26	26	27	28	30	31	31	33
3	29	29	29	31	33	34	35	37
4	32	32	32	34	35	38 (+ 3)	39 (+ 4)	40 (+ 5)
5	26	27	27	28	30	31	32	33
6	26	26	27	28	29	31	31	33
7	24	25	25	26	28	29	29	31
8	24	25	25	26	28	29	29	31
9	20	21	21	22	24	25	24	26
10	27	27	27	29	30	32	32	34
11	23	23	24	25	27	28	28	30
12	23	23	24	25	26	28	27	29
13	21	21	21	23	24	25	25	27
14	21	21	21	23	24	26	25	27
15	28	28	28	29	31	33	34	35
16	28	28	28	29	31	33	34	35
17	21	22	22	23	25	26	25	27
18	21	21	22	23	24	26	25	27
19	27	27	27	29	30	32	32	34
20	25	26	26	27	29	30	30	32
21	24	24	25	26	27	29	29	30
22	24	24	25	26	27	29	28	30
23	27	28	28	29	31	33	33	35
24	22	23	23	24	26	27	27	29
25	22	23	23	24	26	27	27	29
26	22	23	23	24	26	27	27	29
27	22	22	23	24	25	27	27	29
28	22	23	23	24	26	27	27	29
29	22	22	23	24	25	27	27	28
30	22	22	23	24	25	27	27	28
31	22	22	23	24	25	27	26	28
32	22	22	23	24	25	27	27	28
33	22	22	23	24	25	27	26	28

As can be seen from the above table, noise levels associated with the wind farm associated with the proposed development are calculated to comply with the most stringent Assigned Noise Levels at all times, with the exception of “R4”. It is considered likely that “R4” will be classified as a “stake holder”, in which case, compliance with the Regulations is not required, and a noise impact of up to 40 dB(A) at a hub height wind speed of 10 m/s is compliant with the acceptable noise levels for “stake holder” premises outlined in the SA Guidelines.

Transformer and BESS System Noise Only

Predicted noise levels associated with the transformers and BESS system were considered for the presence of annoying characteristics.

At this stage, spectral data in regards to the proposed equipment has not been provided, with only overall noise levels supplied – however – the equipment proposed are considered likely to present tonal characteristics.

Given the predicted noise levels at the noise sensitive premises, it is considered highly unlikely that noise level emissions would be at a level sufficient to be considered tonal in accordance with the Environmental Protection (Noise) Regulations 1997 – however – to be conservative at this early stage of the development process – a + 5 dB adjustment for tonal characteristics has been applied to the predicted noise levels.

On this basis, with the applicable adjustment, the highest noise level associated with the Transformer and BESS system at a receiver has been calculated at an assessable noise level of 25 dB(A). This is 10 dB(A) lower than the most stringent time period defined by the Environmental Protection (Noise) Regulations 1997.

Cumulative Noise Impact of Wind Turbines and Transformer, BESS System

Due to the proposed location of the transformers and BESS system, there is negligible contribution to noise impacts at the identified receiver locations – relative to the wind turbines – with the most impacted location from the transformer/BESS system greater than 10 dB lower than the wind turbine impact calculated at the same location.

Therefore the overall noise impact of the proposed development, inclusive of the wind turbines, transformer and BESS system is represented sufficiently by the wind turbine noise impact only.

7. CONCLUSION

Noise emissions at all locations have been found to comply with the noise criteria based on the SA Guidelines background noise monitoring, with the exception of “R4”, which complies with the recommended noise levels for “stake holder” premises.

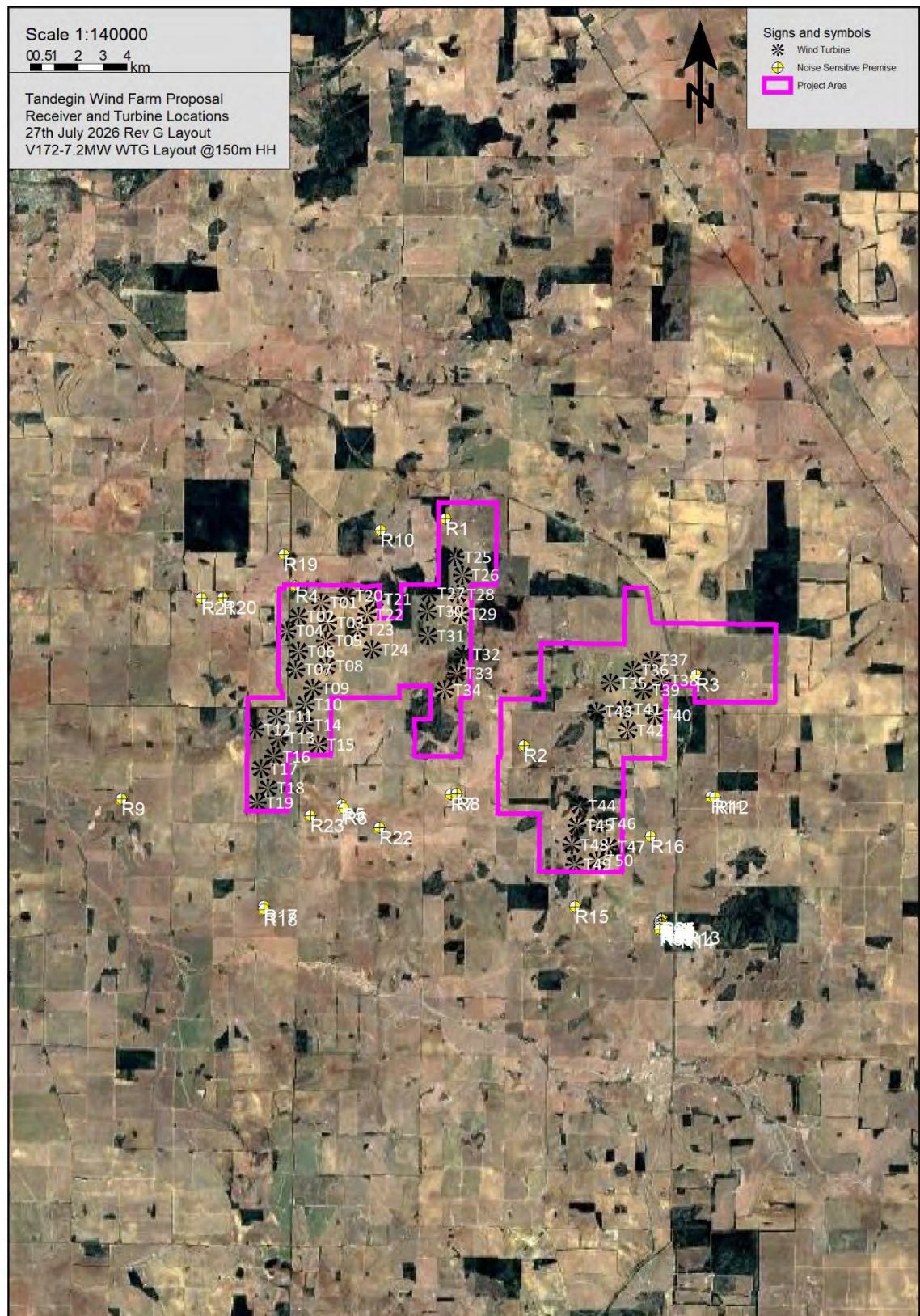
Additionally, noise impacts have been calculated to comply with the most stringent Assigned Noise Level stipulated by the Environmental Protection (Noise) Regulations 1997 at all times – even for wind speeds that are not considered to be a valid comparison against the Regulations as it is outside of the wind speeds stipulated by the DWER *“Guideline Assessment of Environmental Noise Emissions”* – again, with the exception of “R4”, which complies with the recommended noise levels for “stake holder” premises.

Given the layout / location of the wind turbines , “R4” is considered likely to be classified as a “stake holder” premise, as it is located within the project area. Once this classification has been confirmed, noise impacts at the surrounding noise sensitive premises to the proposed wind farm are considered to comply with all the relevant requirements.

The above findings include the impact of the proposed transformers and BESS system.

APPENDIX A

RESIDENTIAL AND TURBINE LOCATIONS



RECIEVER LOCATIONS

Name	Easting, m	Northing, m
R1	638798	6502061
R2	642031	6492728
R3	649105	6495654
R4	632613	6499296
R5	634517	6490282
R6	634615	6490159
R7	639015	6490721
R8	639245	6490744
R9	625449	6490520
R10	636112	6501587
R11	649731	6490614
R12	649891	6490593
R13	648717	6485207
R14	648466	6485040
R15	644129	6486095
R16	647251	6488977
R17	631300	6486120
R18	631310	6485970
R19	632137	6500607
R20	629616	6498828
R21	628758	6498792
R22	636076	6489350
R23	633234	6489830
R24	647690	6485599
R25	647680	6485570
R26	647626	6485477
R27	647697	6485400
R28	647625	6485379
R29	647701	6485372
R30	647701	6485305
R31	647702	6485259
R32	647619	6485252
R33	647618	6485179

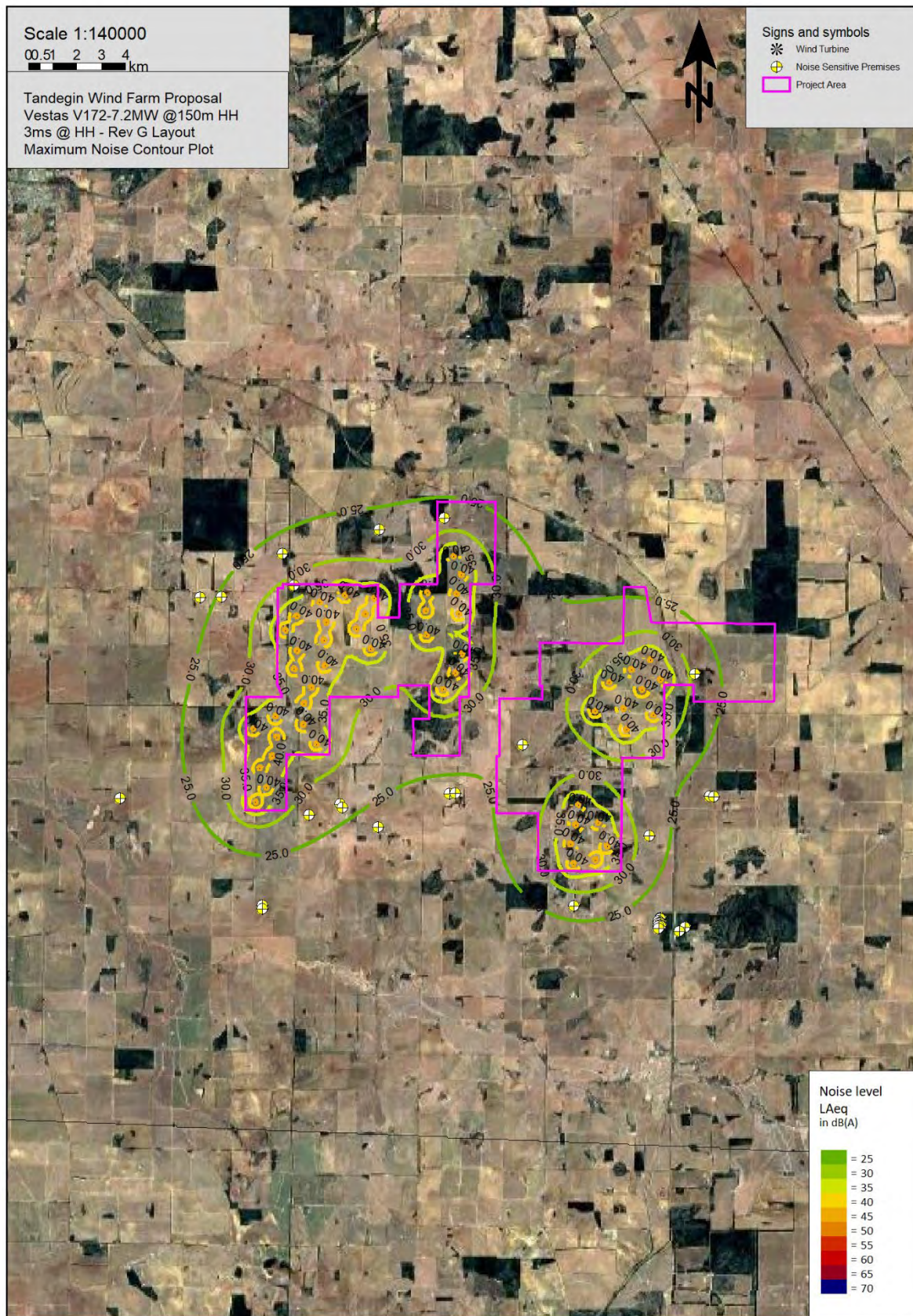
WIND TURBINE LOCATIONS AND TYPE

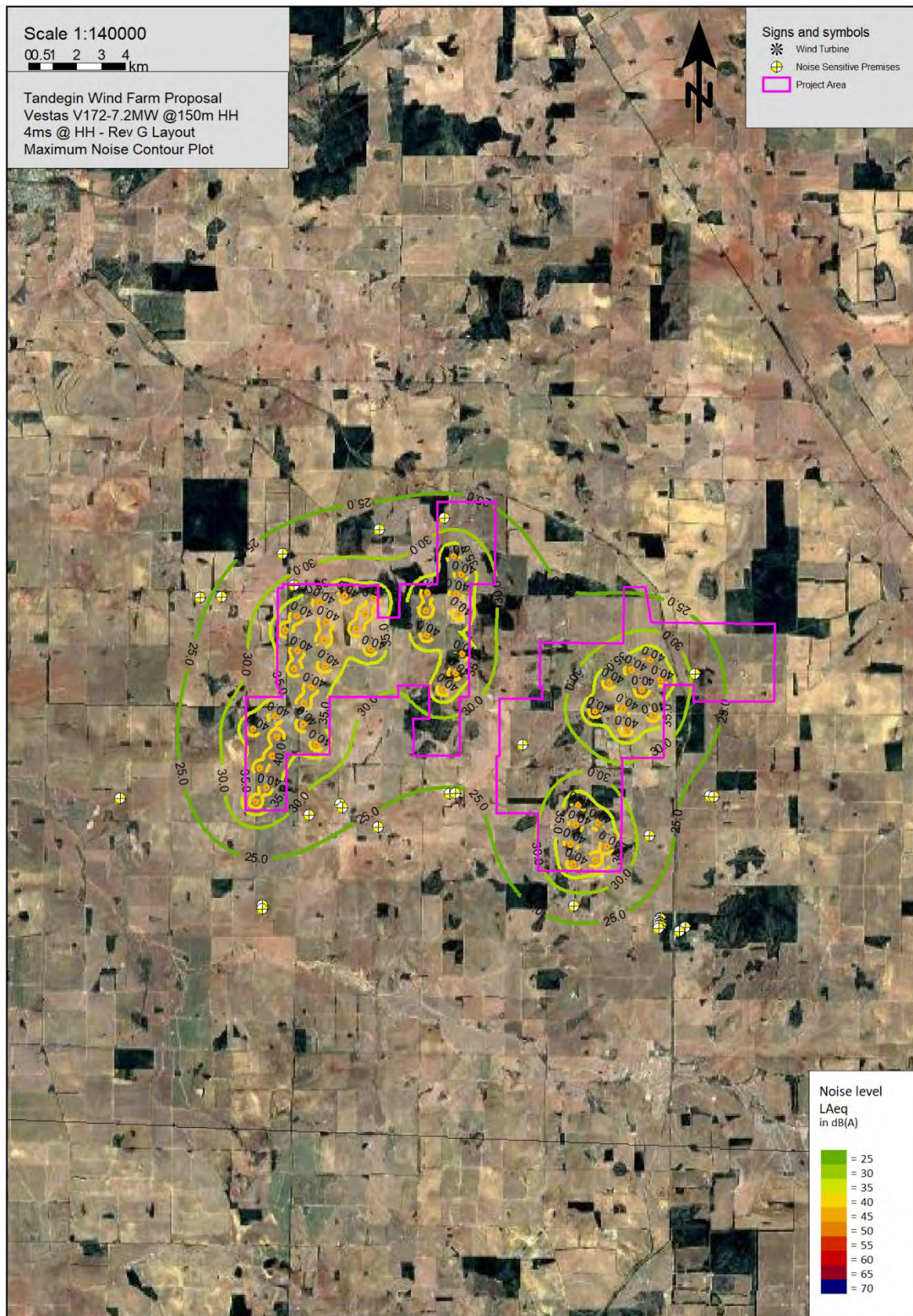
Name	Turbine Type	Operating Mode	Easting, m	Northing, m
T1	V172-7.2MW	Normal —serrated blade edge	633667	6498620
T2	V172-7.2MW	Normal —serrated blade edge	632723	6498051
T3	V172-7.2MW	Normal —serrated blade edge	633946	6497795
T4	V172-7.2MW	Normal —serrated blade edge	632258	6497455
T5	V172-7.2MW	Normal —serrated blade edge	633840	6497058
T6	V172-7.2MW	Normal —serrated blade edge	632744	6496616
T7	V172-7.2MW	Normal —serrated blade edge	632614	6495866
T8	V172-7.2MW	Normal —serrated blade edge	633891	6496011
T9	V172-7.2MW	Normal —serrated blade edge	633329	6495100
T10	V172-7.2MW	Normal —serrated blade edge	633015	6494436
T11	V172-7.2MW	Normal —serrated blade edge	631843	6493924
T12	V172-7.2MW	Normal —serrated blade edge	630927	6493388
T13	V172-7.2MW	Normal —serrated blade edge	631907	6493043
T14	V172-7.2MW	Normal —serrated blade edge	633002	6493575
T15	V172-7.2MW	Normal —serrated blade edge	633549	6492767
T16	V172-7.2MW	Normal —serrated blade edge	631714	6492273
T17	V172-7.2MW	Normal —serrated blade edge	631197	6491782
T18	V172-7.2MW	Normal —serrated blade edge	631482	6490979
T19	V172-7.2MW	Normal —serrated blade edge	631035	6490382
T20	V172-7.2MW	Normal —serrated blade edge	634703	6498901
T21	V172-7.2MW	Normal —serrated blade edge	635899	6498772
T22	V172-7.2MW	Normal —serrated blade edge	635547	6498129
T23	V172-7.2MW	Normal —serrated blade edge	635182	6497510
T24	V172-7.2MW	Normal —serrated blade edge	635776	6496682
T25	V172-7.2MW	Normal —serrated blade edge	639171	6500504
T26	V172-7.2MW	Normal —serrated blade edge	639499	6499759
T27	V172-7.2MW	Normal —serrated blade edge	638103	6499007
T28	V172-7.2MW	Normal —serrated blade edge	639298	6498957
T29	V172-7.2MW	Normal —serrated blade edge	639400	6498140
T30	V172-7.2MW	Normal —serrated blade edge	638032	6498259
T31	V172-7.2MW	Normal —serrated blade edge	638066	6497258
T32	V172-7.2MW	Normal —serrated blade edge	639528	6496483
T33	V172-7.2MW	Normal —serrated blade edge	639258	6495699
T34	V172-7.2MW	Normal —serrated blade edge	638749	6495020
T35	V172-7.2MW	Normal —serrated blade edge	645580	6495312
T36	V172-7.2MW	Normal —serrated blade edge	646495	6495840
T37	V172-7.2MW	Normal —serrated blade edge	647276	6496244
T38	V172-7.2MW	Normal —serrated blade edge	647698	6495422
T39	V172-7.2MW	Normal —serrated blade edge	646932	6495009
T40	V172-7.2MW	Normal —serrated blade edge	647403	6493971
T41	V172-7.2MW	Normal —serrated blade edge	646171	6494231
T42	V172-7.2MW	Normal —serrated blade edge	646288	6493361
T43	V172-7.2MW	Normal —serrated blade edge	645002	6494131
T44	V172-7.2MW	Normal —serrated blade edge	644312	6490258
T45	V172-7.2MW	Normal —serrated blade edge	644197	6489441
T46	V172-7.2MW	Normal —serrated blade edge	645135	6489529

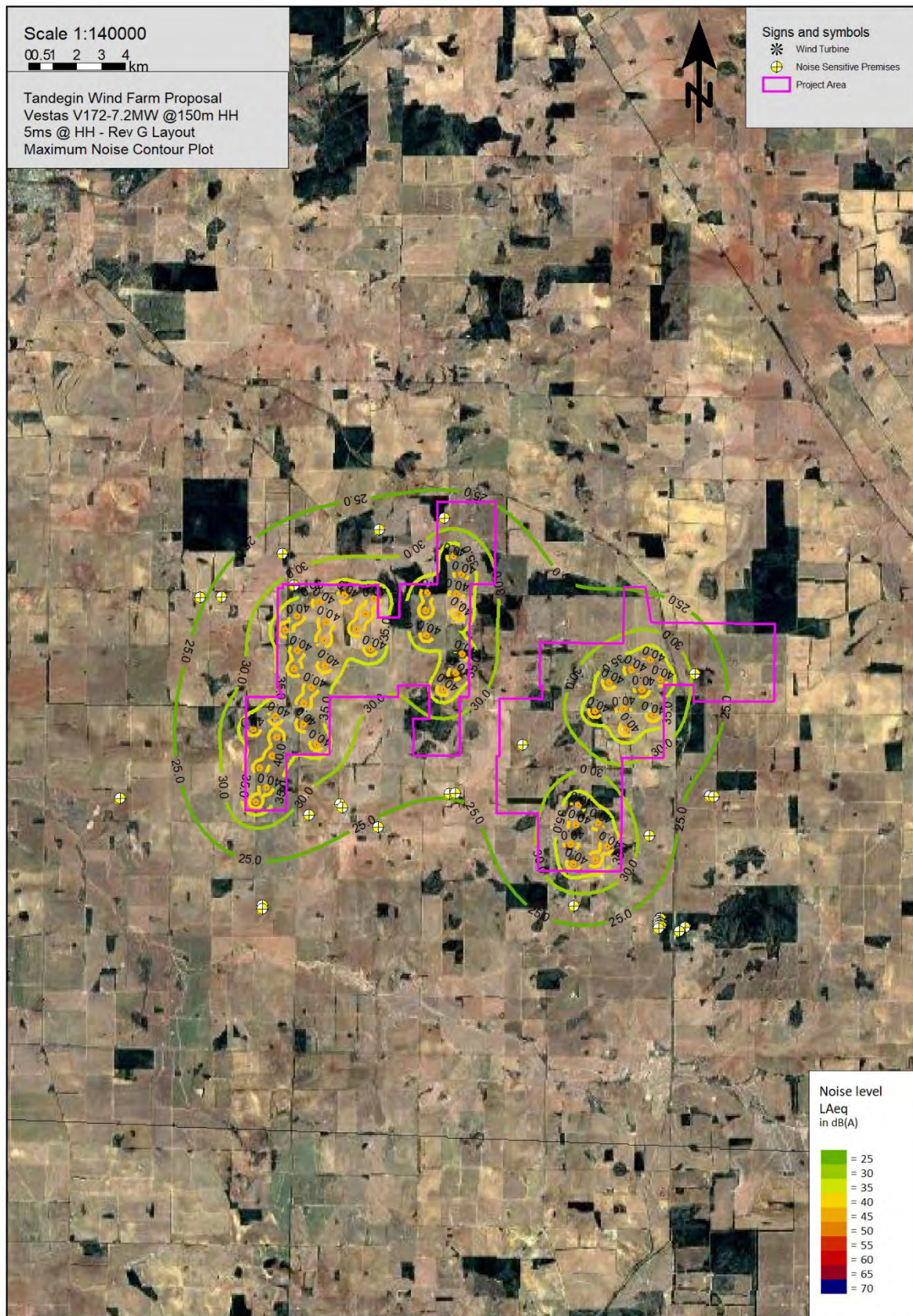
T47	V172-7.2MW	Normal —serrated blade edge	645514	6488567
T48	V172-7.2MW	Normal —serrated blade edge	643999	6488652
T49	V172-7.2MW	Normal —serrated blade edge	644107	6487835
T50	V172-7.2MW	Normal —serrated blade edge	645008	6487991

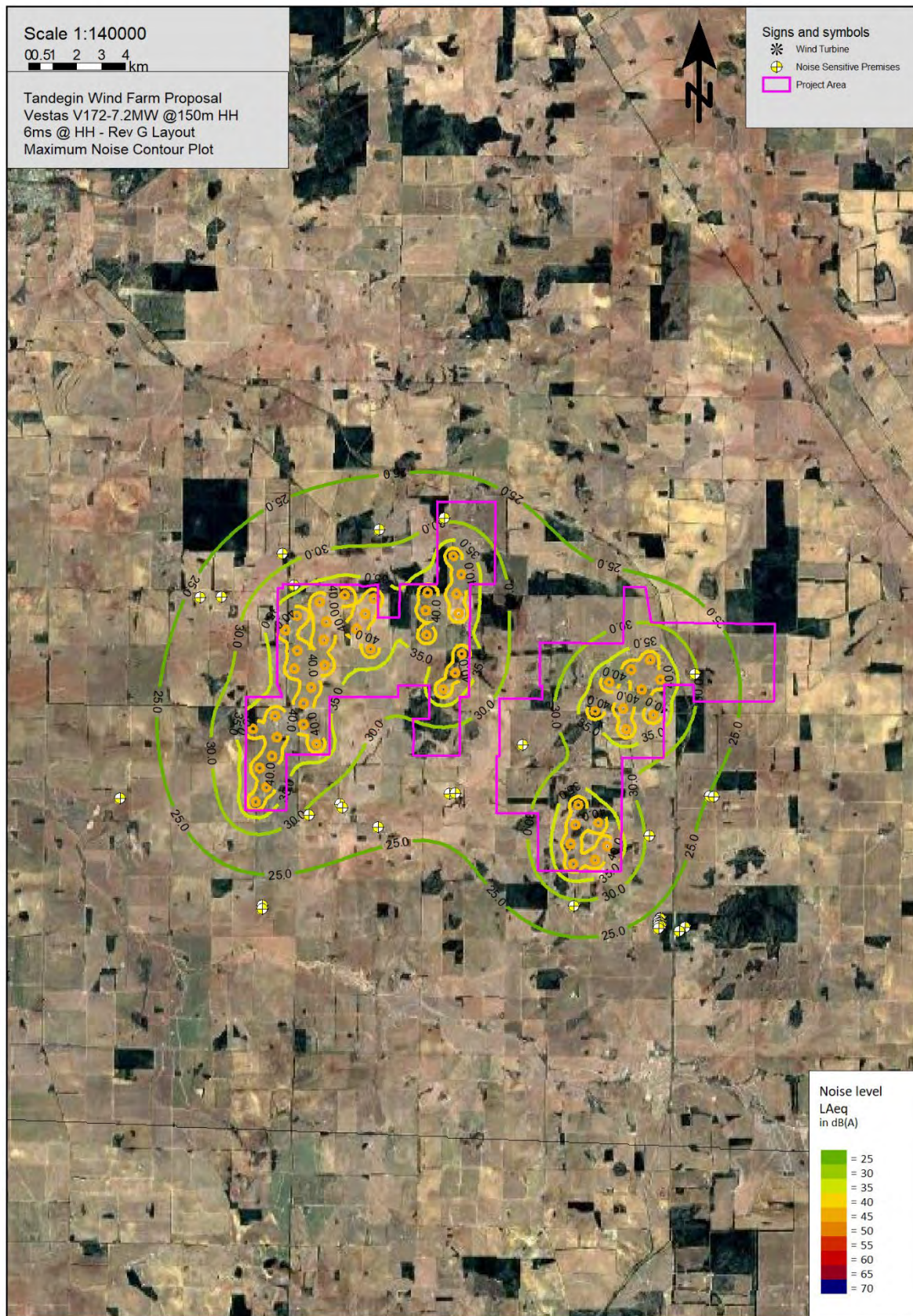
APPENDIX B

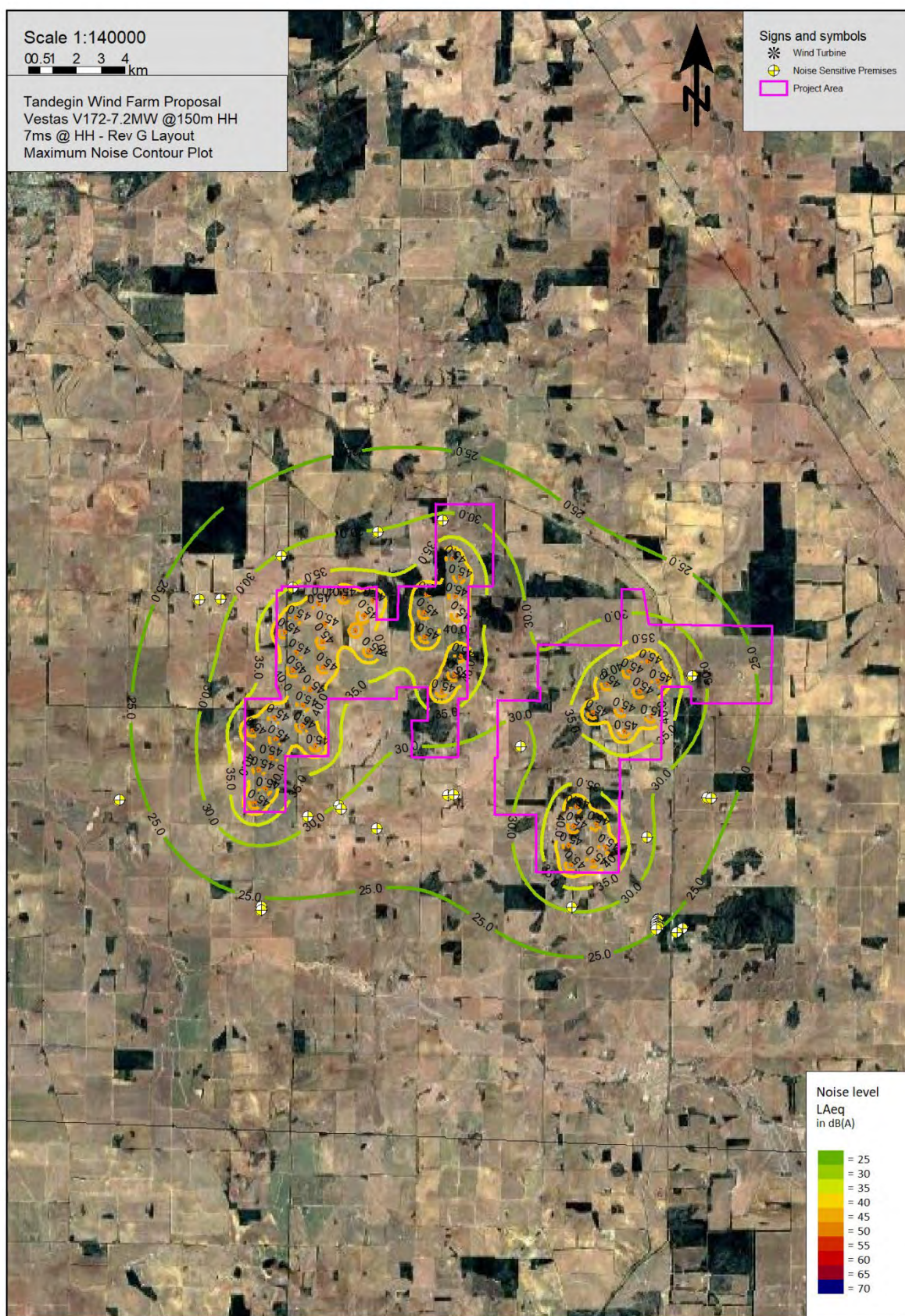
PREDICTED NOISE LEVEL CONTOURS

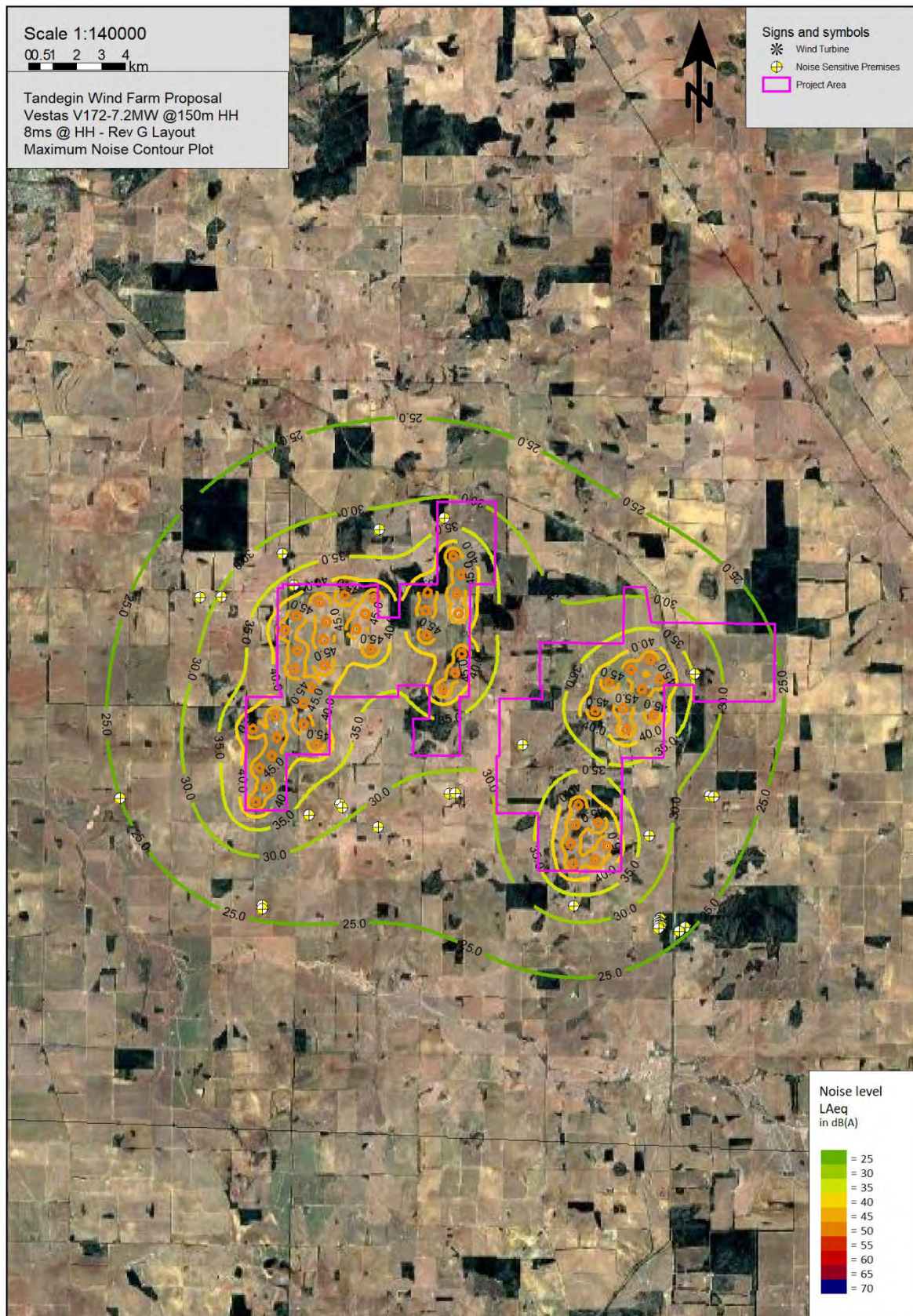


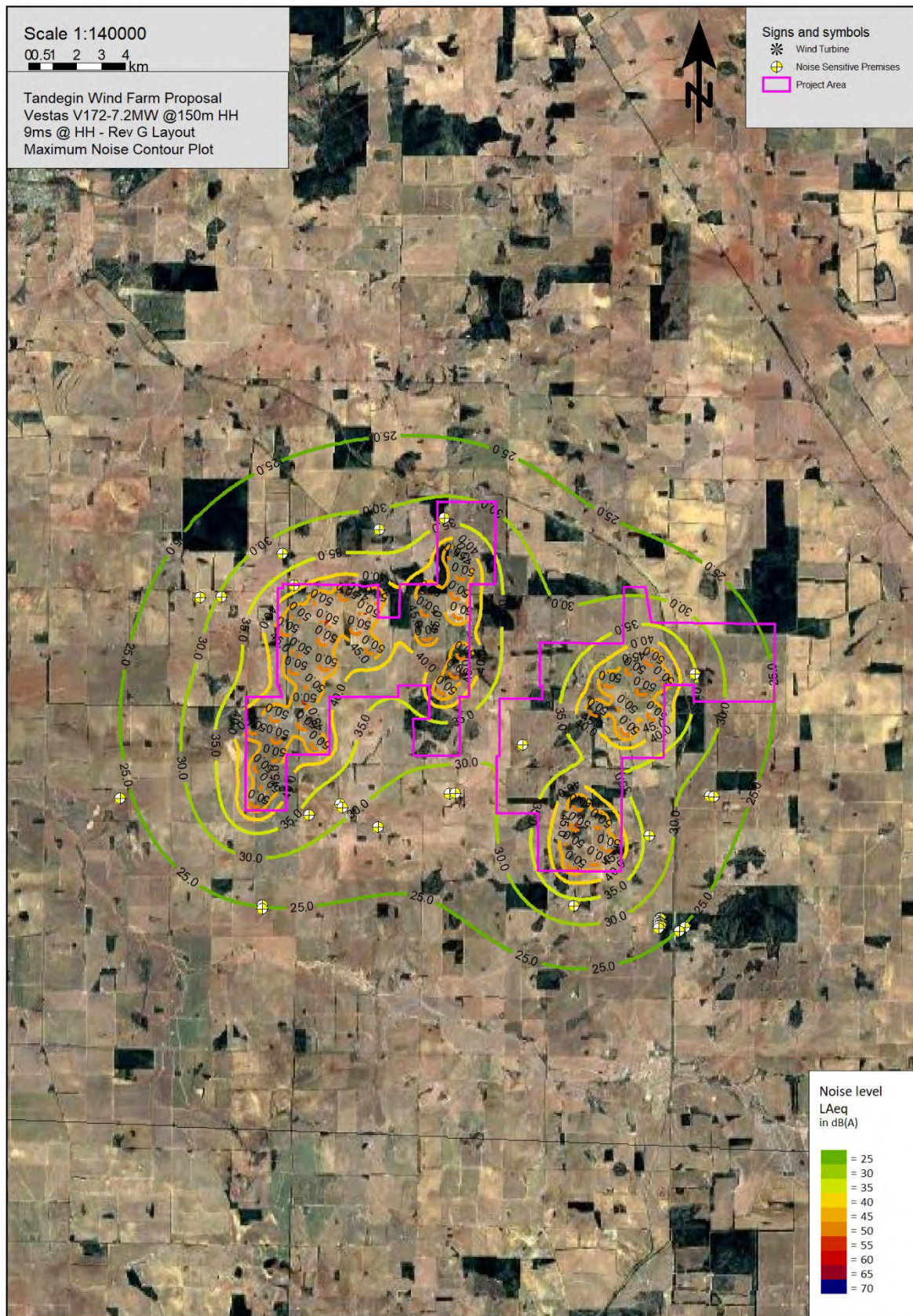


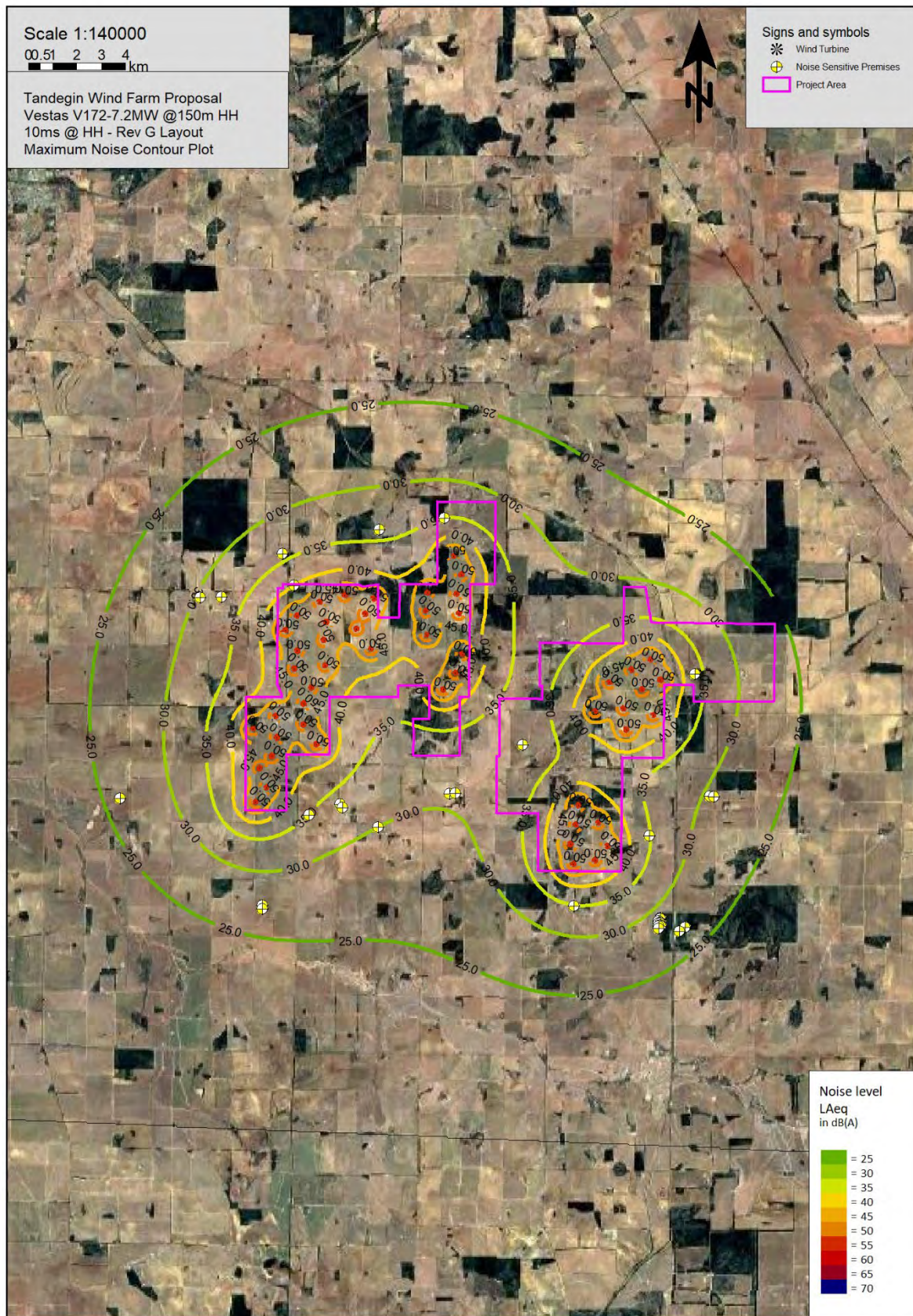












APPENDIX C

BACKGROUND NOISE MONITORING REPORT

COLLGAR RENEWABLES

TANDEGIN WIND FARM MERREDIN

BACKGROUND NOISE MONITORING

APRIL 2026

OUR REFERENCE: 36364-2-25396

DOCUMENT CONTROL PAGE

BACKGROUND NOISE MONITORING
TANDEGIN WIND FARM

Job No: 25396

Document Reference : 36364-2-25396

FOR

COLLGAR RENEWABLES

DOCUMENT INFORMATION				
Author:	George Watts	Checked By:	Tim Reynolds	
Date of Issue:	28 April 2026			
REVISION HISTORY				
Revision	Description	Date	Author	Checked
1	Revision of typographical errors and addition of 150m HH data	14/526	GW	
DOCUMENT DISTRIBUTION				
Revision	Destination			
2	Collgar Renewables Attn: Francois Giraud Email: francois.giraud@collgar.com.au			

CONTENTS

1.	INTRODUCTION	1
2.	SUMMARY	1
3.	METHODOLOGY	2
4.	RESULTS	4

APPENDICIES

A	Monitoring Locations
B	Monitoring Location Details
C	Background Noise Levels vs Wind Speed Plots @ 150m AGL
D	Background Noise Levels vs Wind Speed Plots @ 170m AGL
E	Background Noise Level Time History Plots
F	Calibration Certificates

1. INTRODUCTION

Herring Storer Acoustics were commissioned by Collgar Renewables to carry out background noise monitoring for the proposed Tandegin Wind Farm development, to be located approximately 20kms south-east of Merredin.

Background noise monitoring was commissioned to enable the results to be used in the noise impact assessment, carried out in accordance with the EPA of South Australia “*Wind Farms – Environmental noise guidelines– July 2009, Updated November 2021*” (Guidelines) which is the guidelines recognised by the Western Australian Department Water Environment and Regulation for the assessment of wind farms.

The Western Australian Planning Commission have a December 2025 “Renewable Energy Planning Code and Guidelines” document in draft form for public consultation. The proposed changes to noise impact assessment methodology is altered somewhat to the current WAPC statement – however, the current requirement for background noise monitoring and assessment methodology is still considered pertinent to be undertaken at this stage, as the proposed change – based on recent wind farm approval processes – is understood to be inadequate in a planning context and considered likely to be change following the consultation process.

Regardless of if the draft code changes do occur or not, on the basis that they do not change, background noise monitoring was needed to be undertaken at this stage of the process to meet the desired timeframes for the lodgement of development application – hence, undertaking background monitoring is a conservative approach to ensure that all data is collated for any possible eventualities that may occur in the future following the public consultation period for the draft code.

Noise monitoring was carried out between 24th February 2026 and 16th April 2026 at 7 locations, with monitoring occurring for approximately 2 months at each location.

This report presents the results of the monitoring and analysis.

2. SUMMARY

Based on the results of background noise monitoring within the proposed wind farm development area, the applicable criteria for each location is as listed in Table 2.1 and Table 2.2 for both 150m and 170m above ground level hub heights.

TABLE 2.1 – NOISE CRITERIA BASED ON BACKGROUND NOISE LEVELS @ 150m AGL HUB HEIGHT, dB(A)

Location	WIND SPEED AT 150m ABOVE GROUND LEVEL (m/s)										
	3	4	5	6	7	8	9	10	11	12	13
1	35	35	35	35	35	37	39	41	42	43	44
2	35	35	35	35	35	35	36	38	41	41	44
3	35	35	35	35	35	35	36	36	39	41	43
4	35	35	35	35	35	35	37	39	42	42	45
5	35	35	35	35	35	35	35	35	35	35	37
6	35	35	35	35	35	35	37	37	39	41	43
7	35	35	35	35	35	35	35	35	36	40	42

TABLE 2.2 – NOISE CRITERIA BASED ON BACKGROUND NOISE LEVELS @ 170m AGL HUB HEIGHT, dB(A)

Location	WIND SPEED AT 170m ABOVE GROUND LEVEL (m/s)										
	3	4	5	6	7	8	9	10	11	12	13
1	35	35	35	35	35	37	39	40	42	42	44
2	35	35	35	35	35	35	36	37	40	40	43
3	35	35	35	35	35	35	36	36	37	39	41
4	35	35	35	35	35	35	37	38	41	41	43
5	35	35	35	35	35	35	35	35	35	35	36
6	35	35	35	35	35	35	37	37	39	40	43
7	35	35	35	35	35	35	36	36	36	38	41

3. METHODOLOGY

Background noise levels were monitored at seven locations both within the proposed development area and in the surrounding area in accordance with the Guidelines and AS4959-2010. Locations are detailed in Table 3.1, the monitoring location map is attached in Appendix A.

TABLE 3.1 – MONITORING LOCATION DETAILS

Location	Easting (m)	Northing (m)
1	638798	6502061
2	632613	6499296
3	633234	6489830
4	642031	6492728
5	644129	6486095
6	649105	6495654
7	647251	6488977
Wind Monitor	632975	6494874

Monitored noise levels were then paired with corresponding wind data, provided by the LiDAR wind monitoring station located within the proposed wind farm area.

The potential hub height being considered for the proposed wind farm is understood to be 150m or 170m above ground level, hence, background noise monitoring has been correlated with the wind speeds at these heights in accordance with the Guidelines.

Rain affected data was removed from the collected data using weather information attained from the local weather station that was located at the background monitoring location 3.

The noise monitoring equipment utilised meets the sound level meter requirements of IEC 61672-1:2002 – Class 1, with current NATA calibration – included in Appendix F. The meters utilised high performance microphone windsocks (130mm in diameter) removing any wind induced local noise over the microphone for the wind speeds considered in the monitoring.

The Guidelines requires 2000 valid data points to be collected for each site and also recommends that not less than 500 data points collected for downwind conditions.

Wind direction for downwind conditions is defined as +/- 45 degrees from the line connecting the receptor and the nearest turbine. It is noted that in this instance there are some background noise monitoring locations that have turbines in all directions – hence all wind directions are considered downwind.

The Guidelines recognises that the collection of 500 valid points for the downwind condition will not always be practical to achieve given prevailing wind conditions for some monitoring locations.

The number of data points – both downwind and overall at 150m and 170m above ground level– are listed below in Table 3.2 and 3.3.

TABLE 3.2 – NUMBER OF VALID BACKGROUND NOISE MONITORING POINTS @ 150m AGL

Location	Total Data Points	Downwind
1	5629	1551
2	5633	2129
3	5633	513
4	5578	530
5	5633	1046
6	5633	593
7	5633	593

TABLE 3.3 – NUMBER OF VALID BACKGROUND NOISE MONITORING POINTS @ 170m AGL

Location	Total Data Points	Downwind
1	5629	1931
2	5633	2238
3	5633	822
4	5578	482
5	5633	772
6	5633	889
7	5633	889

The number of downwind condition data points collected at each background monitoring location exceeded 500 in all cases, with the exception of Location 4, which has marginally less than 500 (being 482 data points) for 170m above ground level. Given that the land uses in the surrounding area of each location is consistent in use and noise generating sources (i.e. vegetation state surrounding each location is the same) it is considered that the monitoring undertaken is representative of background noise levels at each location and wind direction as there is no significant difference in the surrounding area of each monitoring location where the direction of the wind will alter the associated background noise levels.

Background noise levels were plotted against the corresponding wind speed measurement (see Appendix C and D).

The background noise levels monitored were correlated to wind speed, and processed in accordance with the Guidelines, with the resultant noise criteria at each hub height wind speed (from cut in rated power of the wind turbine generator) as listed below :

- 35 dB(A), or
- The background noise ($L_{A90,10 \text{ minutes}}$) by more than 5 dB(A)*.

*whichever is greater.

Calibration certificates for meters used are attached in Appendix E.

4. RESULTS

Background noise monitoring for each of the seven locations is presented in Appendix C, with time history charts presented in Appendix D.

Refer to Appendix A and B for location information for each background noise monitoring location. It is noted that Location 4 photos in Appendix B includes the local weather monitoring station – however – this was relocated to Location 3 the following day as Location 4 had intermittent mobile internet data coverage and, as such, was considered appropriate to relocate.

Processing the collected data in accordance with the Guidelines, Table 4.1 and 4.2 summarises the background noise at each location for each integer hub height wind speed, at both 150m and 170m above ground level, from cut in speed to rated power – noting rated power has been assumed at 13m/s.

TABLE 4.1 – NOISE CRITERIA ACCOUNTING FOR BACKGROUND NOISE LEVELS @ 150m AGL

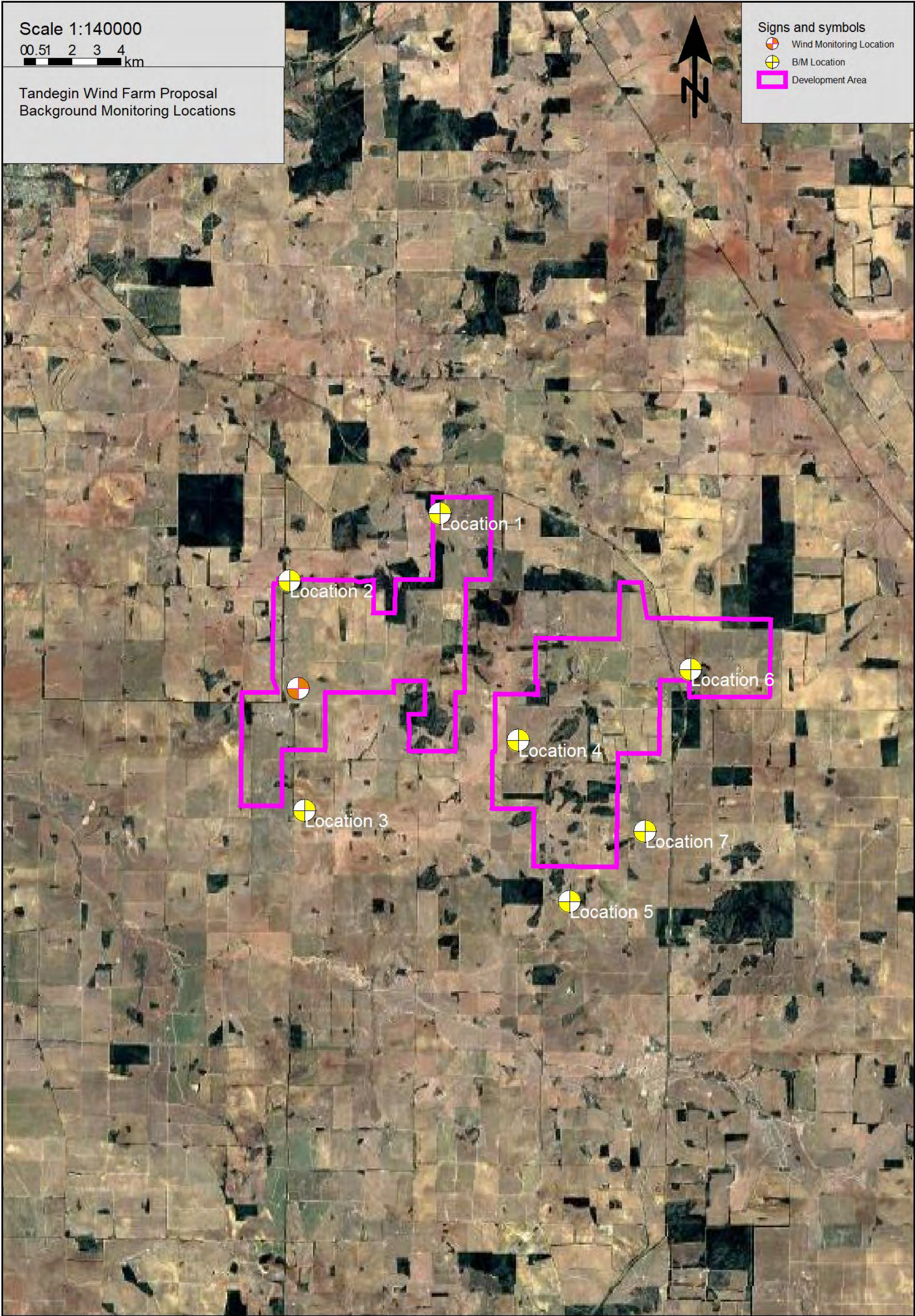
Location	WIND SPEED AT 150m ABOVE GROUND LEVEL (m/s)										
	3	4	5	6	7	8	9	10	11	12	13
1	35	35	35	35	35	37	39	41	42	43	44
2	35	35	35	35	35	35	36	38	41	41	44
3	35	35	35	35	35	35	36	36	39	41	43
4	35	35	35	35	35	35	37	39	42	42	45
5	35	35	35	35	35	35	35	35	35	35	37
6	35	35	35	35	35	35	37	37	39	41	43
7	35	35	35	35	35	35	35	35	36	40	42

TABLE 4.2 – NOISE CRITERIA ACCOUNTING FOR BACKGROUND NOISE LEVELS @ 170m AGL

Location	WIND SPEED AT 170m ABOVE GROUND LEVEL (m/s)										
	3	4	5	6	7	8	9	10	11	12	13
1	35	35	35	35	35	37	39	40	42	42	44
2	35	35	35	35	35	35	36	37	40	40	43
3	35	35	35	35	35	35	36	36	37	39	41
4	35	35	35	35	35	35	37	38	41	41	43
5	35	35	35	35	35	35	35	35	35	35	36
6	35	35	35	35	35	35	37	37	39	40	43
7	35	35	35	35	35	35	36	36	36	38	41

APPENDIX A

MONITORING LOCATIONS



APPENDIX B

MONITORING LOCATION DETAILS

LOCATION 1

23 Feb 2026 at 1:34:56 pm



23 Feb 2026 at 1:35:23 pm





LOCATION 2









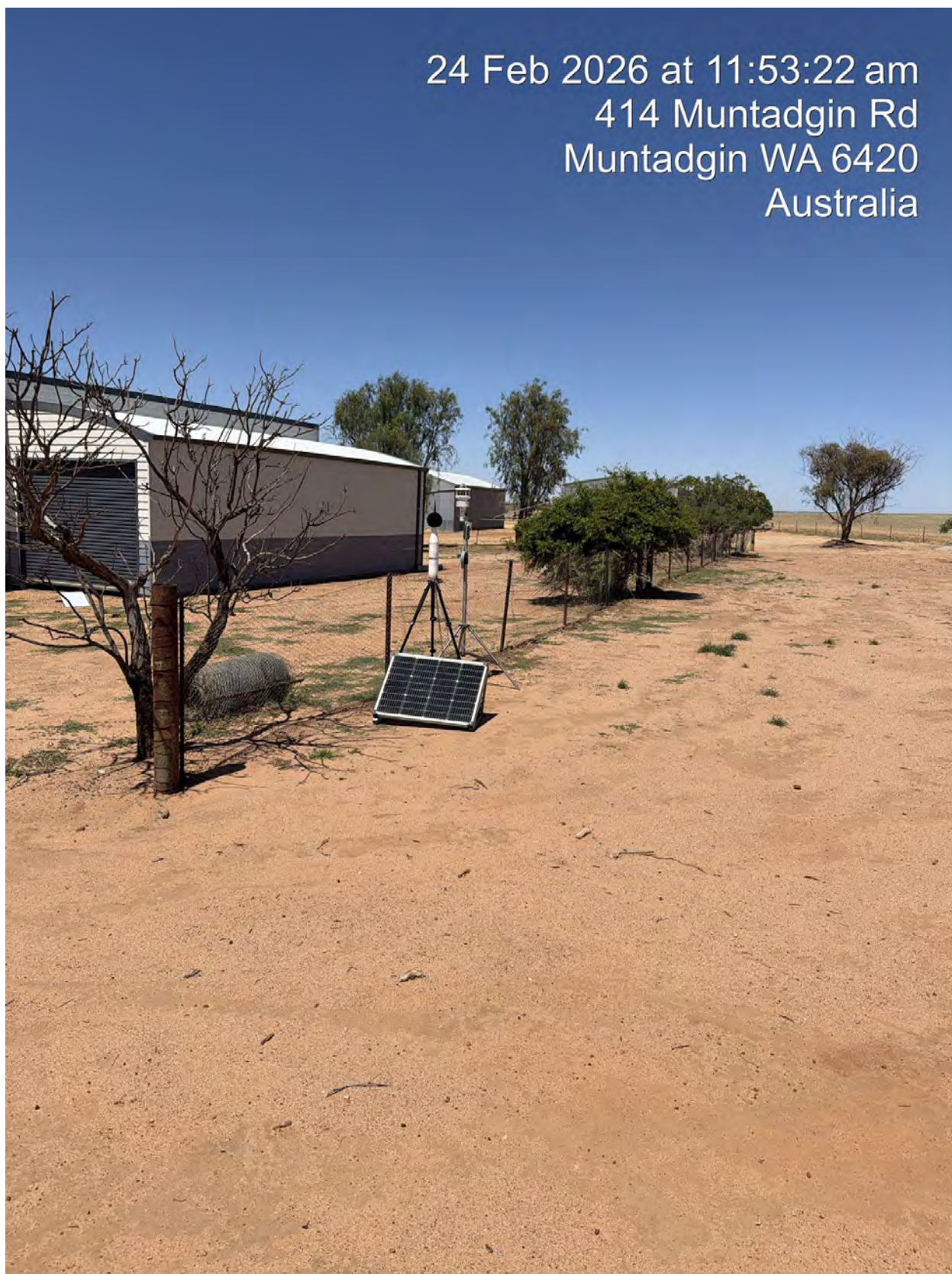
LOCATION 3

23 Feb 2026 at 3:50:38 pm



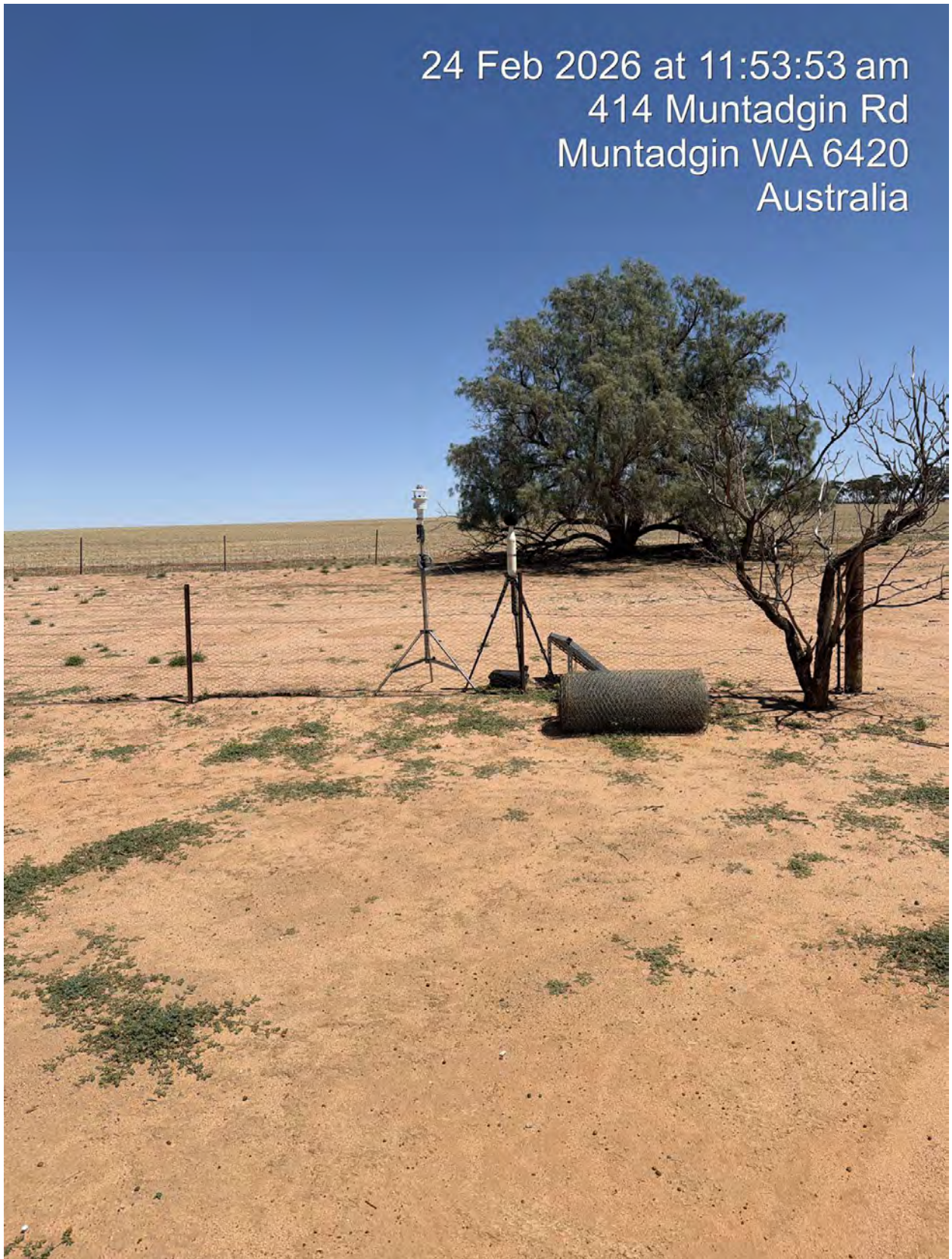


24 Feb 2026 at 11:53:22 am
414 Muntadgin Rd
Muntadgin WA 6420
Australia





24 Feb 2026 at 11:53:53 am
414 Muntadgin Rd
Muntadgin WA 6420
Australia



LOCATION 4







LOCATION 5

24 Feb 2026 at 10:23:57 am
414 Muntadgin Rd
Muntadgin WA 6420
Australia



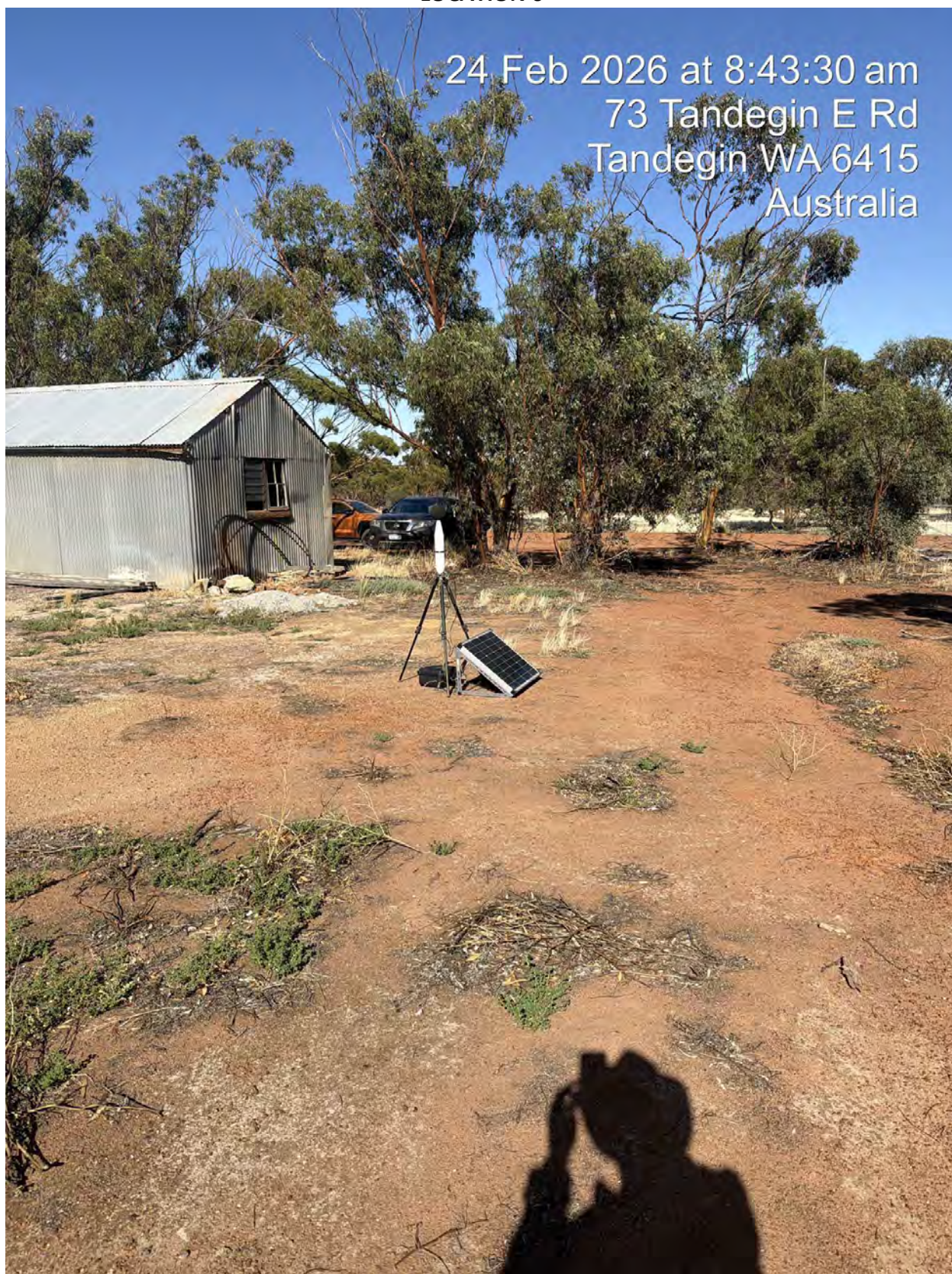
24 Feb 2026 at 10:24:14 am
414 Muntadgin Rd
Muntadgin WA 6420
Australia



24 Feb 2026 at 10:24:49 am
414 Muntadgin Rd
Muntadgin WA 6420
Australia



LOCATION 6



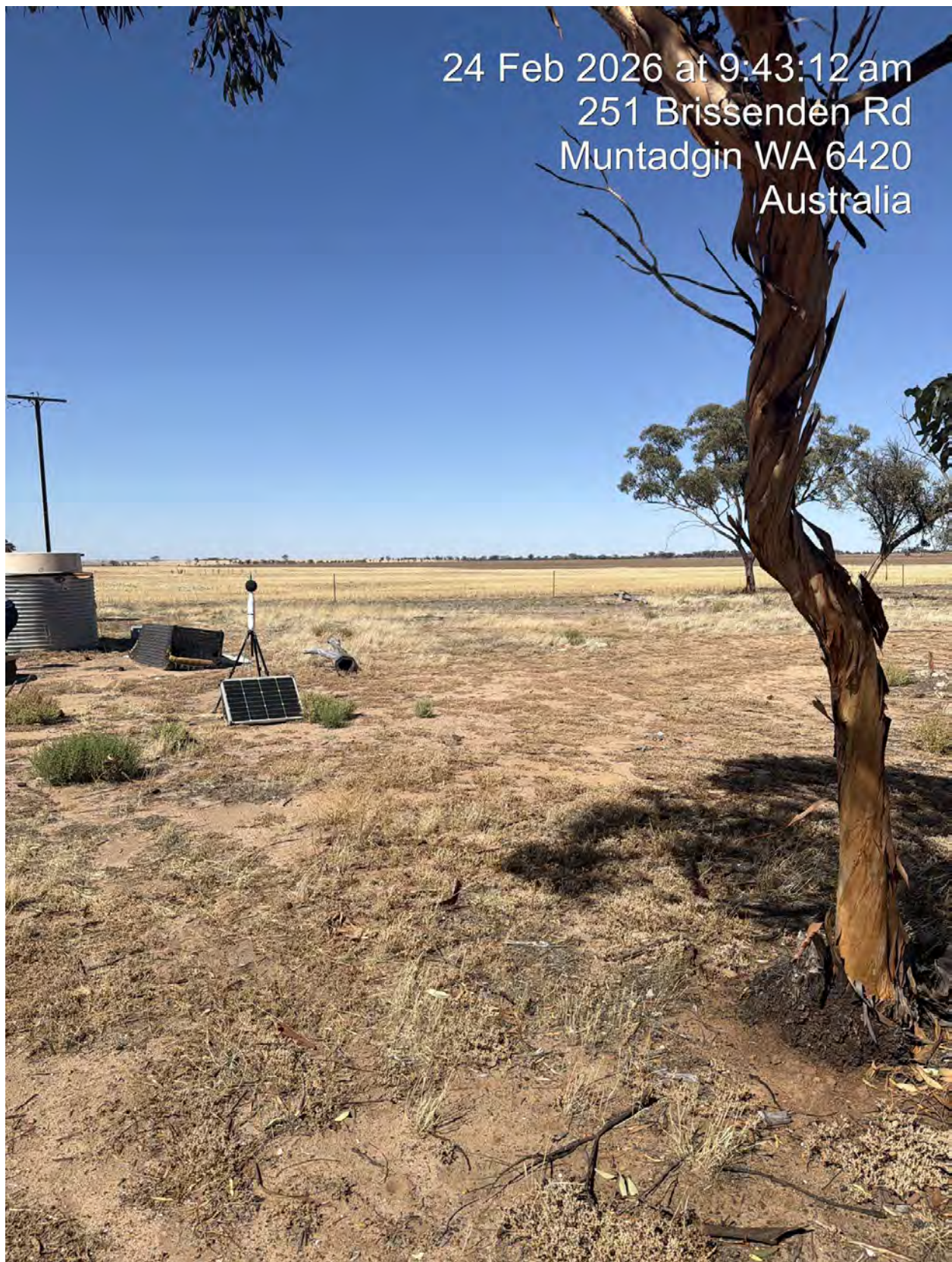






LOCATION 7



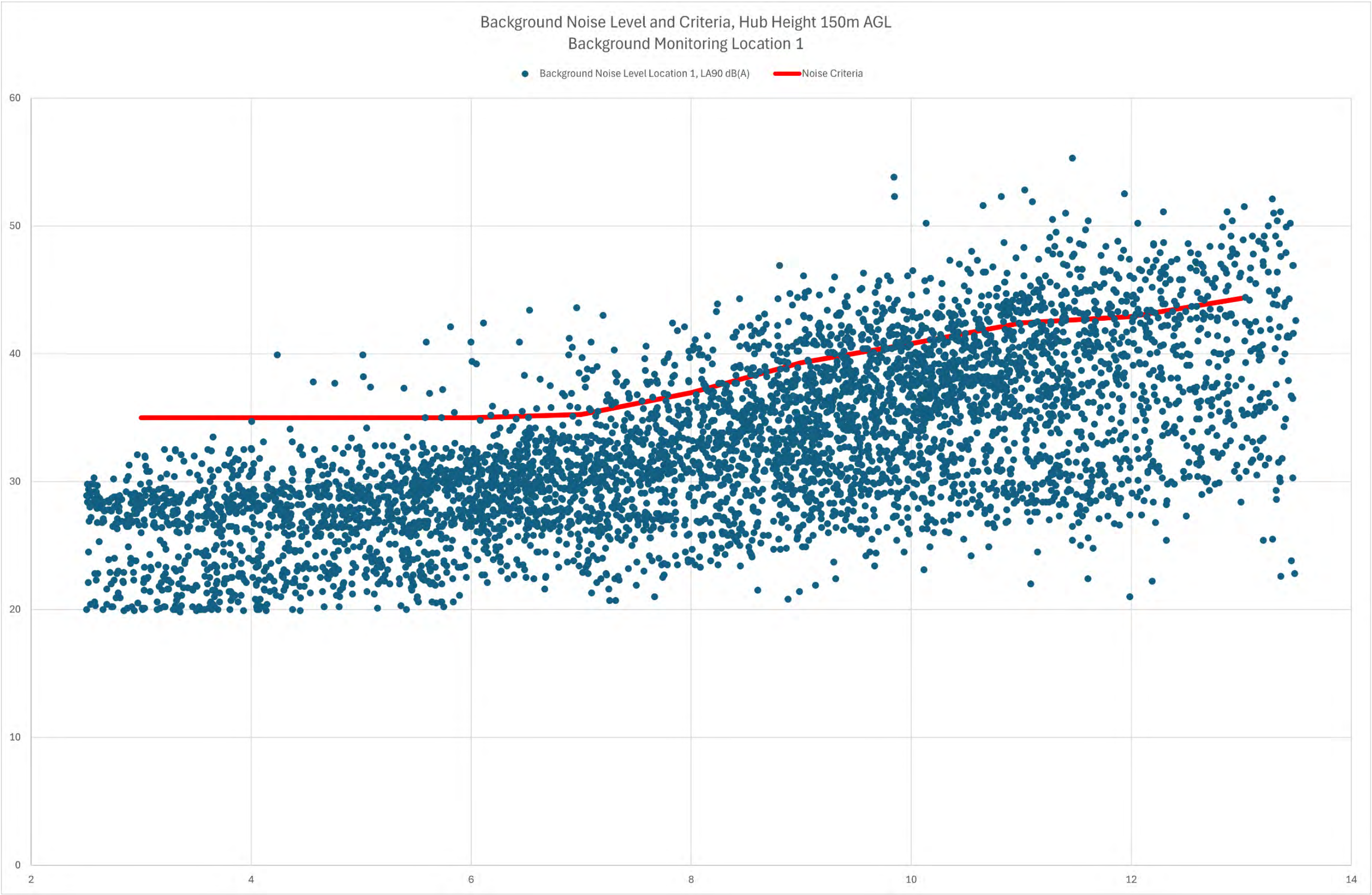


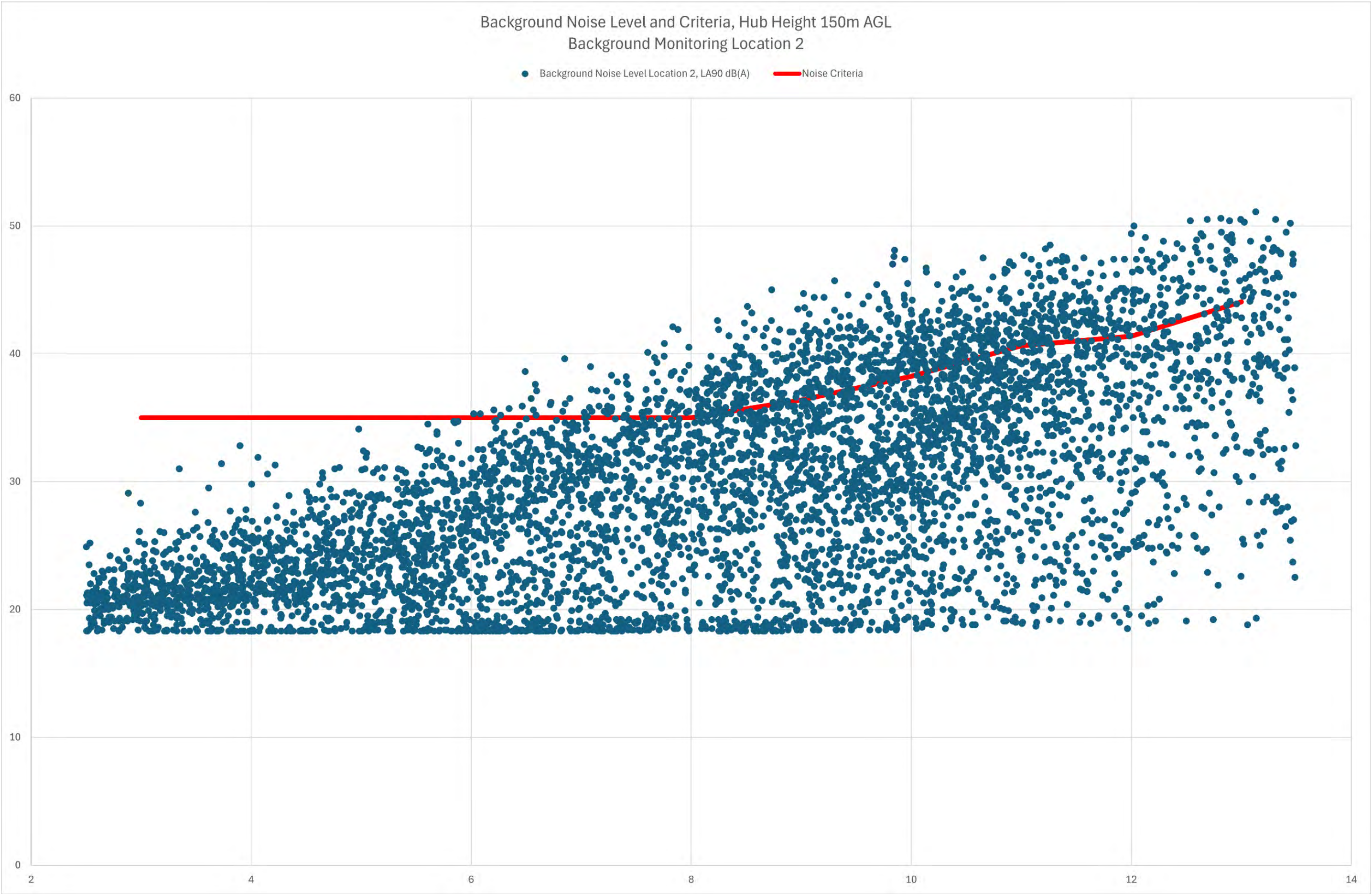


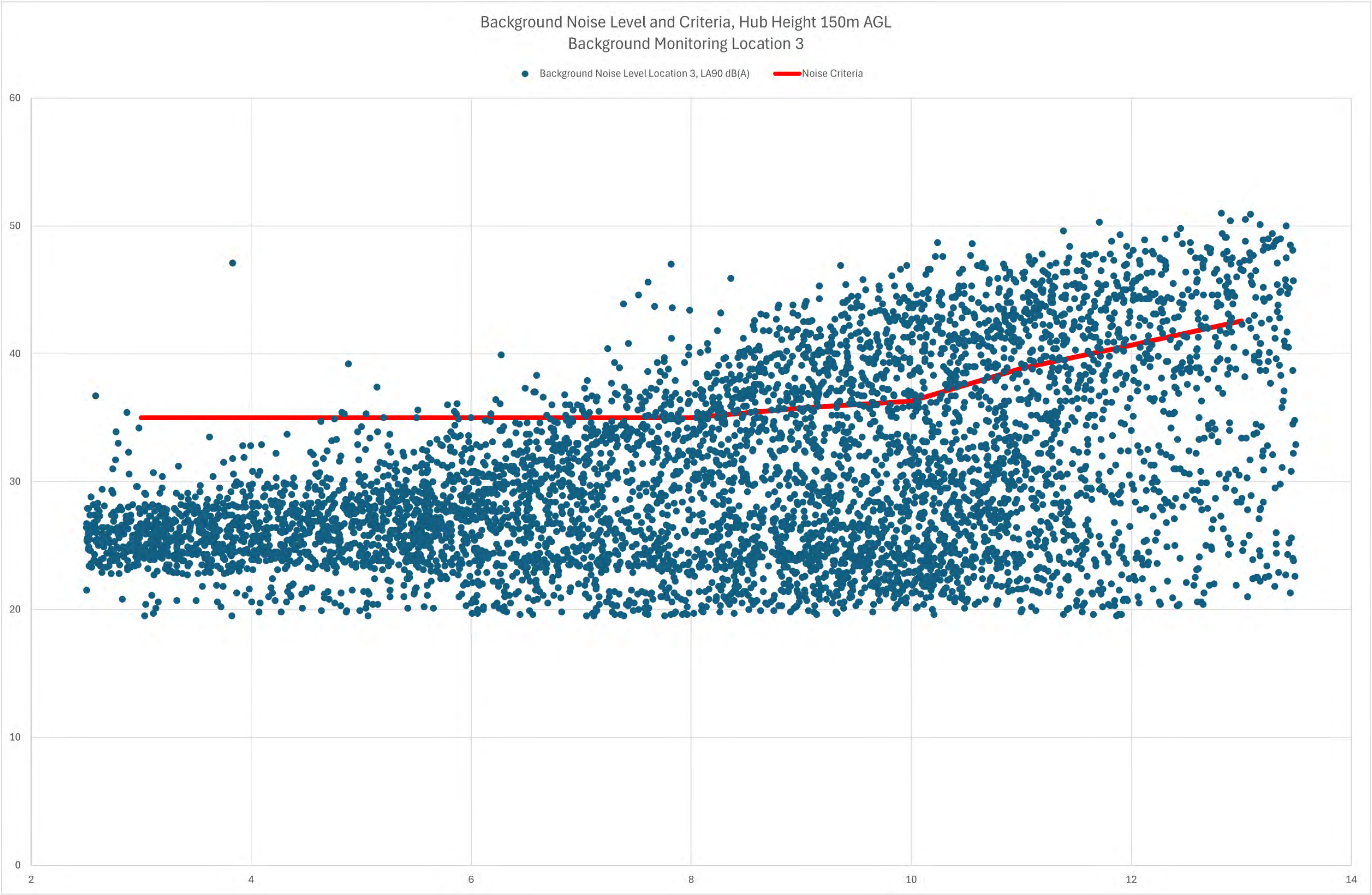


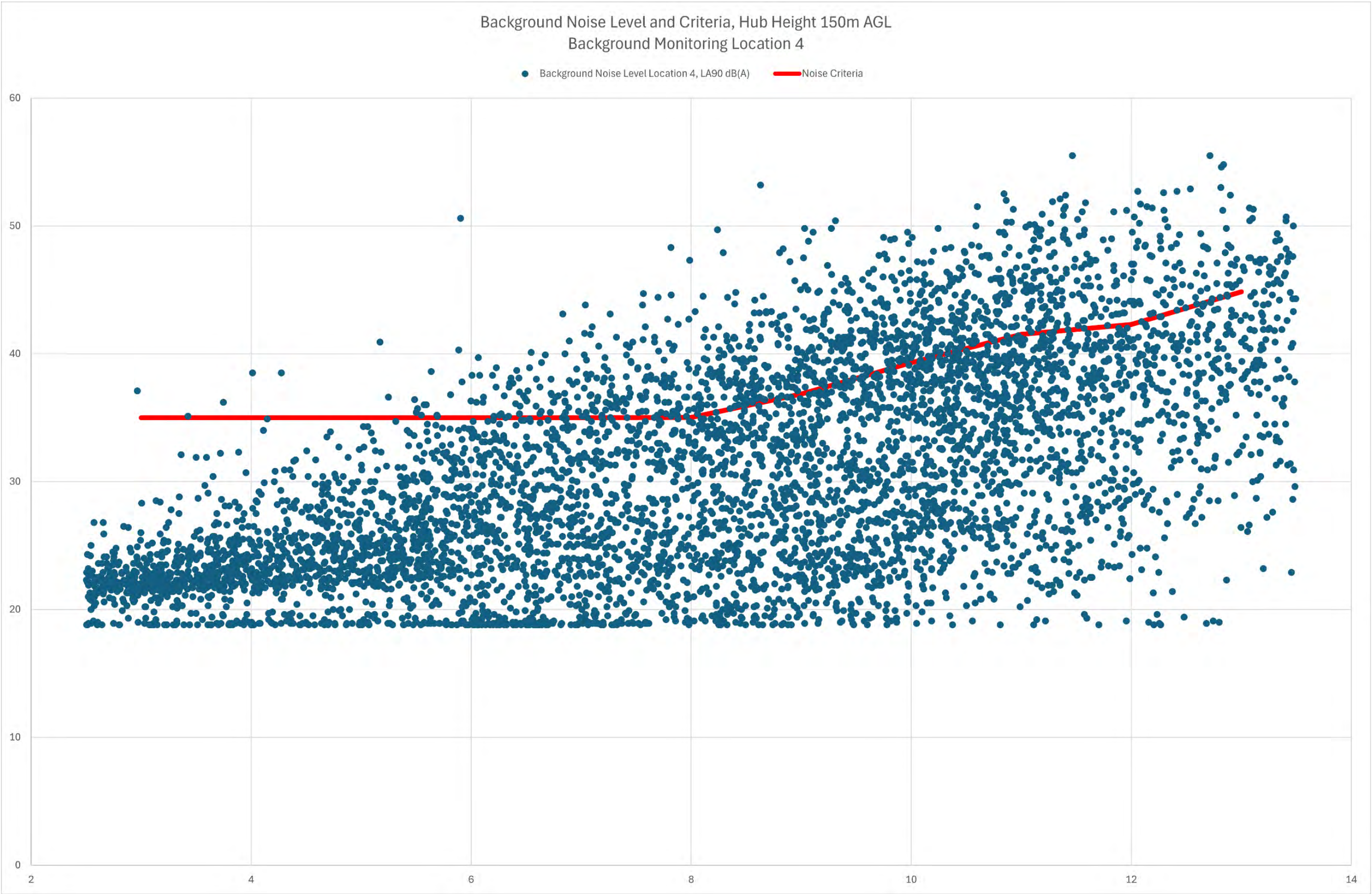
APPENDIX C

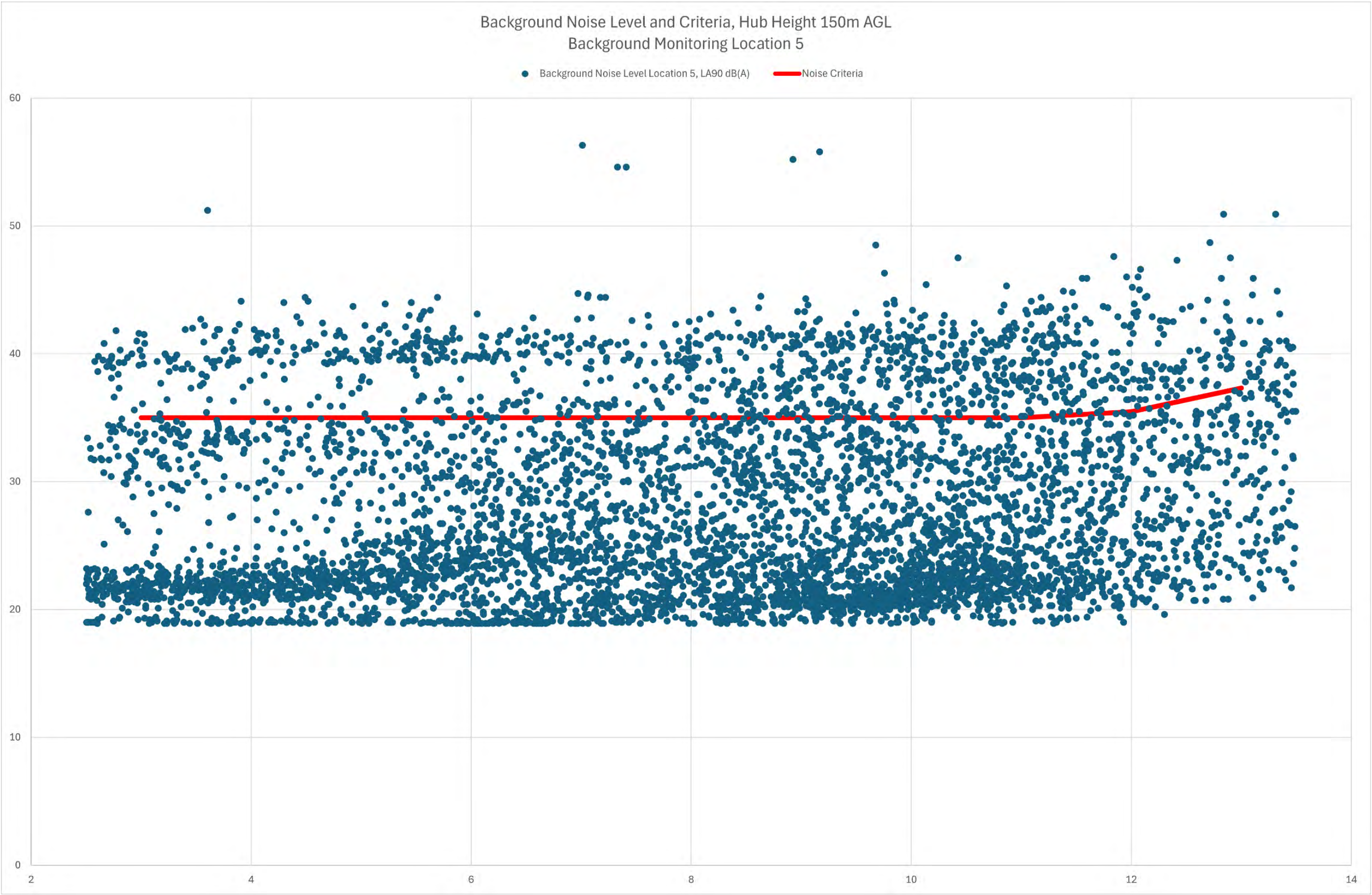
BACKGROUND NOISE LEVELS vs WIND SPEED PLOTS 150m AGL

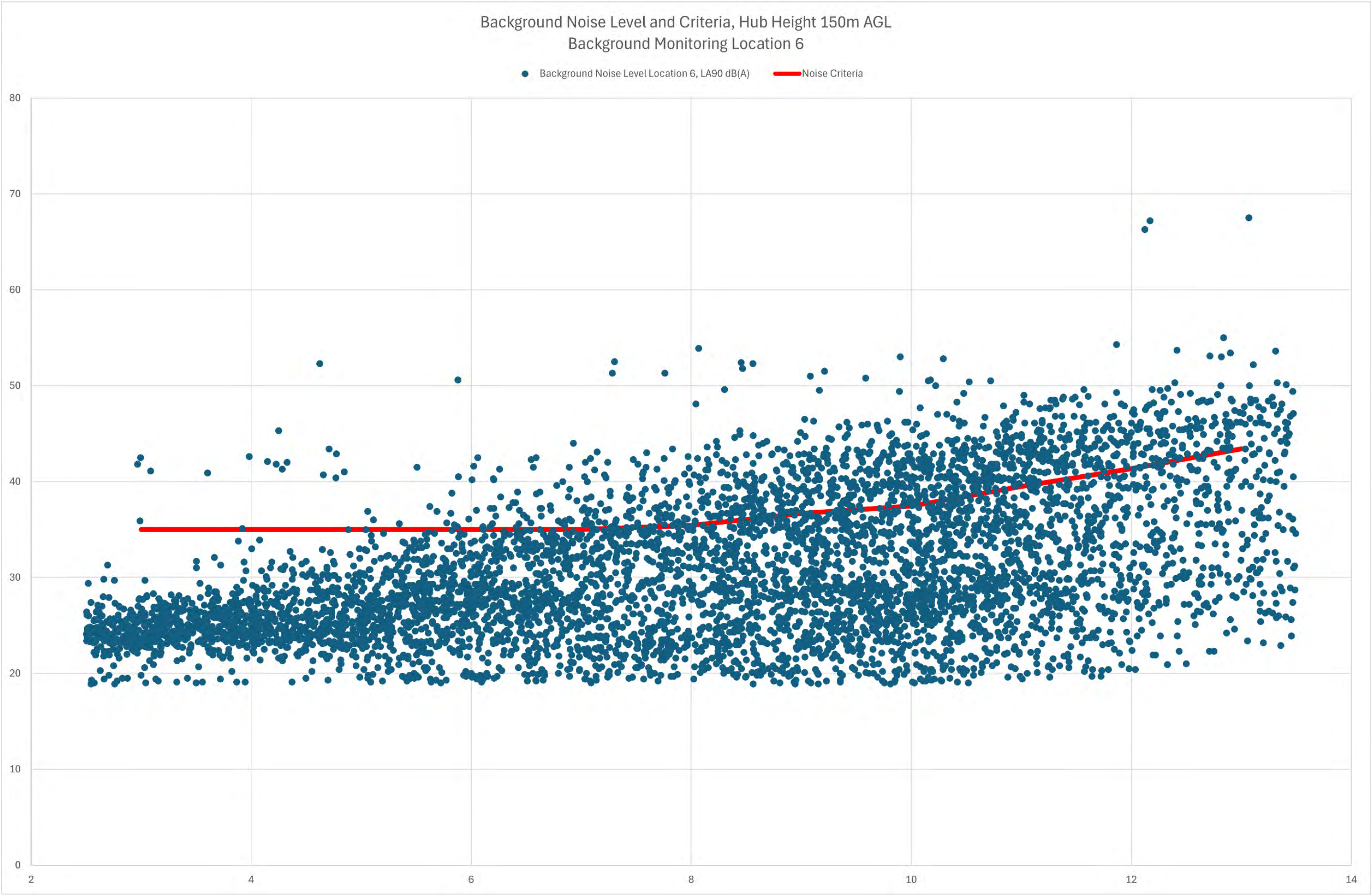


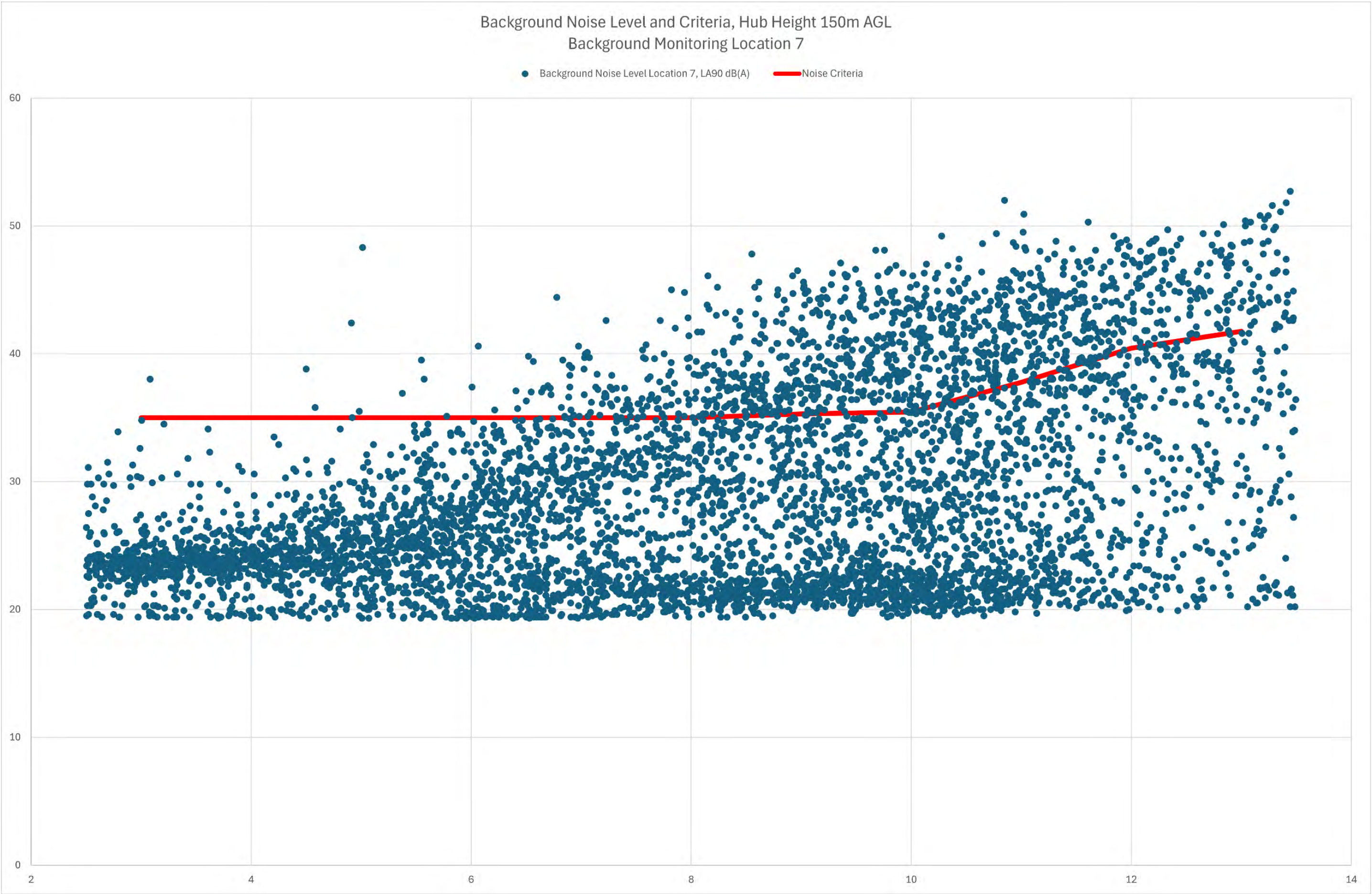






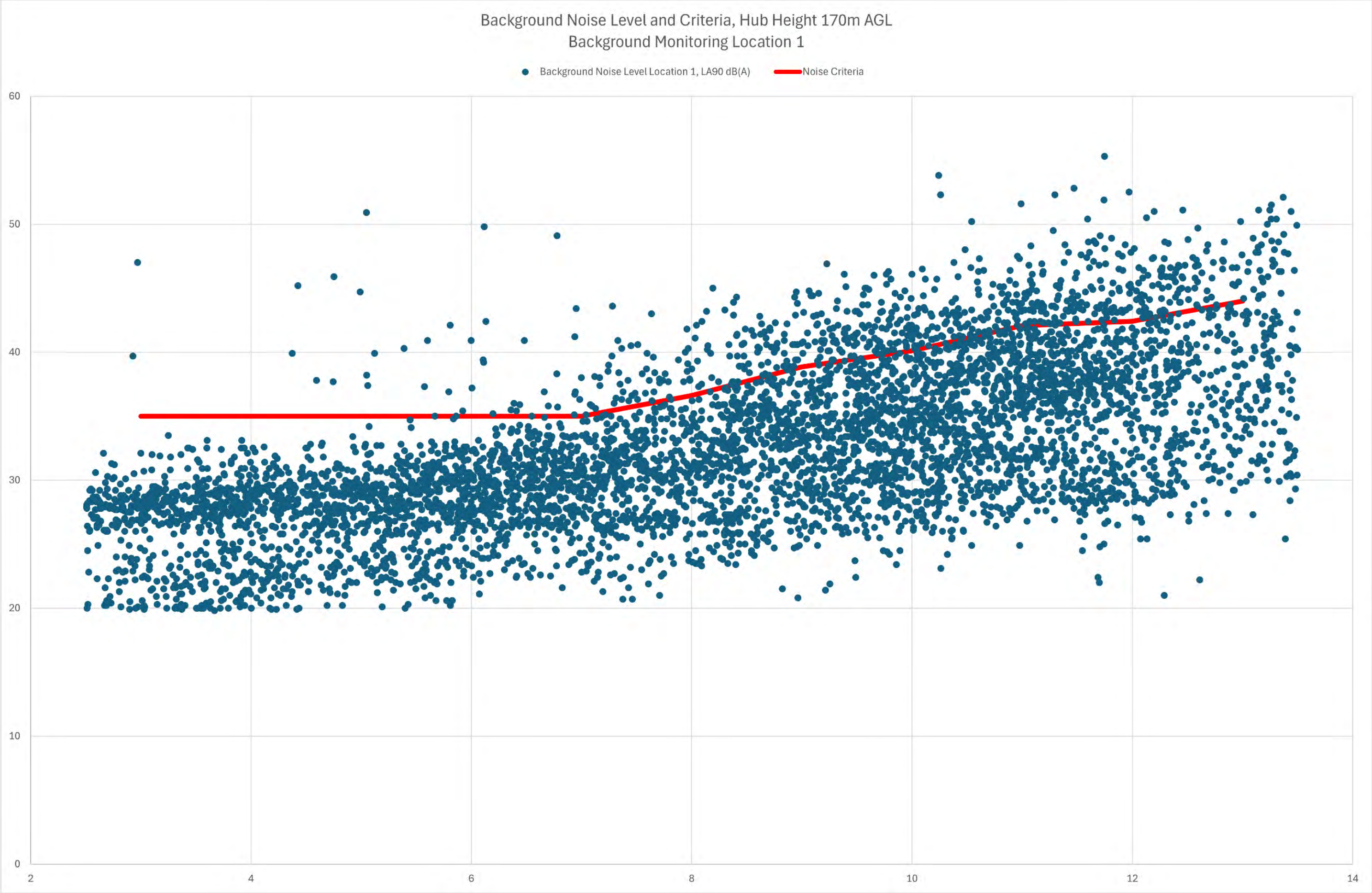


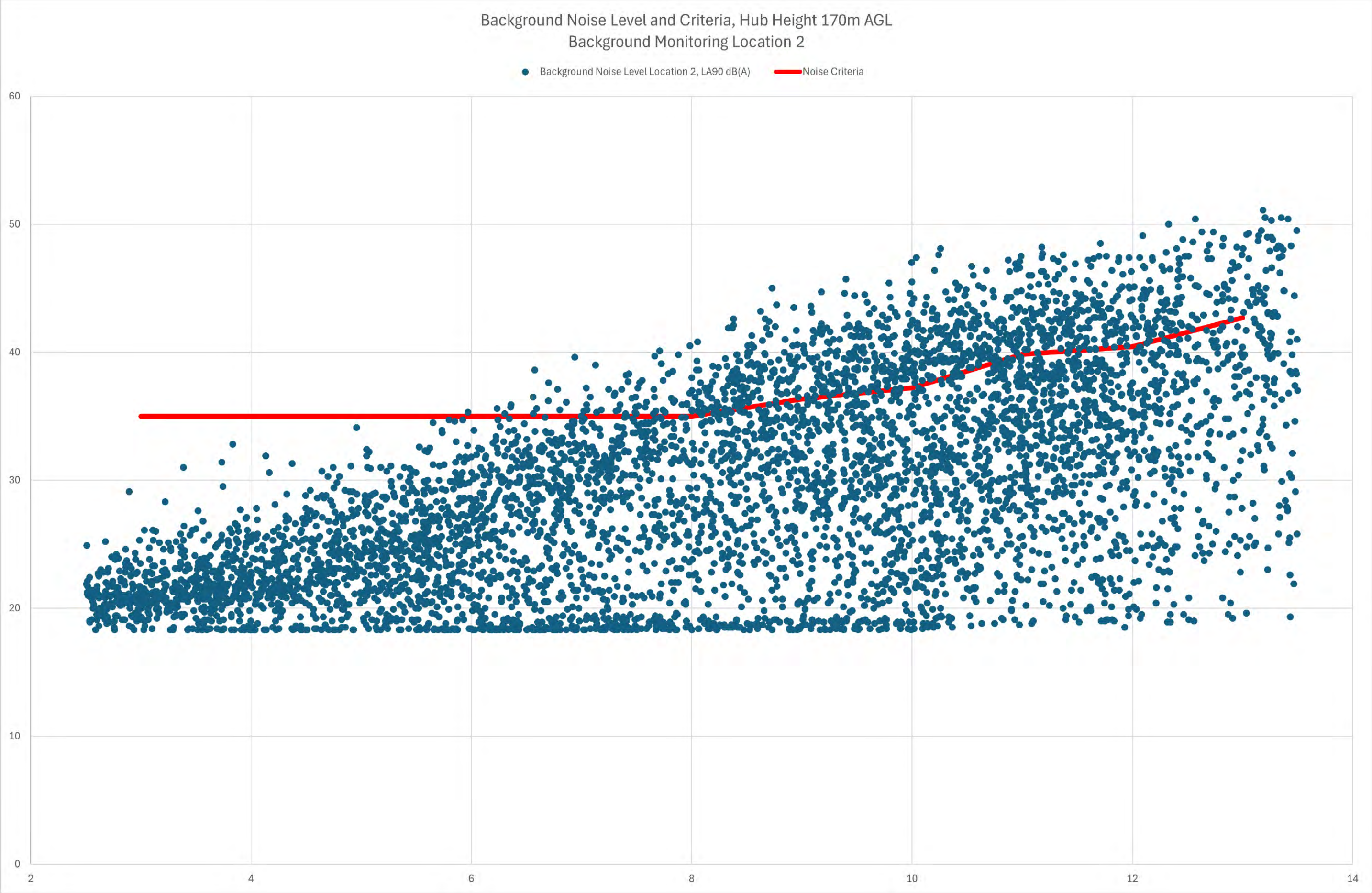


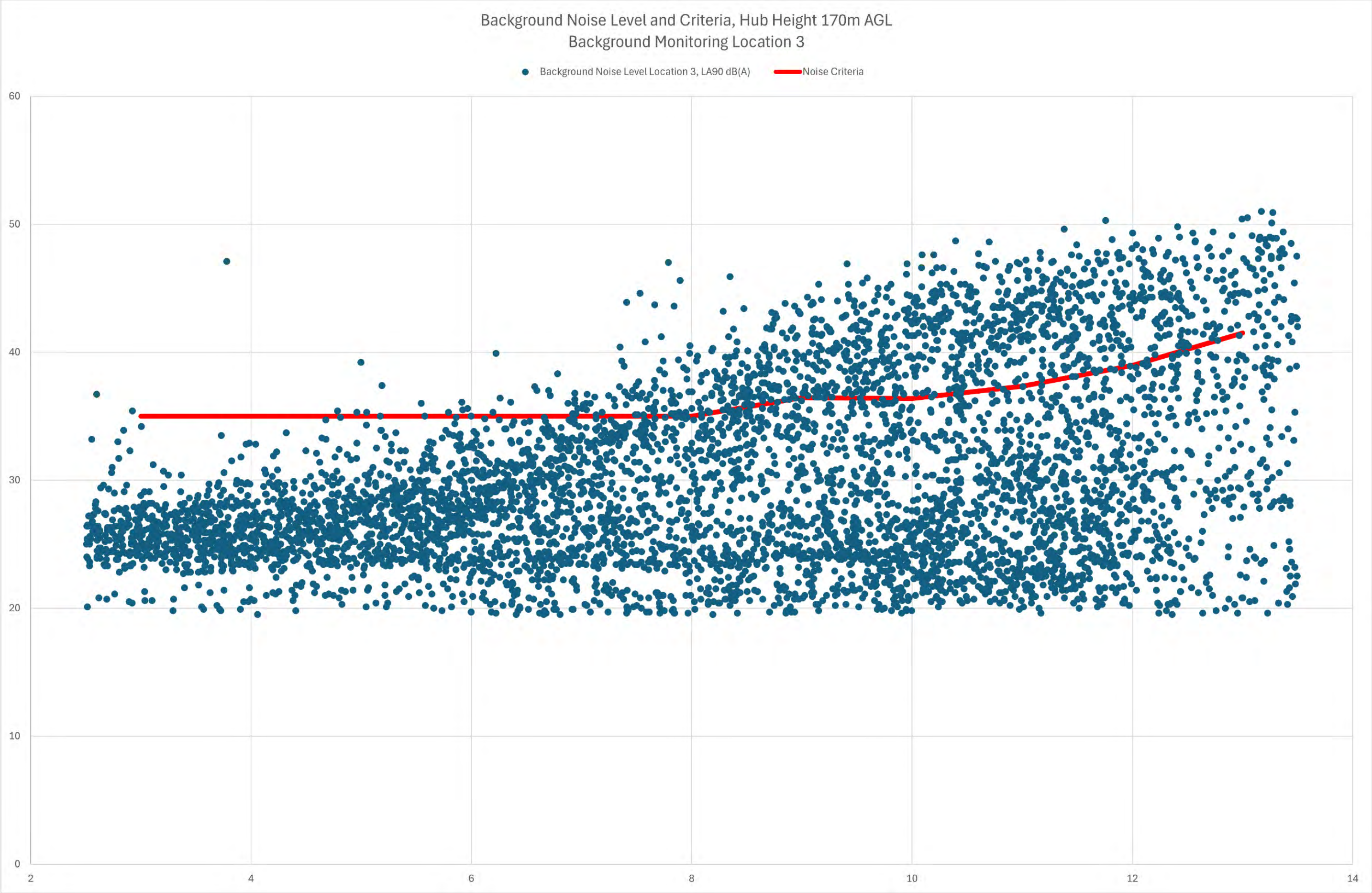


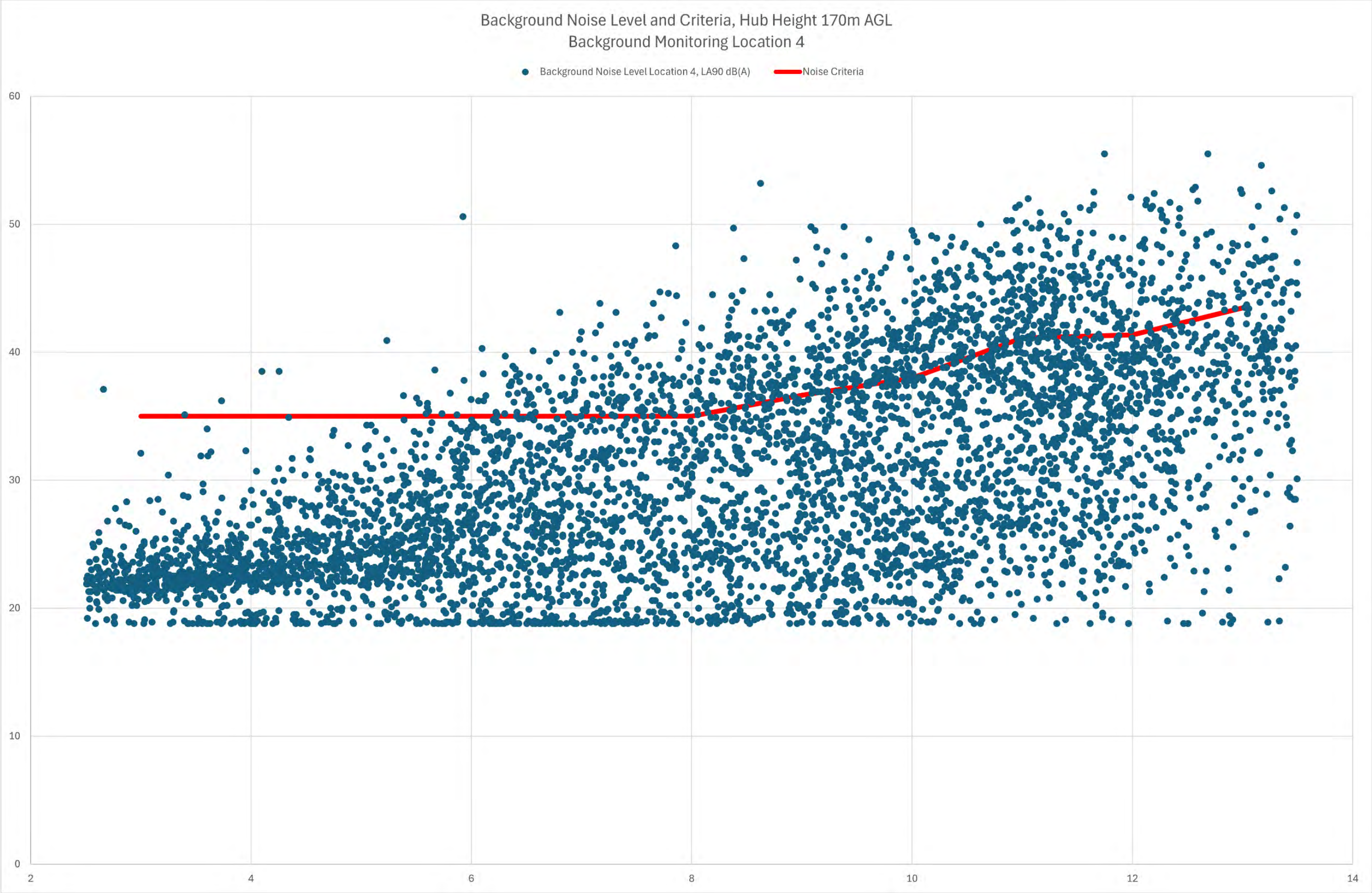
APPENDIX D

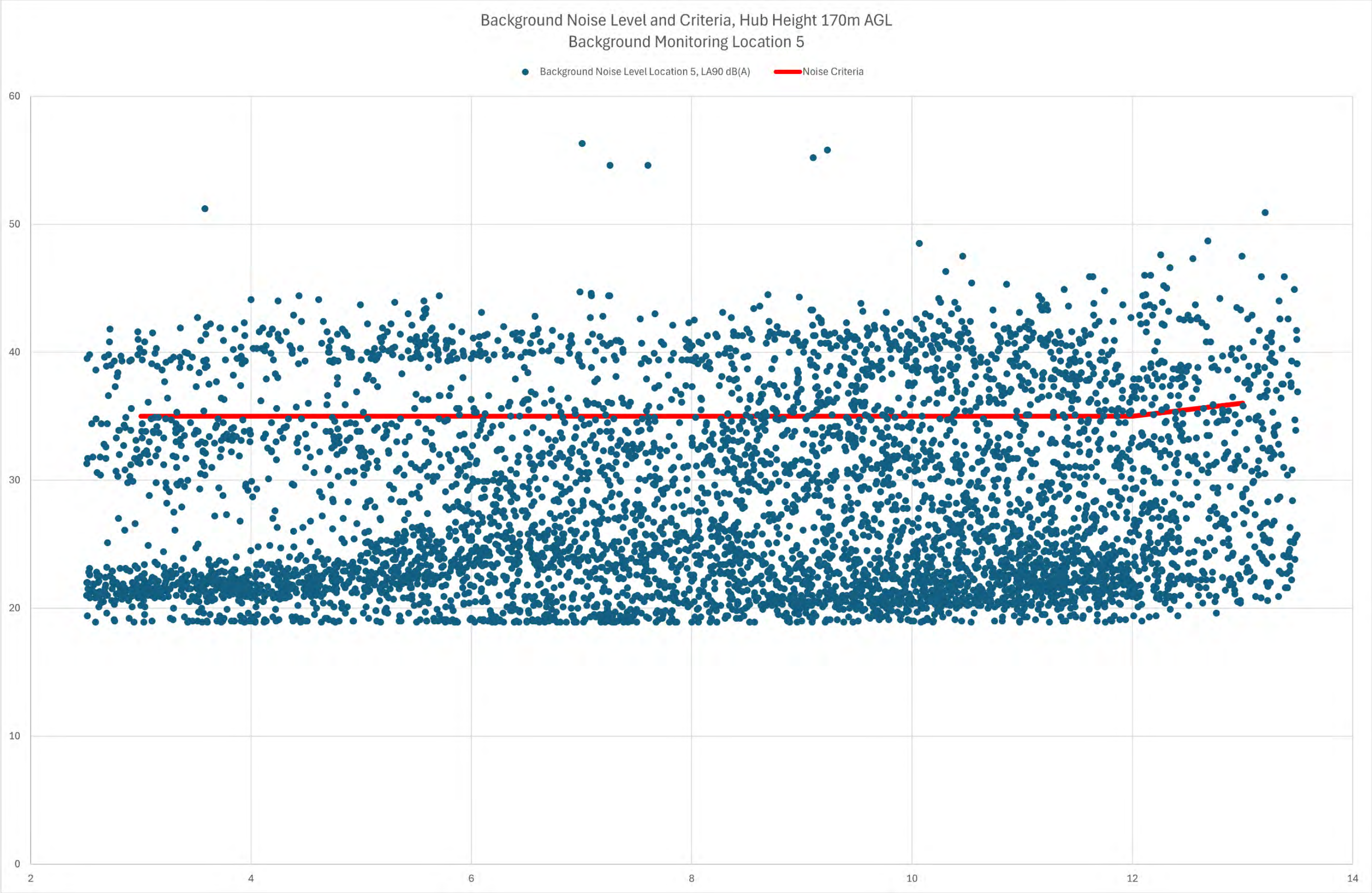
BACKGROUND NOISE LEVELS vs WIND SPEED PLOTS 170m AGL

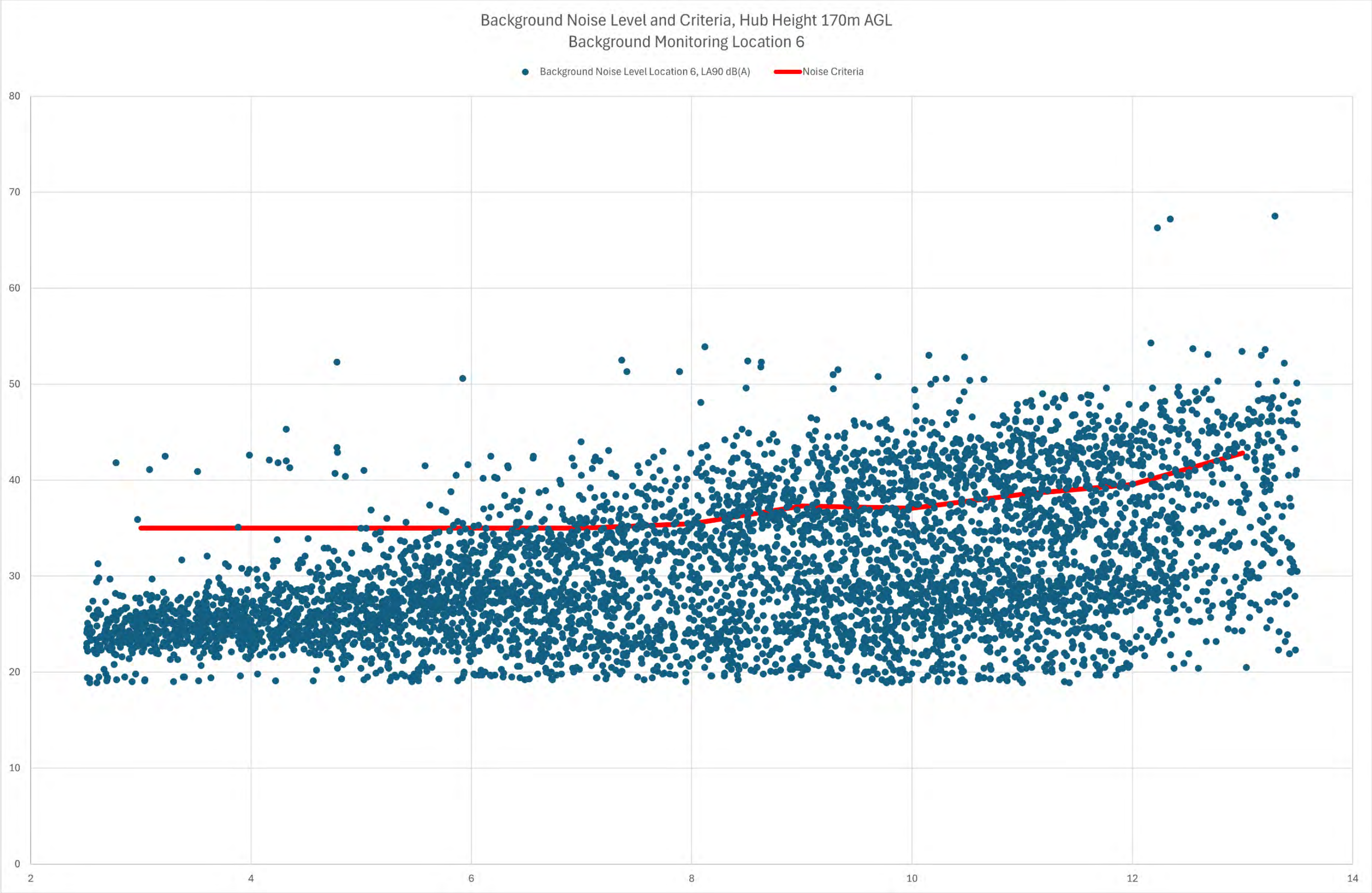


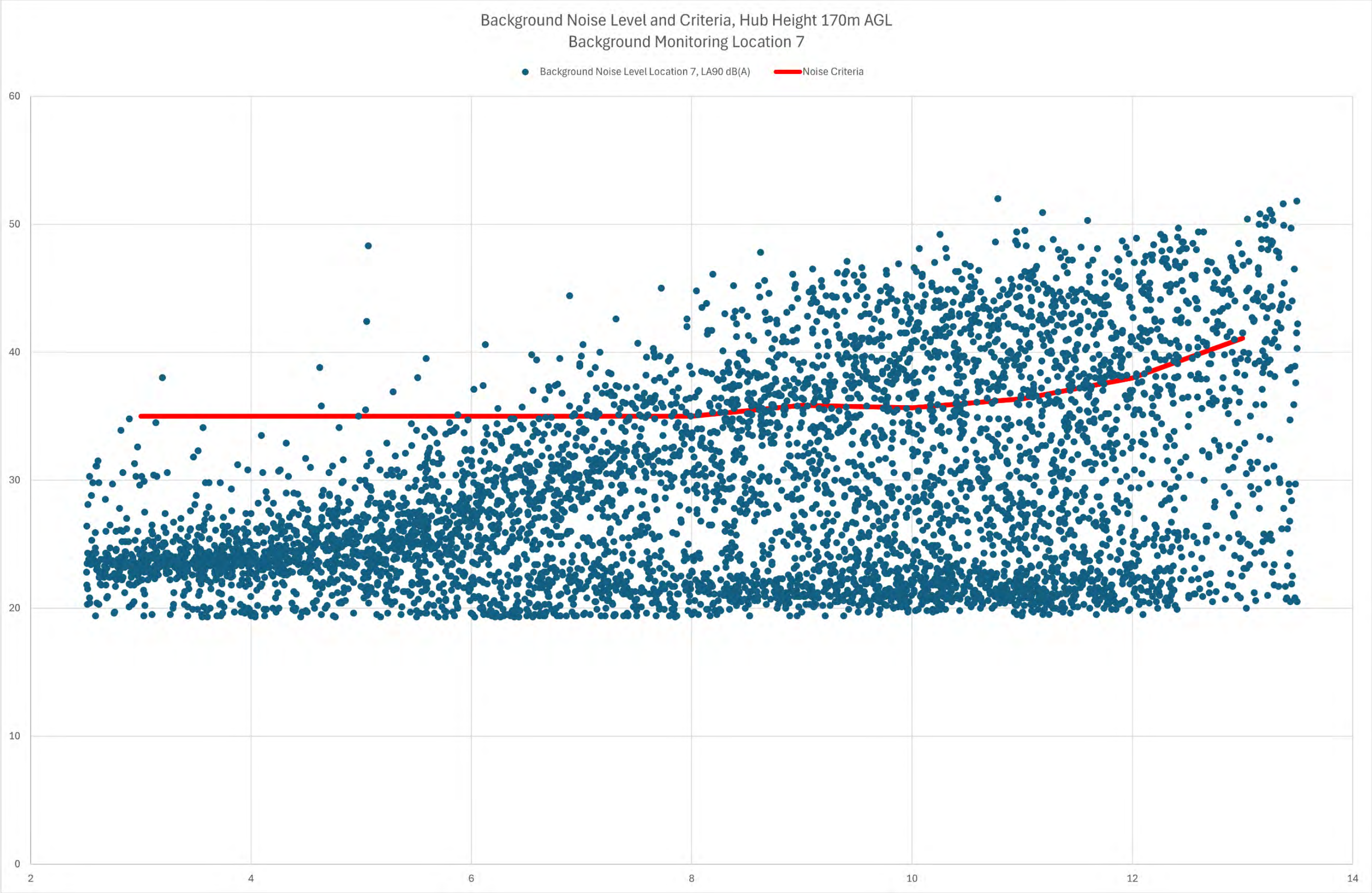






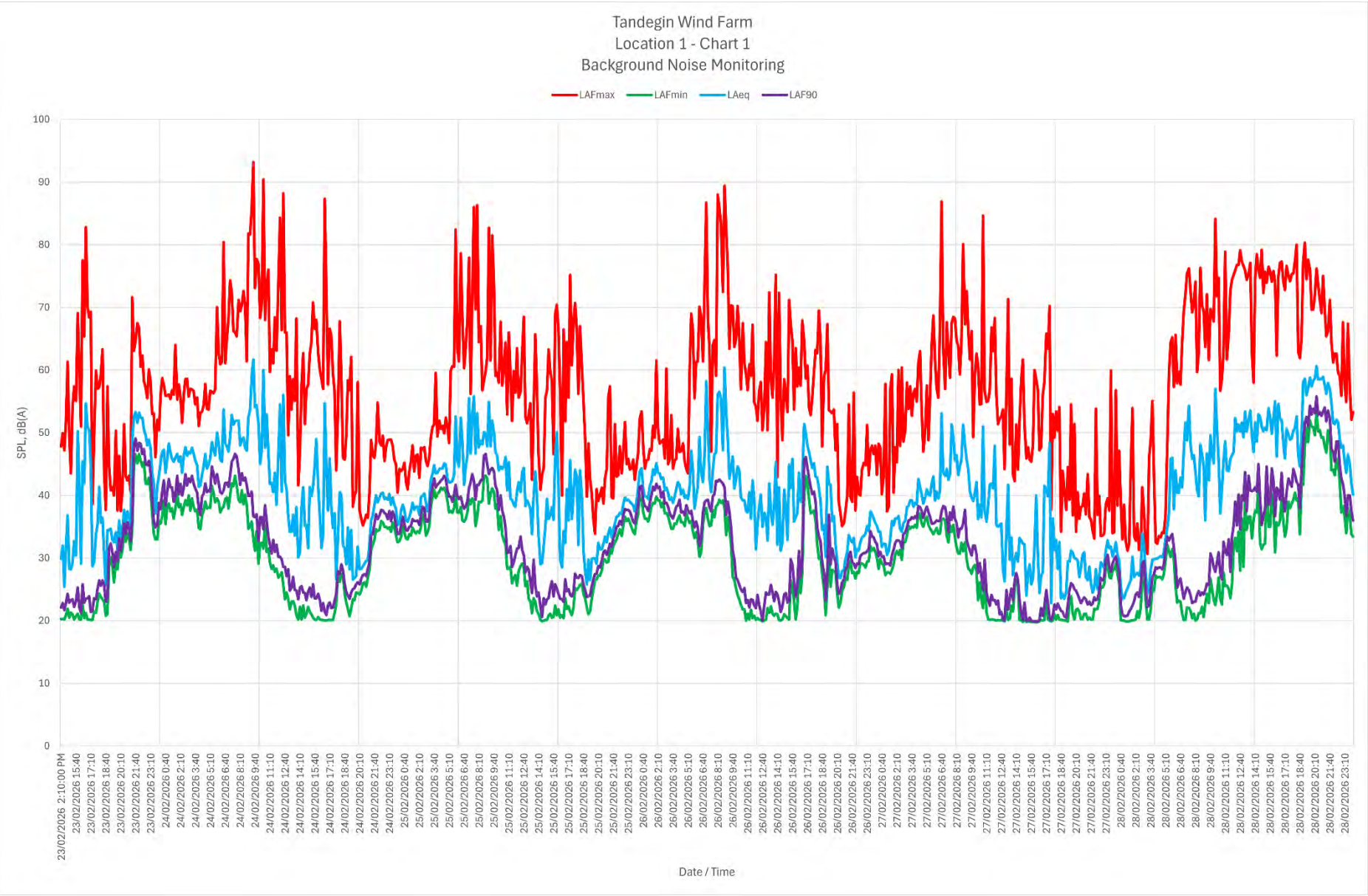


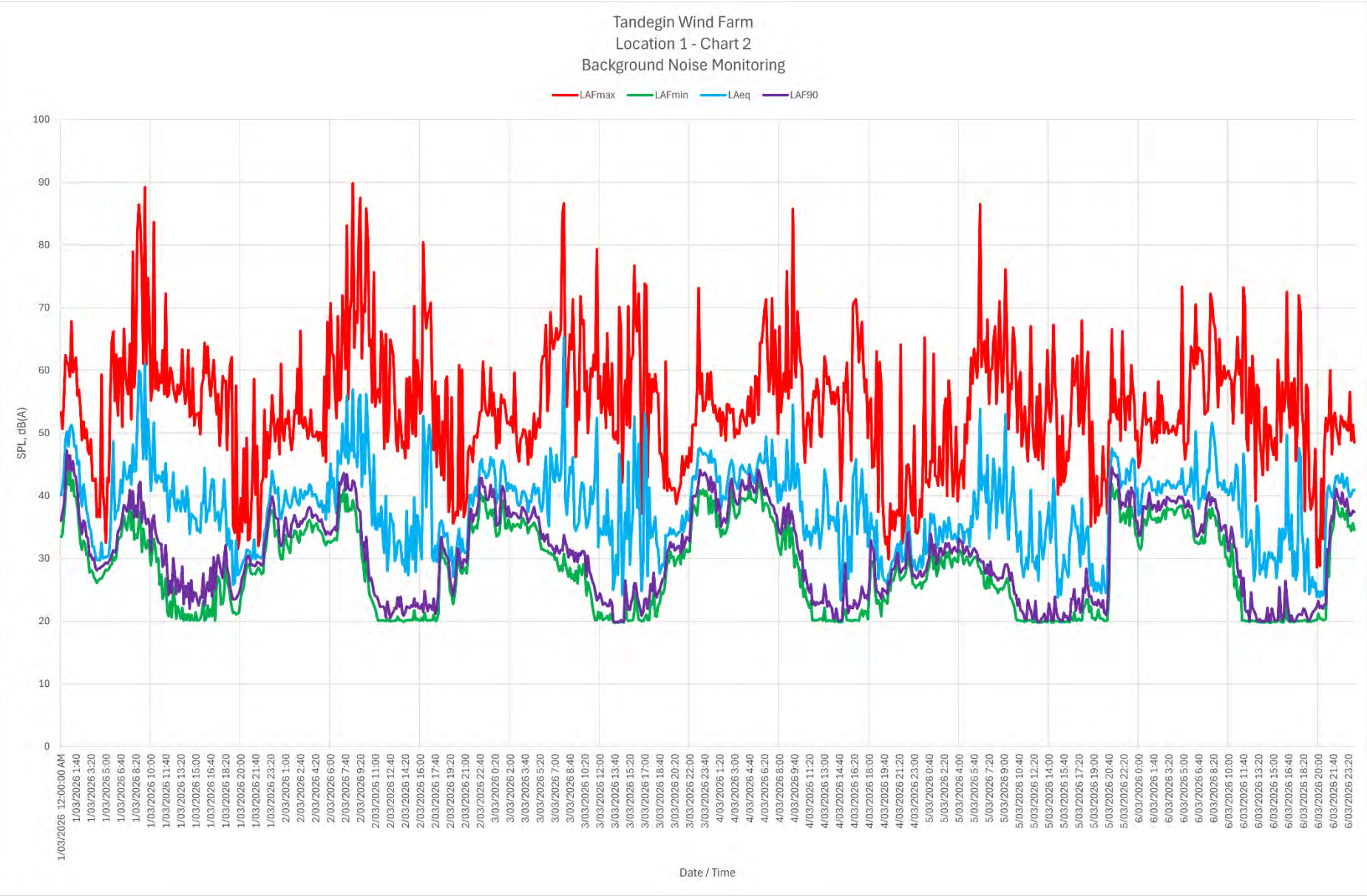


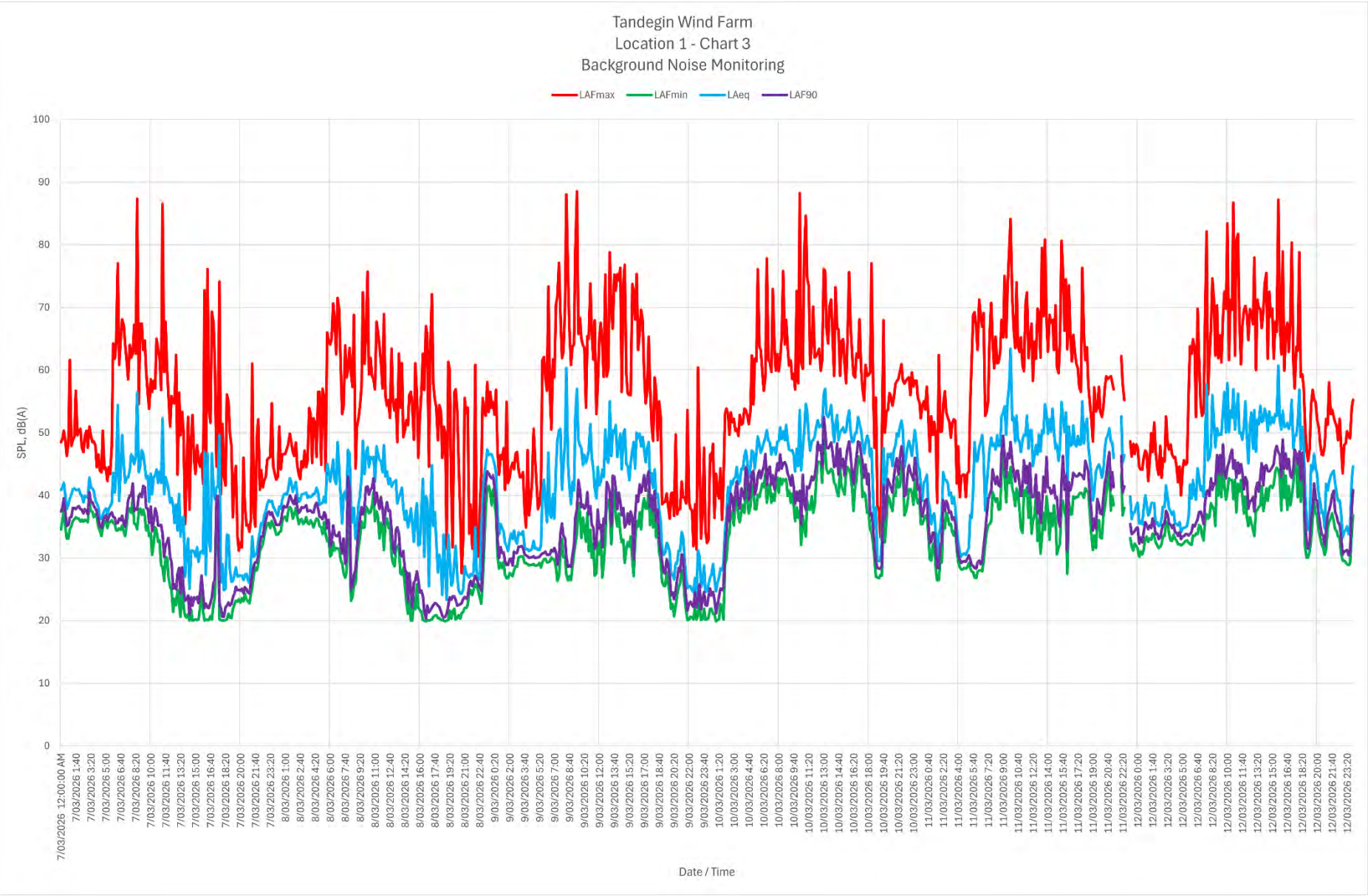


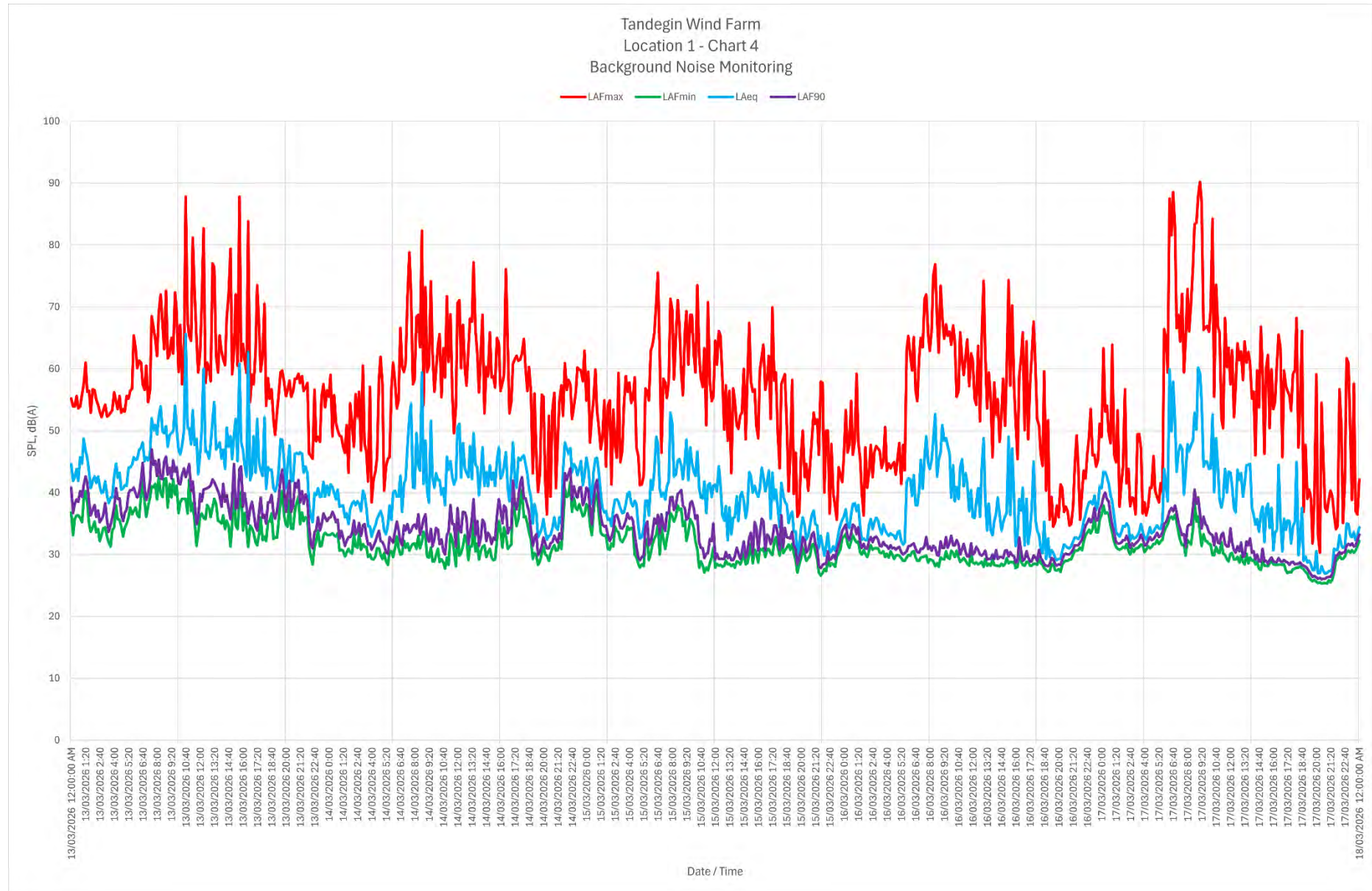
APPENDIX E

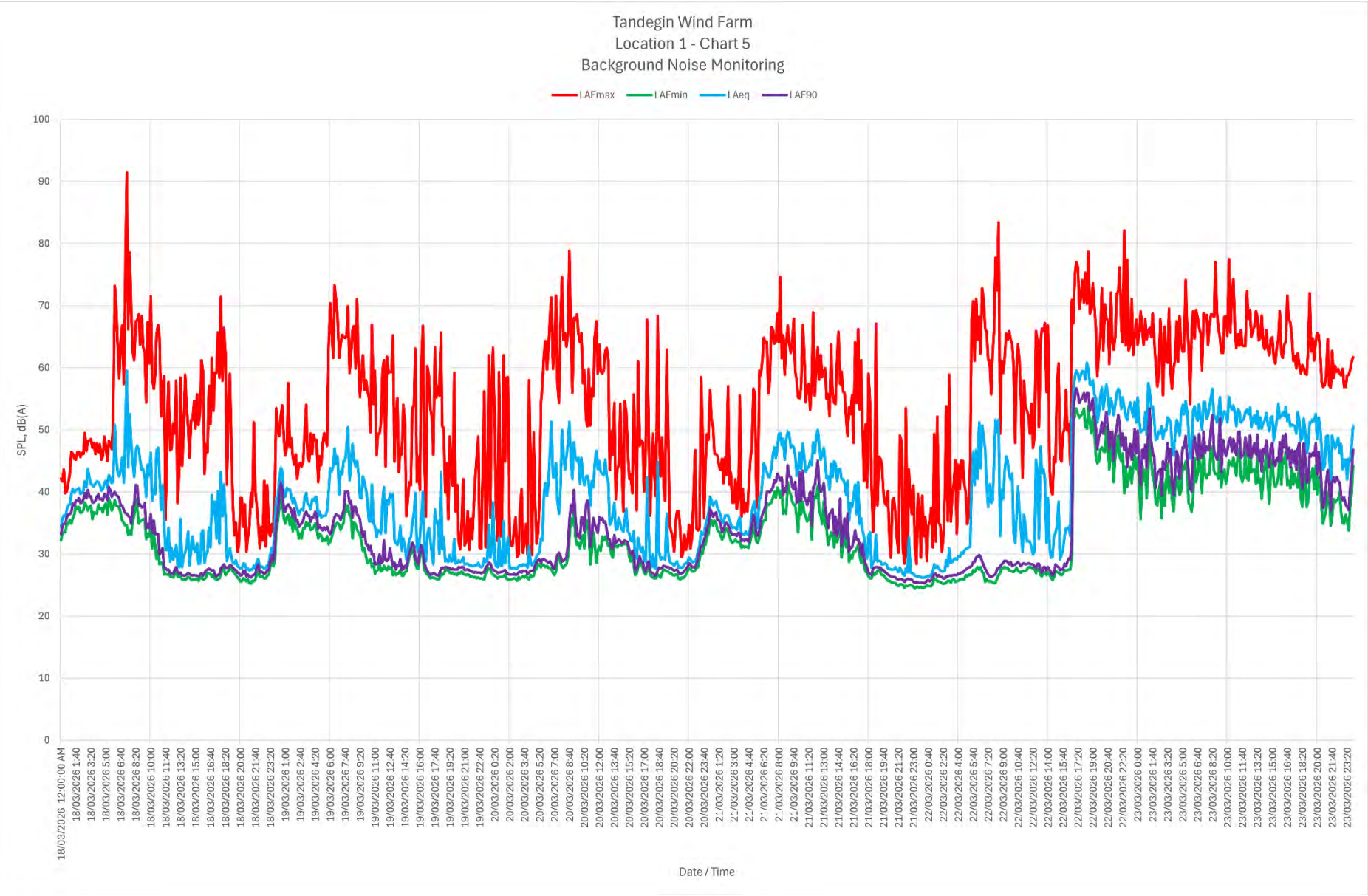
BACKGROUND NOISE LEVELS TIME HISTORY PLOTS

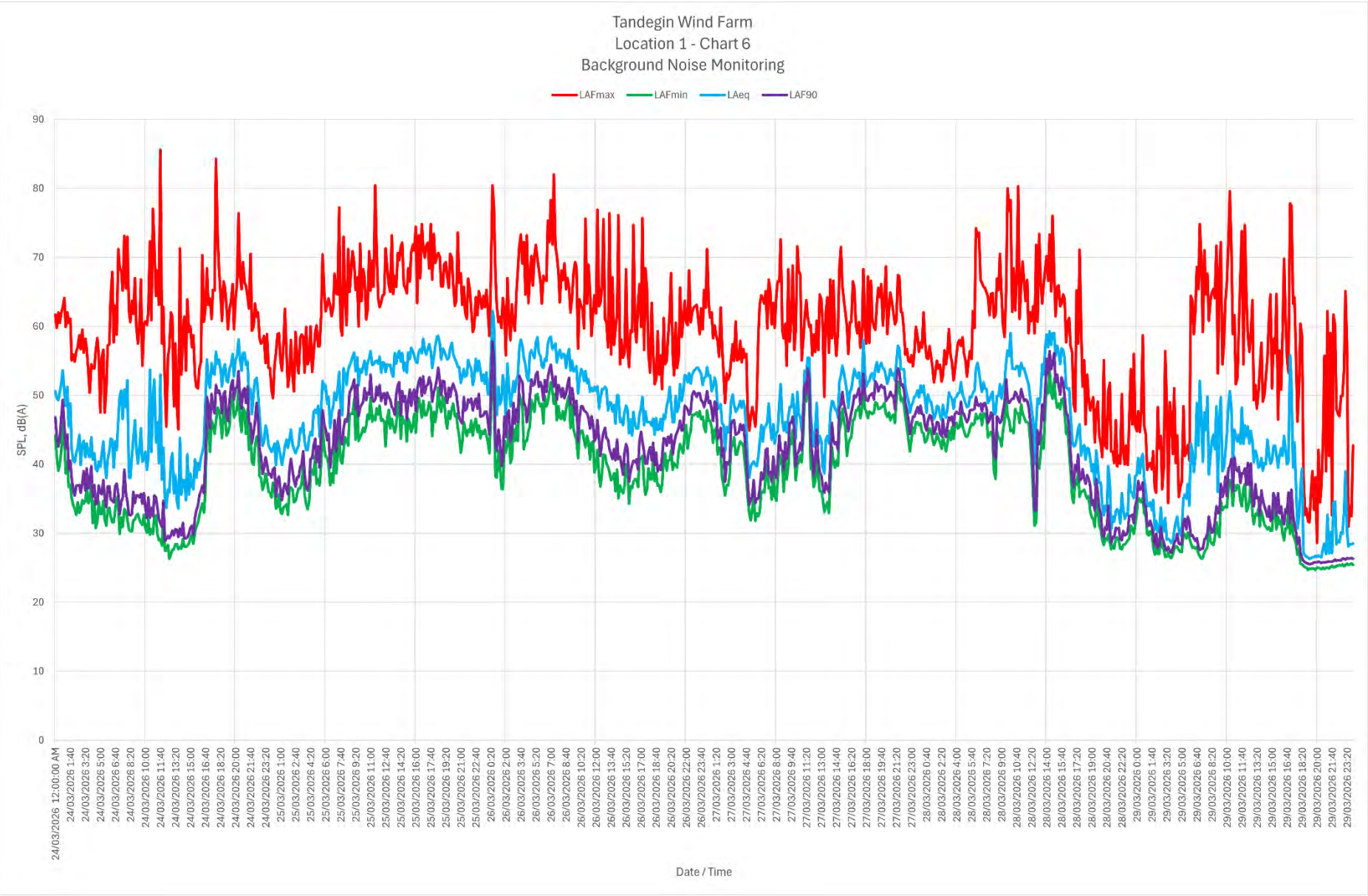


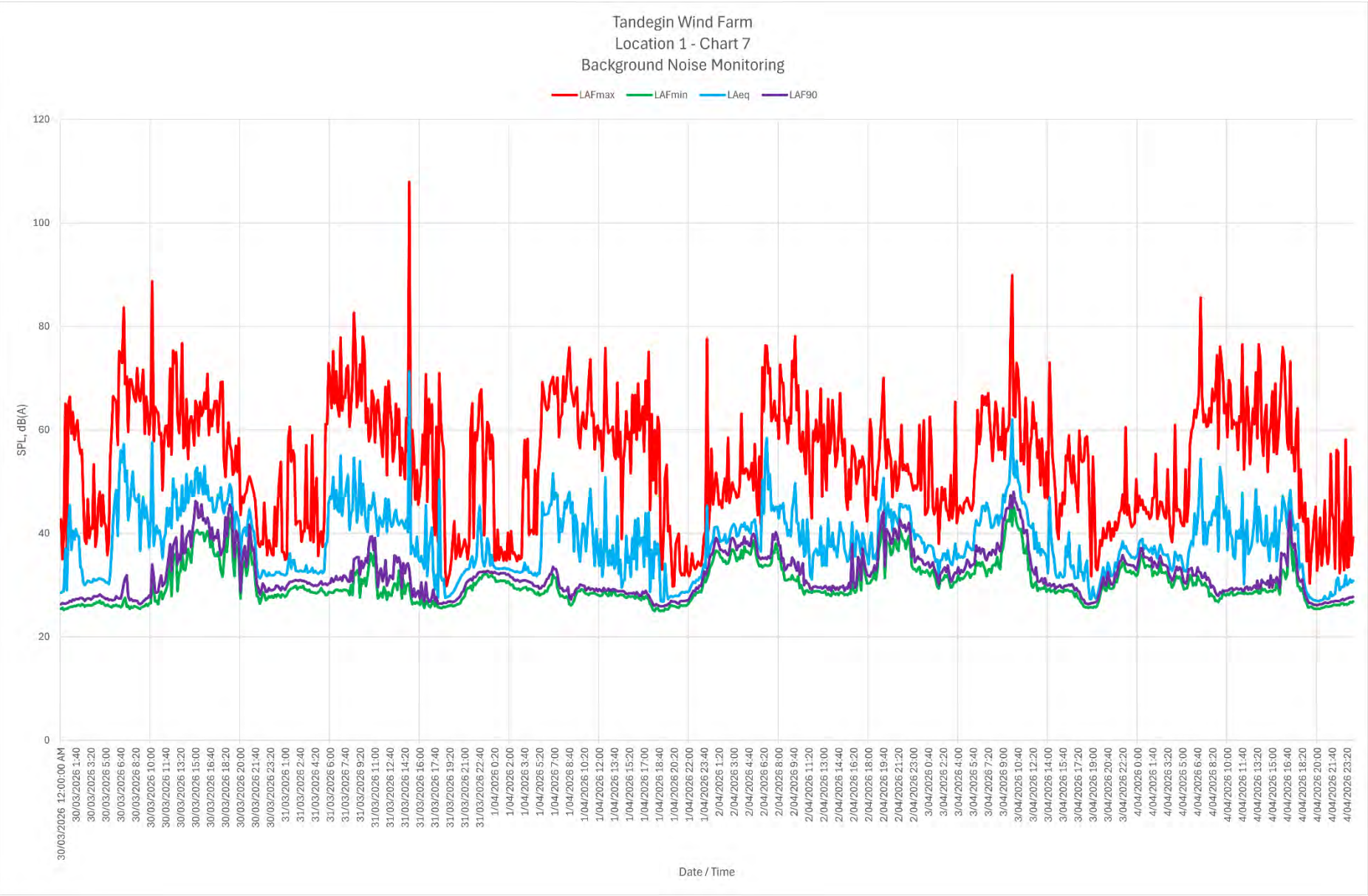


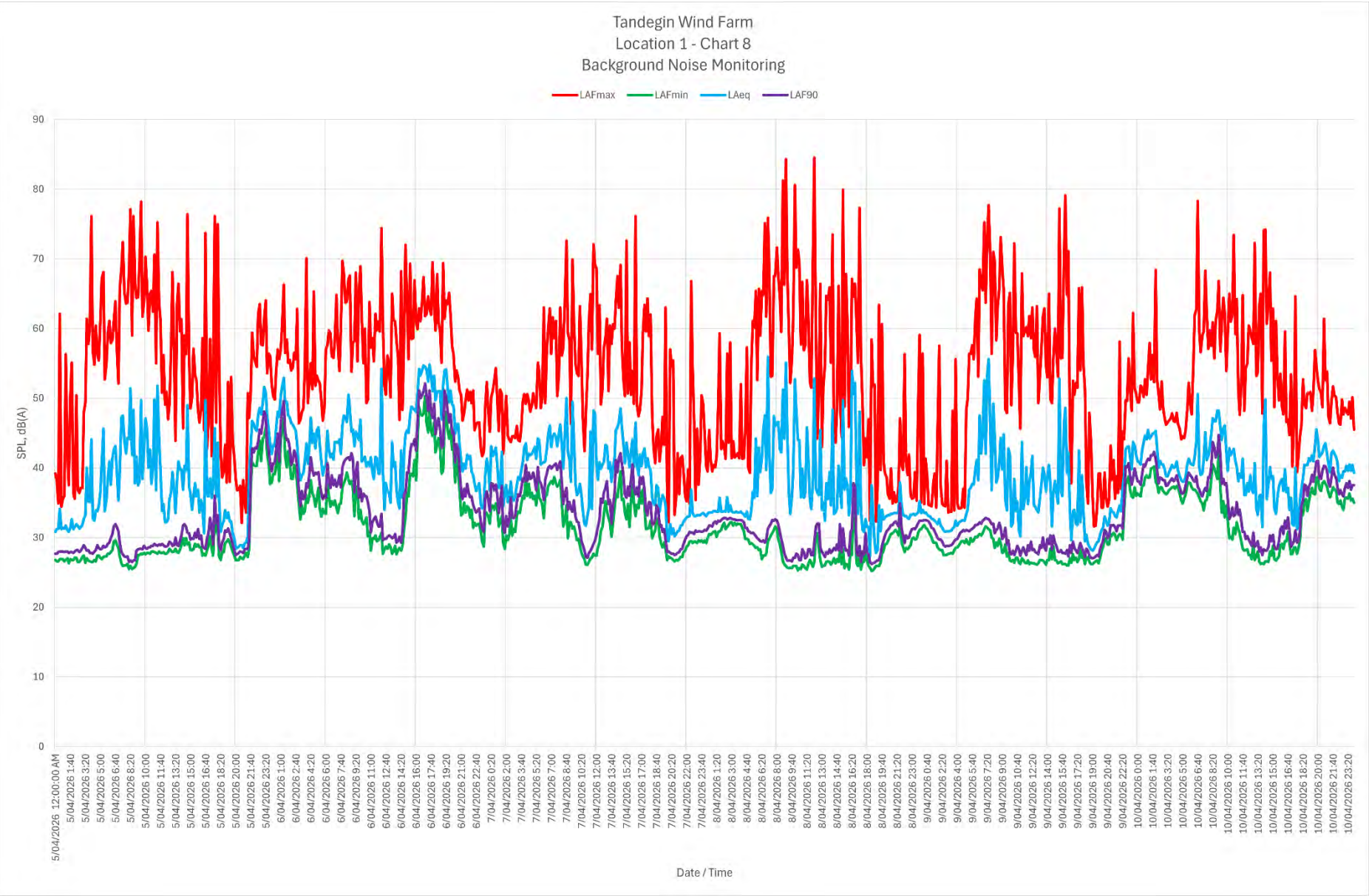


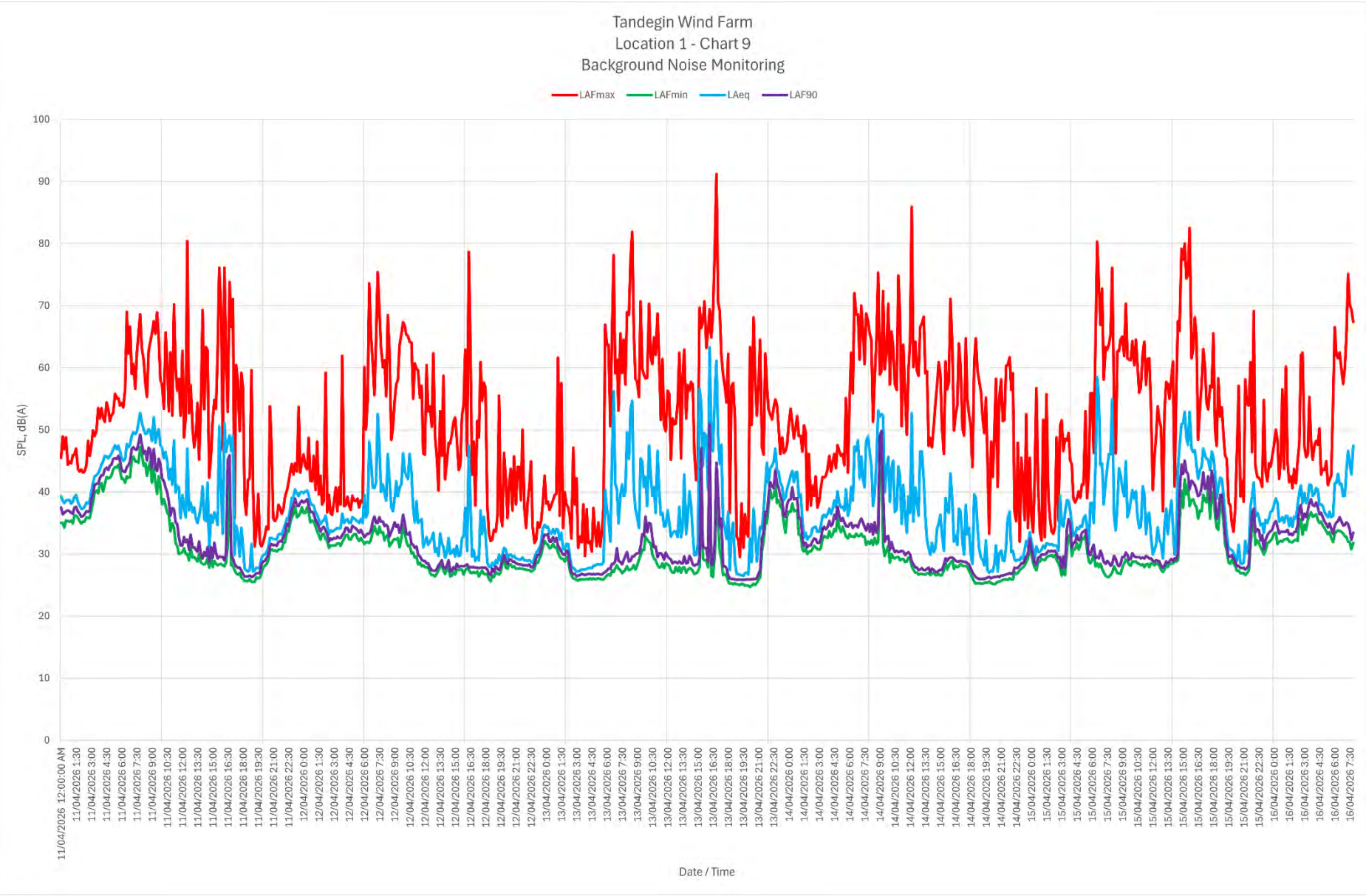


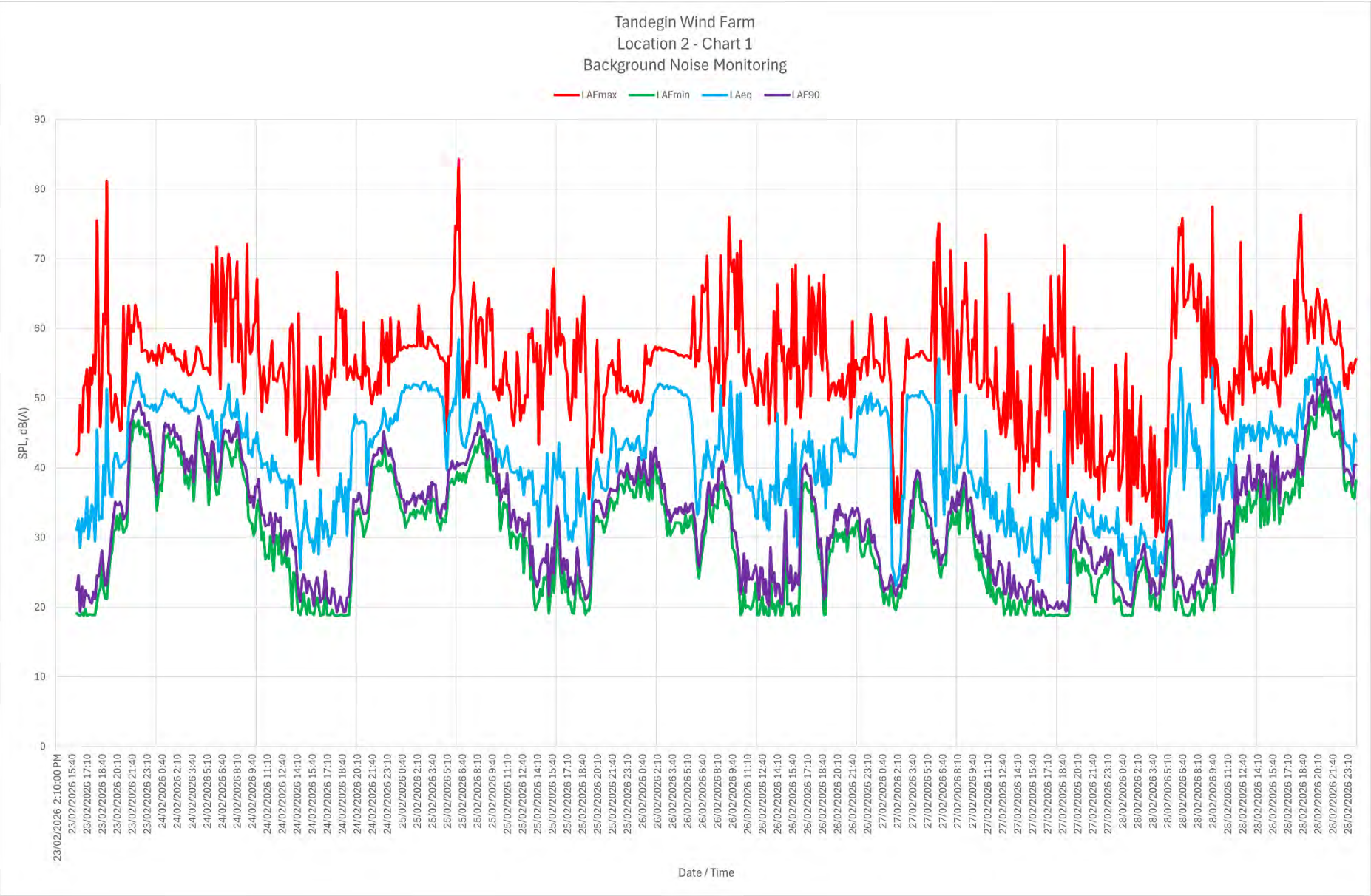


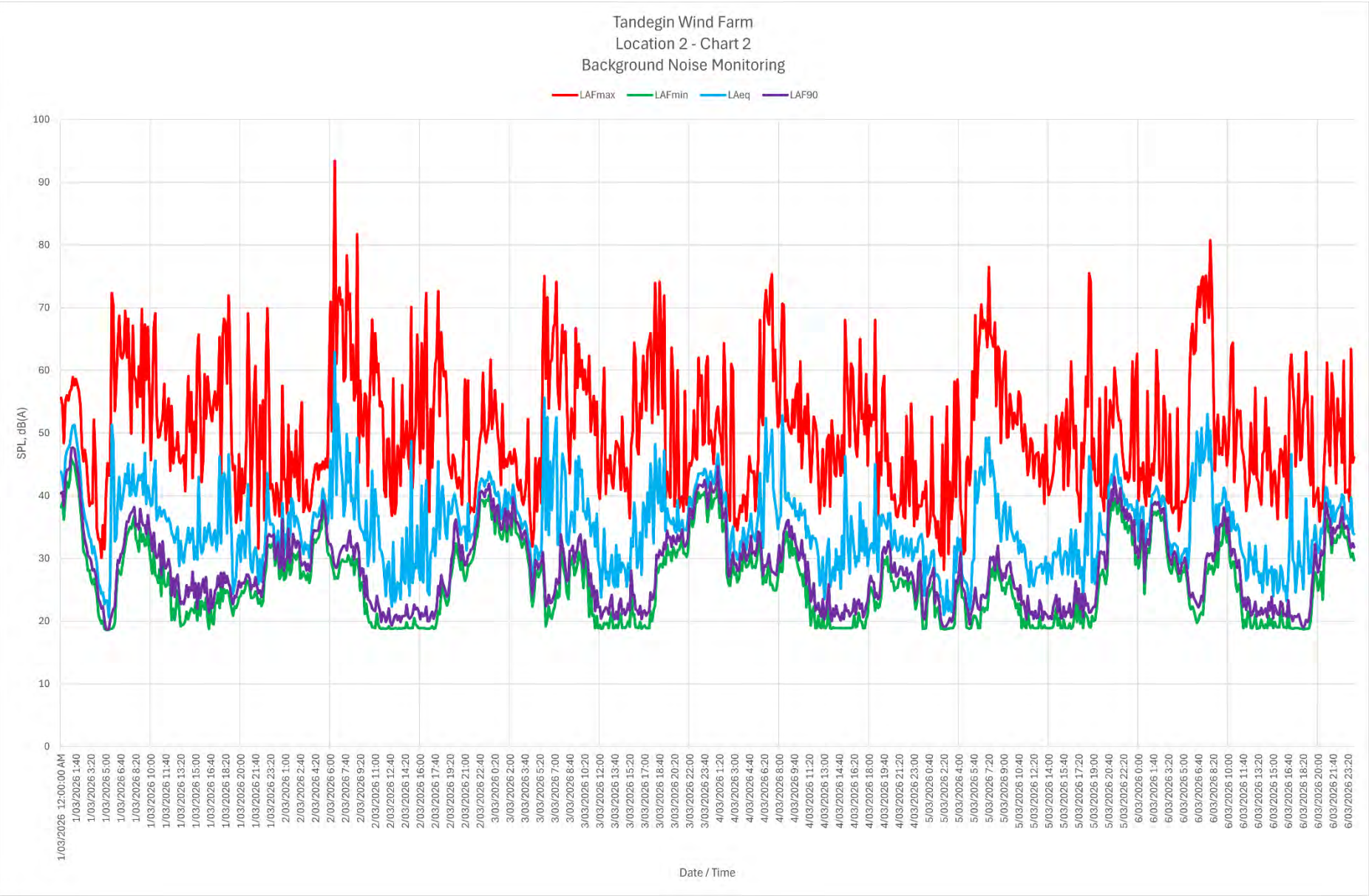


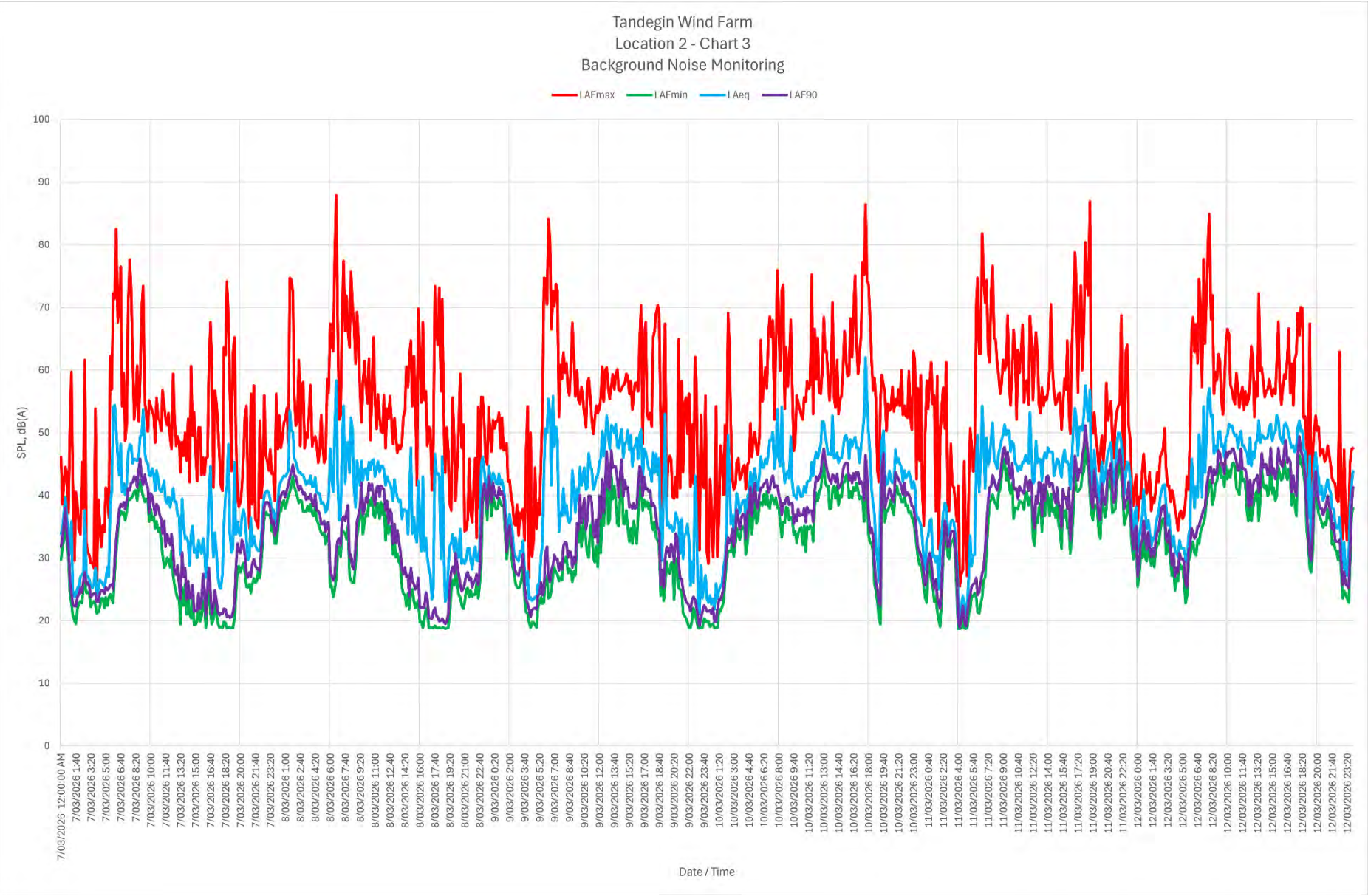


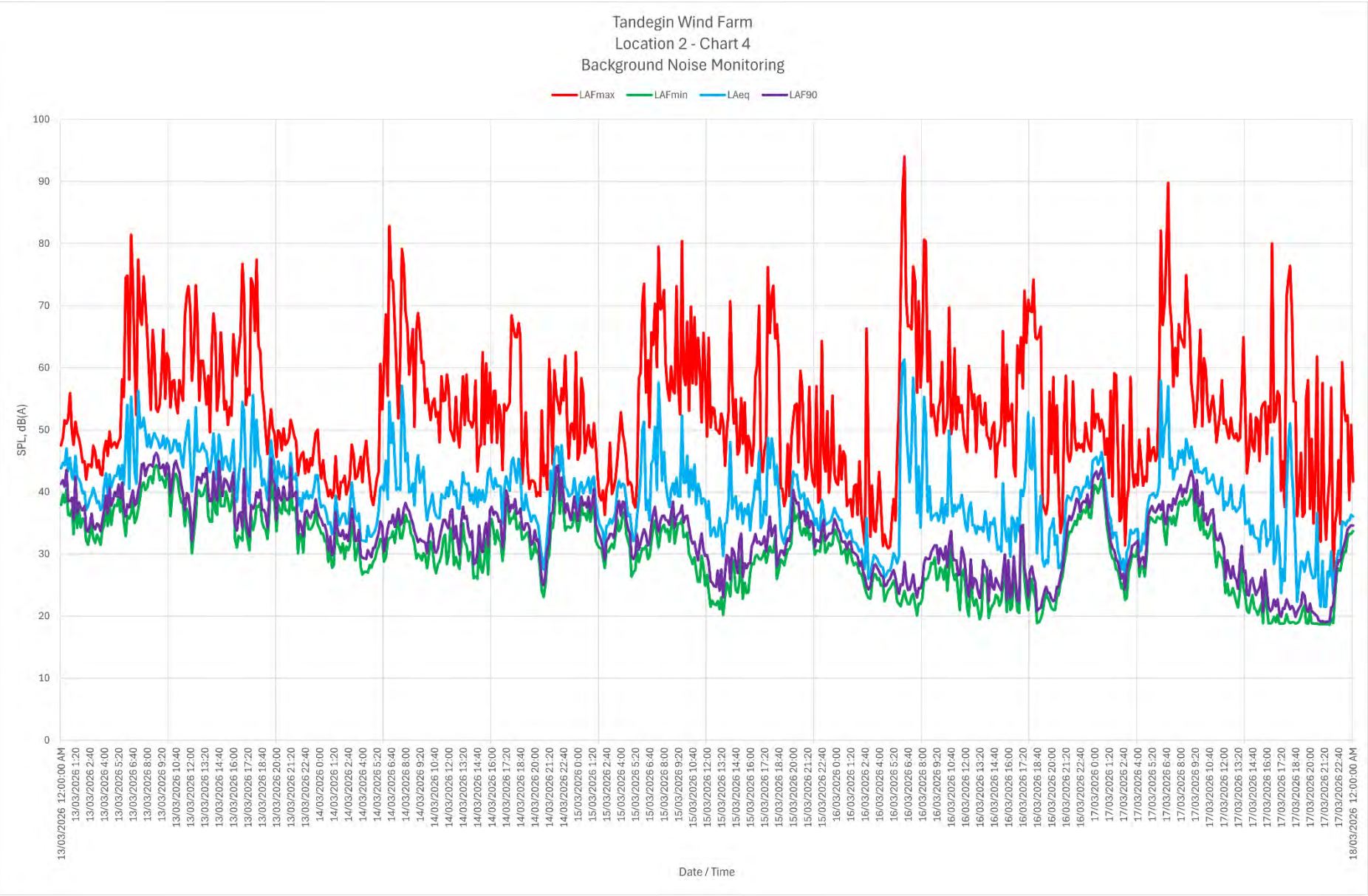


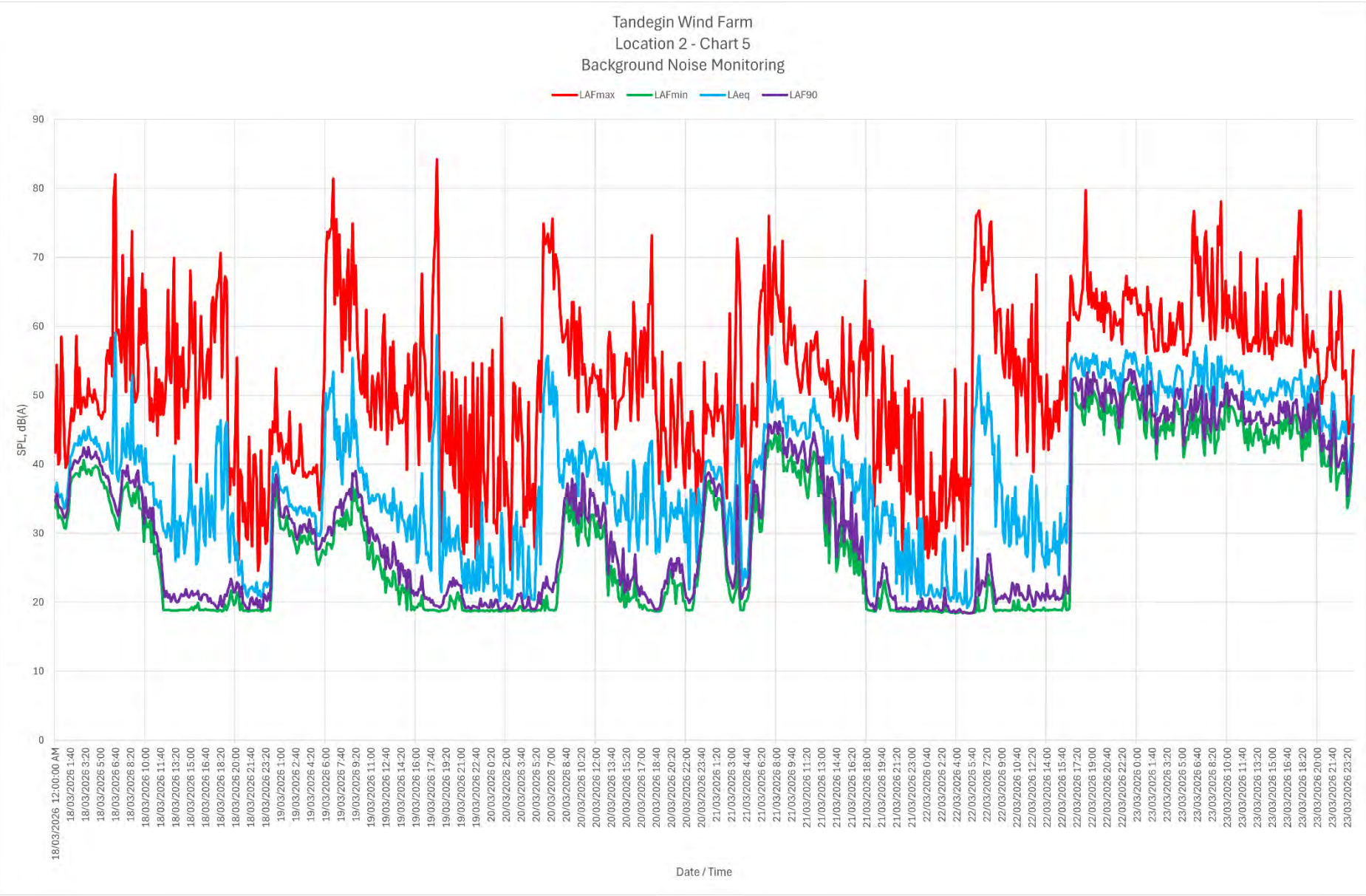


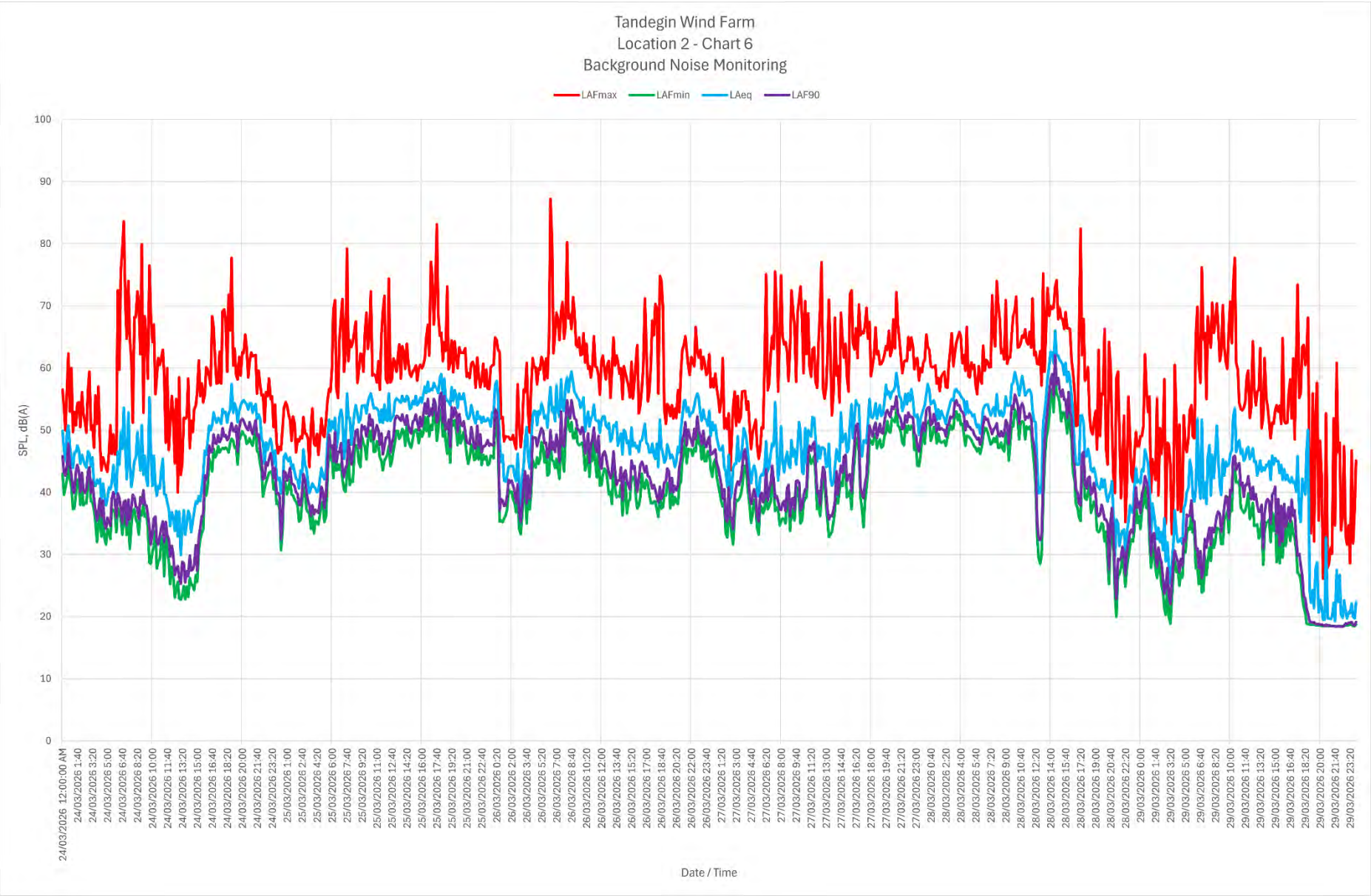


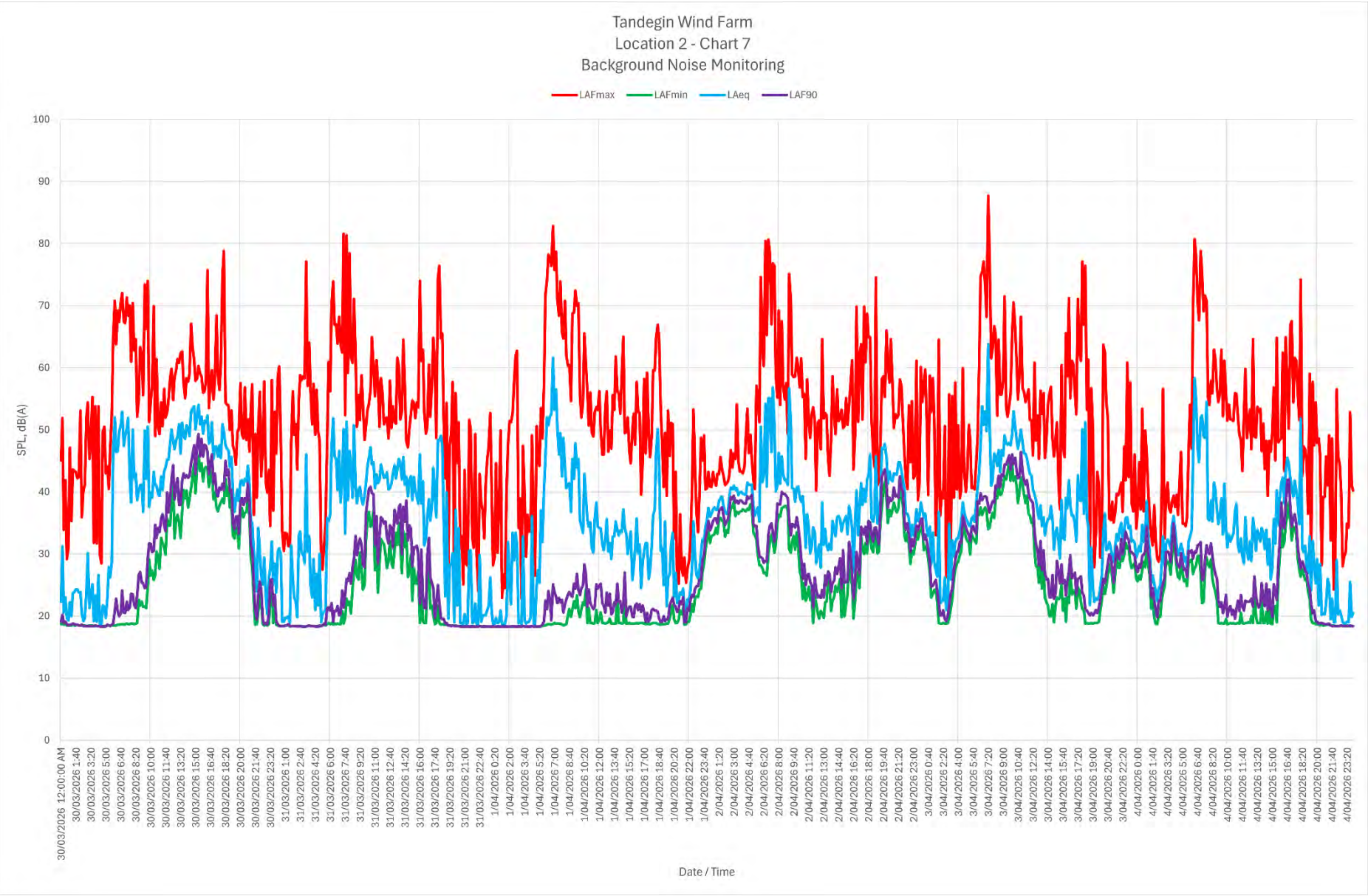


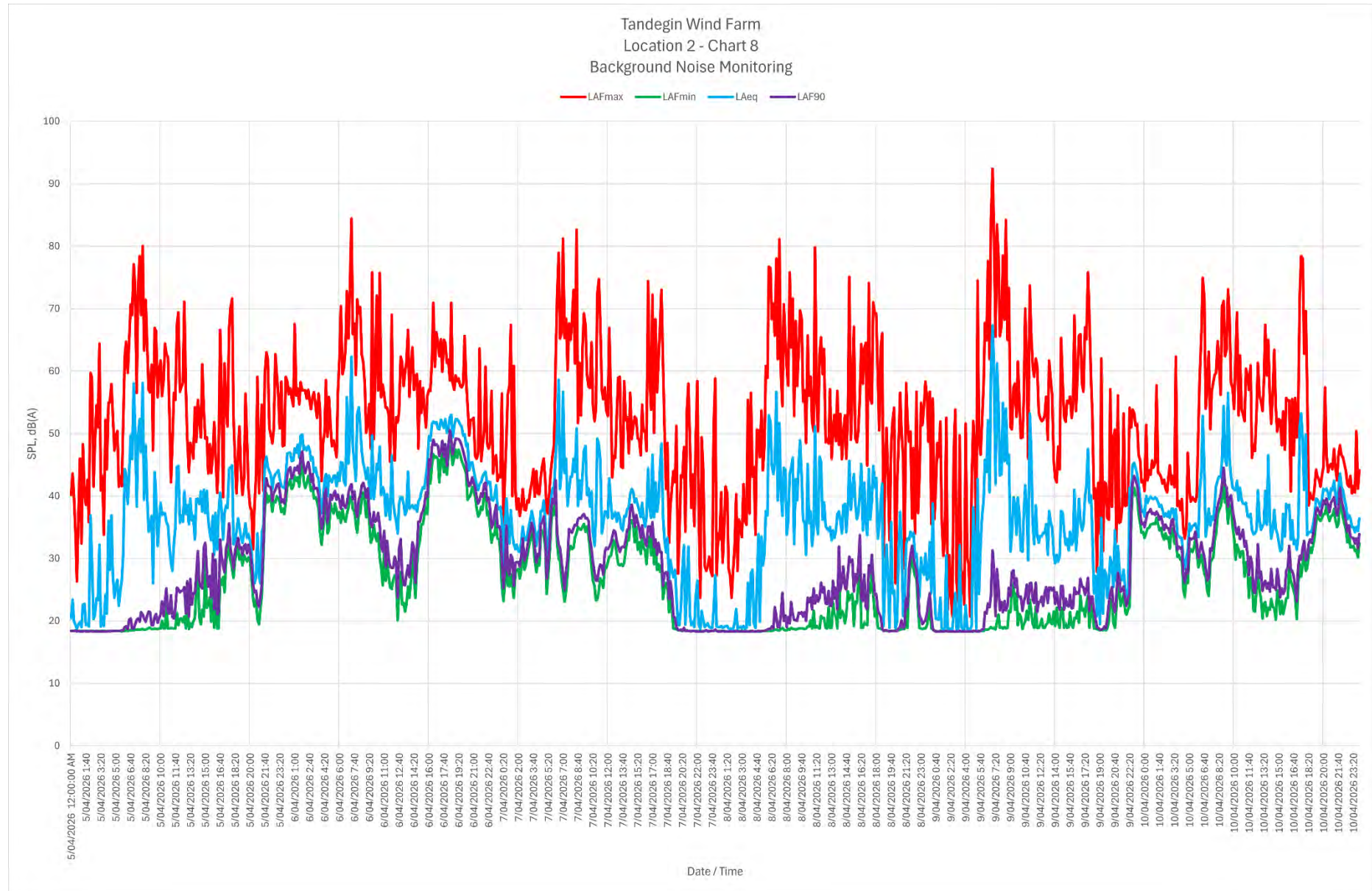


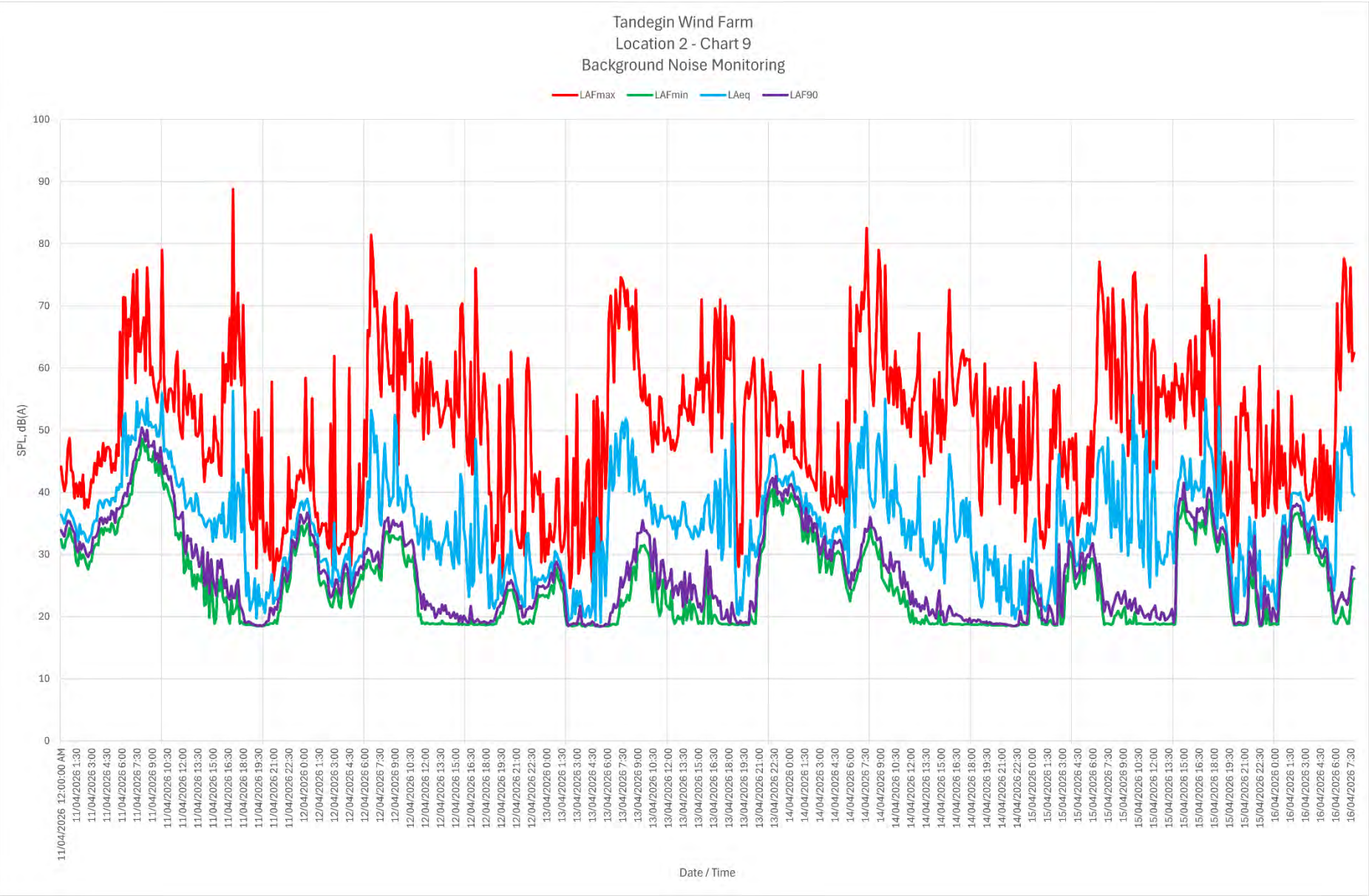


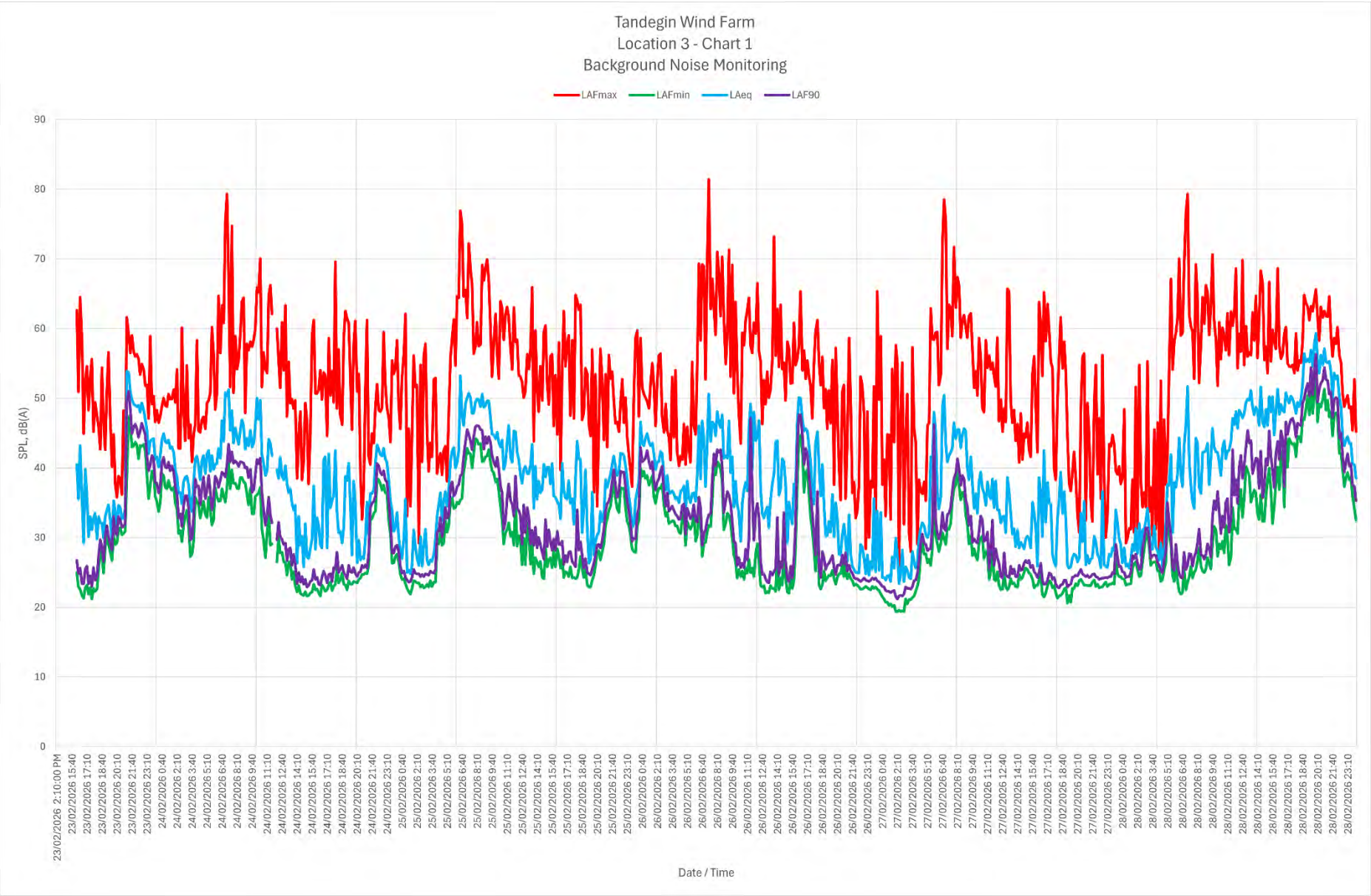


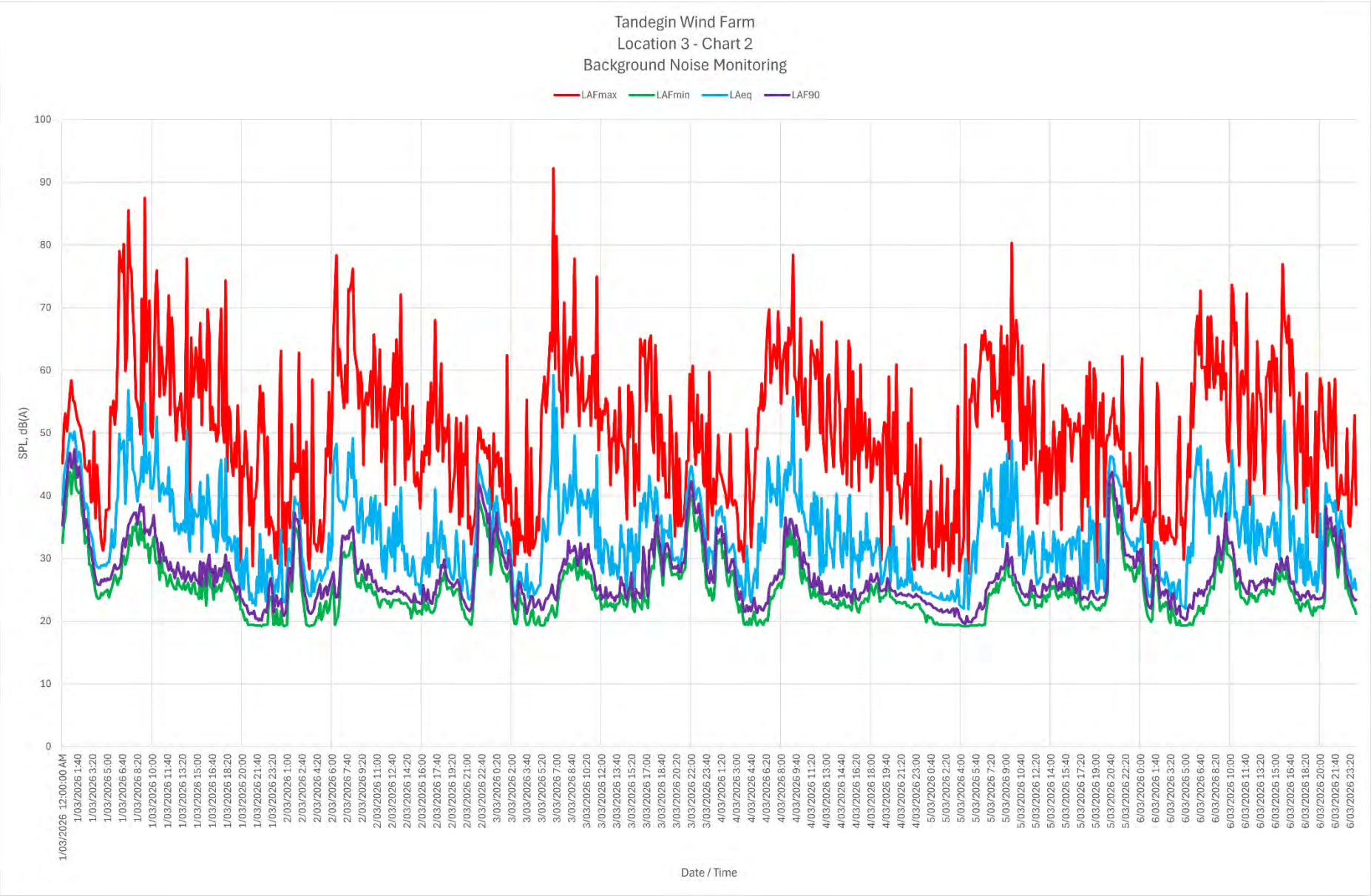


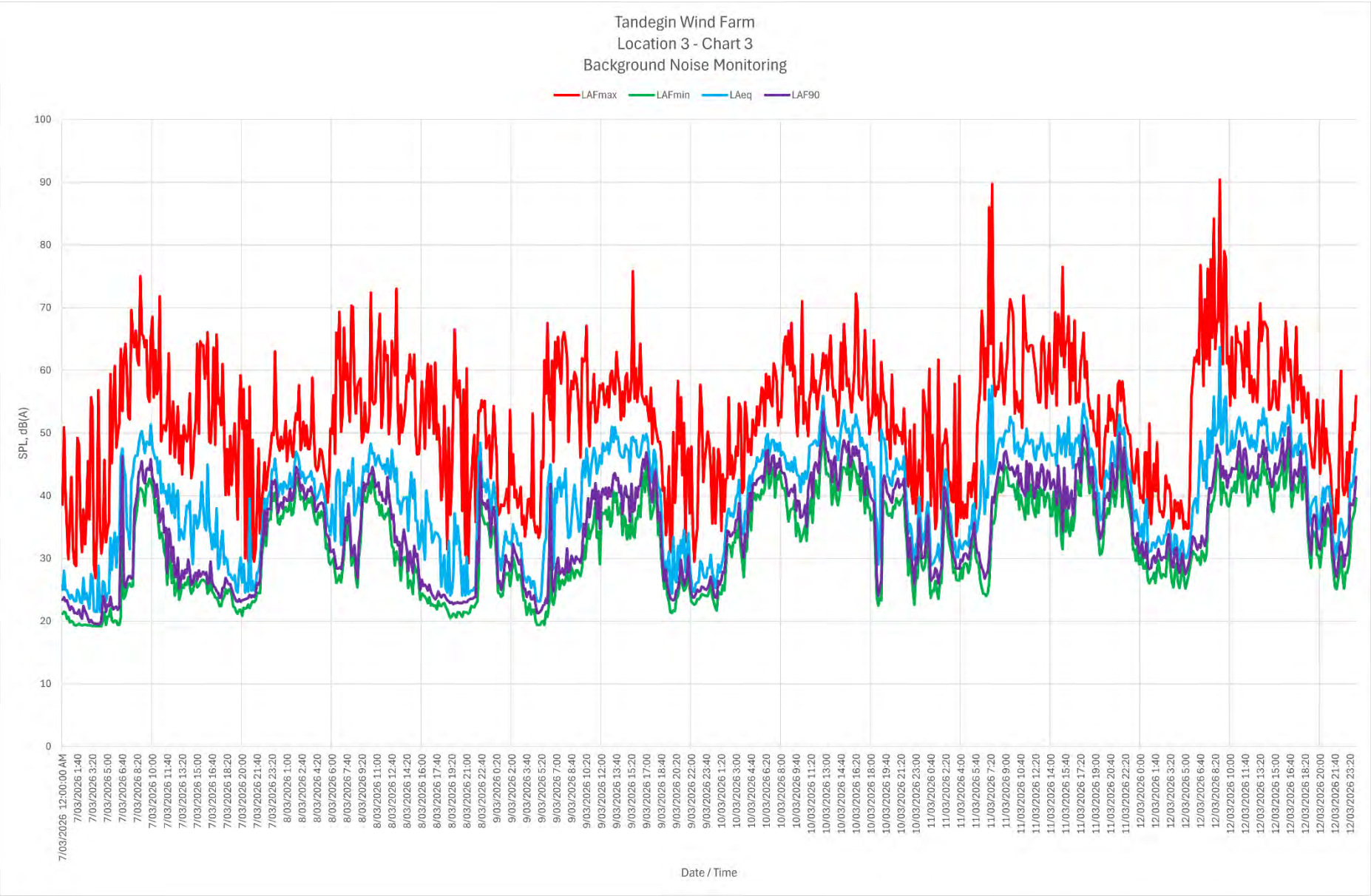


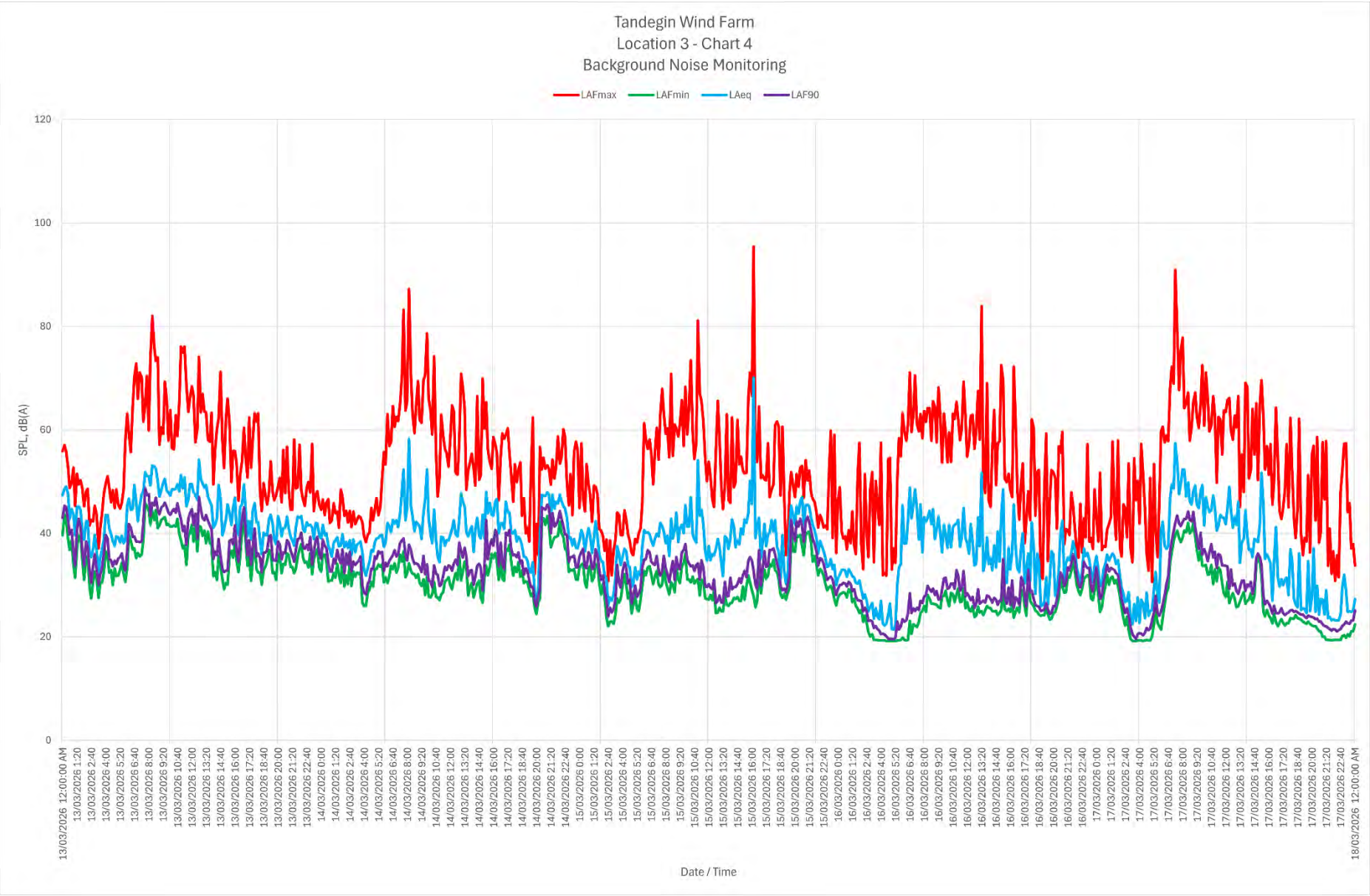


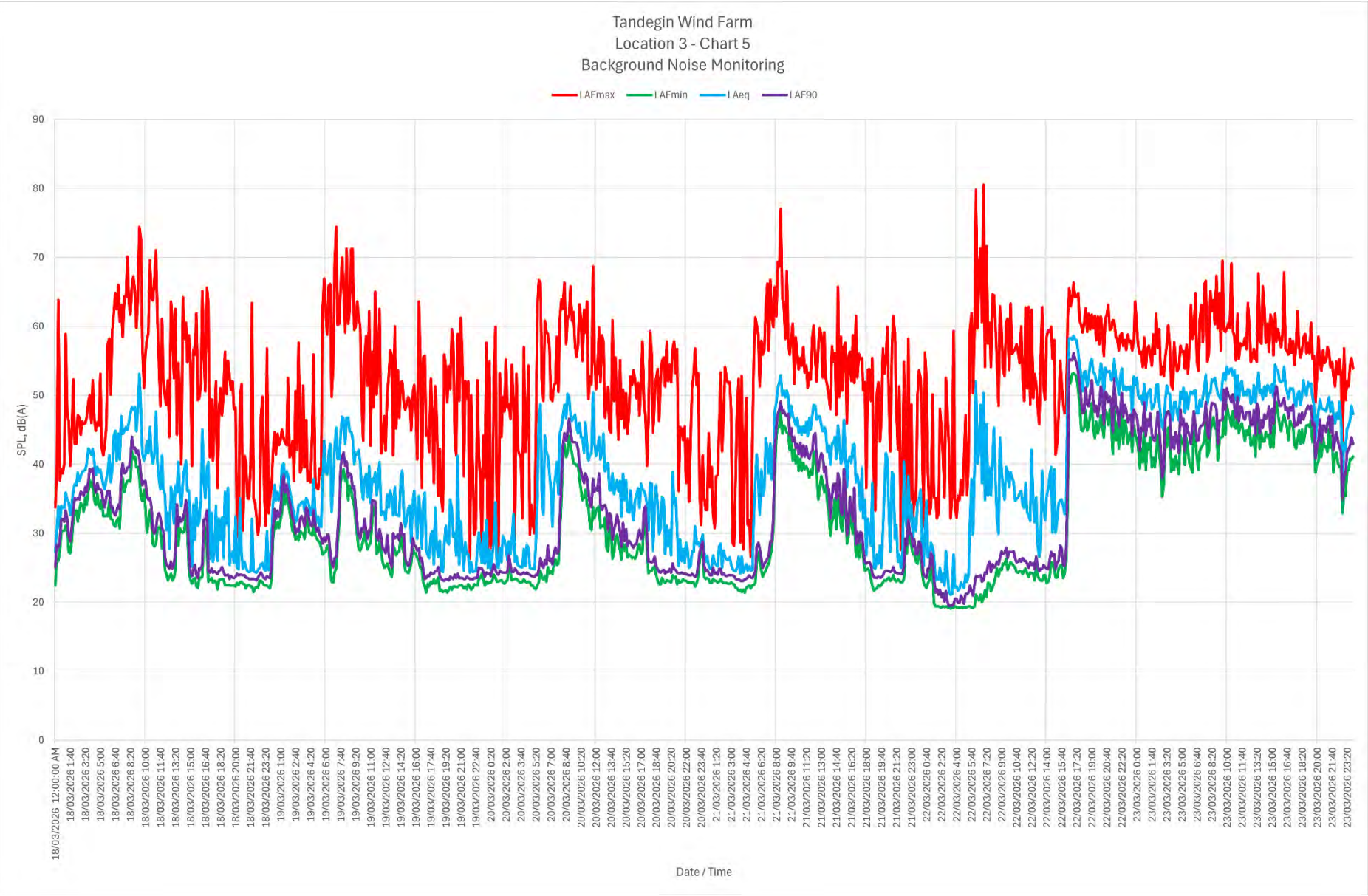


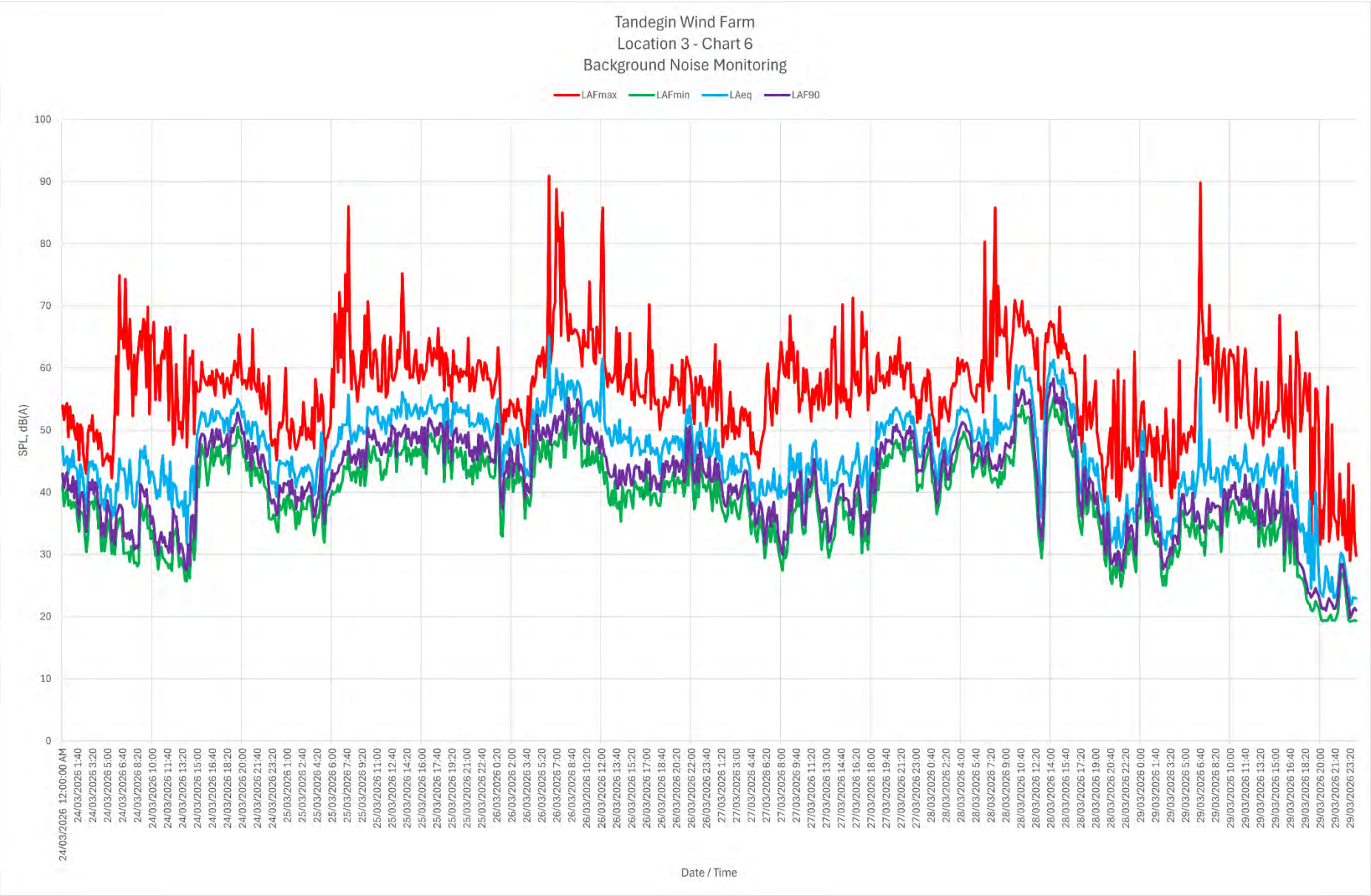


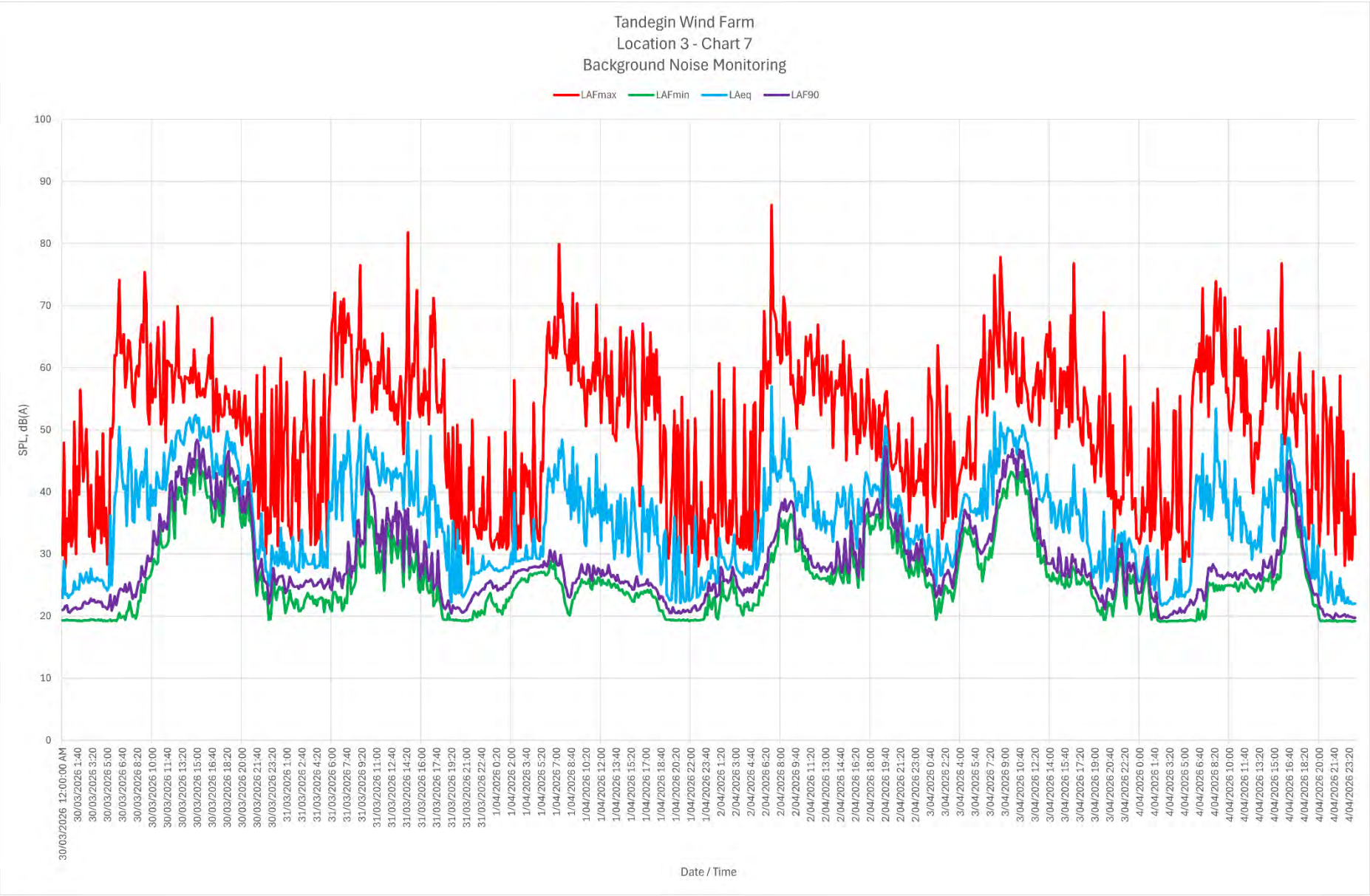


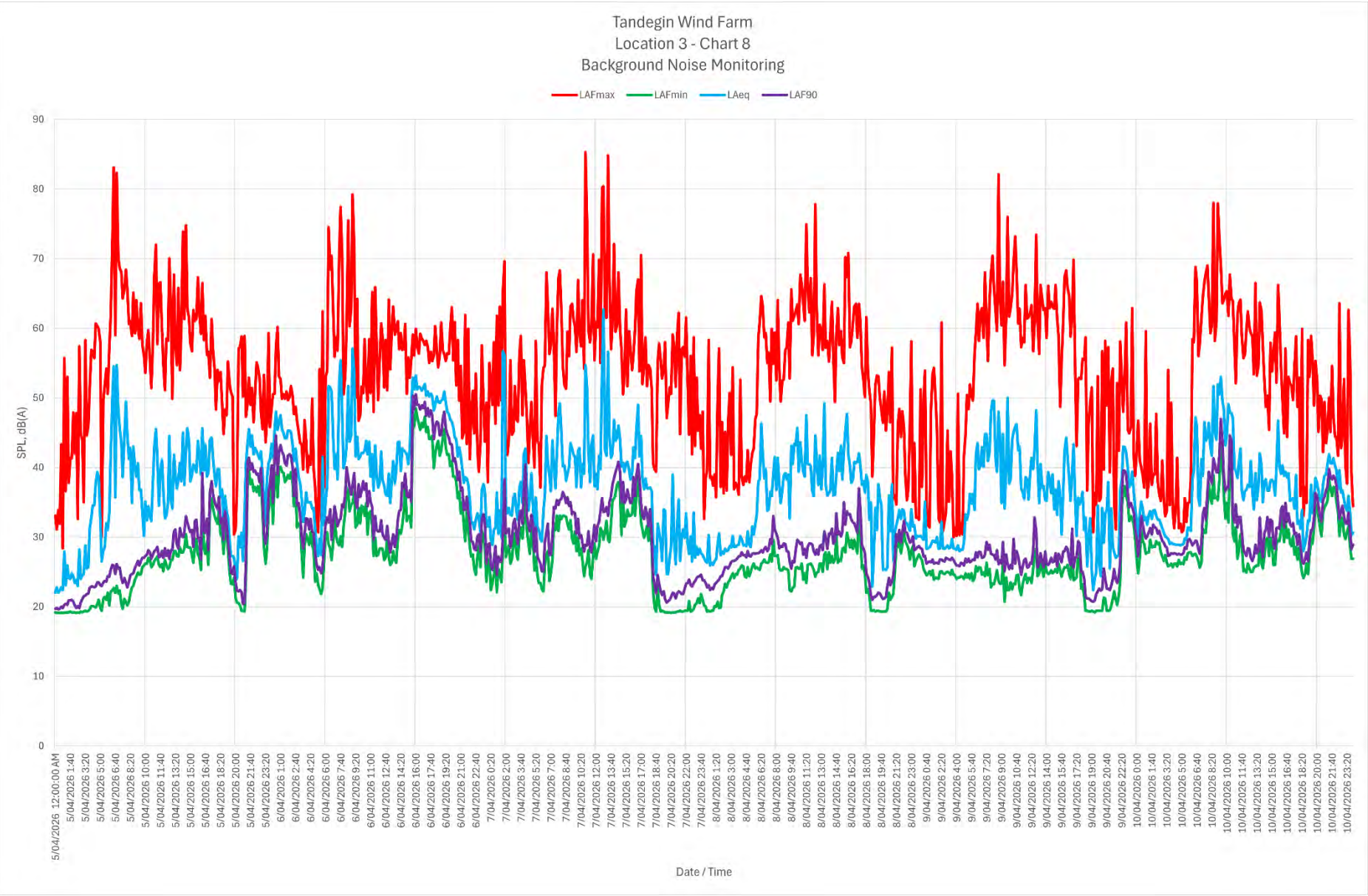


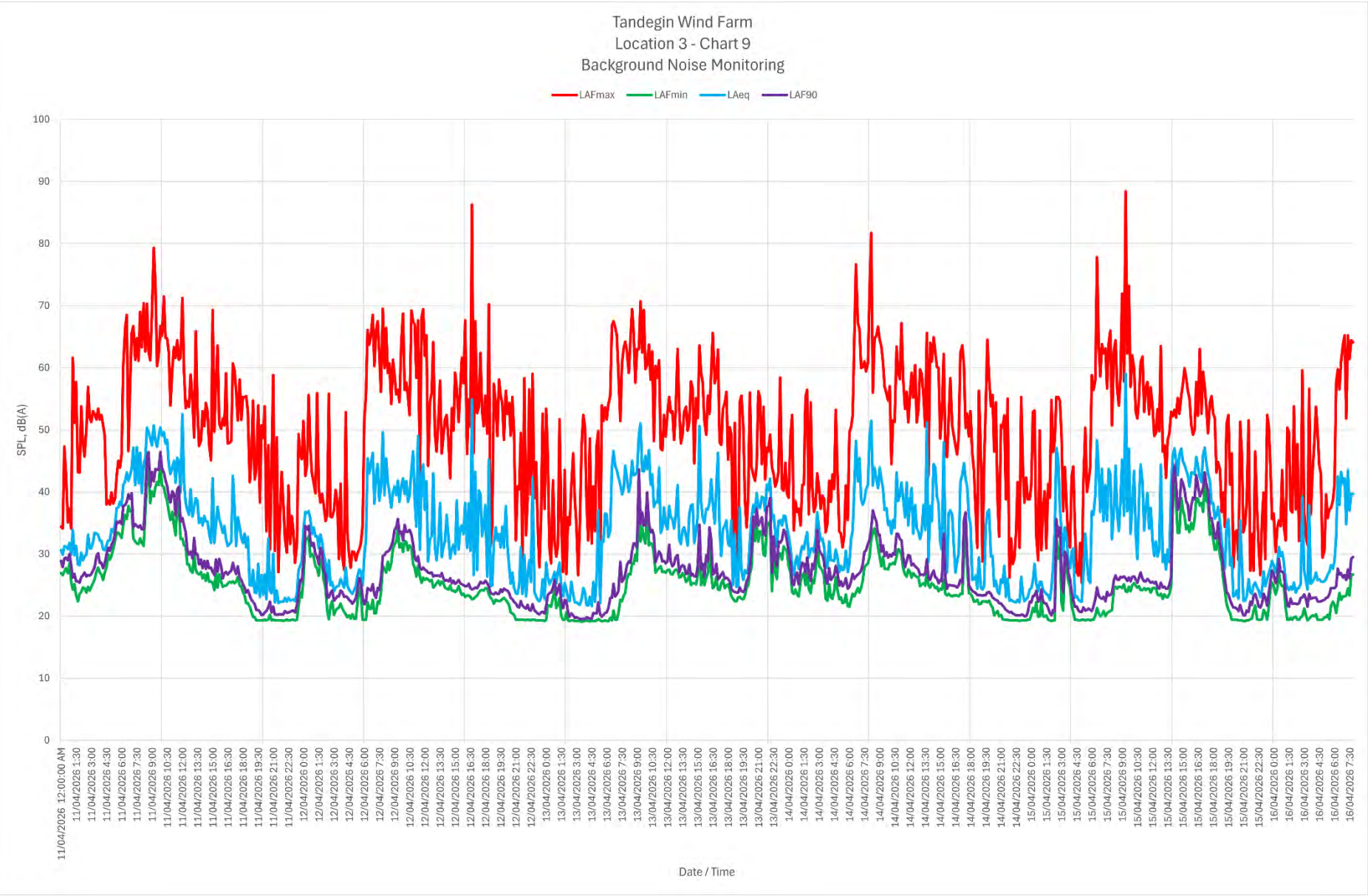


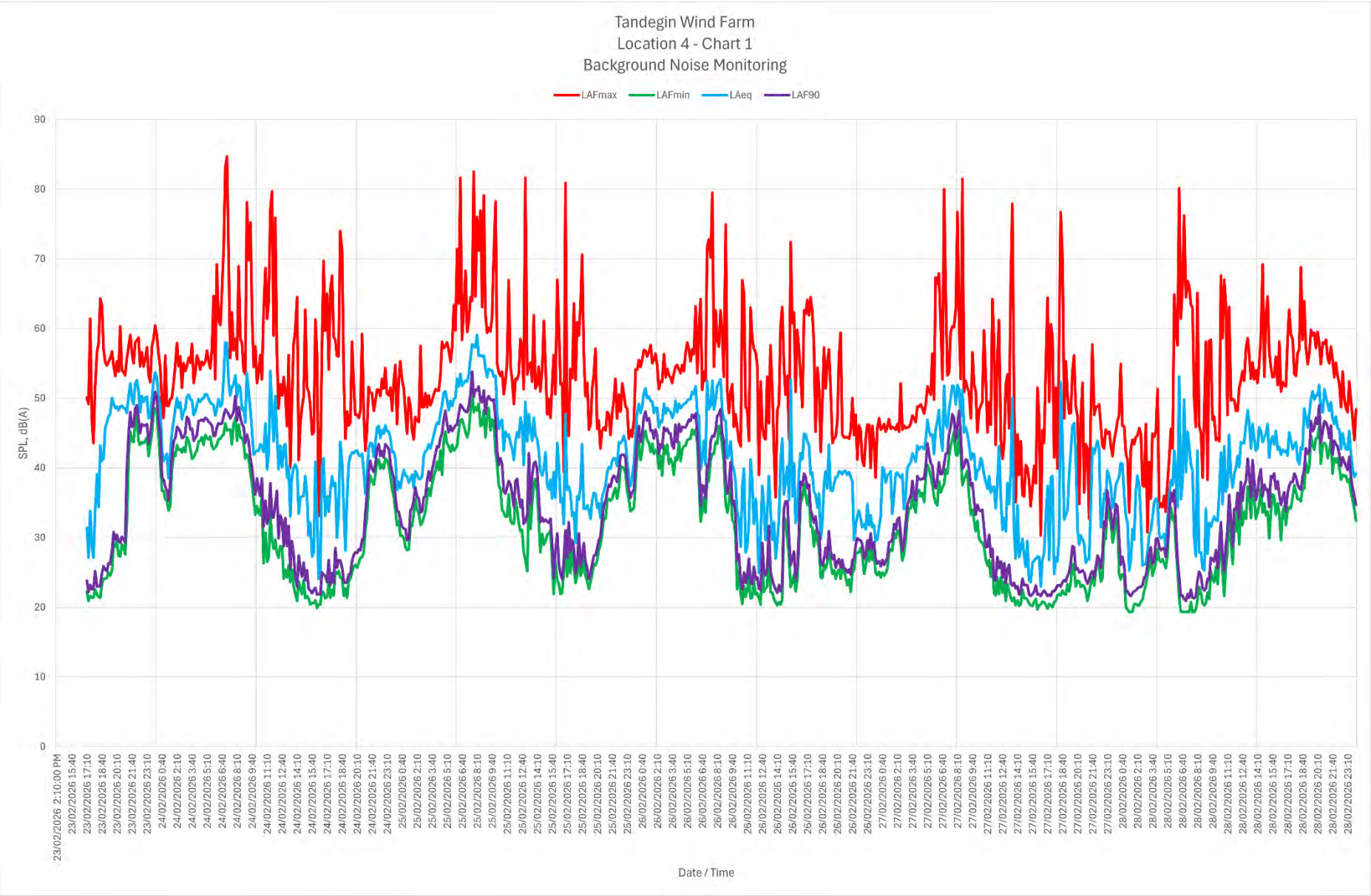


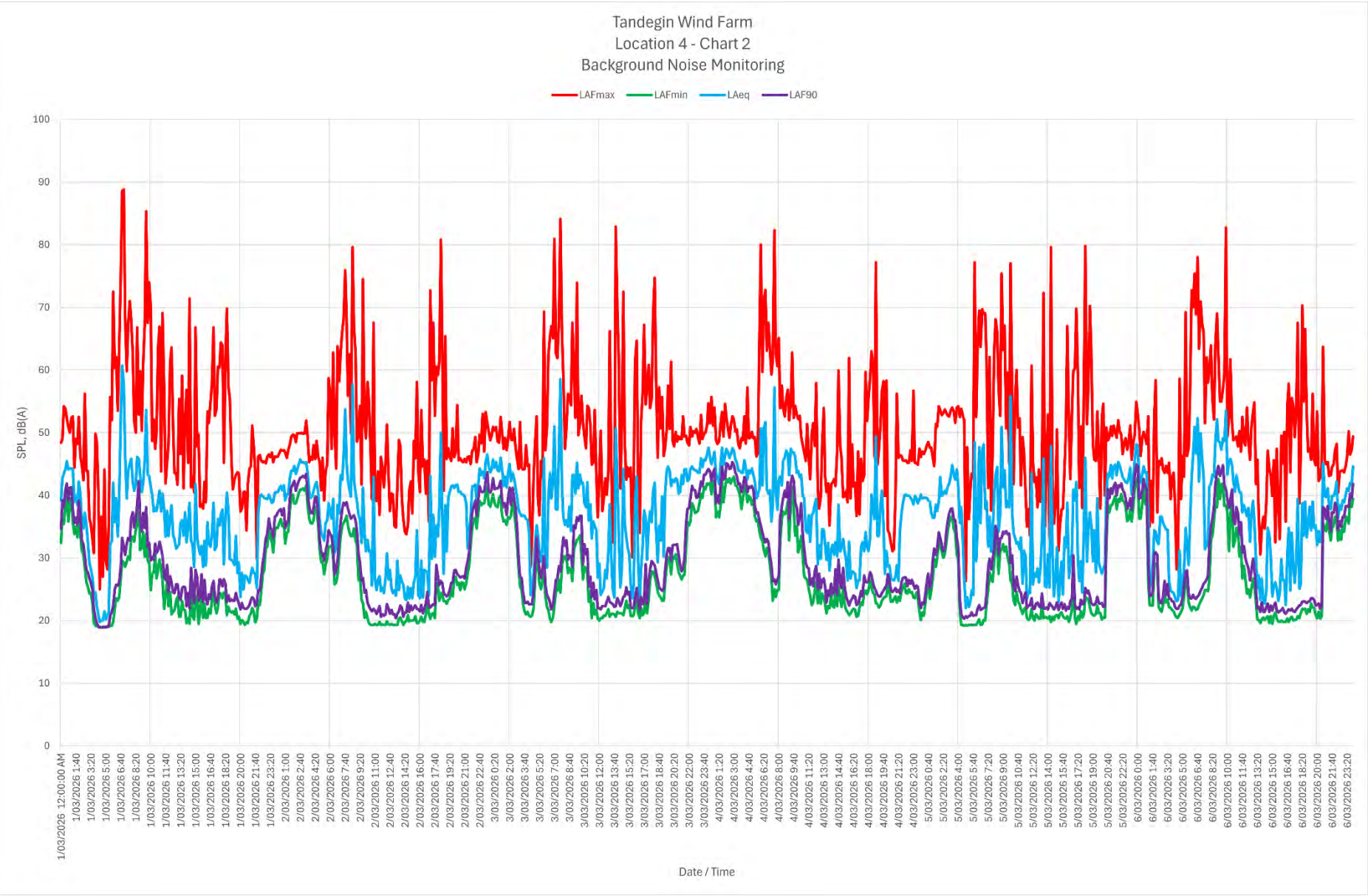


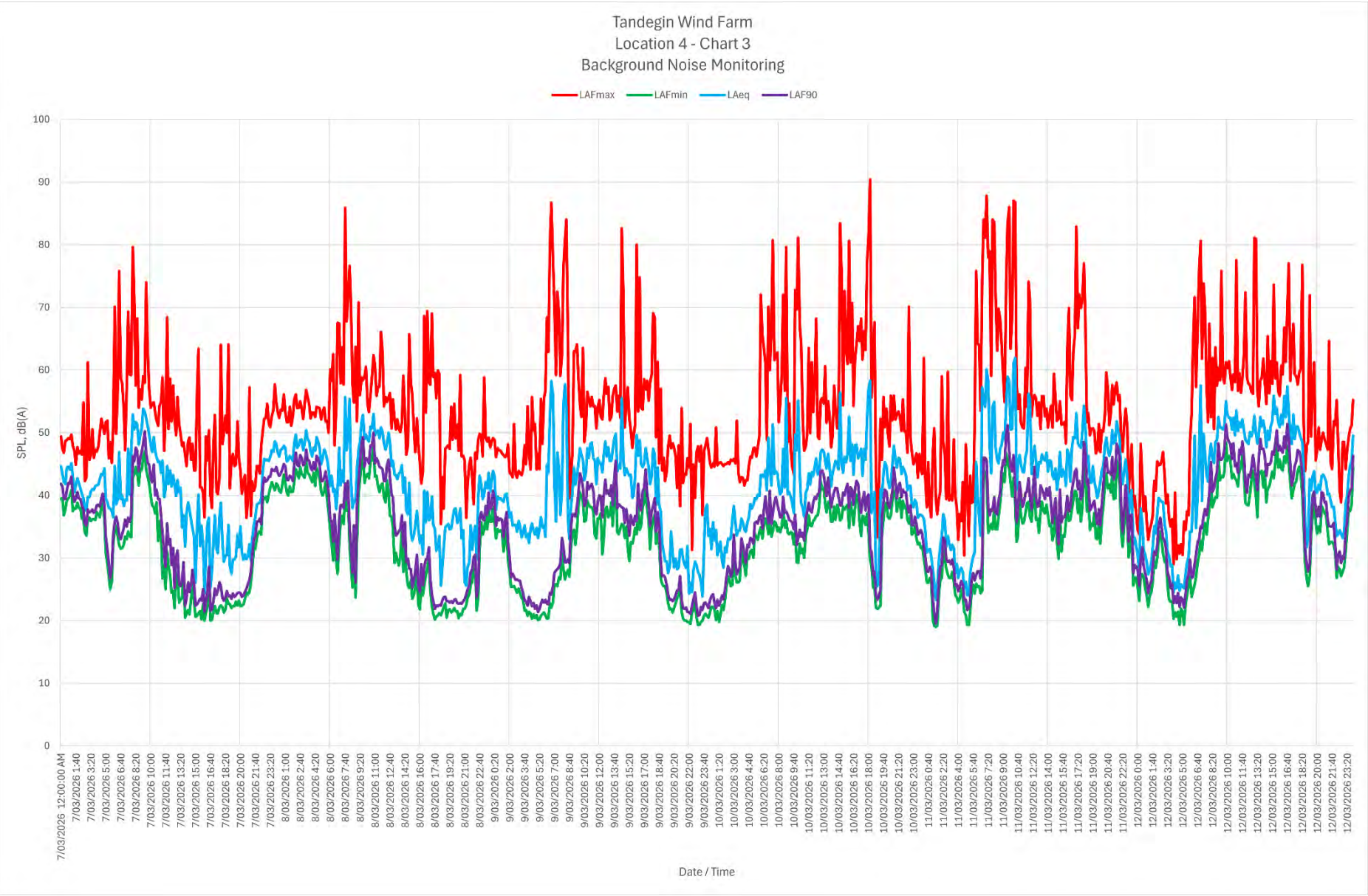


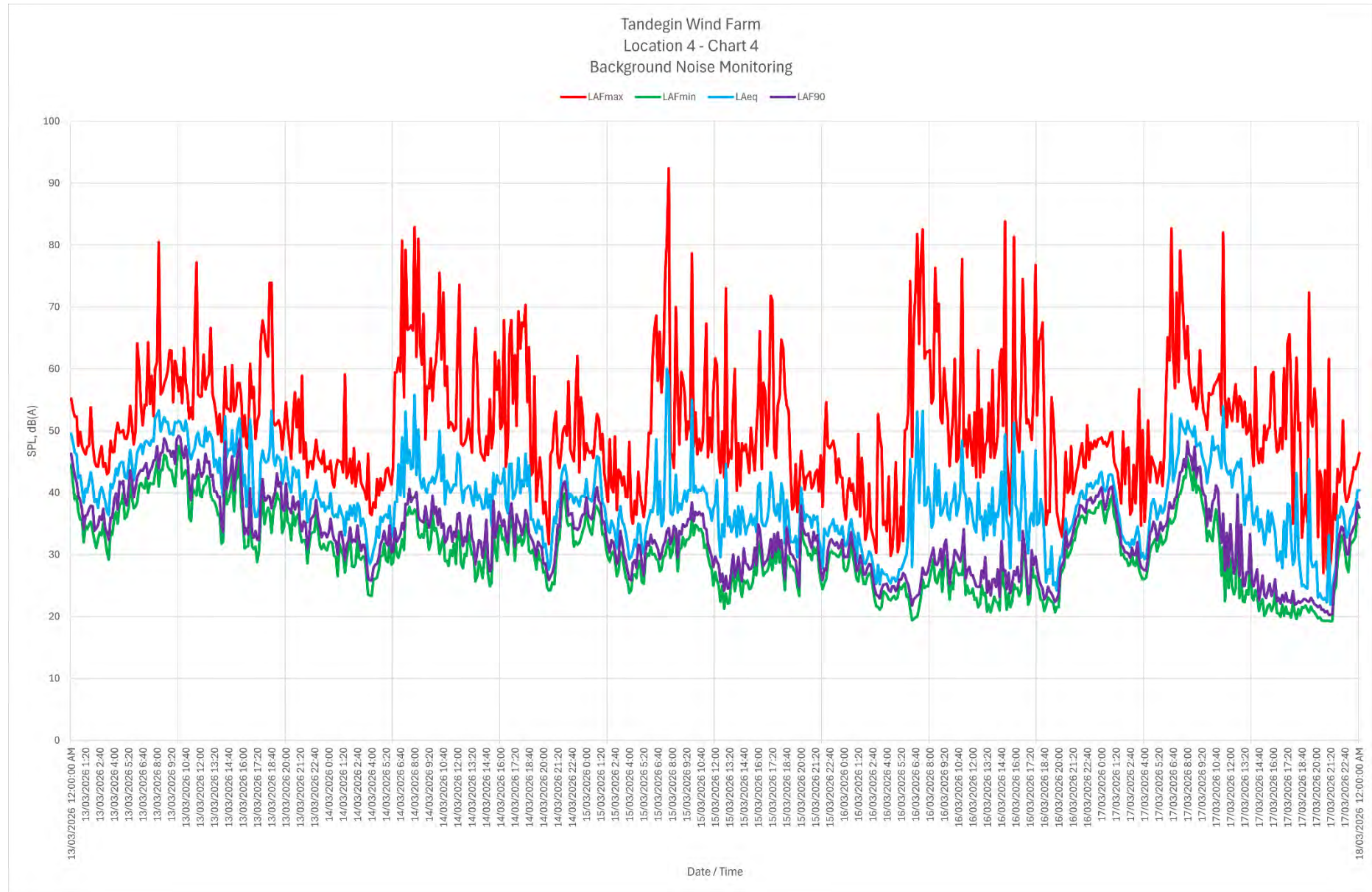


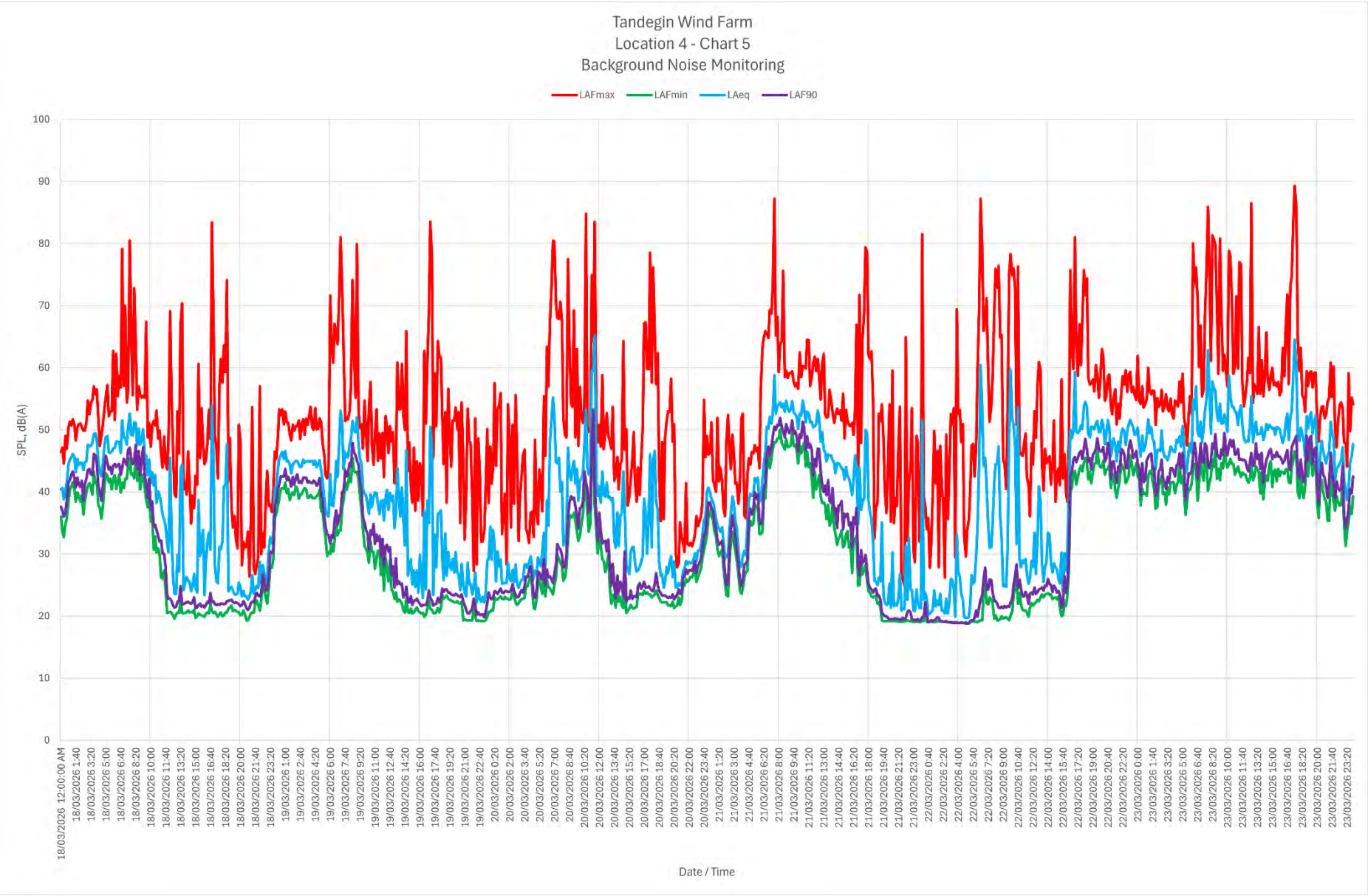


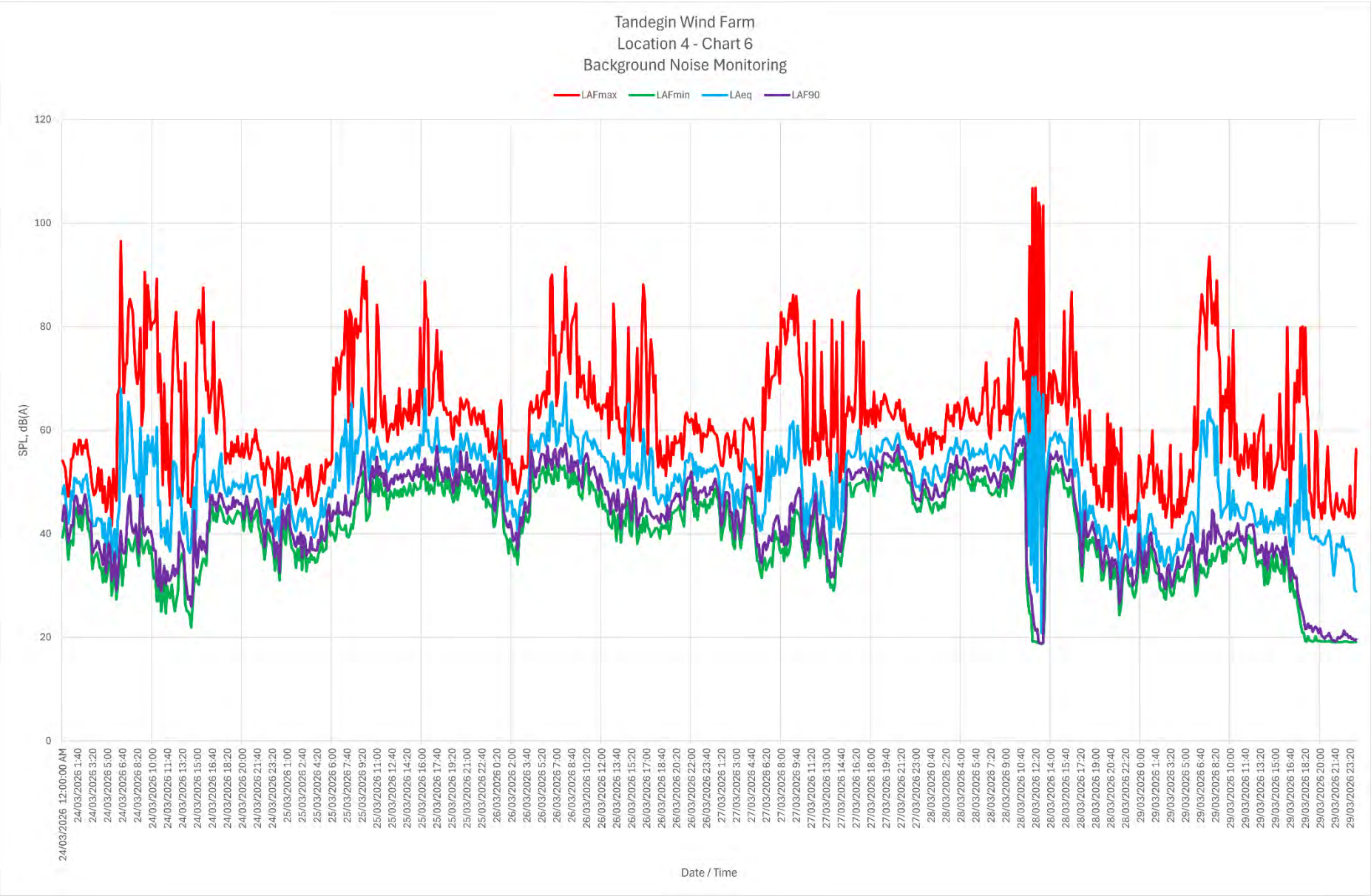


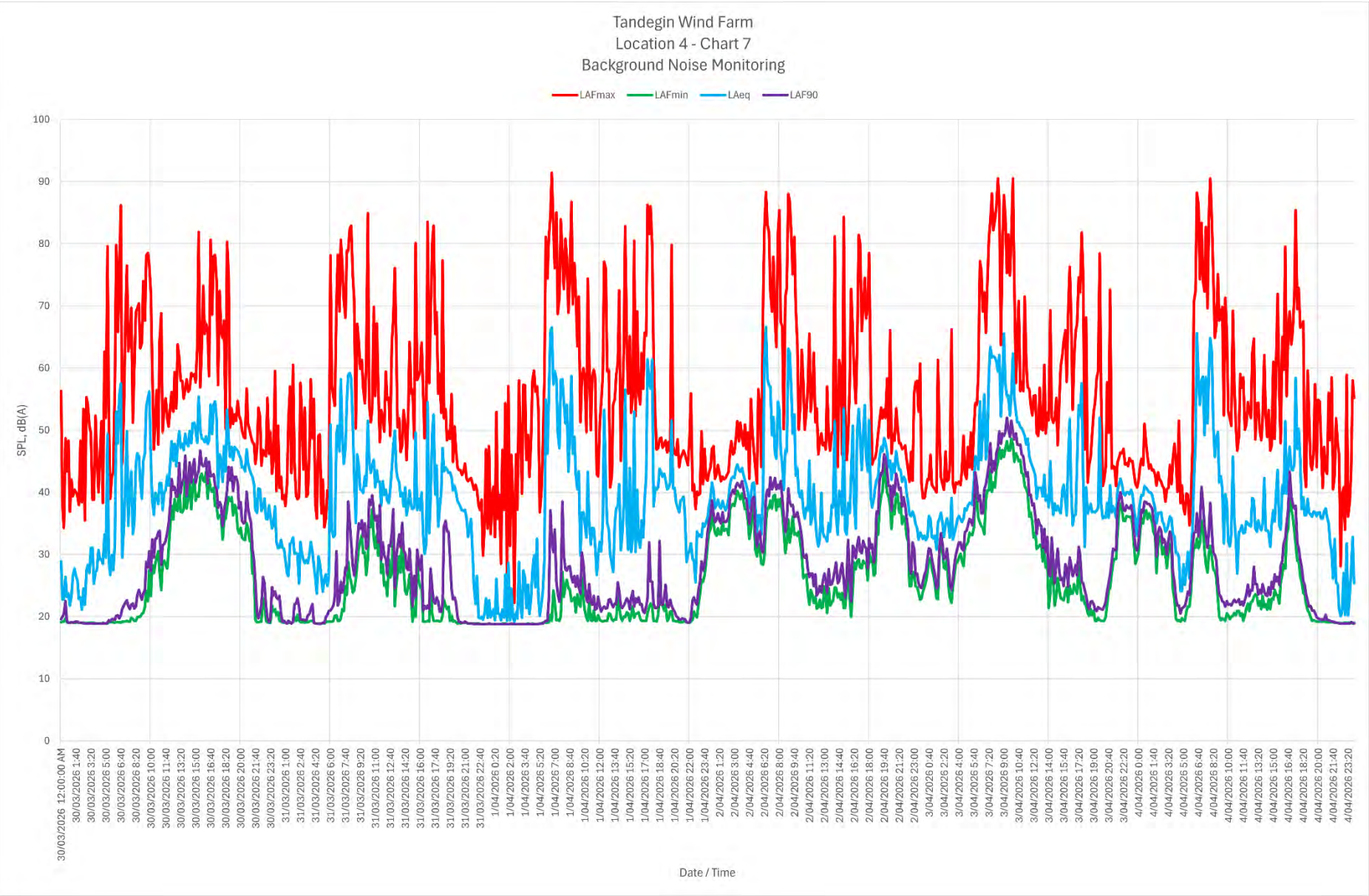


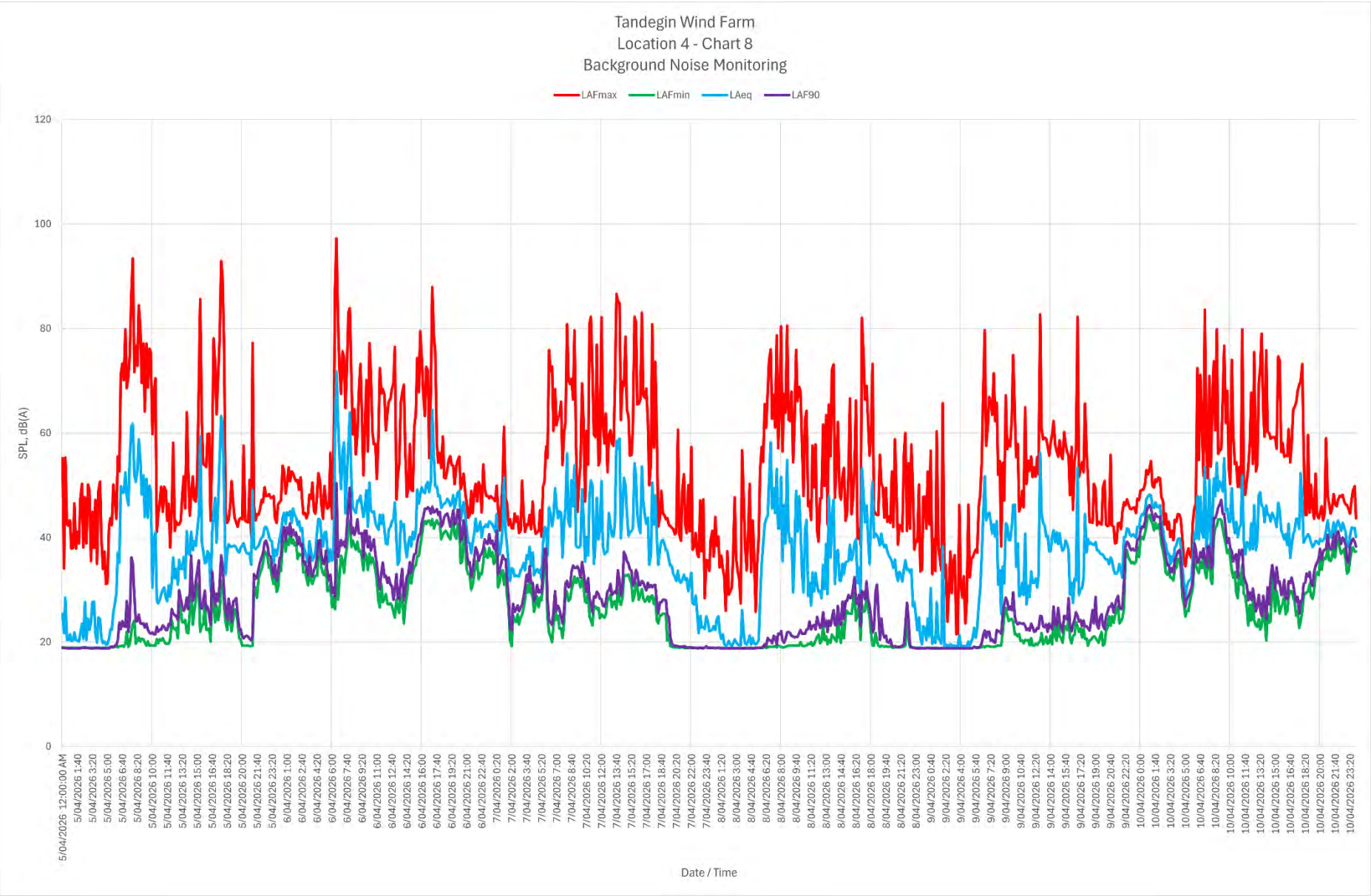


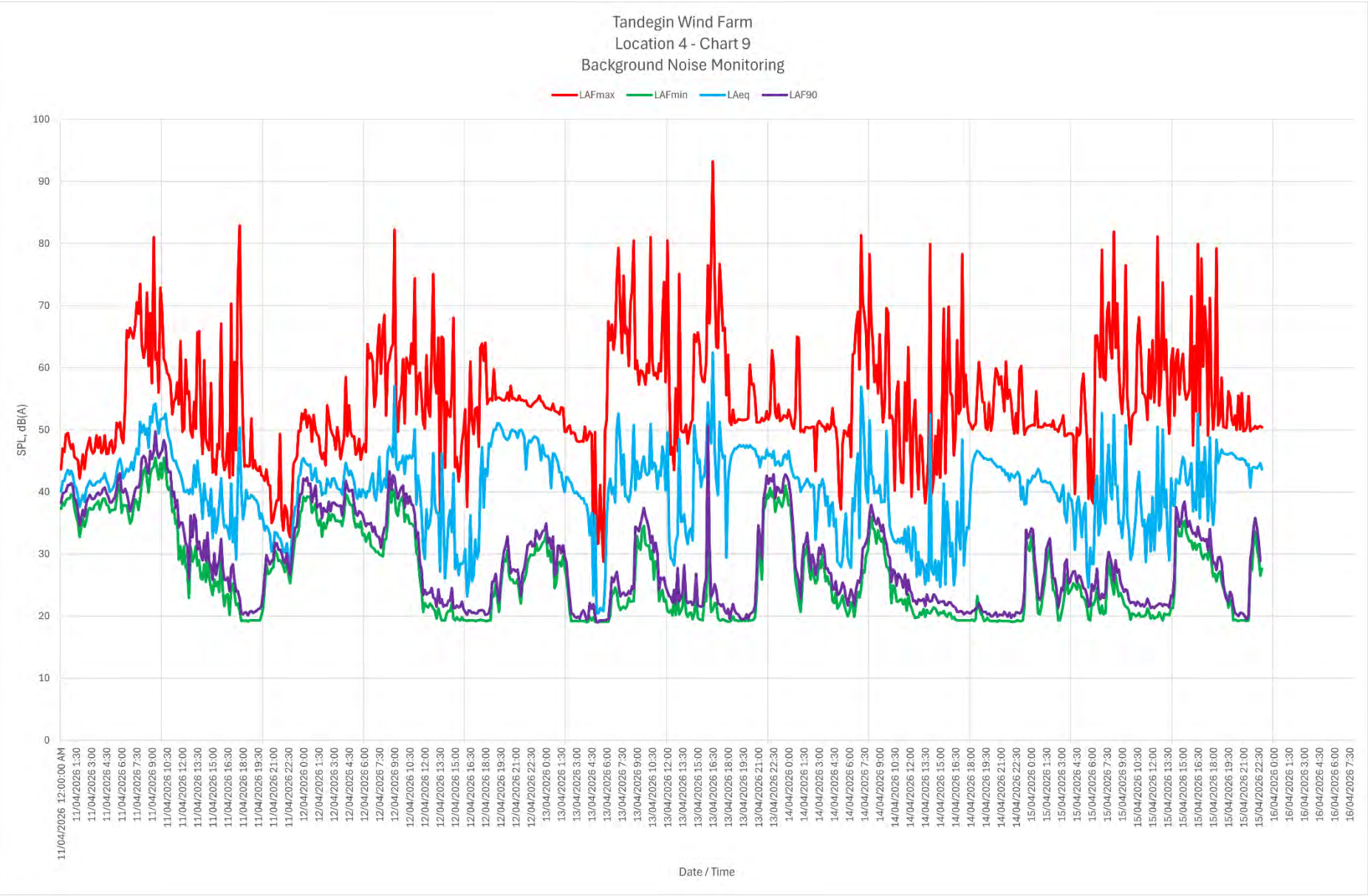


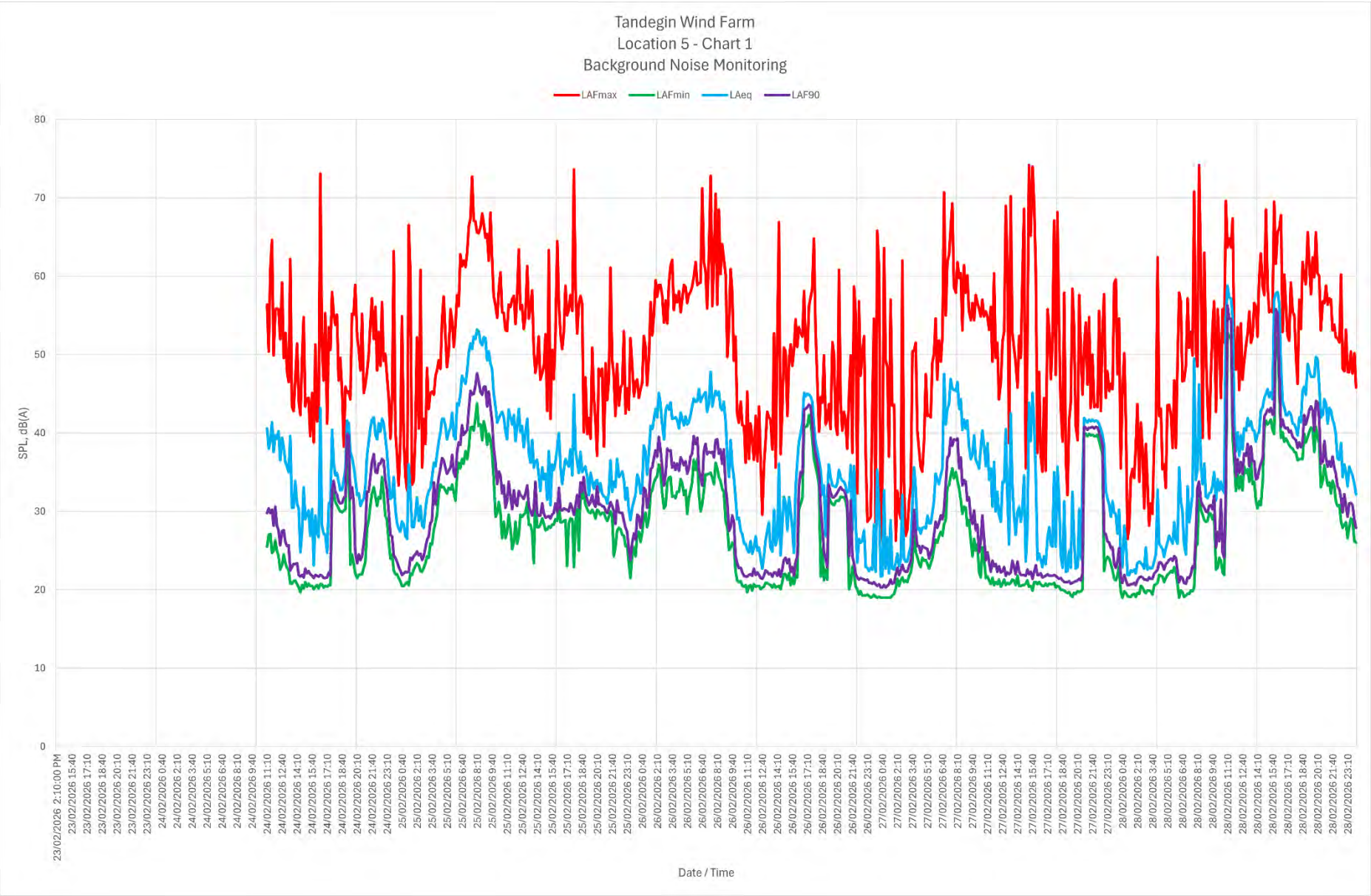


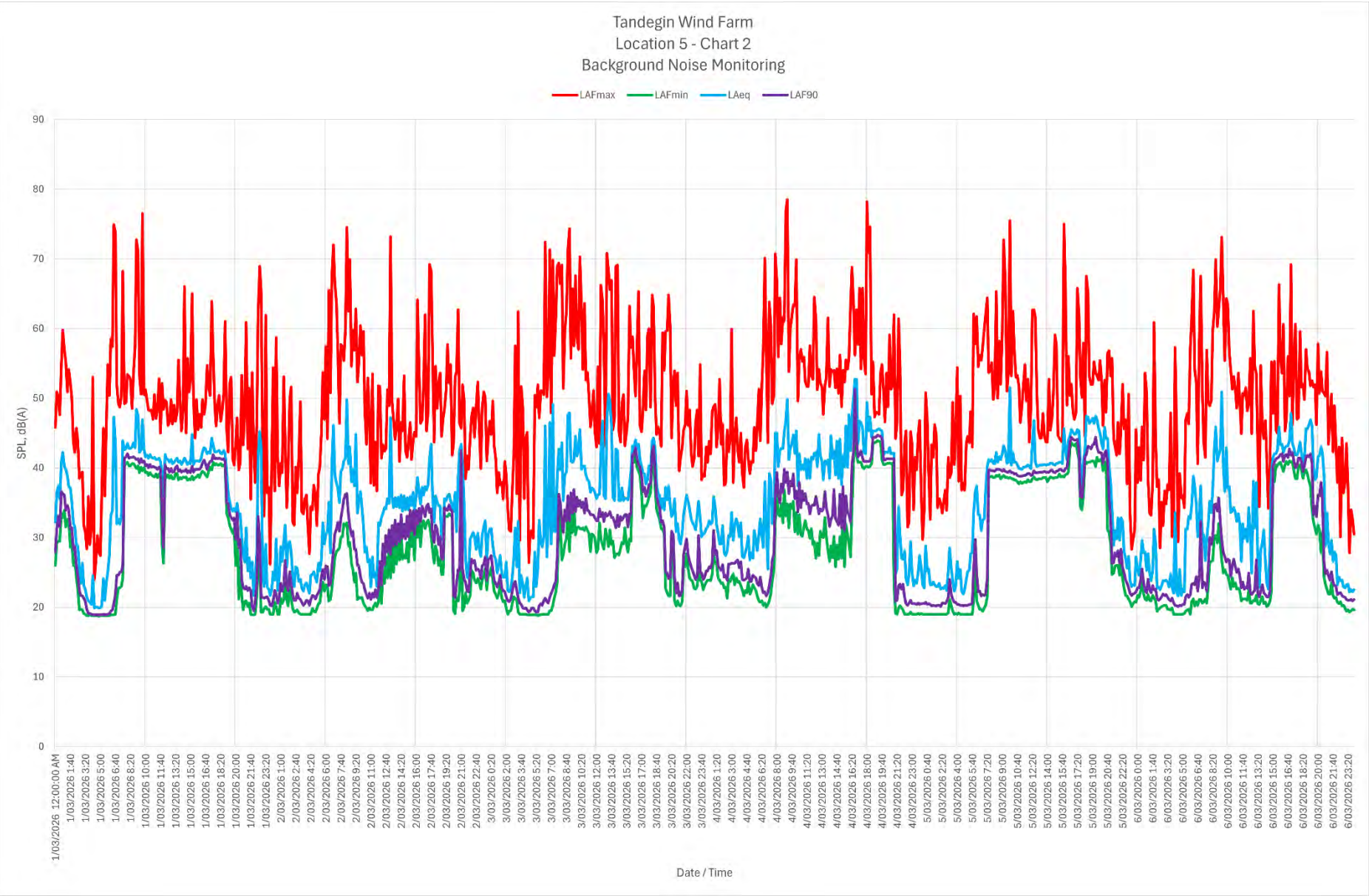


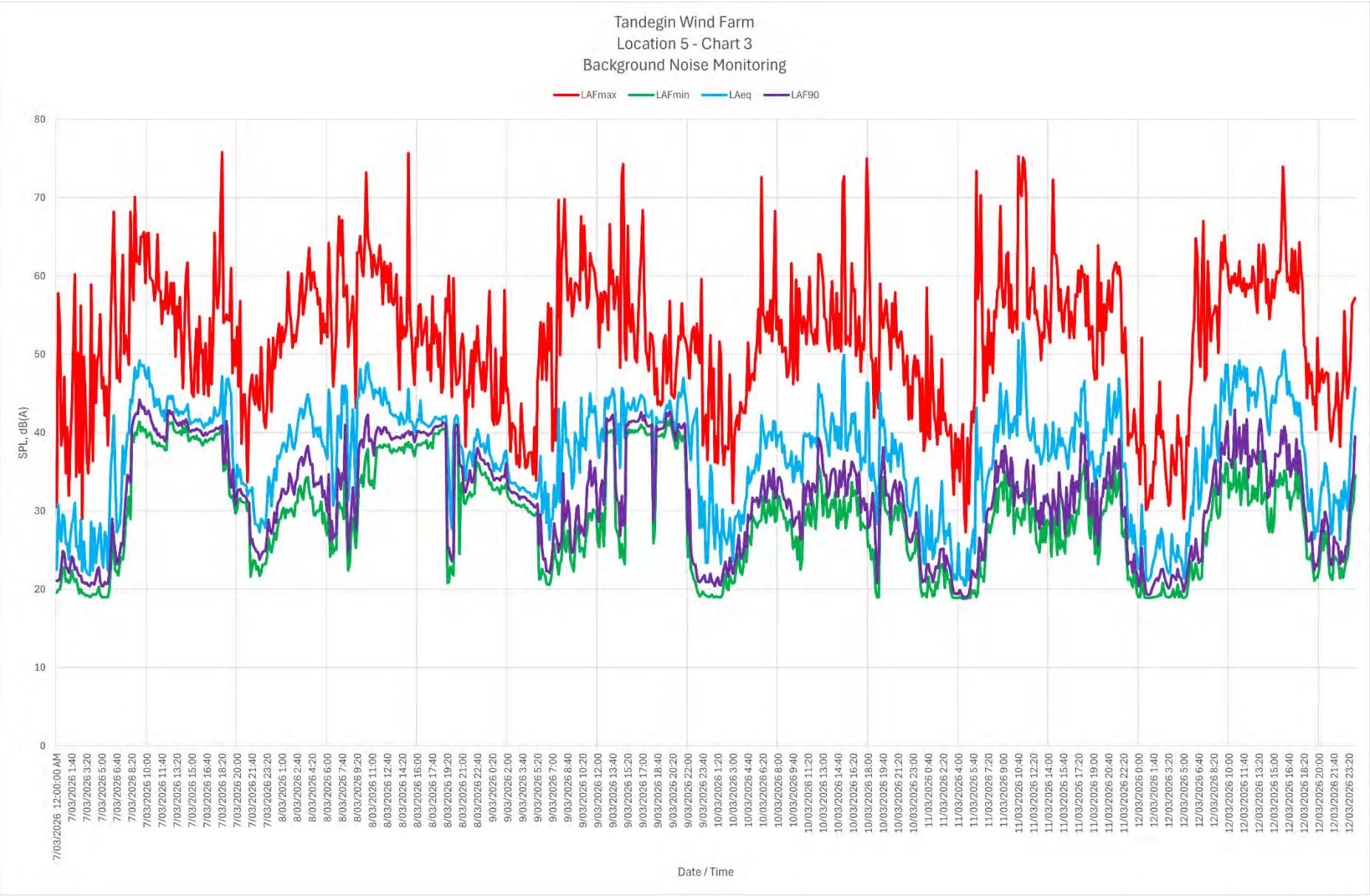


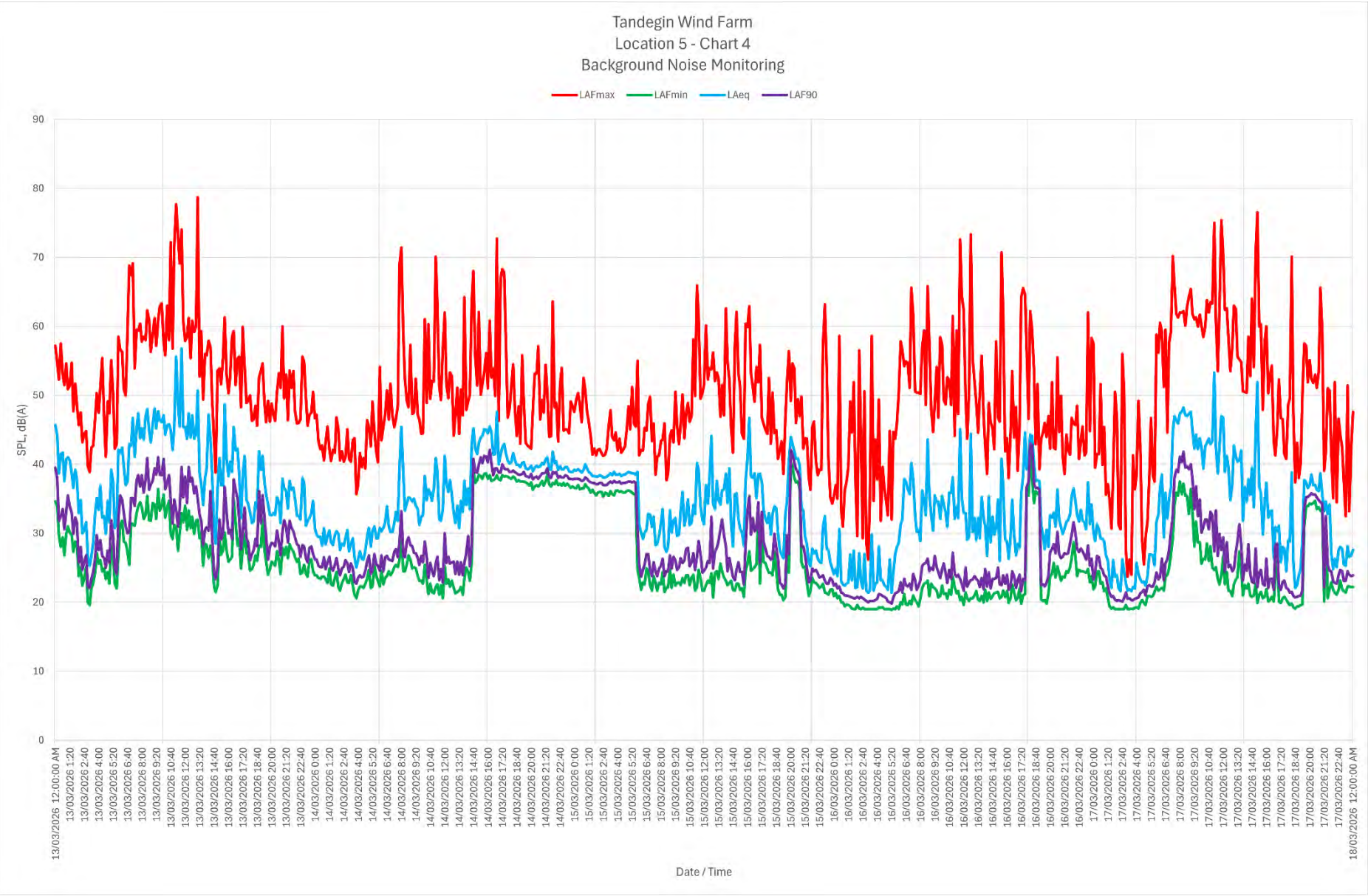


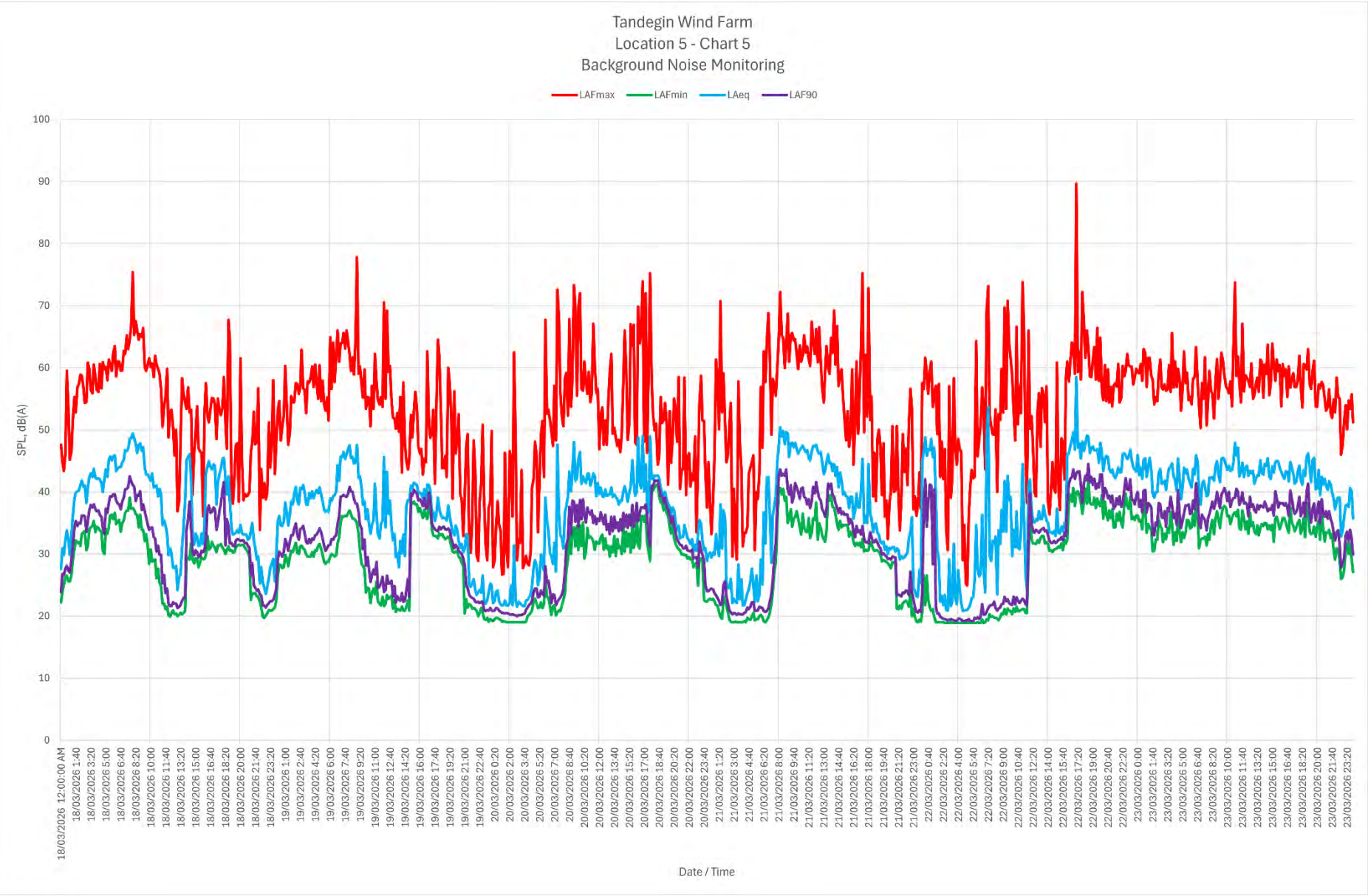


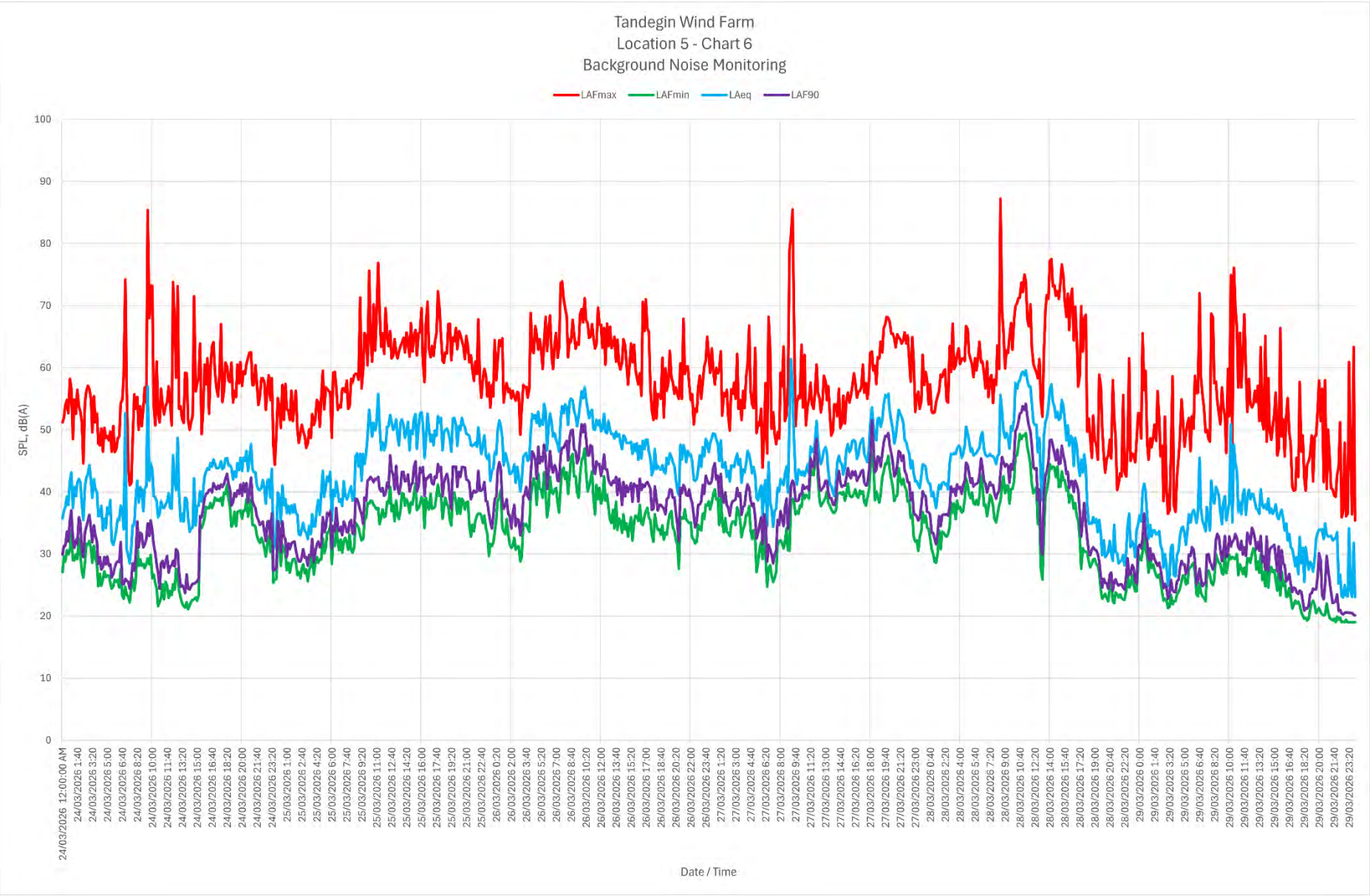


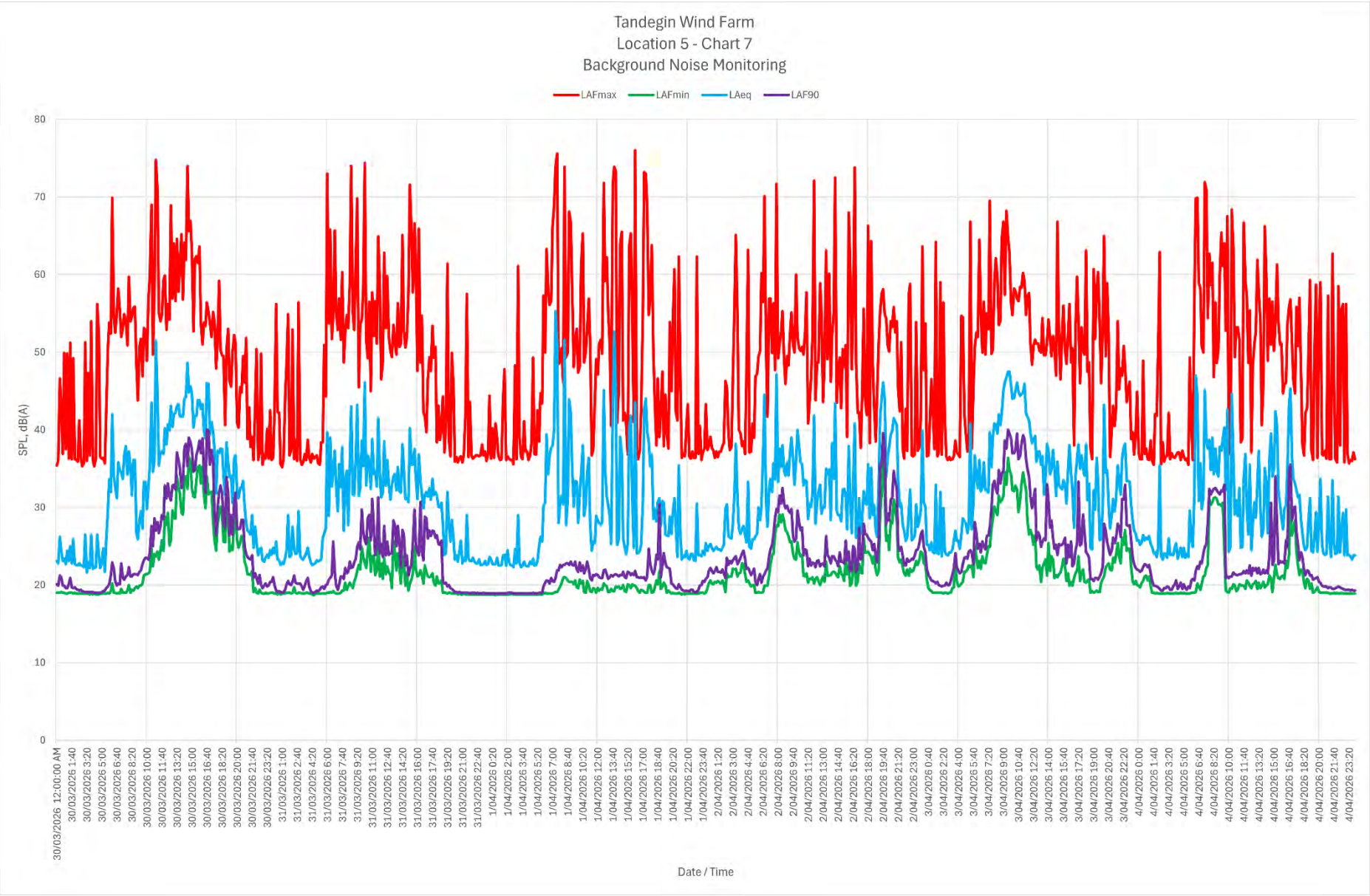


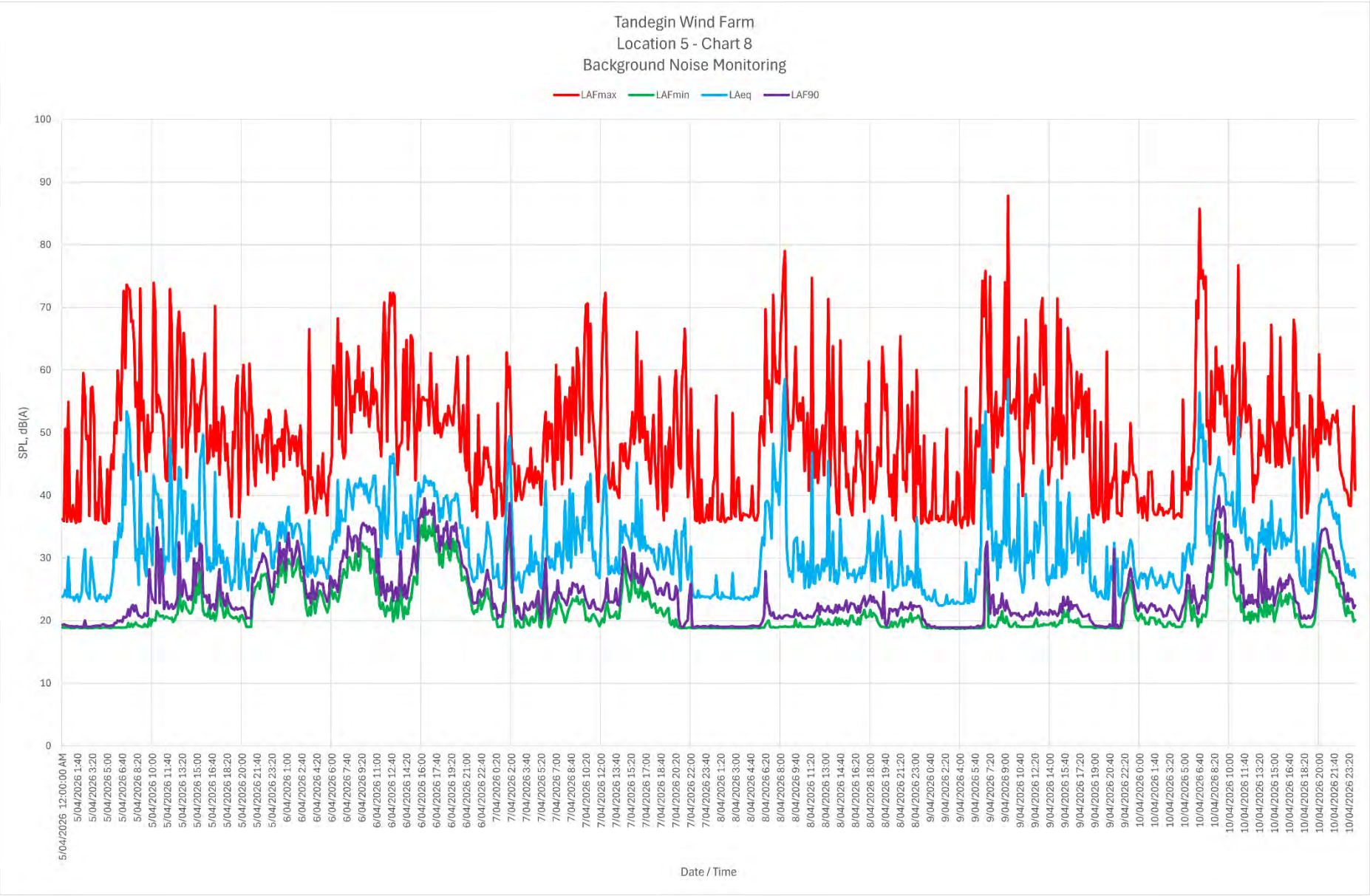


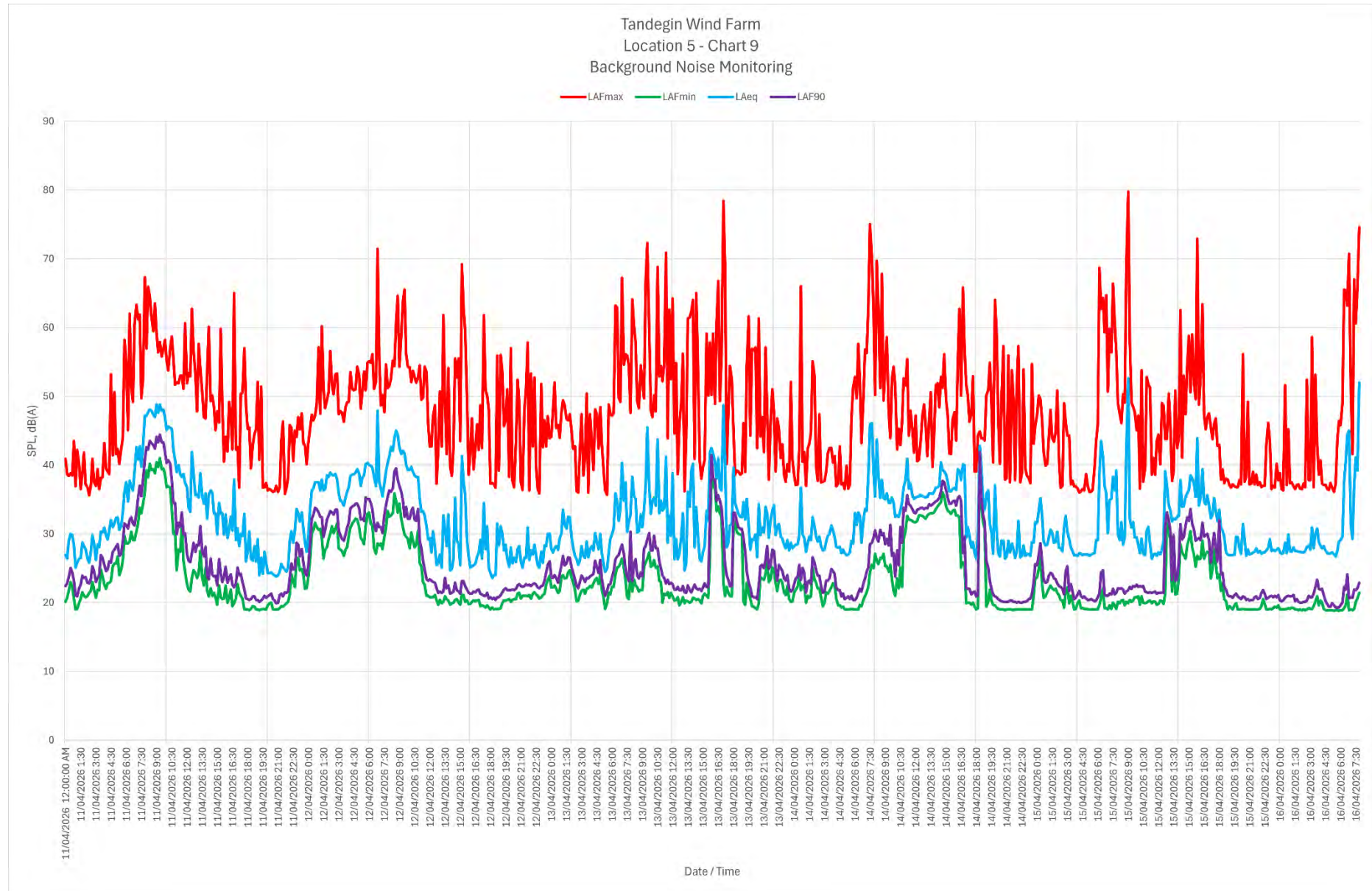


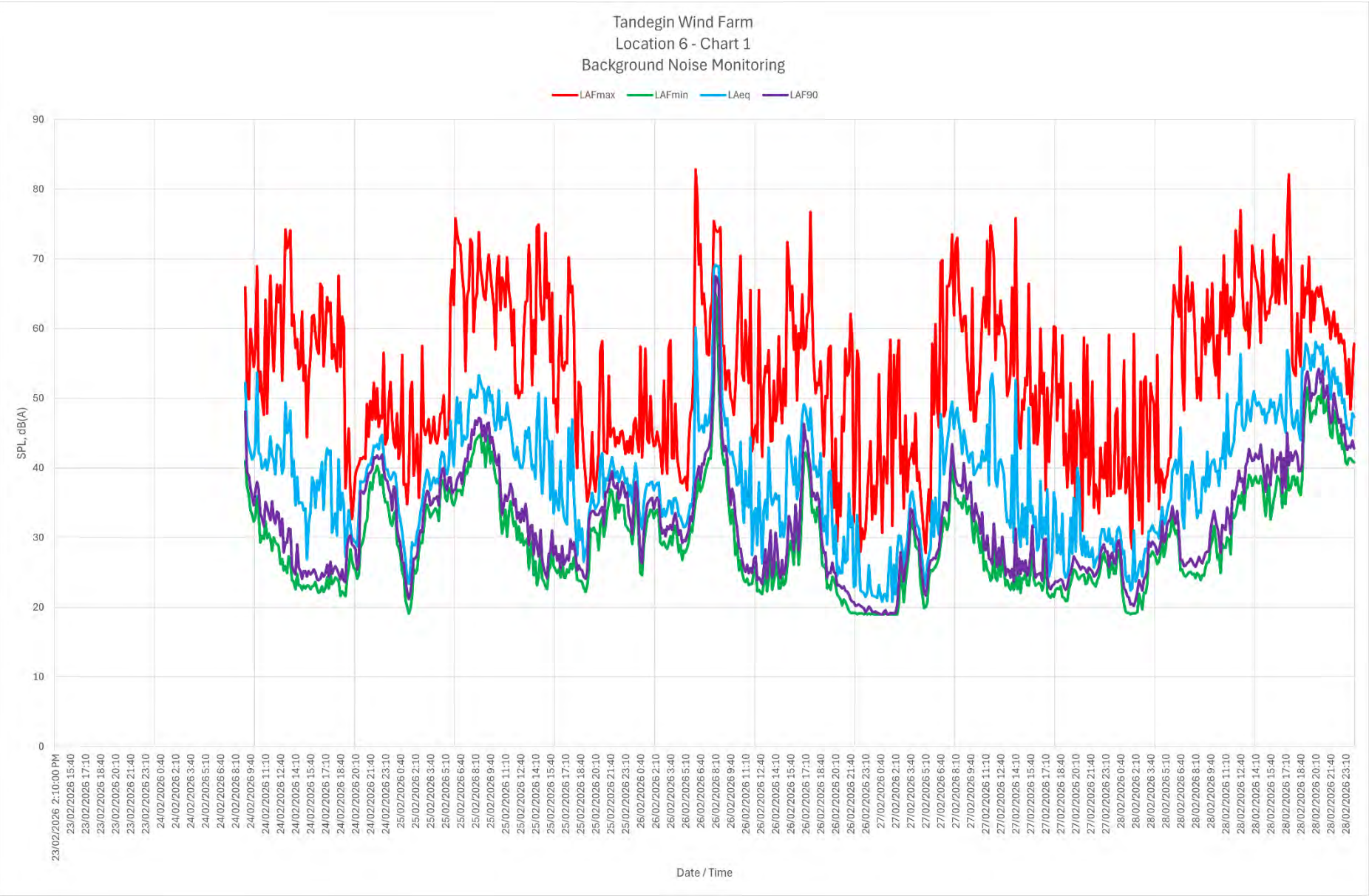


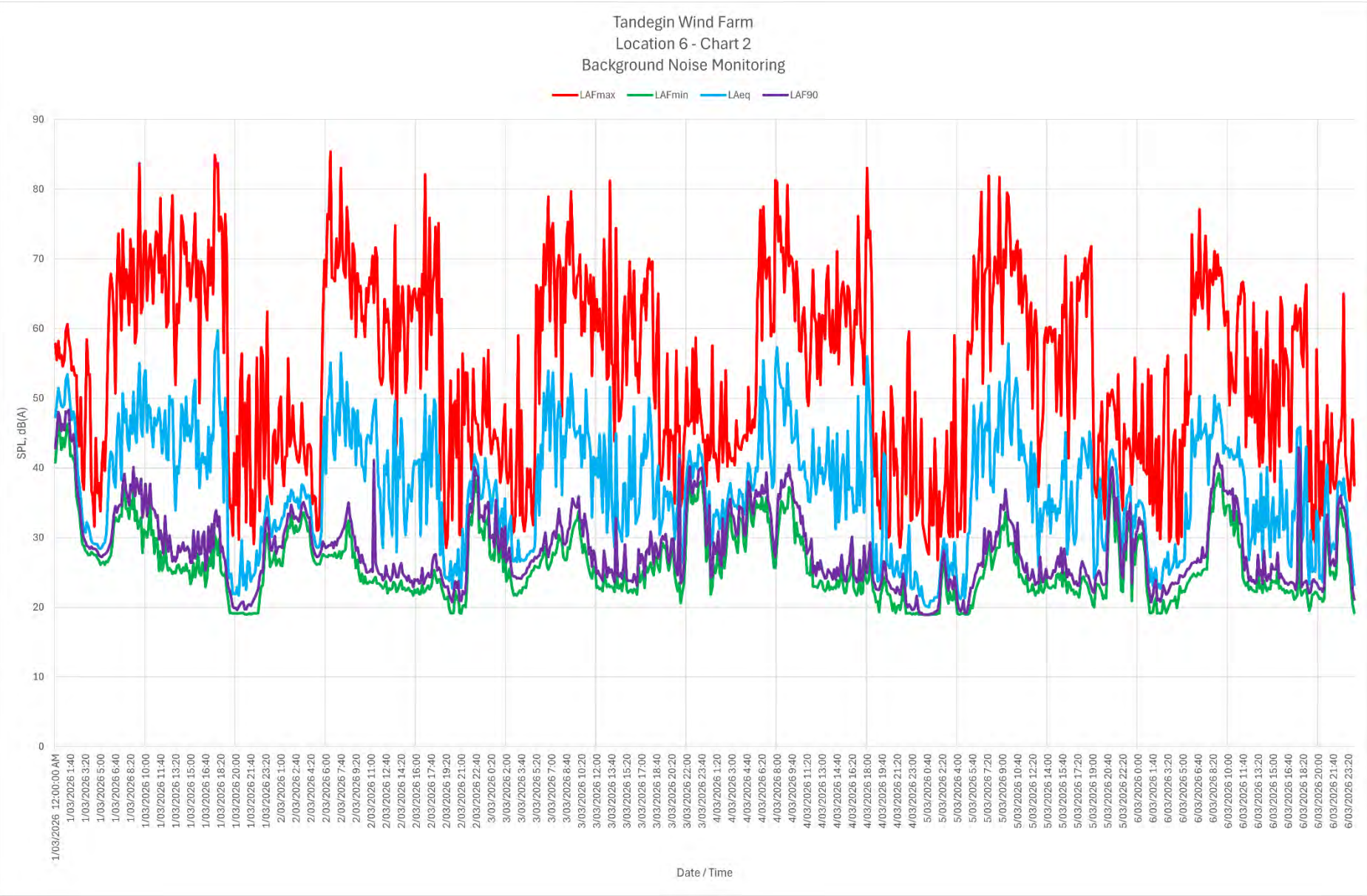


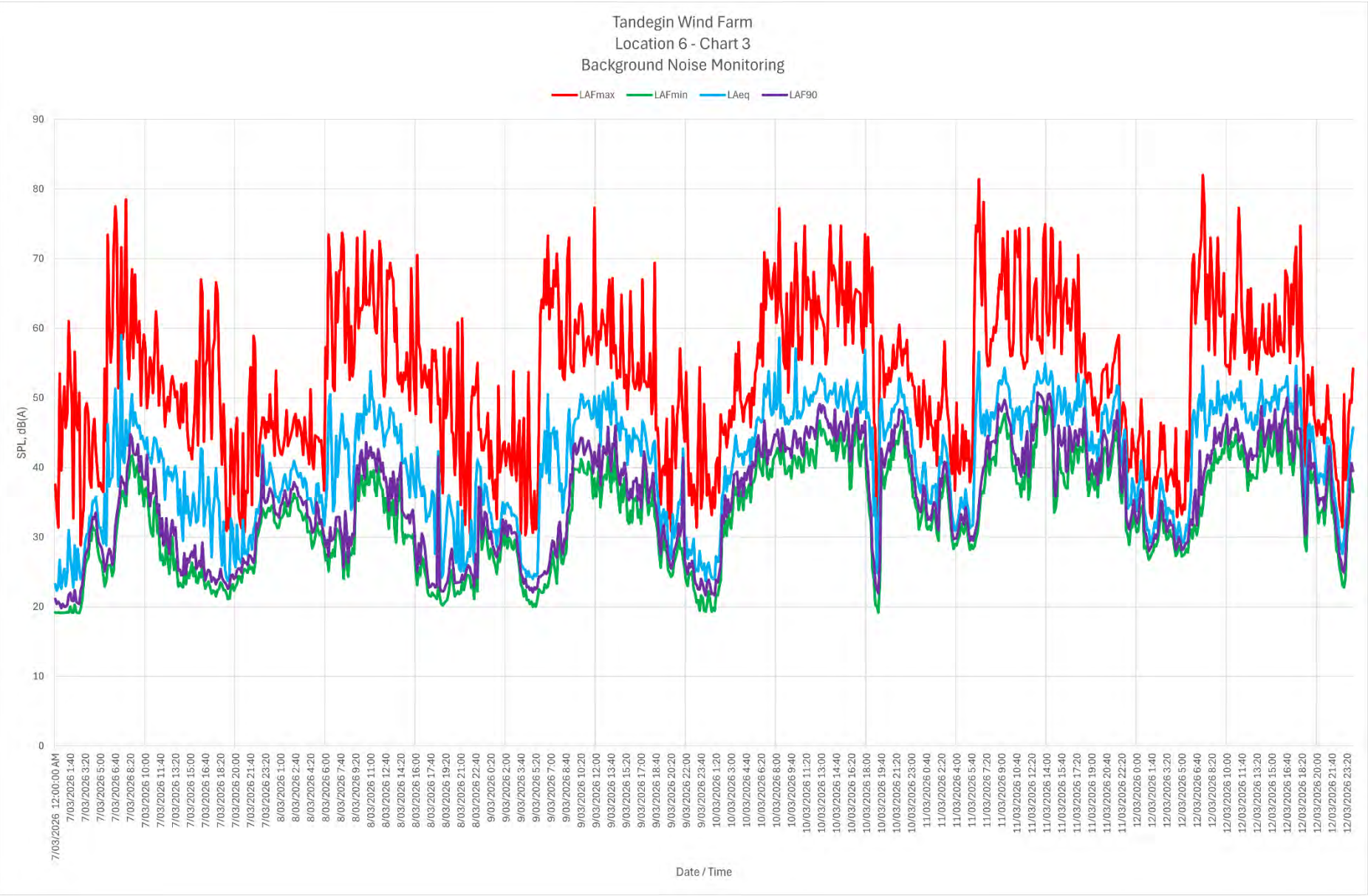


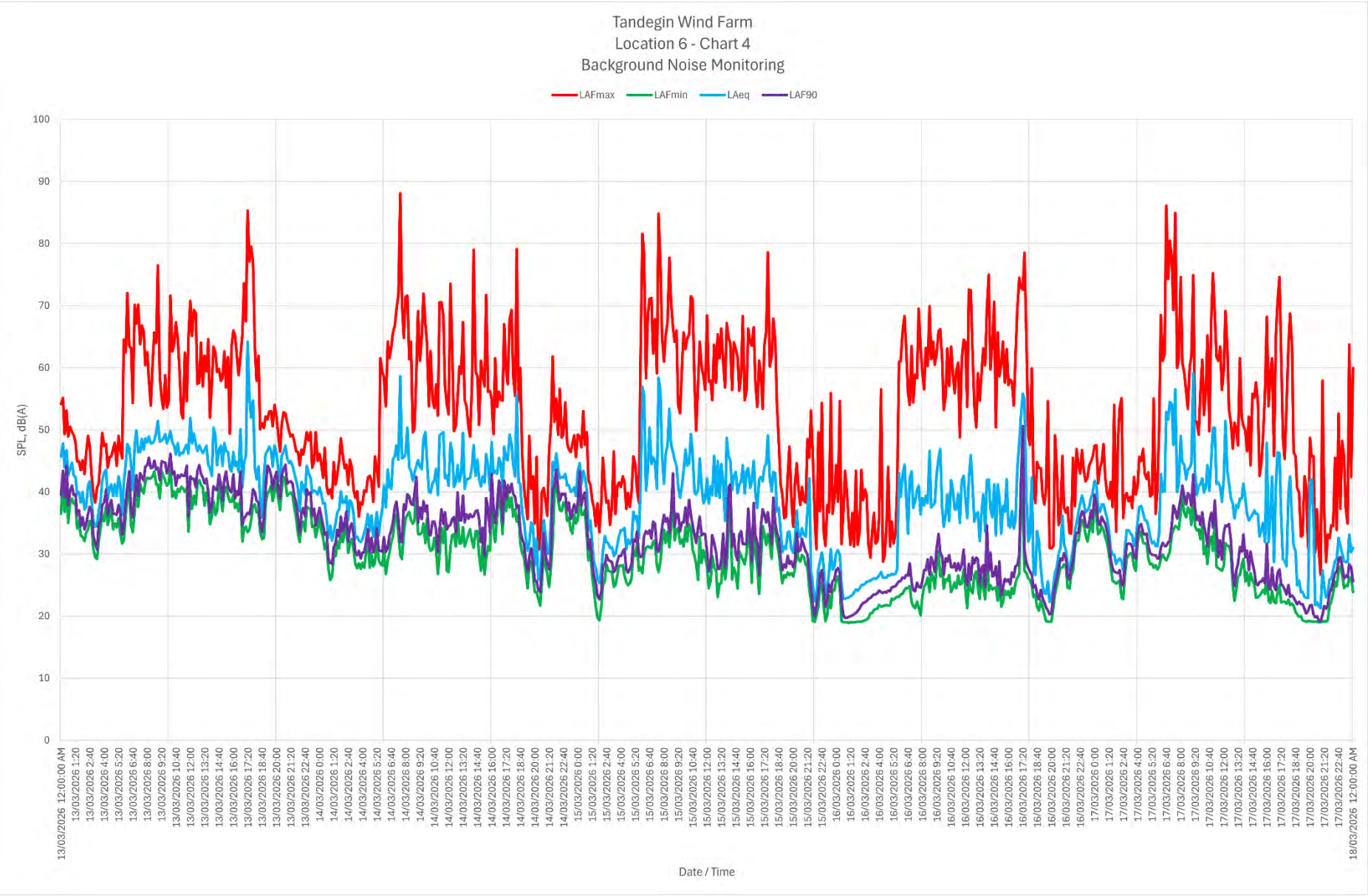


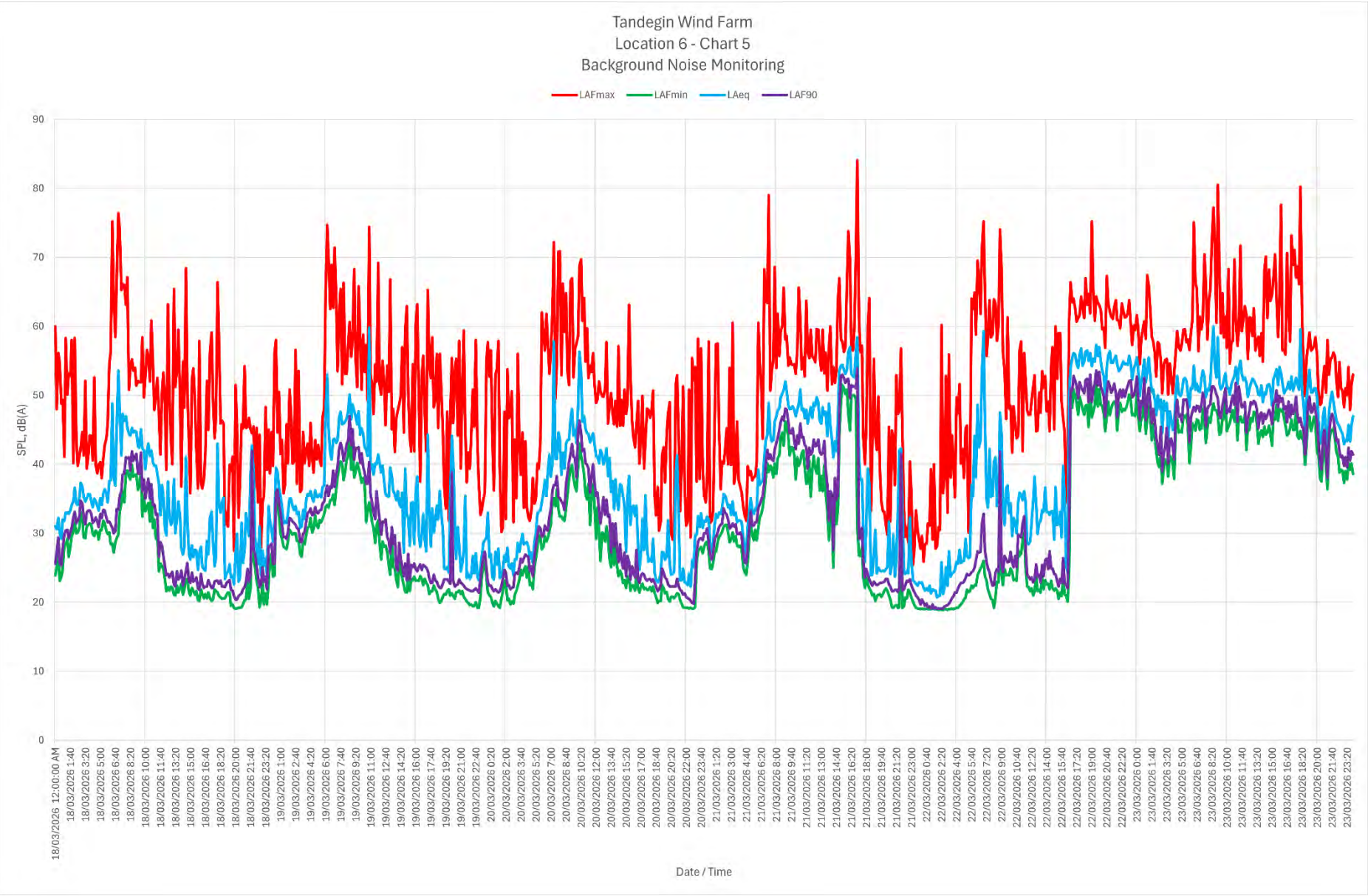


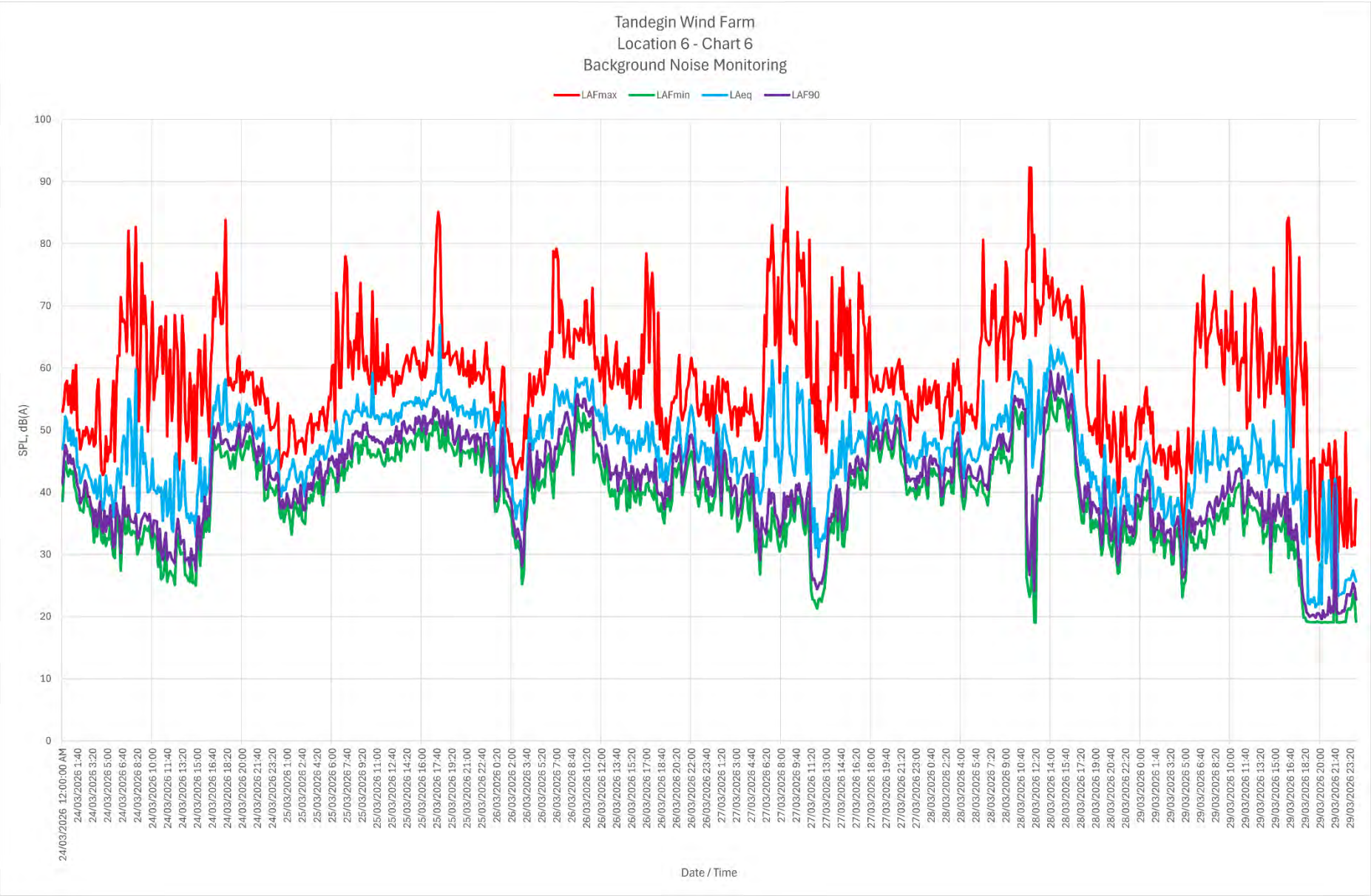


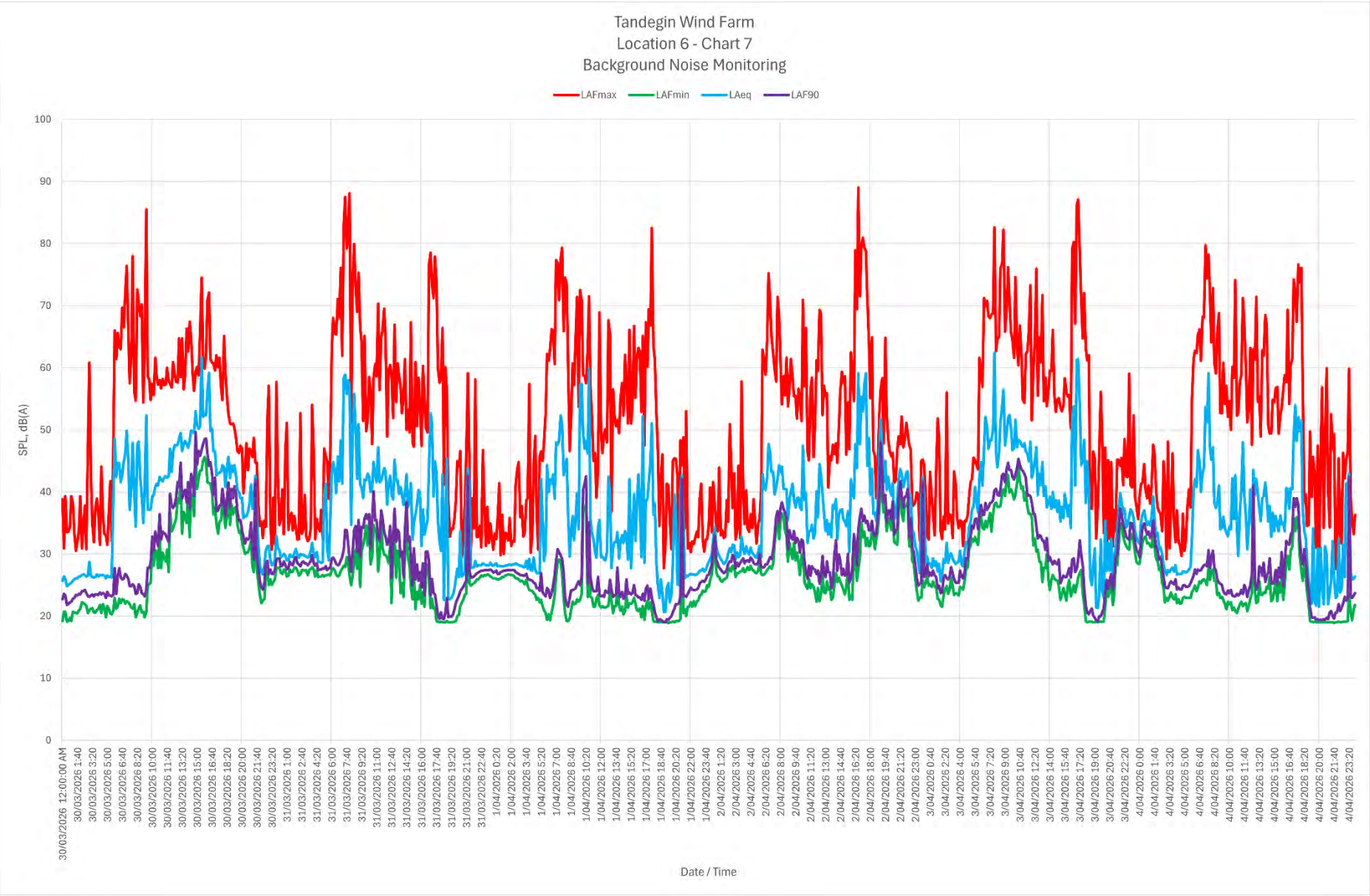


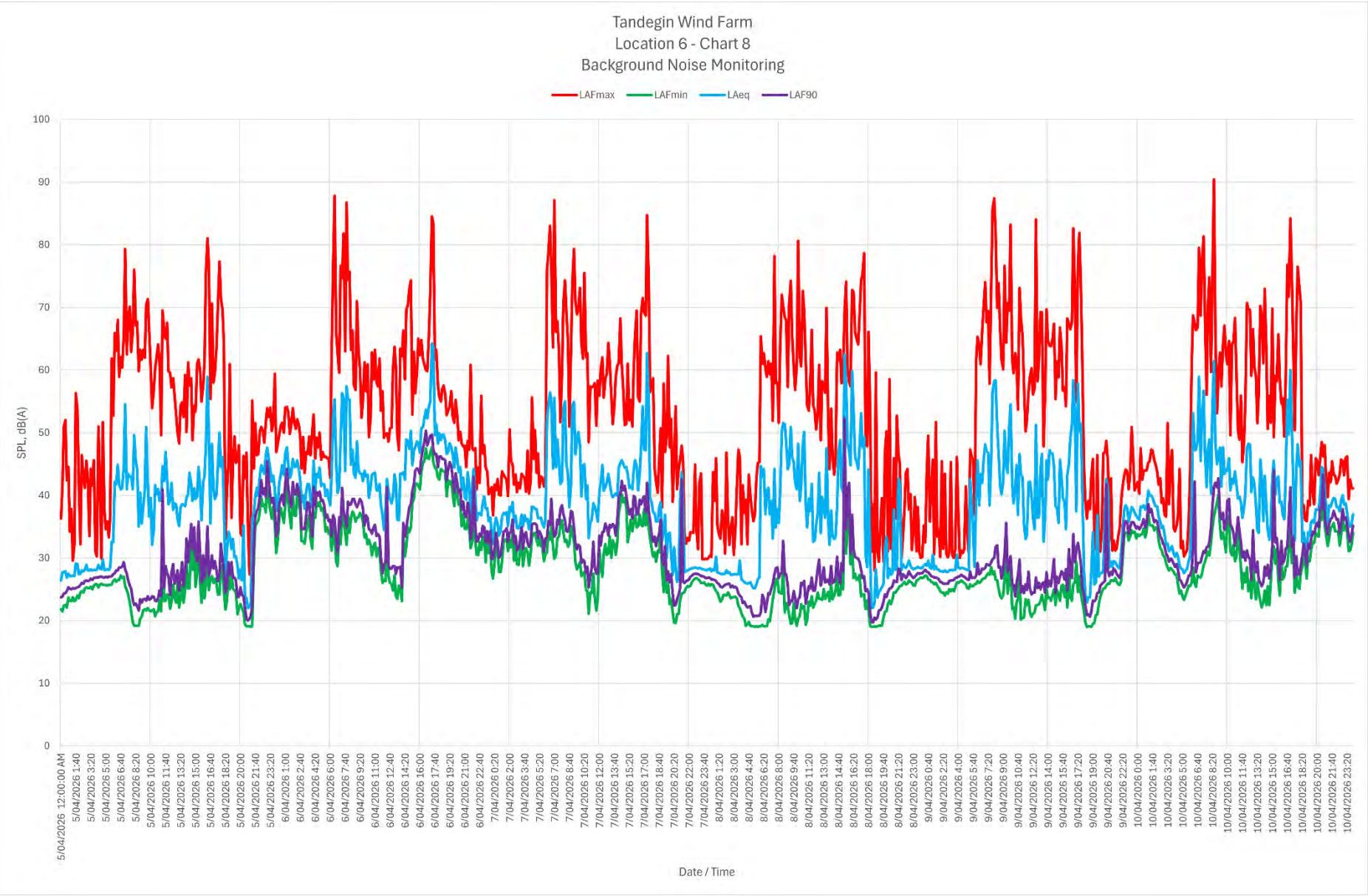


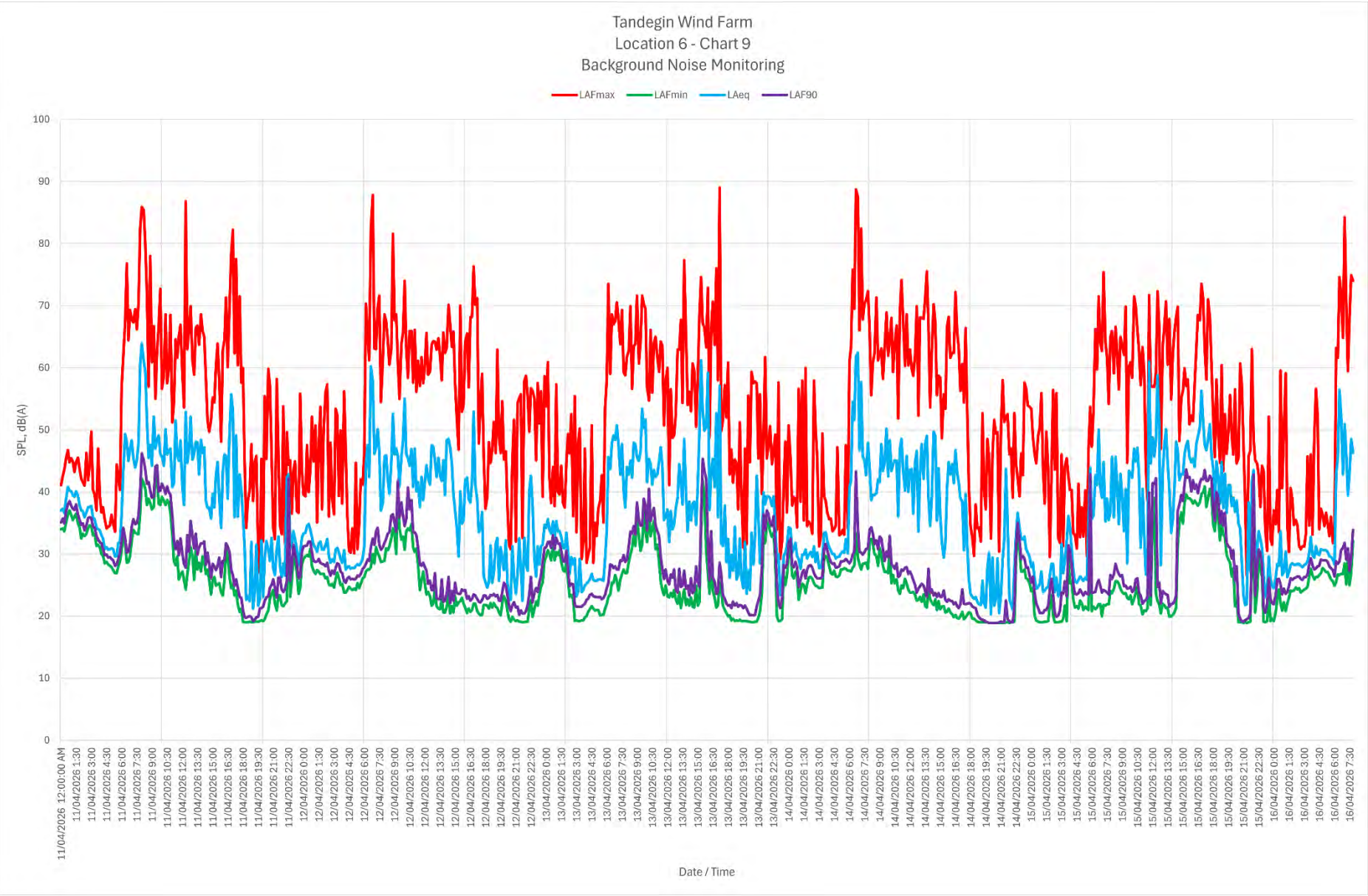


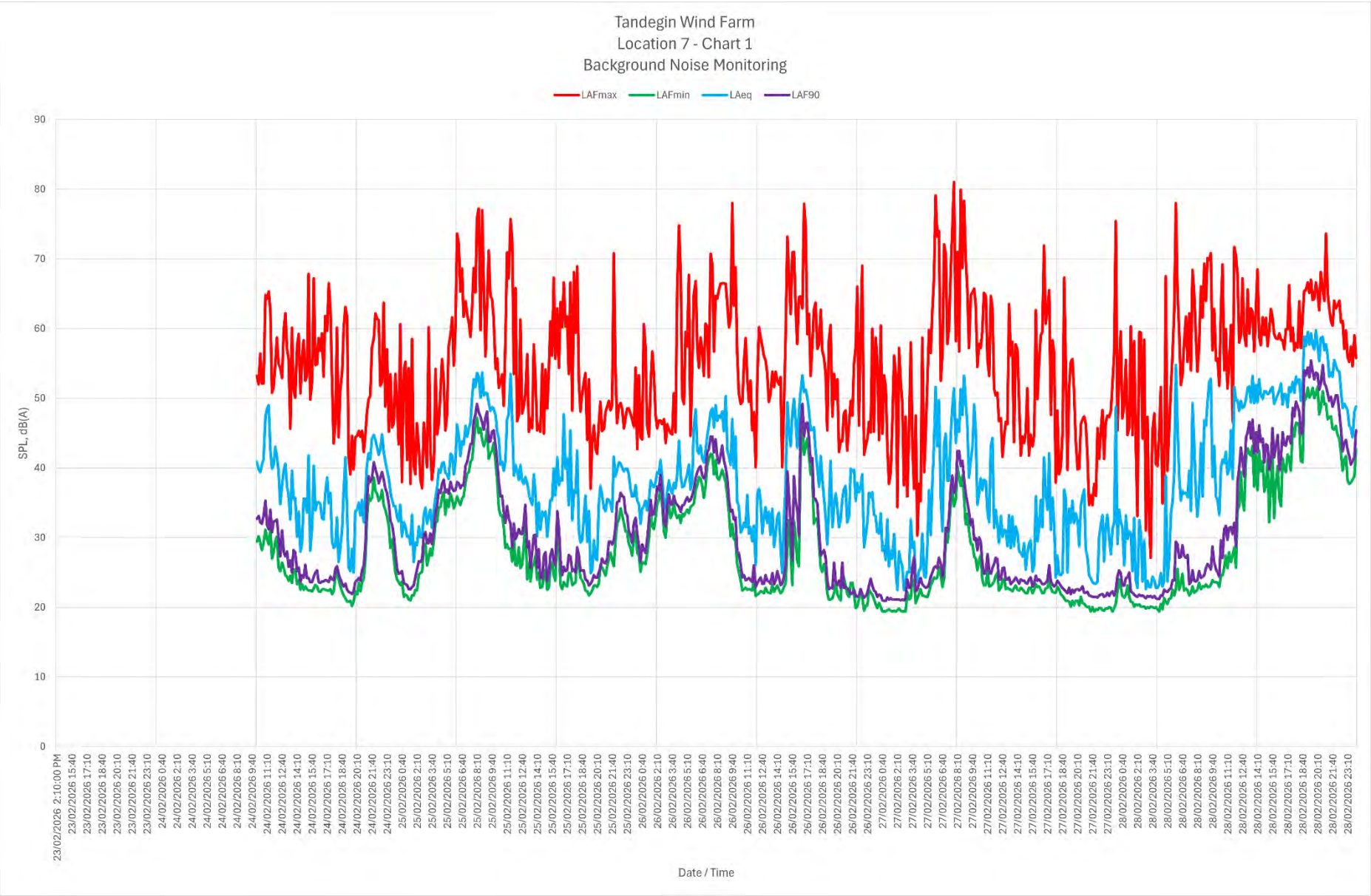


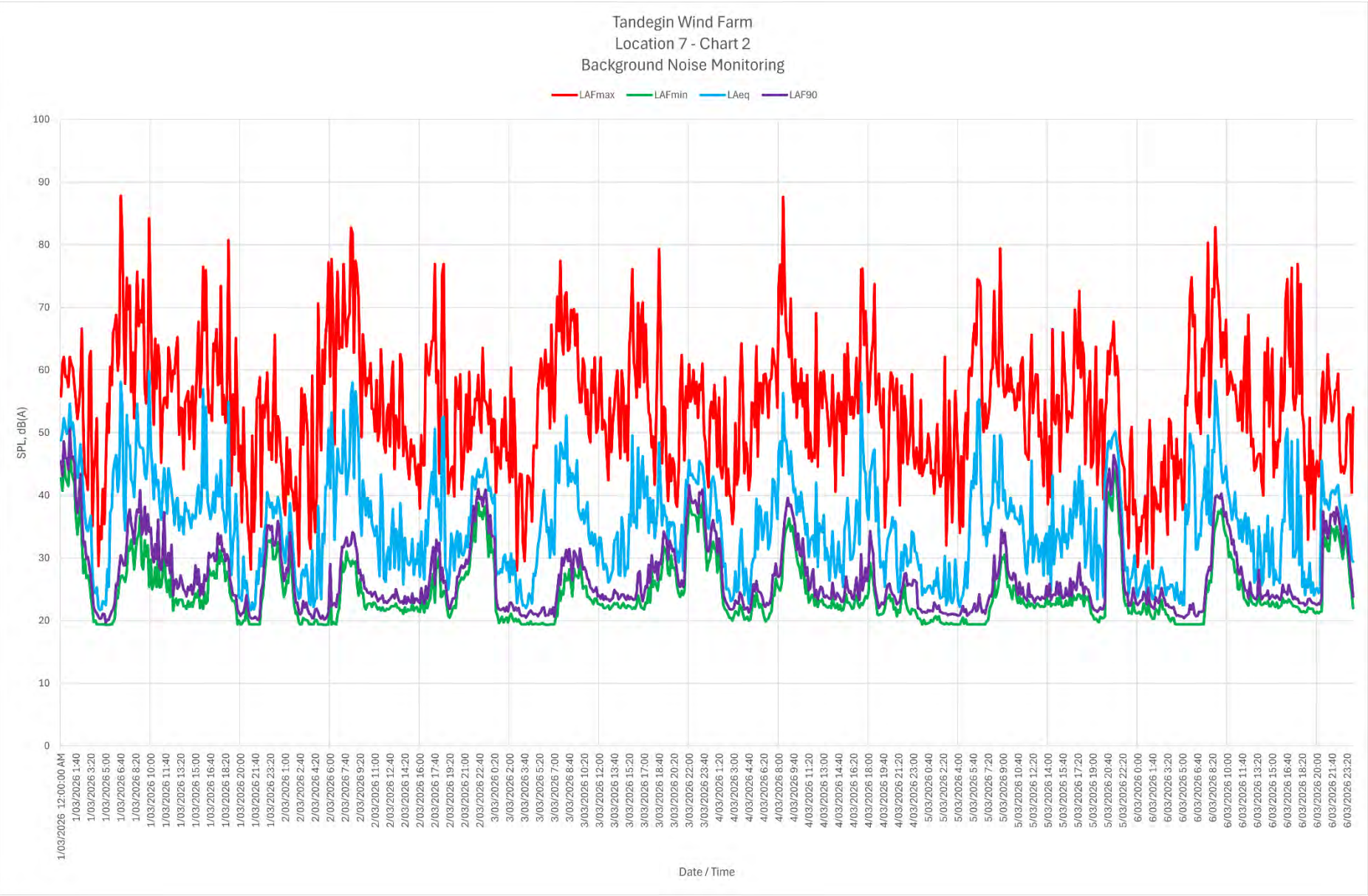


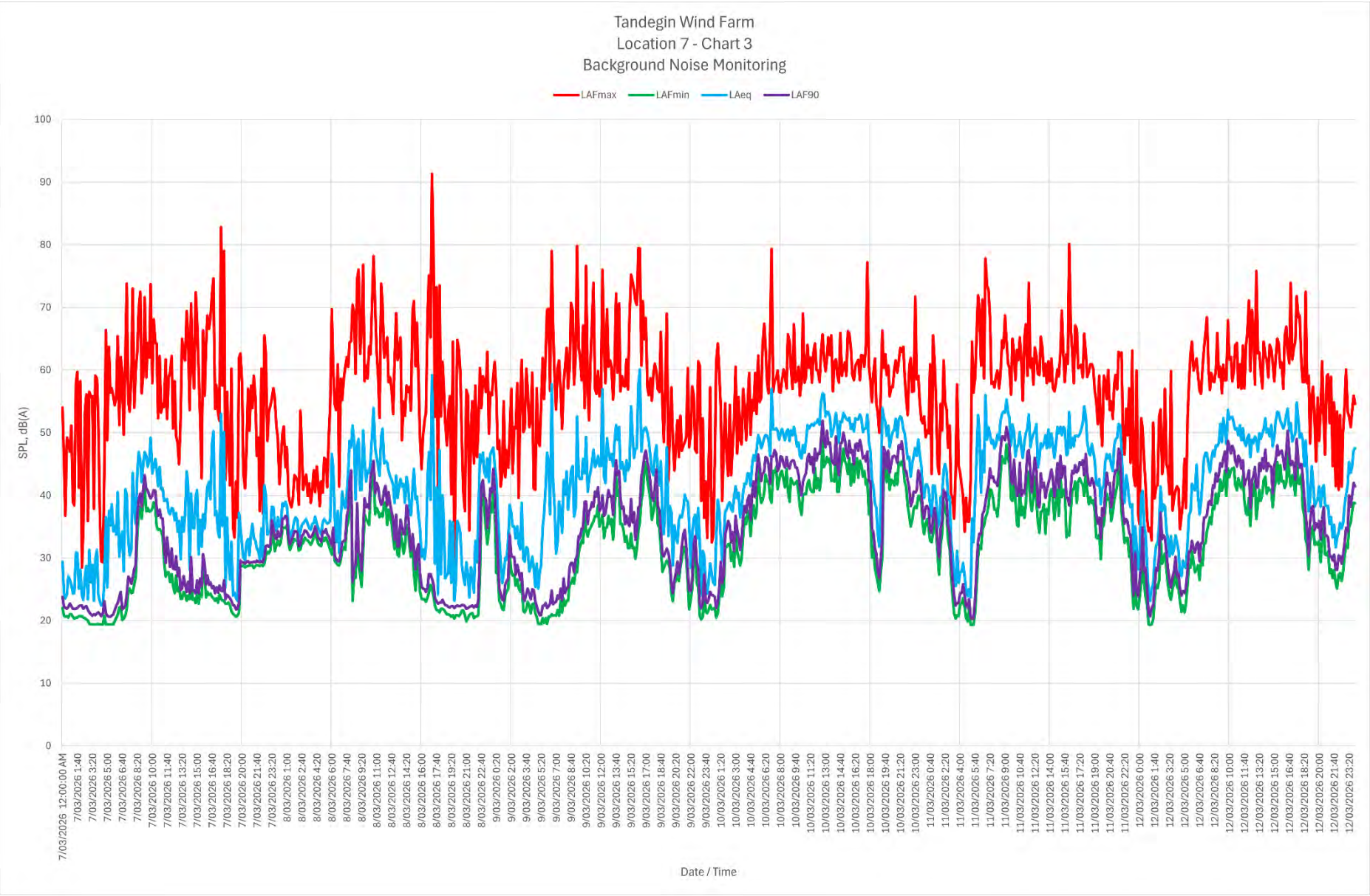


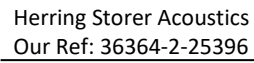


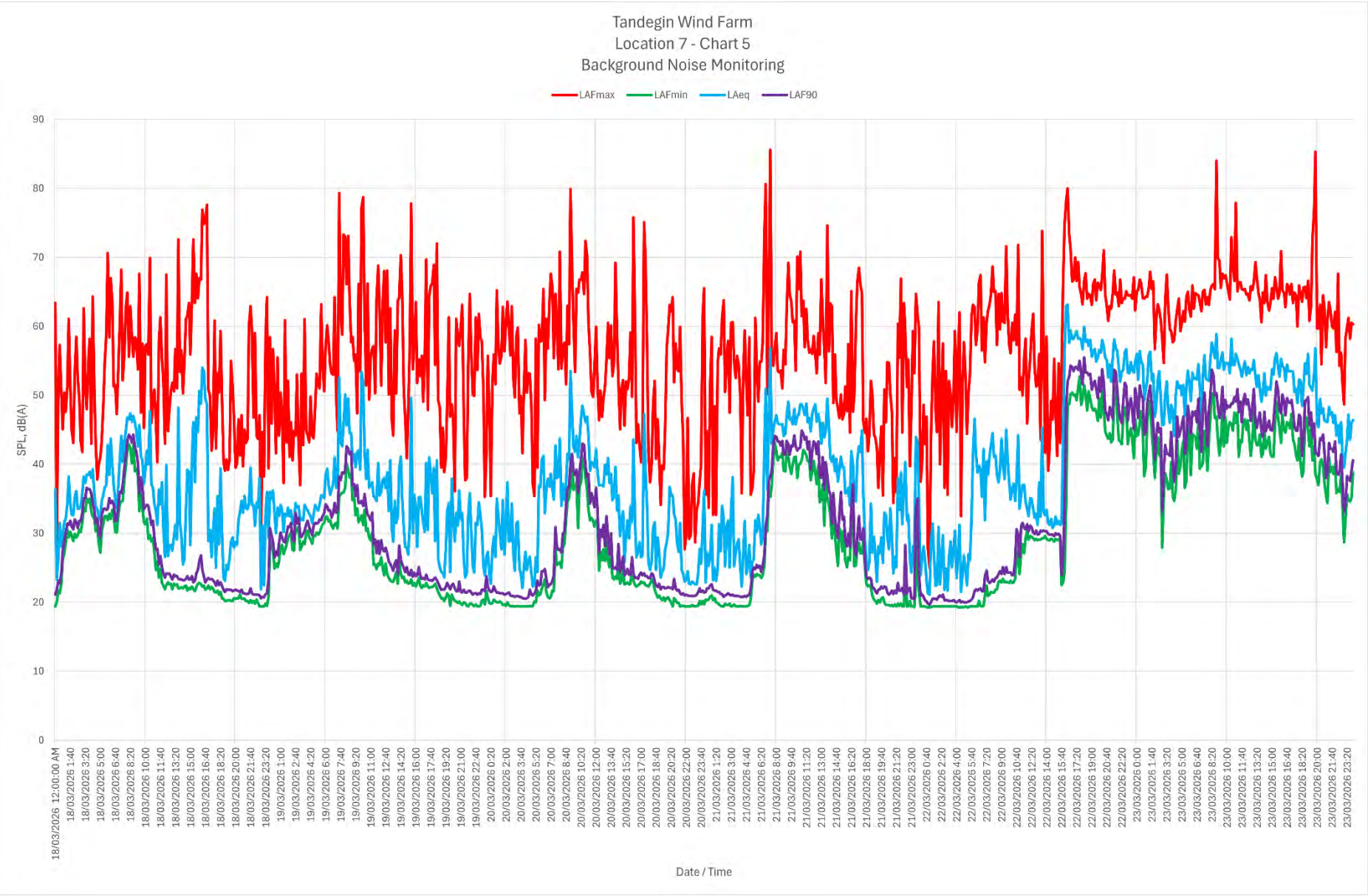


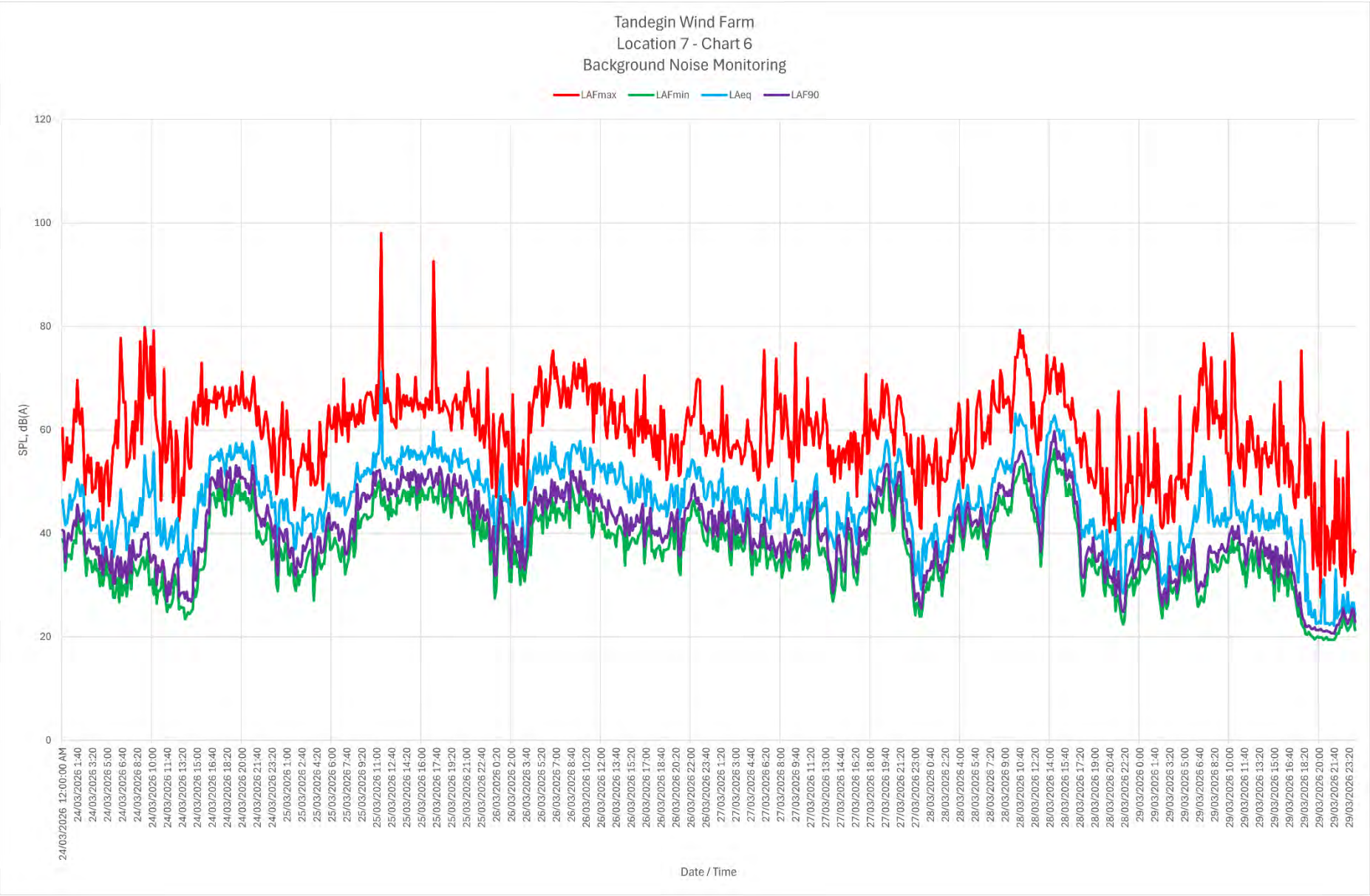


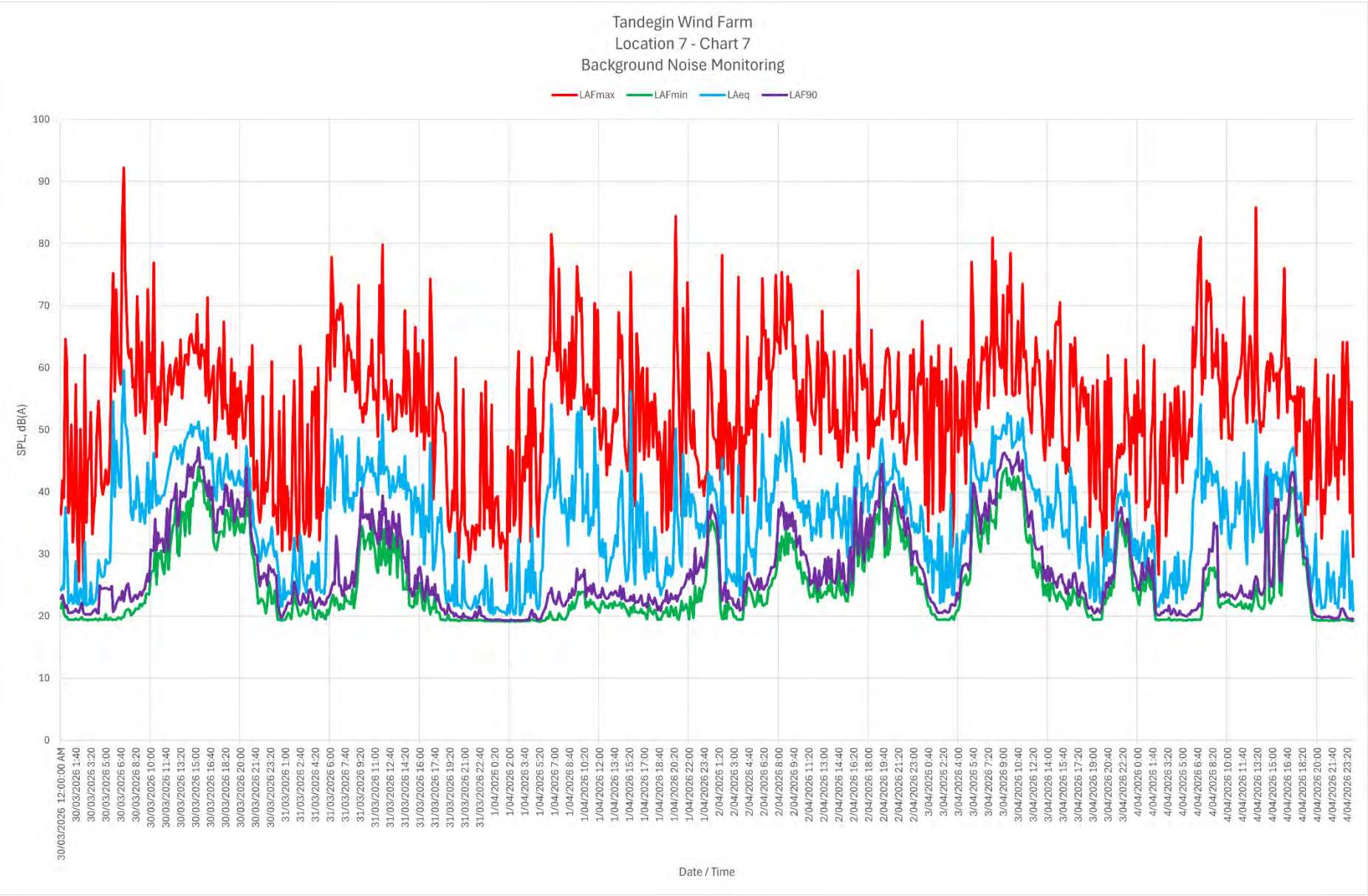


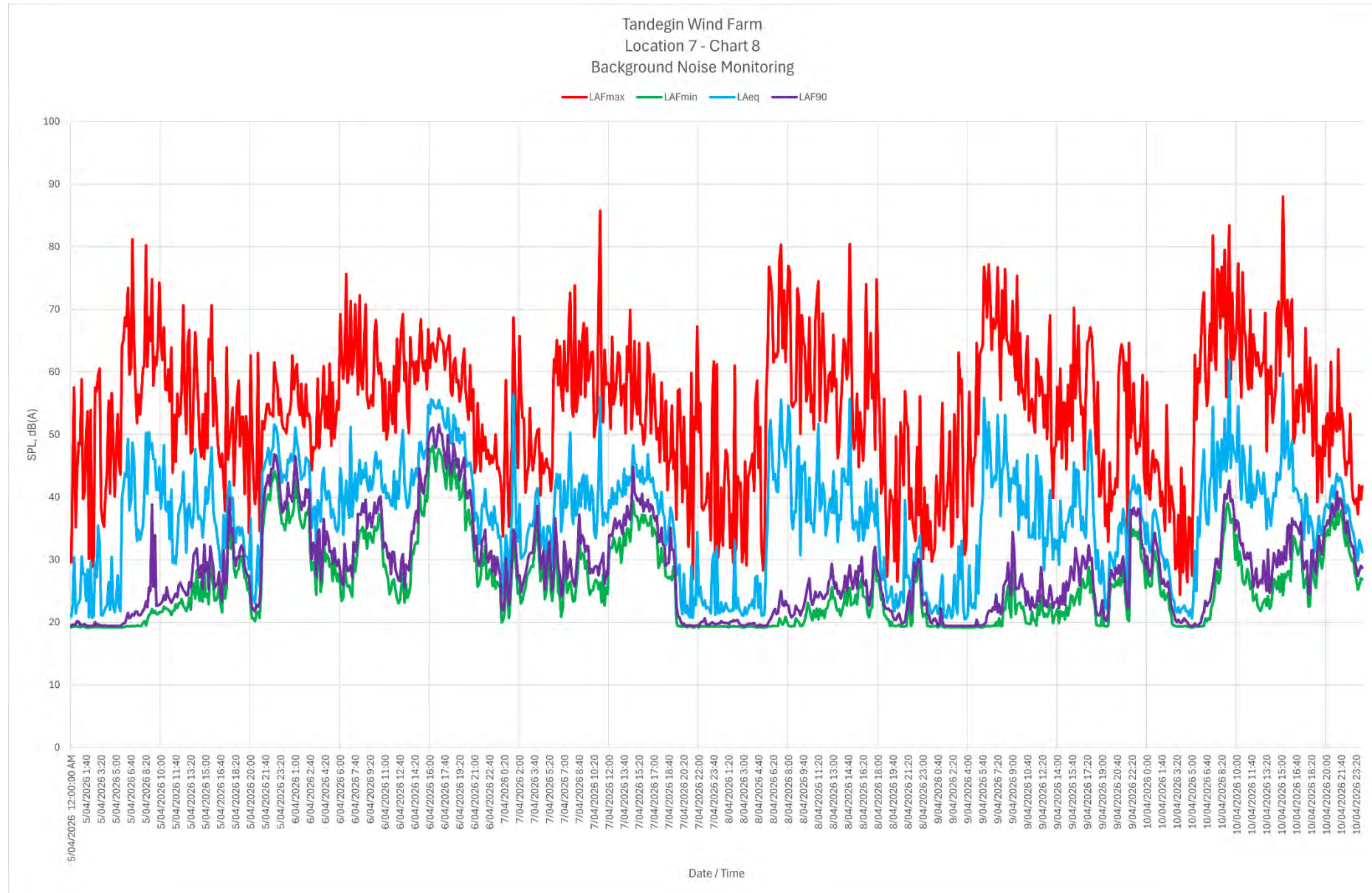


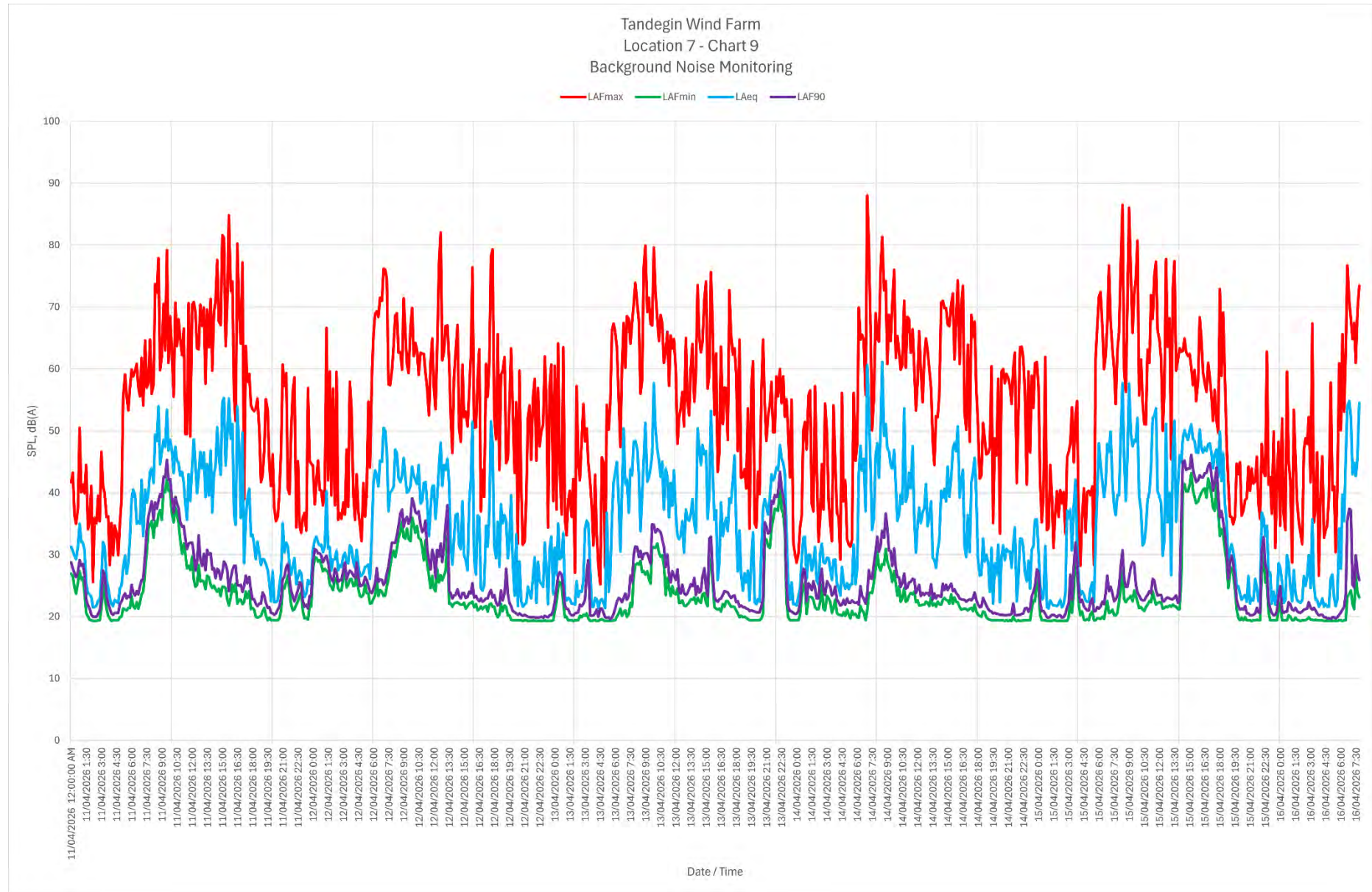












APPENDIX F

CALIBRATION CERTIFICATES

CERTIFICATE OF CALIBRATION

CERTIFICATE No: **SLM56343**

EQUIPMENT TESTED: Noise Measuring System

Make & Model:	Svantek SV 307A	Serial No:	131815
Mic. Model:	Svantek ST30A_V3	Serial No:	142520
Pre-Amp. Model:	Integral	Serial No:	N/A
Band-Pass Filter:	1/3 Octave	Test No:	F056344

Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como, WA 6152

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

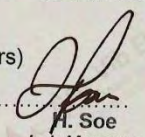
CONDITIONS OF TEST:

Ambient Pressure	998 hPa ± 1 hPa	Date of Receipt :	20/11/2025
Temperature	22 $^{\circ}\text{C} \pm 1^{\circ}\text{C}$	Date of Calibration :	02/12/2025
Relative Humidity	35 % $\pm 5\%$	Date of Issue :	03/12/2025

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: 
L. Gail

AUTHORISED

SIGNATURE: 
H. Soe
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.


Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au



WORLD RECOGNISED
ACCREDITATION
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE NO: SLM56343

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	Clause	Result
<i>Absolute Calibration</i>	10	Pass
<i>Acoustical Frequency Weighting</i>	12	Pass
<i>Self-Generated Noise</i>	11.1	Observed
<i>Electrical Noise</i>	11.2	Observed
<i>Long Term Stability</i>	15	Pass
<i>Electrical Frequency Weightings</i>	13	Pass
<i>Frequency and Time Weightings</i>	14	Pass
<i>Reference Level Linearity</i>	16	Pass
<i>Range Level Linearity</i>	17	Not Tested, Single Range
<i>Toneburst</i>	18	Pass
<i>Peak C Sound Level</i>	19	Pass
<i>Overload Indicator</i>	20	Pass
<i>High Level Stability</i>	21	Pass

Statement of Compliance: The sound level meter submitted for testing has successfully completed the class 1 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed. As public evidence was available, from an independent organization responsible for approving the results of pattern evaluation tests performed in accordance with IEC 61672-2:2013, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013, the sound level meter submitted for testing conforms to the class 1 requirements of IEC61672-1:2013.

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	Clause	Result
<i>Test of relative attenuation at filter midband frequency</i>	10	Pass
<i>Linear operating range including range control if fitted</i>	11	Not Tested, Single Range
<i>Test of lower limit of linear operating range</i>	12	Pass
<i>Measurement of relative attenuation (filter shape)</i>	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE No: **SLM55590**

EQUIPMENT TESTED: Noise Measuring System

Make & Model:	Svantek SV 307A	Serial No:	131848
Mic. Model:	Svantek ST30A_V3	Serial No:	141297
Pre-Amp. Model:	Integral	Serial No:	N/A
Band-Pass Filter:	1/3 Octave	Test No:	F055591

Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como, WA 6152

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	997 hPa ± 1 hPa	Date of Receipt :	16/09/2025
Temperature	24 °C ± 1 ° C	Date of Calibration :	26/09/2025
Relative Humidity	30 % ± 5 %	Date of Issue :	30/09/2025

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY:

L. Gail
L. Gail

AUTHORISED

SIGNATURE:

H. Soe
H. Soe
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au



WORLD RECOGNISED
ACCREDITATION
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE No: SLM55590

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	Clause	Result
<i>Absolute Calibration</i>	10	Pass
<i>Acoustical Frequency Weighting</i>	12	Pass
<i>Self-Generated Noise</i>	11.1	Observed
<i>Electrical Noise</i>	11.2	Observed
<i>Long Term Stability</i>	15	Pass
<i>Electrical Frequency Weightings</i>	13	Pass
<i>Frequency and Time Weightings</i>	14	Pass
<i>Reference Level Linearity</i>	16	Pass
<i>Range Level Linearity</i>	17	Not Tested, Single Range
<i>Toneburst</i>	18	Pass
<i>Peak C Sound Level</i>	19	Pass
<i>Overload Indicator</i>	20	Pass
<i>High Level Stability</i>	21	Pass

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

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	Clause	Result
<i>Test of relative attenuation at filter midband frequency</i>	10	Pass
<i>Linear operating range including range control if fitted</i>	11	Not Tested, Single Range
<i>Test of lower limit of linear operating range</i>	12	Pass
<i>Measurement of relative attenuation (filter shape)</i>	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: **SLM55580**

EQUIPMENT TESTED: Noise Measuring System

Make & Model:	Svantek SV 307A	Serial No:	131847
Mic. Model:	Svantek ST30A_V3	Serial No:	143473
Pre-Amp. Model:	Integral	Serial No:	N/A
Band-Pass Filter:	1/3 Octave	Test No:	F055581

Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como, WA 6152

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

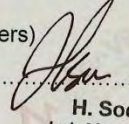
Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	998 hPa ± 1 hPa	Date of Receipt :	16/09/2025
Temperature	24 $^{\circ}\text{C} \pm 1^{\circ}\text{C}$	Date of Calibration :	26/09/2025
Relative Humidity	25 % $\pm 5\%$	Date of Issue :	30/09/2025

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: 
L. Gail

AUTHORISED
SIGNATURE: 
H. Soe
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.


Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au



CERTIFICATE No: SLM55580

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	Clause	Result
<i>Absolute Calibration</i>	10	Pass
<i>Acoustical Frequency Weighting</i>	12	Pass
<i>Self-Generated Noise</i>	11.1	Observed
<i>Electrical Noise</i>	11.2	Observed
<i>Long Term Stability</i>	15	Pass
<i>Electrical Frequency Weightings</i>	13	Pass
<i>Frequency and Time Weightings</i>	14	Pass
<i>Reference Level Linearity</i>	16	Pass
<i>Range Level Linearity</i>	17	Not Tested, Single Range
<i>Toneburst</i>	18	Pass
<i>Peak C Sound Level</i>	19	Pass
<i>Overload Indicator</i>	20	Pass
<i>High Level Stability</i>	21	Pass

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

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	Clause	Result
<i>Test of relative attenuation at filter midband frequency</i>	10	Pass
<i>Linear operating range including range control if fitted</i>	11	Not Tested, Single Range
<i>Test of lower limit of linear operating range</i>	12	Pass
<i>Measurement of relative attenuation (filter shape)</i>	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE No: **SLM55062**

EQUIPMENT TESTED: Sound Level Meter

Make & Model:	Svante SV 307A	Serial No:	131860
Mic. Model:	Svante ST30A_V3	Serial No:	140060
Pre-Amp. Model:	Svante Integral	Serial No:	N/A
Band-Pass Filter:	1/3 Octave	Test No:	F055063

Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como, WA 6152

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1002 hPa ± 1 hPa	Date of Receipt :	06/08/2025
Temperature	23 $^{\circ}\text{C} \pm 1^{\circ}\text{C}$	Date of Calibration :	15/08/2025
Relative Humidity	51 % $\pm 5\%$	Date of Issue :	18/08/2025

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY:

A. Nowosadzka

AUTHORISED

SIGNATURE:

H. Soe
H. Soe
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.


Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au



WORLD RECOGNISED
ACCREDITATION
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE NO: SLM55062

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	Clause	Result
<i>Absolute Calibration</i>	10	Pass
<i>Acoustical Frequency Weighting</i>	12	Pass
<i>Self-Generated Noise</i>	11.1	Observed
<i>Electrical Noise</i>	11.2	Observed
<i>Long Term Stability</i>	15	Pass
<i>Electrical Frequency Weightings</i>	13	Pass
<i>Frequency and Time Weightings</i>	14	Pass
<i>Reference Level Linearity</i>	16	Pass
<i>Range Level Linearity</i>	17	Not Tested, Single Range
<i>Toneburst</i>	18	Pass
<i>Peak C Sound Level</i>	19	Pass
<i>Overload Indicator</i>	20	Pass
<i>High Level Stability</i>	21	Pass

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

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	Clause	Result
<i>Test of relative attenuation at filter midband frequency</i>	10	Pass
<i>Linear operating range including range control if fitted</i>	11	Not Tested, Single Range
<i>Test of lower limit of linear operating range</i>	12	Pass
<i>Measurement of relative attenuation (filter shape)</i>	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE NO: **SLM54799**

EQUIPMENT TESTED: Sound Level Meter

Make & Model:	Svantek SV 307A	Serial No:	131821
Mic. Model:	Svantek ST30A_V3	Serial No:	140088
Pre-Amp. Model:	Integral	Serial No:	N/A
Band-Pass Filter:	1/3 Octave	Test No:	F054800

Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como WA 6152

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1005 hPa ± 1 hPa	Date of Receipt :	17/07/2025
Temperature	23 °C $\pm 1^\circ$ C	Date of Calibration :	24/07/2025
Relative Humidity	40 % $\pm 5\%$	Date of Issue :	28/07/2025

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: L. Gail

AUTHORISED

SIGNATURE:

B.H. Meldrum

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.


Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au



WORLD RECOGNISED
ACCREDITATION
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE NO: SLM54799

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	Clause	Result
<i>Absolute Calibration</i>	10	Pass
<i>Acoustical Frequency Weighting</i>	12	Pass
<i>Self-Generated Noise</i>	11.1	Observed
<i>Electrical Noise</i>	11.2	Observed
<i>Long Term Stability</i>	15	Pass
<i>Electrical Frequency Weightings</i>	13	Pass
<i>Frequency and Time Weightings</i>	14	Pass
<i>Reference Level Linearity</i>	16	Pass
<i>Range Level Linearity</i>	17	Not Tested, Single Range
<i>Toneburst</i>	18	Pass
<i>Peak C Sound Level</i>	19	Pass
<i>Overload Indicator</i>	20	Pass
<i>High Level Stability</i>	21	Pass

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

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	Clause	Result
<i>Test of relative attenuation at filter midband frequency</i>	10	Pass
<i>Linear operating range including range control if fitted</i>	11	Not Tested, Single Range
<i>Test of lower limit of linear operating range</i>	12	Pass
<i>Measurement of relative attenuation (filter shape)</i>	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE No: **SLM57138**

EQUIPMENT TESTED: Sound Level Meter

Make & Model:	Svantek SV 307A	Serial No:	131846
Mic. Model:	Svantek ST30A_V3	Serial No:	143377
Pre-Amp. Model:	N/A	Serial No:	N/A
Band-Pass Filter:	1/3 Octave	Test No:	F057139

Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como, WA 6152

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

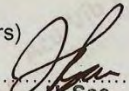
Comments: Conforms to quoted clauses or indicated test for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	991 hPa ± 1 hPa	Date of Receipt :	02/02/2026
Temperature	23 °C ± 1 °C	Date of Calibration :	12/02/2026
Relative Humidity	50 % ± 5 %	Date of Issue :	13/02/2026

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: 
L. Gail

AUTHORISED SIGNATURE: 
H. Soe
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.


Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au



WORLD RECOGNISED
ACCREDITATION
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE NO: SLM57138

The performance characteristics listed below were tested. The tests are based on the relevant clauses of IEC 61672-3:2013

Tests Performed:	Clause	Result
<i>Absolute Calibration</i>	10	Pass
<i>Acoustical Frequency Weighting</i>	12	Pass
<i>Self-Generated Noise</i>	11.1	Observed
<i>Electrical Noise</i>	11.2	Observed
<i>Long Term Stability</i>	15	Pass
<i>Electrical Frequency Weightings</i>	13	Pass
<i>Frequency and Time Weightings</i>	14	Pass
<i>Reference Level Linearity</i>	16	Pass
<i>Range Level Linearity</i>	17	Not Tested, Single Range
<i>Toneburst</i>	18	Pass
<i>Peak C Sound Level</i>	19	Pass
<i>Overload Indicator</i>	20	Pass
<i>High Level Stability</i>	21	Pass

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

This Sound Level Meter included an Octave Filter Set. Tests were based on IEC 61260-3:2016 and were conducted to test the following performance characteristics:

Tests performed	Clause	Result
<i>Test of relative attenuation at filter midband frequency</i>	10	Pass
<i>Linear operating range including range control if fitted</i>	11	Not Tested, Single Range
<i>Test of lower limit of linear operating range</i>	12	Pass
<i>Measurement of relative attenuation (filter shape)</i>	13	Pass

The filter submitted for testing successfully completed the tests listed above for the environmental conditions under which the tests were performed. If the filter type has successfully completed the pattern-evaluation tests of IEC 61260-2 then it can be stated that the filter set continues to conform to the specifications of IEC 61260-1.

A full technical report is available on request.

CERTIFICATE OF CALIBRATION

CERTIFICATE No: **SLM55066**

EQUIPMENT TESTED: Sound Level Meter

Make & Model:	Svantek SV 307A	Serial No:	131856
Mic. Model:	Svantek ST30A_V3	Serial No:	143310
Pre-Amp. Model:	Svantek Integral	Serial No:	N/A
Band-Pass Filter:	1/3 Octave	Test No:	F055067

Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como, WA 6152

Tests Performed: IEC 61672-3:2013 & IEC 61260-3:2016

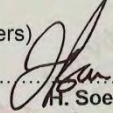
Comments: All Test passed for Class 1. (See overleaf for details)

CONDITIONS OF TEST:

Ambient Pressure	1012 hPa ± 1 hPa	Date of Receipt :	06/08/2025
Temperature	20 °C $\pm 1^\circ$ C	Date of Calibration :	18/08/2025
Relative Humidity	40 % $\pm 5\%$	Date of Issue :	18/08/2025

Acu-Vib Test Procedure: AVP10 (SLM) & AVP06 (Filters)

CHECKED BY: 
A. Nowosadzka

AUTHORISED SIGNATURE: 
H. Soe
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.
The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.


Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au


**WORLD RECOGNISED
ACCREDITATION**
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE OF CALIBRATION

CERTIFICATE No: **C56810**

EQUIPMENT TESTED : Acoustic Calibrator

Make & Model: Svantek SV 36 **Serial No:** 175278
Class: 1
Owner: Herring Storer Acoustics
Suite 34, 11 Preston Street
Como, WA 6152
Tests Performed: Measured Output Pressure level, Frequency & Distortion
Comments: See Details and Class Tolerance overleaf.

CONDITION OF TEST:

Ambient Pressure	996 hPa ± 1 hPa	Date of Receipt :	19/01/2026
Temperature	24 °C ± 1 ° C	Date of Calibration :	20/01/2026
Relative Humidity	48 % $\pm 5\%$	Date of Issue :	21/01/2026

Acu-Vib Test AVP02 (Calibrators)
Procedure: Test Method: AS IEC 60942 - 2017

CHECKED BY: *A. Nowosadzka* **AUTHORISED SIGNATURE:** *H. Soe*
Lab Manager

Accredited for compliance with ISO/IEC 17025 - Calibration
Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

This report applies only to the item identified in the report and may not be reproduced in part.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

Acu-Vib Electronics
ACOUSTICS AND VIBRATIONS

Head Office & Calibration Laboratory
Unit 14, 22 Hudson Avenue, Castle Hill NSW 2154
(02) 9680 8133
www.acu-vib.com.au



WORLD RECOGNISED
ACCREDITATION
Accredited Laboratory
No. 9262
Acoustic and Vibration
Measurements

CERTIFICATE No: C56810

The Calibrator described in this report has been tested to the requirements of the standard IEC 60942-[Ed 4]:2017-11.

The tests described in Annex B of the standard (Periodic tests) were carried out under the environmental conditions listed above to the following clauses:

Clause	Test description
B4.6	Sound Pressure Level (By comparison with a reference calibrator).
B4.7	Frequency (By measurement with a calibrated frequency meter).
B4.8	Total distortion and noise. (By measurement with a calibrated Noise and Distortion meter).

Notes:

1. The calibrator was calibrated with the main axis vertical and facing down.
2. No corrections have been made for atmospheric pressure, temperature, or humidity.
3. Unless otherwise indicated, a WS2 transfer microphone is used with the supplied adaptors or with suitable adaptors from the laboratory.

Parameter	Pre-Adj	Adj Y/N	Output: (dB re 20 µPa)	Frequency (Hz)	THD&N (%)
Level1:	NA	N	93.96 dB	1000.00 Hz	0.45 %
Level2:	NA	N	114.04 dB	1000.00 Hz	0.63 %
Uncertainty			±0.11 dB	±0.05%	±0.40 %
Uncertainty (at 95% c.i.) k=2					

Parameter	Class 1		Class 2	
Nominal Frequency	250 Hz	1 kHz	250 Hz	1 kHz
Output dB SPL	0.25 dB	0.25 dB	0.40 dB	0.40 dB
Frequency Hz	0.7 % (1.75 Hz)	0.7 % (7 Hz)	1.7 % (4.25 Hz)	1.7 % (17 Hz)
THD&N	2.5 %	2.5 %	3.0 %	3.0 %

Tolerance limits from AS/IEC60942 (edition 4)

Results of the tests, calibration and/or measurements included in this document are traceable to SI units through reference equipment that has been calibrated by the Australian National Measurement Institute or other NATA accredited laboratories demonstrating traceability.

The uncertainties quoted are calculated in accordance with the methods of the ISO Guide to the Uncertainty of Measurement and quoted at a coverage factor of 2 with a confidence interval of approximately 95%.

-----000000000-----

APPENDIX D

TURBINE SPECIFICATIONS

RESTRICTED

Restricted
Document no 0128-4336_02

Third octave noise emission

EnVentus™ V172



Classification: Restricted

VESTAS PROPRIETARY NOTICE: This document contains valuable confidential information of Vestas Wind Systems A/S. It is protected by copyright law as an unpublished work. Vestas reserves all patent, copyright, trade secret, and other proprietary rights to it. The information contained herein is confidential and its disclosure to third parties without the express written consent of Vestas is prohibited. Vestas disclaims all warranties except as expressly granted by written agreement and is not responsible for unauthorized uses, for which it may pursue legal remedies against responsible parties.

Vestas Wind Systems A/S, Hedeager 42, 8200 Aarhus N, Denmark www.vestas.com

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

DMS no.: 0128-4336_02
Issued by: Vestas R&D

RESTRICTED
Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 2 of 17

Abstract

This document serves as a paper behind the General Specification.

The document describes the measured/estimated third octave spectra for noise levels according to the General Specification.

When new measurements exist, the document might be updated.

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 3 of 17

Contents

1.	Introduction	4
2.	Method.....	4
2.1	Procedure	4
2.2	Physical environment.....	4
3.	1/3 Octave Values for Power Optimized Modes	5
3.1	1/3 Octave values, Power Optimized Mode PO7200	5
3.2	1/3 Octave values, Power Optimized Mode PO7200-0S	6
3.3	1/3 Octave values, Power Optimized Mode PO6800	7
3.4	1/3 Octave values, Power Optimized Mode PO6800-0S	8
3.5	1/3 Octave values, Power Optimized Mode PO6500	9
3.6	1/3 Octave values, Power Optimized Mode PO6500-0S	10
4.	1/3 Octave Values for Sound Optimized Modes	11
4.1	1/3 Octave values, Sound Optimized Mode SO1	11
4.2	1/3 Octave values, Sound Optimized Mode SO2	12
4.3	1/3 Octave values, Sound Optimized Mode SO3	13
4.4	1/3 Octave values, Sound Optimized Mode SO4	14
4.5	1/3 Octave values, Sound Optimized Mode SO5	15
4.6	1/3 Octave values, Sound Optimized Mode SO6	16
5.	Limitations	17
6.	Recalculation to 10 m wind speeds	17

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

DMS no.: 0128-4336_02
Issued by: Vestas R&D

RESTRICTED
Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 4 of 17

1. Introduction

The purpose of this document is to present the expected third octave noise spectra for the V172 EnVentus™ turbine.

Test results from field measurements are available for turbines with serrated trailing edges. These have been used to compute the expected 3rd octave emission in field conditions.

Test results for blades with no STEs are not yet available, so data are based on test results from turbines with rotors that are as close as possible in size to the current turbine.

2. Method

2.1 Procedure

Turbine noise measurements are conducted following IEC 61400-11 Ed.3 across potentially multiple turbines and turbine sites to collect a representative set. The mean of these results are then computed to define the expected 3rd octave emission.

The frequency content is limited to the frequency range 10 Hz to 10 kHz to secure that measurement system limitations are not influencing the findings. The stated spectral values are thus representative for the expected noise emission from the turbine at each wind speed.

Results from 3 to 15 m/s at hub height are reported here. If certain wind bins are not captured during the measurement process, interpolation/ extrapolation is applied as a fallback and checked with corresponding values from similar sized rotors.

The stated values do not in any way enable issuing guarantees.

2.2 Physical environment

The results are valid for the downwind reference position as defined according to IEC 61400-11 Ed.3.

Applicable environmental conditions are thus corresponding to the standardized requirements as described directly and indirectly in IEC 61400-11.

These can be interpreted as air density 1.225 kg/m³, yaw errors below +/- 15 deg. and vertical inflow angles below +/- 10 deg. Blade condition is clean and undamaged.

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 5 of 17

3. 1/3 Octave Values for Power Optimized Modes

3.1 1/3 Octave values, Power Optimized Mode PO7200

Frequency	Hub height wind speeds [m/s]													
	3	4	5	6	7	8	9	10	11	12	13	14	15	
10 Hz	32.1	31.9	33.7	36.2	45.1	45.9	47.2	48.8	48.8	48.8	48.8	48.8	48.8	
12.5 Hz	37.0	37.5	39.2	41.4	49.7	50.6	51.8	53.4	53.4	53.4	53.4	53.4	53.4	
16 Hz	41.9	43.0	44.6	46.6	54.2	55.2	56.4	58.1	58.1	58.1	58.1	58.1	58.1	
20 Hz	46.7	48.6	50.0	51.7	58.7	59.9	61.0	62.7	62.7	62.7	62.7	62.7	62.7	
25 Hz	51.9	54.9	56.1	56.9	63.9	65.4	66.4	67.9	67.9	67.9	67.9	67.9	67.9	
31.5 Hz	56.7	60.5	61.6	62.1	68.5	70.0	71.0	72.6	72.6	72.6	72.6	72.6	72.6	
40 Hz	61.3	65.0	66.1	67.3	71.9	73.4	74.6	76.4	76.4	76.4	76.4	76.4	76.4	
50 Hz	78.3	78.9	79.3	80.6	81.4	82.3	78.7	81	81	81	81	81	81	
63 Hz	84.0	84.5	84.9	86.2	86.7	87.5	82.3	84.9	84.9	84.9	84.9	84.9	84.9	
80 Hz	85.0	85.5	85.9	87.1	87.9	88.8	84.8	87.2	87.2	87.2	87.2	87.2	87.2	
100 Hz	86.1	86.5	87.0	88.0	89.3	90.3	87.7	89.7	89.7	89.7	89.7	89.7	89.7	
125 Hz	87.1	87.5	88.0	88.9	90.6	91.8	90.3	92	92	92	92	92	92	
160 Hz	85.8	86.3	86.7	87.7	89.9	91.4	91.8	93.6	93.6	93.6	93.6	93.6	93.6	
200 Hz	85.4	85.9	85.8	87.2	89.6	91.8	93.9	95.7	95.7	95.7	95.7	95.7	95.7	
250 Hz	86.4	86.4	85.6	87.3	89.9	92.7	95.4	97.2	97.2	97.2	97.2	97.2	97.2	
315 Hz	85.6	85.4	84.2	86.3	89.2	92.3	95.2	96.9	96.9	96.9	96.9	96.9	96.9	
400 Hz	85.0	84.5	83.2	85.4	88.3	91.5	94.1	95.8	95.8	95.8	95.8	95.8	95.8	
500 Hz	85.1	84.5	83.0	85.3	88.2	91.5	93.8	95.4	95.4	95.4	95.4	95.4	95.4	
630 Hz	85.1	84.5	83.6	86.0	89.0	92.3	94.6	95.6	95.6	95.6	95.6	95.6	95.6	
800 Hz	85.2	84.8	84.8	87.4	90.5	93.7	96.0	96.2	96.2	96.2	96.2	96.2	96.2	
1 kHz	85.2	84.9	85.4	88.1	91.3	94.5	96.8	96.4	96.4	96.4	96.4	96.4	96.4	
1.25 kHz	84.6	84.3	85.0	87.7	90.9	94.3	96.8	96	96	96	96	96	96	
1.6 kHz	84.1	84.1	84.9	87.3	90.5	94.3	97.0	95.5	95.5	95.5	95.5	95.5	95.5	
2 kHz	83.4	83.5	84.6	86.8	90.2	94.1	96.9	95.2	95.2	95.2	95.2	95.2	95.2	
2.5 kHz	81.2	80.9	82.0	84.3	88.5	92.1	95.0	94.6	94.6	94.6	94.6	94.6	94.6	
3.15 kHz	78.5	77.6	78.6	81.2	86.8	89.8	92.8	94.8	94.8	94.8	94.8	94.8	94.8	
4 kHz	76.3	75.0	76.1	78.7	85.1	87.8	90.9	94.3	94.3	94.3	94.3	94.3	94.3	
5 kHz	72.5	70.7	71.8	73.9	80.4	83.6	86.5	90	90	90	90	90	90	
6.3 kHz	68.0	65.4	66.4	67.5	73.9	78.1	80.5	83.7	83.7	83.7	83.7	83.7	83.7	
8 kHz	64.3	61.1	62.1	62.6	69.2	73.9	76.1	79.4	79.4	79.4	79.4	79.4	79.4	
10 kHz	60.6	56.8	57.9	57.8	64.5	69.7	71.6	75.2	75.2	75.2	75.2	75.2	75.2	
A-wgt	97.6	97.6	97.7	99.5	102.2	105.0	107.1	107.8	107.8	107.8	107.8	107.8	107.8	

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 6 of 17

3.2 1/3 Octave values, Power Optimized Mode PO7200-0S

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	40.4	39.2	40.2	44.8	46.6	50.4	51.0	52.6	52.6	52.6	54.5	53.7	57.9
12.5 Hz	45.7	44.6	45.6	50.0	51.6	55.2	55.8	57.4	57.4	57.4	59.2	58.7	62.5
16 Hz	50.9	50.0	51.0	55.1	56.6	60.0	60.7	62.1	62.1	62.1	64.0	63.6	67.0
20 Hz	56.2	55.5	56.5	60.3	61.6	64.7	65.5	66.9	66.9	66.9	68.8	68.6	71.6
25 Hz	62.2	61.9	62.9	66.5	67.4	70.0	70.8	72.2	72.2	72.2	74.2	74.3	76.4
31.5 Hz	67.4	67.3	68.3	71.6	72.4	74.8	75.6	77.0	77.0	77.0	78.9	79.3	81.0
40 Hz	71.5	71.4	72.4	75.2	76.1	78.8	79.8	80.9	80.9	80.9	82.7	83.0	85.1
50 Hz	78.8	79.2	79.7	81.1	82.3	83.9	85.4	86.2	86.2	86.2	87.6	87.7	90.9
63 Hz	84.5	84.8	85.3	86.7	87.5	88.7	89.6	90.2	90.2	90.2	91.4	91.4	95.0
80 Hz	85.5	85.8	86.3	87.7	88.7	89.9	91.5	91.9	91.9	91.9	93.1	93.2	96.1
100 Hz	86.6	86.9	87.4	88.5	90.2	91.9	93.4	93.4	93.4	93.4	94.6	95.0	97.0
125 Hz	87.7	87.9	88.4	89.5	91.6	93.9	95.3	95.1	95.1	95.1	96.2	96.8	98.0
160 Hz	87.1	87.8	88.0	89.9	92.9	95.3	96.7	96.6	96.6	96.6	97.4	97.9	97.9
200 Hz	89.4	90.3	90.3	91.4	94.5	97.1	98.4	98.3	98.3	98.3	98.7	99.3	97.1
250 Hz	91.0	91.9	91.8	92.5	95.8	98.5	99.8	99.7	99.7	99.7	99.9	100.4	98.0
315 Hz	90.6	91.2	91.2	92.4	95.7	98.6	100.2	100.2	100.2	100.2	100.5	100.5	97.8
400 Hz	89.4	89.7	89.8	91.8	95.2	98.3	100.4	100.5	100.5	100.5	100.2	100.1	98.9
500 Hz	87.8	87.9	87.5	90.2	93.3	96.2	98.8	99.1	99.1	99.1	98.7	98.4	97.9
630 Hz	88.2	87.9	87.5	90.5	93.4	96.4	99.1	99.8	99.8	99.8	99.4	99.1	99.0
800 Hz	88.6	87.9	88.1	91.3	94.0	97.1	99.9	101.1	101.1	101.1	100.9	100.6	101.2
1 kHz	89.0	87.9	88.1	91.5	94.1	97.3	100.2	101.8	101.8	101.8	101.6	101.3	102.4
1.25 kHz	88.2	86.9	87.3	90.4	92.8	96.0	98.8	100.6	100.6	100.6	100.4	100.2	100.9
1.6 kHz	87.4	85.8	86.2	88.7	91.2	94.3	97.0	99.0	99.0	99.0	98.8	98.7	98.6
2 kHz	86.6	84.7	85.3	87.6	89.9	93.1	95.7	97.8	97.8	97.8	97.6	97.5	97.2
2.5 kHz	85.7	84.6	84.6	85.9	87.9	90.8	93.2	95.2	95.2	95.2	95.2	94.9	95.0
3.15 kHz	84.8	84.4	84.3	84.1	85.7	88.4	90.3	92.2	92.2	92.2	92.4	91.9	92.3
4 kHz	84.0	84.2	83.5	82.4	83.6	86.1	87.8	89.7	89.7	89.7	89.9	89.3	90.1
5 kHz	80.6	80.8	80.3	80.1	80.8	82.7	83.9	85.1	85.1	85.1	85.8	84.9	88.6
6.3 kHz	77.3	77.4	75.8	77.6	77.5	78.6	79.0	79.3	79.3	79.3	80.6	79.4	87.4
8 kHz	74.0	74.0	72.6	75.3	74.6	75.1	75.1	74.7	74.7	74.7	76.4	75.0	85.9
10 kHz	70.6	70.6	69.3	73.0	71.8	71.7	71.2	70.1	70.1	70.1	72.3	70.6	84.4
A-wgt	100.8	100.8	100.9	102.7	105.4	108.2	110.3	111.1	111.1	111.1	111.1	111.1	111.1

Blades without Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 7 of 17

3.3 1/3 Octave values, Power Optimized Mode PO6800

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	32.1	31.9	33.7	36.2	45.1	45.9	46.6	45.2	46.0	47.2	46.6	46.6	46.6
12.5 Hz	37.0	37.5	39.2	41.4	49.7	50.6	51.2	49.9	50.7	51.9	51.3	51.3	51.3
16 Hz	41.9	43.0	44.6	46.6	54.2	55.2	55.8	54.7	55.4	56.5	56.0	56.0	56.0
20 Hz	46.7	48.6	50.0	51.7	58.7	59.9	60.4	59.4	60.1	61.2	60.6	60.6	60.6
25 Hz	51.9	54.9	56.1	56.9	63.9	65.4	65.8	64.9	65.6	66.8	66.2	66.2	66.2
31.5 Hz	56.7	60.5	61.6	62.1	68.5	70.0	70.4	69.7	70.3	71.4	70.9	70.9	70.9
40 Hz	61.3	65.0	66.1	67.3	71.9	73.4	74.0	73.3	73.7	74.6	74.2	74.2	74.2
50 Hz	78.3	78.9	79.3	80.6	81.4	82.3	82.9	82.8	82.9	83.1	83.0	83.0	83.0
63 Hz	84.0	84.5	84.9	86.2	86.7	87.5	88.1	88.1	88.1	88.2	88.2	88.2	88.2
80 Hz	85.0	85.5	85.9	87.1	87.9	88.8	89.5	89.6	89.5	89.6	89.5	89.5	89.5
100 Hz	86.1	86.5	87.0	88.0	89.3	90.3	91.2	91.4	91.3	91.3	91.3	91.3	91.3
125 Hz	87.1	87.5	88.0	88.9	90.6	91.8	92.9	93.3	93.0	92.9	93.0	93.0	93.0
160 Hz	85.8	86.3	86.7	87.7	89.9	91.4	92.9	93.4	93.1	93.0	93.1	93.1	93.1
200 Hz	85.4	85.9	85.8	87.2	89.6	91.8	94.0	94.4	94.5	94.3	94.4	94.4	94.4
250 Hz	86.4	86.4	85.6	87.3	89.9	92.7	95.1	95.7	95.9	95.7	95.8	95.8	95.8
315 Hz	85.6	85.4	84.2	86.3	89.2	92.3	94.7	95.1	95.4	95.4	95.4	95.4	95.4
400 Hz	85.0	84.5	83.2	85.4	88.3	91.5	93.5	93.8	94.1	94.4	94.3	94.3	94.3
500 Hz	85.1	84.5	83.0	85.3	88.2	91.5	93.2	93.4	93.8	94.3	94.0	94.0	94.0
630 Hz	85.1	84.5	83.6	86.0	89.0	92.3	94.0	94.1	94.4	94.8	94.6	94.6	94.6
800 Hz	85.2	84.8	84.8	87.4	90.5	93.7	95.4	95.5	95.7	96.0	95.8	95.8	95.8
1 kHz	85.2	84.9	85.4	88.1	91.3	94.5	96.2	96.2	96.3	96.6	96.4	96.4	96.4
1.25 kHz	84.6	84.3	85.0	87.7	90.9	94.3	96.2	96.0	96.0	96.0	96.0	96.0	96.0
1.6 kHz	84.1	84.1	84.9	87.3	90.5	94.3	96.4	95.9	95.9	95.5	95.7	95.7	95.7
2 kHz	83.4	83.5	84.6	86.8	90.2	94.1	96.3	95.7	95.6	95.0	95.3	95.3	95.3
2.5 kHz	81.2	80.9	82.0	84.3	88.5	92.1	94.4	93.8	93.5	92.9	93.2	93.2	93.2
3.15 kHz	78.5	77.6	78.6	81.2	86.8	89.8	92.2	91.7	90.9	90.6	90.8	90.8	90.8
4 kHz	76.3	75.0	76.1	78.7	85.1	87.8	90.3	89.8	88.8	88.5	88.7	88.7	88.7
5 kHz	72.5	70.7	71.8	73.9	80.4	83.6	85.9	85.4	84.1	84.3	84.2	84.2	84.2
6.3 kHz	68.0	65.4	66.4	67.5	73.9	78.1	79.9	79.5	77.7	78.6	78.1	78.1	78.1
8 kHz	64.3	61.1	62.1	62.6	69.2	73.9	75.5	75.2	73.0	74.3	73.6	73.6	73.6
10 kHz	60.6	56.8	57.9	57.8	64.5	69.7	71.0	70.8	68.2	70.0	69.1	69.1	69.1
A-wgt	97.6	97.6	97.7	99.5	102.2	105.0	106.9	106.9	106.9	106.9	106.9	106.9	106.9

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 8 of 17

3.4 1/3 Octave values, Power Optimized Mode PO6800-0S

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	40.4	39.2	40.2	44.8	46.6	50.4	50.7	49.6	49.7	51.0	52.9	52.1	56.3
12.5 Hz	45.7	44.6	45.6	50.0	51.6	55.2	55.5	54.4	54.5	55.7	57.6	57.1	60.8
16 Hz	50.9	50.0	51.0	55.1	56.6	60.0	60.4	59.1	59.3	60.5	62.4	62.0	65.4
20 Hz	56.2	55.5	56.5	60.3	61.6	64.7	65.2	63.9	64.1	65.3	67.1	67.0	70.0
25 Hz	62.2	61.9	62.9	66.5	67.4	70.0	70.5	69.1	69.4	70.6	72.6	72.8	74.8
31.5 Hz	67.4	67.3	68.3	71.6	72.4	74.8	75.3	73.9	74.2	75.3	77.3	77.7	79.4
40 Hz	71.5	71.4	72.4	75.2	76.1	78.8	79.5	78.0	78.2	79.3	81.1	81.4	83.5
50 Hz	78.8	79.2	79.7	81.1	82.3	83.9	85.1	83.4	83.4	84.5	86.0	86.1	89.3
63 Hz	84.5	84.8	85.3	86.7	87.5	88.7	89.3	88.7	88.7	88.8	89.8	89.8	93.4
80 Hz	85.5	85.8	86.3	87.7	88.7	89.9	91.2	90.1	90.1	90.3	91.5	91.6	94.4
100 Hz	86.6	86.9	87.4	88.5	90.2	91.9	93.1	92.0	91.9	91.9	93.0	93.4	95.4
125 Hz	87.7	87.9	88.4	89.5	91.6	93.9	95.0	93.8	93.6	93.5	94.6	95.2	96.4
160 Hz	87.1	87.8	88.0	89.9	92.9	95.3	96.4	95.1	94.8	94.9	95.8	96.3	96.3
200 Hz	89.4	90.3	90.3	91.4	94.5	97.1	98.1	96.9	96.6	96.7	97.1	97.7	95.4
250 Hz	91.0	91.9	91.8	92.5	95.8	98.5	99.5	98.5	98.2	98.1	98.3	98.8	96.4
315 Hz	90.6	91.2	91.2	92.4	95.7	98.6	99.9	99.1	98.7	98.6	98.6	99.0	96.2
400 Hz	89.4	89.7	89.8	91.8	95.2	98.3	100.1	99.4	99.1	98.8	98.6	98.6	97.2
500 Hz	87.8	87.9	87.5	90.2	93.3	96.2	98.7	99.1	98.8	98.4	98.1	97.8	97.2
630 Hz	88.2	87.9	87.5	90.5	93.4	96.4	99.0	99.5	99.4	99.1	98.8	98.5	98.4
800 Hz	88.6	87.9	88.1	91.3	94.0	97.1	99.8	100.5	100.5	100.5	100.3	100.0	100.6
1 kHz	89.0	87.9	88.1	91.5	94.1	97.3	100.1	100.9	101.1	101.2	101.0	100.8	101.7
1.25 kHz	88.2	86.9	87.3	90.4	92.8	96.0	98.7	99.5	99.9	100.0	99.8	99.6	100.3
1.6 kHz	87.4	85.8	86.2	88.7	91.2	94.3	96.9	97.8	98.3	98.4	98.2	98.1	98.0
2 kHz	86.6	84.7	85.3	87.6	89.9	93.1	95.6	96.4	97.0	97.2	97.0	96.9	96.5
2.5 kHz	85.7	84.6	84.6	85.9	87.9	90.8	93.1	93.7	94.3	94.6	94.6	94.4	94.4
3.15 kHz	84.8	84.4	84.3	84.1	85.7	88.4	90.2	90.6	91.1	91.6	91.8	91.3	91.7
4 kHz	84.0	84.2	83.5	82.4	83.6	86.1	87.7	87.9	88.3	89.0	89.3	88.7	89.5
5 kHz	80.6	80.8	80.3	80.1	80.8	82.7	83.7	83.4	83.9	84.5	85.2	84.3	88.0
6.3 kHz	77.3	77.4	75.8	77.6	77.5	78.6	78.9	77.8	78.4	78.6	80.0	78.8	86.8
8 kHz	74.0	74.0	72.6	75.3	74.6	75.1	75.0	73.3	73.9	74.1	75.8	74.4	85.3
10 kHz	70.6	70.6	69.3	73.0	71.8	71.7	71.0	68.8	69.4	69.5	71.7	70.0	83.8
A-wgt	100.8	100.8	100.9	102.7	105.4	108.2	110.1	110.1	110.1	110.1	110.1	110.1	110.1

Blades without Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 9 of 17

3.5 1/3 Octave values, Power Optimized Mode PO6500

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	32.1	31.9	33.7	36.2	45.1	45.9	46.1	44.7	45.5	46.8	46.2	46.2	46.2
12.5 Hz	37.0	37.5	39.2	41.4	49.7	50.6	50.7	49.5	50.2	51.5	50.8	50.8	50.8
16 Hz	41.9	43.0	44.6	46.6	54.2	55.2	55.4	54.2	54.9	56.1	55.5	55.5	55.5
20 Hz	46.7	48.6	50.0	51.7	58.7	59.9	60.0	59.0	59.6	60.8	60.2	60.2	60.2
25 Hz	51.9	54.9	56.1	56.9	63.9	65.4	65.3	64.5	65.2	66.3	65.7	65.7	65.7
31.5 Hz	56.7	60.5	61.6	62.1	68.5	70.0	69.9	69.2	69.9	71.0	70.4	70.4	70.4
40 Hz	61.3	65.0	66.1	67.3	71.9	73.4	73.5	72.9	73.3	74.2	73.8	73.8	73.8
50 Hz	78.3	78.9	79.3	80.6	81.4	82.3	82.7	82.7	82.7	82.9	82.8	82.8	82.8
63 Hz	84.0	84.5	84.9	86.2	86.7	87.5	88.0	88.0	88.0	88.1	88.1	88.1	88.1
80 Hz	85.0	85.5	85.9	87.1	87.9	88.8	89.3	89.4	89.4	89.4	89.4	89.4	89.4
100 Hz	86.1	86.5	87.0	88.0	89.3	90.3	91.0	91.3	91.1	91.1	91.1	91.1	91.1
125 Hz	87.1	87.5	88.0	88.9	90.6	91.8	92.7	93.0	92.8	92.7	92.7	92.7	92.7
160 Hz	85.8	86.3	86.7	87.7	89.9	91.4	92.6	93.1	92.8	92.7	92.8	92.8	92.8
200 Hz	85.4	85.9	85.8	87.2	89.6	91.8	93.6	94.1	94.1	93.9	94.0	94.0	94.0
250 Hz	86.4	86.4	85.6	87.3	89.9	92.7	94.7	95.3	95.5	95.3	95.4	95.4	95.4
315 Hz	85.6	85.4	84.2	86.3	89.2	92.3	94.2	94.7	94.9	94.9	94.9	94.9	94.9
400 Hz	85.0	84.5	83.2	85.4	88.3	91.5	93.0	93.3	93.7	94.0	93.8	93.8	93.8
500 Hz	85.1	84.5	83.0	85.3	88.2	91.5	92.8	93.0	93.4	93.8	93.6	93.6	93.6
630 Hz	85.1	84.5	83.6	86.0	89.0	92.3	93.6	93.7	94.0	94.4	94.2	94.2	94.2
800 Hz	85.2	84.8	84.8	87.4	90.5	93.7	95.0	95.1	95.2	95.6	95.4	95.4	95.4
1 kHz	85.2	84.9	85.4	88.1	91.3	94.5	95.8	95.8	95.9	96.1	96.0	96.0	96.0
1.25 kHz	84.6	84.3	85.0	87.7	90.9	94.3	95.7	95.6	95.6	95.6	95.6	95.6	95.6
1.6 kHz	84.1	84.1	84.9	87.3	90.5	94.3	95.9	95.5	95.4	95.1	95.3	95.3	95.3
2 kHz	83.4	83.5	84.6	86.8	90.2	94.1	95.9	95.3	95.2	94.5	94.8	94.8	94.8
2.5 kHz	81.2	80.9	82.0	84.3	88.5	92.1	94.0	93.4	93.0	92.5	92.8	92.8	92.8
3.15 kHz	78.5	77.6	78.6	81.2	86.8	89.8	91.7	91.2	90.5	90.1	90.3	90.3	90.3
4 kHz	76.3	75.0	76.1	78.7	85.1	87.8	89.8	89.4	88.4	88.1	88.2	88.2	88.2
5 kHz	72.5	70.7	71.8	73.9	80.4	83.6	85.4	85.0	83.6	83.8	83.7	83.7	83.7
6.3 kHz	68.0	65.4	66.4	67.5	73.9	78.1	79.5	79.1	77.3	78.2	77.7	77.7	77.7
8 kHz	64.3	61.1	62.1	62.6	69.2	73.9	75.0	74.7	72.5	73.9	73.2	73.2	73.2
10 kHz	60.6	56.8	57.9	57.8	64.5	69.7	70.6	70.3	67.8	69.6	68.6	68.6	68.6
A-wgt	97.6	97.6	97.7	99.5	102.2	105.0	106.5	106.5	106.5	106.5	106.5	106.5	106.5

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 10 of 17

3.6 1/3 Octave values, Power Optimized Mode PO6500-0S

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	40.4	39.2	40.2	44.8	46.6	50.4	50.0	48.9	49.0	50.3	52.2	51.5	55.6
12.5 Hz	45.7	44.6	45.6	50.0	51.6	55.2	54.9	53.7	53.8	55.1	57.0	56.5	60.1
16 Hz	50.9	50.0	51.0	55.1	56.6	60.0	59.7	58.4	58.6	59.8	61.7	61.4	64.7
20 Hz	56.2	55.5	56.5	60.3	61.6	64.7	64.6	63.2	63.4	64.6	66.5	66.3	69.3
25 Hz	62.2	61.9	62.9	66.5	67.4	70.0	69.8	68.4	68.7	69.9	71.9	72.1	74.1
31.5 Hz	67.4	67.3	68.3	71.6	72.4	74.8	74.7	73.2	73.5	74.6	76.7	77.1	78.7
40 Hz	71.5	71.4	72.4	75.2	76.1	78.8	78.9	77.3	77.5	78.6	80.5	80.8	82.8
50 Hz	78.8	79.2	79.7	81.1	82.3	83.9	84.5	83.1	83.2	83.8	85.4	85.4	88.6
63 Hz	84.5	84.8	85.3	86.7	87.5	88.7	88.9	88.4	88.4	88.5	89.2	89.2	92.7
80 Hz	85.5	85.8	86.3	87.7	88.7	89.9	90.6	89.8	89.8	89.9	90.8	91.0	93.7
100 Hz	86.6	86.9	87.4	88.5	90.2	91.9	92.4	91.7	91.6	91.6	92.3	92.7	94.7
125 Hz	87.7	87.9	88.4	89.5	91.6	93.9	94.4	93.5	93.3	93.2	94.0	94.5	95.7
160 Hz	87.1	87.8	88.0	89.9	92.9	95.3	95.8	94.4	94.1	94.2	95.1	95.7	95.6
200 Hz	89.4	90.3	90.3	91.4	94.5	97.1	97.4	96.2	95.9	96.0	96.5	97.1	94.7
250 Hz	91.0	91.9	91.8	92.5	95.8	98.5	98.8	97.8	97.5	97.4	97.6	98.2	96.1
315 Hz	90.6	91.2	91.2	92.4	95.7	98.6	99.3	98.4	98.1	97.9	98.0	98.3	95.7
400 Hz	89.4	89.7	89.8	91.8	95.2	98.3	99.5	98.8	98.4	98.1	97.9	97.9	96.6
500 Hz	87.8	87.9	87.5	90.2	93.3	96.2	98.5	98.9	98.5	98.2	97.8	97.6	96.9
630 Hz	88.2	87.9	87.5	90.5	93.4	96.4	98.8	99.3	99.1	98.8	98.5	98.3	98.1
800 Hz	88.6	87.9	88.1	91.3	94.0	97.1	99.5	100.2	100.2	100.2	100.0	99.8	100.3
1 kHz	89.0	87.9	88.1	91.5	94.1	97.3	99.8	100.6	100.8	100.9	100.8	100.5	101.5
1.25 kHz	88.2	86.9	87.3	90.4	92.8	96.0	98.5	99.2	99.6	99.7	99.6	99.4	100.0
1.6 kHz	87.4	85.8	86.2	88.7	91.2	94.3	96.7	97.5	98.0	98.1	98.0	97.8	97.7
2 kHz	86.6	84.7	85.3	87.6	89.9	93.1	95.3	96.1	96.7	96.9	96.8	96.7	96.2
2.5 kHz	85.7	84.6	84.6	85.9	87.9	90.8	92.8	93.4	94.0	94.3	94.3	94.1	94.1
3.15 kHz	84.8	84.4	84.3	84.1	85.7	88.4	90.0	90.3	90.8	91.3	91.5	91.1	91.4
4 kHz	84.0	84.2	83.5	82.4	83.6	86.1	87.5	87.6	88.1	88.7	89.1	88.5	89.2
5 kHz	80.6	80.8	80.3	80.1	80.8	82.7	83.5	83.1	83.6	84.2	84.9	84.1	87.7
6.3 kHz	77.3	77.4	75.8	77.6	77.5	78.6	78.7	77.5	78.1	78.4	79.7	78.6	86.5
8 kHz	74.0	74.0	72.6	75.3	74.6	75.1	74.8	73.0	73.6	73.8	75.6	74.2	85.0
10 kHz	70.6	70.6	69.3	73.0	71.8	71.7	70.8	68.5	69.2	69.2	71.4	69.8	83.5
A-wgt	100.8	100.8	100.9	102.7	105.4	108.2	109.7	109.7	109.7	109.7	109.7	109.7	109.7

Blades without Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 11 of 17

4. 1/3 Octave Values for Sound Optimized Modes

4.1 1/3 Octave values, Sound Optimized Mode SO1

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	37.5	37.4	34.4	34.9	38.1	41.0	39.2	39.3	41.7	43.5	44.0	43.9	43.4
12.5 Hz	43.2	43.1	40.5	41.1	44.3	47.1	45.6	45.7	47.8	49.4	49.8	49.7	49.3
16 Hz	48.9	48.9	46.6	47.0	50.1	52.9	51.6	51.6	53.5	54.9	55.3	55.2	54.8
20 Hz	54.3	54.3	52.3	52.8	55.9	58.3	57.1	57.2	58.8	60.0	60.4	60.3	60.0
25 Hz	59.7	59.7	58.0	58.3	61.3	63.8	62.7	62.8	64.2	65.2	65.5	65.4	65.1
31.5 Hz	64.6	64.6	63.2	63.7	66.7	68.8	67.9	68.0	69.2	70.1	70.3	70.2	70.0
40 Hz	69.0	69.1	67.9	68.7	71.7	73.8	73.1	73.2	74.2	74.9	75.1	75.0	74.8
50 Hz	73.0	73.0	72.1	73.2	76.1	78.4	77.8	77.8	78.6	79.3	79.4	79.3	79.1
63 Hz	76.4	76.4	75.7	77.1	79.9	82.4	81.9	82.0	82.6	83.1	83.2	83.1	83.0
80 Hz	79.2	79.3	78.8	80.4	83.2	85.9	85.5	85.5	86.1	86.4	86.5	86.4	86.3
100 Hz	81.5	81.6	81.3	83.1	85.9	88.8	88.5	88.5	88.9	89.2	89.2	89.2	89.1
125 Hz	83.3	83.4	83.2	85.3	88.1	91.1	90.9	90.9	91.2	91.4	91.4	91.4	91.3
160 Hz	84.7	84.7	84.7	86.9	89.7	92.9	92.7	92.8	93.0	93.1	93.1	93.0	93.0
200 Hz	85.5	85.6	85.6	88.1	90.8	94.1	94.0	94.0	94.1	94.2	94.2	94.1	94.1
250 Hz	86.4	86.5	86.6	88.7	91.4	94.8	94.8	94.8	94.8	94.8	94.8	94.7	94.7
315 Hz	86.9	87.0	87.2	89.3	92.0	95.0	95.0	95.0	95.0	95.0	94.9	94.9	94.9
400 Hz	87.5	87.6	87.8	89.5	92.1	95.2	95.2	95.2	95.2	95.1	95.1	95.1	95.1
500 Hz	87.7	87.8	88.0	89.8	92.4	95.0	95.0	95.1	95.0	94.9	94.8	94.8	94.9
630 Hz	87.6	87.7	87.9	89.6	92.2	94.8	94.9	94.9	94.8	94.7	94.7	94.7	94.7
800 Hz	87.2	87.2	87.4	89.1	91.7	94.2	94.3	94.3	94.2	94.1	94.1	94.2	94.2
1 kHz	86.4	86.4	86.6	88.2	90.8	93.3	93.4	93.4	93.3	93.2	93.2	93.3	93.3
1.25 kHz	85.3	85.3	85.4	87.0	89.5	92.0	92.0	92.1	92.0	92.0	92.0	92.0	92.1
1.6 kHz	83.8	83.8	83.8	85.4	87.8	90.3	90.3	90.3	90.3	90.3	90.4	90.5	90.5
2 kHz	82.0	81.9	81.9	83.4	85.8	88.3	88.2	88.3	88.3	88.4	88.5	88.5	88.6
2.5 kHz	79.9	79.8	79.6	81.0	83.4	85.9	85.8	85.8	85.9	86.0	86.2	86.2	86.3
3.15 kHz	77.4	77.3	76.9	78.3	80.7	83.1	82.9	82.9	83.1	83.3	83.5	83.6	83.7
4 kHz	74.6	74.4	73.9	75.1	77.5	79.9	79.7	79.7	80.0	80.3	80.5	80.6	80.7
5 kHz	71.4	71.2	70.5	71.7	74.0	76.4	76.0	76.1	76.5	76.9	77.1	77.3	77.3
6.3 kHz	67.9	67.7	66.8	67.8	70.1	72.5	72.0	72.0	72.6	73.1	73.4	73.6	73.6
8 kHz	64.1	63.8	62.7	63.6	65.9	68.2	67.6	67.7	68.4	69.0	69.4	69.5	69.6
10 kHz	59.9	59.6	58.2	59.0	61.3	63.6	62.8	62.9	63.7	64.5	65.0	65.1	65.2
A-wgt	97.6	97.6	97.7	99.5	102.2	105.0	105.0	105.0	105.0	105.0	105.0	105.0	105.0

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 12 of 17

4.2 1/3 Octave values, Sound Optimized Mode SO2

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	37.5	37.4	34.4	34.9	38.1	39.1	37.6	38.0	40.5	42.4	43.0	42.9	42.5
12.5 Hz	43.2	43.1	40.5	41.1	44.3	45.3	44.0	44.4	46.6	48.3	48.8	48.8	48.4
16 Hz	48.9	48.9	46.6	47.0	50.1	51.2	50.0	50.4	52.3	53.8	54.3	54.2	53.9
20 Hz	54.3	54.3	52.3	52.8	55.9	56.7	55.7	56.0	57.7	59.0	59.4	59.3	59.0
25 Hz	59.7	59.7	58.0	58.3	61.4	62.2	61.3	61.6	63.1	64.2	64.5	64.5	64.2
31.5 Hz	64.6	64.6	63.2	63.7	66.8	67.4	66.6	66.8	68.1	69.0	69.3	69.2	69.0
40 Hz	69.0	69.1	67.9	68.7	71.7	72.4	71.8	72.0	73.0	73.9	74.1	74.0	73.8
50 Hz	73.0	73.0	72.1	73.2	76.1	77.0	76.5	76.7	77.5	78.2	78.4	78.3	78.1
63 Hz	76.4	76.4	75.7	77.1	80.0	81.1	80.7	80.8	81.5	82.1	82.2	82.1	82.0
80 Hz	79.2	79.3	78.8	80.4	83.2	84.7	84.3	84.4	85.0	85.4	85.5	85.4	85.3
100 Hz	81.5	81.6	81.3	83.1	86.0	87.6	87.4	87.4	87.9	88.2	88.2	88.2	88.1
125 Hz	83.3	83.4	83.2	85.3	88.1	90.0	89.8	89.9	90.2	90.4	90.4	90.4	90.3
160 Hz	84.7	84.7	84.7	86.9	89.7	91.8	91.7	91.7	91.9	92.0	92.1	92.0	91.9
200 Hz	85.5	85.6	85.6	88.1	90.8	93.0	93.0	93.0	93.1	93.1	93.2	93.1	93.1
250 Hz	86.4	86.5	86.6	88.7	91.4	93.8	93.7	93.8	93.8	93.8	93.8	93.7	93.7
315 Hz	86.9	87.0	87.2	89.3	92.0	94.0	94.0	94.0	94.0	93.9	93.9	93.9	93.9
400 Hz	87.5	87.6	87.8	89.5	92.2	94.2	94.2	94.2	94.2	94.1	94.1	94.1	94.1
500 Hz	87.7	87.8	88.0	89.8	92.4	94.0	94.1	94.1	94.0	93.9	93.8	93.8	93.9
630 Hz	87.6	87.7	87.9	89.6	92.2	93.8	93.9	93.9	93.8	93.7	93.7	93.7	93.7
800 Hz	87.2	87.2	87.4	89.1	91.7	93.3	93.4	93.4	93.2	93.1	93.1	93.2	93.2
1 kHz	86.4	86.4	86.6	88.2	90.8	92.4	92.4	92.4	92.3	92.2	92.2	92.3	92.3
1.25 kHz	85.3	85.3	85.4	87.0	89.5	91.1	91.1	91.1	91.0	91.0	91.0	91.1	91.1
1.6 kHz	83.8	83.8	83.8	85.4	87.9	89.4	89.4	89.4	89.4	89.4	89.4	89.5	89.6
2 kHz	82.0	81.9	81.9	83.4	85.8	87.3	87.3	87.3	87.3	87.4	87.5	87.6	87.6
2.5 kHz	79.9	79.8	79.6	81.0	83.5	84.9	84.8	84.8	84.9	85.1	85.2	85.3	85.4
3.15 kHz	77.4	77.3	76.9	78.3	80.7	82.1	81.9	82.0	82.2	82.4	82.5	82.6	82.7
4 kHz	74.6	74.4	73.9	75.1	77.6	78.9	78.7	78.7	79.0	79.3	79.5	79.7	79.8
5 kHz	71.4	71.2	70.5	71.7	74.0	75.3	75.0	75.1	75.5	75.9	76.2	76.3	76.4
6.3 kHz	67.9	67.7	66.8	67.8	70.2	71.4	71.0	71.1	71.7	72.2	72.5	72.6	72.7
8 kHz	64.1	63.8	62.7	63.6	65.9	67.0	66.5	66.7	67.4	68.1	68.4	68.6	68.7
10 kHz	59.9	59.6	58.2	59.0	61.3	62.3	61.7	61.9	62.8	63.6	64.0	64.2	64.3
A-wgt	97.6	97.6	97.7	99.5	102.2	104.0	104.0	104.0	104.0	104.0	104.0	104.0	104.0

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 13 of 17

4.3 1/3 Octave values, Sound Optimized Mode SO3

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	37.5	37.4	34.4	34.9	38.1	37.0	36.2	36.8	39.2	41.3	42.1	42.0	41.7
12.5 Hz	43.2	43.1	40.5	41.1	44.3	43.4	42.7	43.2	45.3	47.2	47.9	47.8	47.5
16 Hz	48.9	48.9	46.6	47.0	50.1	49.4	48.7	49.2	51.1	52.7	53.3	53.3	53.0
20 Hz	54.3	54.3	52.3	52.8	55.9	55.0	54.4	54.8	56.5	57.9	58.4	58.4	58.1
25 Hz	59.7	59.7	58.0	58.3	61.3	60.6	60.1	60.4	61.9	63.1	63.5	63.5	63.2
31.5 Hz	64.6	64.6	63.2	63.7	66.7	65.8	65.4	65.7	66.9	68.0	68.3	68.3	68.0
40 Hz	69.0	69.1	67.9	68.7	71.7	71.0	70.6	70.9	71.9	72.8	73.1	73.0	72.8
50 Hz	73.0	73.0	72.1	73.2	76.1	75.6	75.4	75.6	76.4	77.2	77.4	77.3	77.2
63 Hz	76.4	76.4	75.7	77.1	79.9	79.8	79.6	79.7	80.4	81.0	81.2	81.2	81.0
80 Hz	79.2	79.3	78.8	80.4	83.2	83.4	83.2	83.3	83.9	84.3	84.5	84.4	84.3
100 Hz	81.5	81.6	81.3	83.1	86.0	86.4	86.3	86.4	86.8	87.1	87.2	87.2	87.1
125 Hz	83.3	83.4	83.2	85.3	88.1	88.8	88.7	88.8	89.1	89.3	89.4	89.4	89.3
160 Hz	84.7	84.7	84.7	86.9	89.7	90.7	90.6	90.7	90.9	91.0	91.0	91.0	90.9
200 Hz	85.5	85.6	85.6	88.1	90.8	92.0	91.9	92.0	92.1	92.1	92.1	92.1	92.1
250 Hz	86.4	86.5	86.6	88.7	91.4	92.7	92.7	92.7	92.8	92.8	92.8	92.7	92.7
315 Hz	86.9	87.0	87.2	89.3	92.0	93.0	93.0	93.0	93.0	92.9	92.9	92.9	92.9
400 Hz	87.5	87.6	87.8	89.5	92.2	93.2	93.3	93.2	93.2	93.1	93.1	93.0	93.0
500 Hz	87.7	87.8	88.0	89.8	92.4	93.0	93.1	93.1	93.0	92.9	92.8	92.8	92.9
630 Hz	87.6	87.7	87.9	89.6	92.2	92.9	92.9	92.9	92.8	92.7	92.7	92.7	92.7
800 Hz	87.2	87.2	87.4	89.1	91.7	92.3	92.4	92.4	92.3	92.1	92.1	92.2	92.2
1 kHz	86.4	86.4	86.6	88.2	90.8	91.4	91.5	91.4	91.3	91.3	91.3	91.3	91.3
1.25 kHz	85.3	85.3	85.4	87.0	89.5	90.1	90.2	90.1	90.1	90.0	90.0	90.1	90.1
1.6 kHz	83.8	83.8	83.8	85.4	87.9	88.4	88.4	88.4	88.4	88.4	88.4	88.5	88.6
2 kHz	82.0	81.9	81.9	83.4	85.8	86.3	86.3	86.3	86.4	86.4	86.5	86.6	86.7
2.5 kHz	79.9	79.8	79.6	81.0	83.4	83.9	83.9	83.9	84.0	84.1	84.2	84.3	84.4
3.15 kHz	77.4	77.3	76.9	78.3	80.7	81.0	81.0	81.0	81.2	81.4	81.6	81.7	81.8
4 kHz	74.6	74.4	73.9	75.1	77.5	77.8	77.7	77.8	78.1	78.4	78.6	78.7	78.8
5 kHz	71.4	71.2	70.5	71.7	74.0	74.2	74.1	74.2	74.6	75.0	75.3	75.4	75.5
6.3 kHz	67.9	67.7	66.8	67.8	70.2	70.2	70.0	70.1	70.7	71.3	71.6	71.7	71.8
8 kHz	64.1	63.8	62.7	63.6	65.9	65.8	65.6	65.7	66.5	67.1	67.5	67.7	67.8
10 kHz	59.9	59.6	58.2	59.0	61.3	61.0	60.8	61.0	61.8	62.7	63.1	63.4	63.5
A-wgt	97.6	97.6	97.7	99.5	102.2	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 14 of 17

4.4 1/3 Octave values, Sound Optimized Mode SO4

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	37.5	37.4	34.4	34.9	37.7	35.4	35.3	35.9	38.1	40.2	41.1	41.1	40.8
12.5 Hz	43.2	43.1	40.5	41.1	43.8	41.9	41.8	42.3	44.3	46.1	46.8	46.9	46.6
16 Hz	48.9	48.9	46.6	47.0	49.7	47.9	47.8	48.3	50.1	51.6	52.3	52.3	52.1
20 Hz	54.3	54.3	52.3	52.8	55.5	54.0	53.9	54.4	55.9	56.8	57.4	57.4	57.2
25 Hz	59.7	59.7	58.0	58.3	61.0	59.7	59.6	60.0	61.3	62.0	62.5	62.5	62.3
31.5 Hz	64.6	64.6	63.2	63.7	66.4	65.3	65.2	65.6	66.7	66.9	67.3	67.3	67.1
40 Hz	69.0	69.1	67.9	68.7	71.3	70.4	70.4	70.7	71.6	71.7	72.0	72.0	71.9
50 Hz	73.0	73.0	72.1	73.2	75.8	75.0	75.0	75.2	76.0	76.1	76.4	76.3	76.2
63 Hz	76.4	76.4	75.7	77.1	79.7	79.1	79.0	79.2	79.8	79.9	80.2	80.1	80.0
80 Hz	79.2	79.3	78.8	80.4	83.0	82.5	82.5	82.6	83.1	83.3	83.4	83.4	83.3
100 Hz	81.5	81.6	81.3	83.1	85.7	85.4	85.4	85.5	85.8	86.1	86.2	86.2	86.1
125 Hz	83.3	83.4	83.2	85.3	87.9	87.6	87.6	87.7	88.0	88.3	88.4	88.3	88.3
160 Hz	84.6	84.7	84.7	86.9	89.5	89.4	89.3	89.4	89.6	90.0	90.0	90.0	89.9
200 Hz	85.5	85.6	85.6	88.1	90.6	90.5	90.5	90.5	90.6	91.1	91.1	91.1	91.0
250 Hz	86.4	86.5	86.6	88.7	91.2	91.2	91.2	91.2	91.2	91.7	91.7	91.7	91.7
315 Hz	86.9	87.0	87.2	89.3	91.8	91.8	91.8	91.8	91.8	91.9	91.9	91.9	91.9
400 Hz	87.5	87.6	87.8	89.5	92.0	92.1	92.1	92.1	92.0	92.1	92.0	92.0	92.0
500 Hz	87.7	87.8	88.0	89.8	92.2	92.3	92.3	92.3	92.2	91.9	91.8	91.8	91.8
630 Hz	87.6	87.7	87.9	89.6	92.0	92.2	92.2	92.2	92.0	91.7	91.7	91.7	91.7
800 Hz	87.2	87.2	87.4	89.1	91.5	91.6	91.6	91.6	91.5	91.2	91.1	91.1	91.2
1 kHz	86.4	86.4	86.6	88.2	90.6	90.7	90.7	90.7	90.6	90.3	90.3	90.3	90.3
1.25 kHz	85.3	85.3	85.4	87.0	89.3	89.4	89.4	89.4	89.3	89.0	89.0	89.1	89.1
1.6 kHz	83.8	83.8	83.8	85.4	87.7	87.7	87.7	87.7	87.7	87.4	87.5	87.5	87.6
2 kHz	82.0	81.9	81.9	83.4	85.6	85.6	85.6	85.6	85.6	85.5	85.5	85.6	85.7
2.5 kHz	79.9	79.8	79.6	81.0	83.2	83.1	83.1	83.2	83.3	83.2	83.3	83.4	83.4
3.15 kHz	77.4	77.3	76.9	78.3	80.5	80.3	80.3	80.3	80.5	80.5	80.6	80.7	80.8
4 kHz	74.6	74.4	73.9	75.1	77.3	77.0	77.0	77.1	77.3	77.4	77.7	77.8	77.9
5 kHz	71.4	71.2	70.5	71.7	73.8	73.4	73.4	73.5	73.8	74.1	74.3	74.5	74.6
6.3 kHz	67.9	67.7	66.8	67.8	69.9	69.3	69.3	69.5	70.0	70.3	70.6	70.8	70.9
8 kHz	64.1	63.8	62.7	63.6	65.6	64.9	64.9	65.1	65.7	66.2	66.6	66.8	66.9
10 kHz	59.9	59.6	58.2	59.0	61.0	60.1	60.1	60.3	61.1	61.7	62.2	62.5	62.6
A-wgt	97.6	97.6	97.7	99.5	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0	102.0

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 15 of 17

4.5 1/3 Octave values, Sound Optimized Mode SO5

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	37.5	37.4	34.4	34.9	35.6	33.9	34.1	34.7	36.8	39.4	40.3	40.4	40.1
12.5 Hz	43.2	43.1	40.5	41.1	41.9	40.4	40.5	41.1	43.0	45.3	46.1	46.2	45.9
16 Hz	48.9	48.9	46.6	47.0	47.9	46.5	46.6	47.1	48.8	50.8	51.5	51.6	51.3
20 Hz	54.3	54.3	52.3	52.8	53.8	52.6	52.7	53.1	54.6	56.4	57.0	57.1	56.8
25 Hz	59.7	59.7	58.0	58.3	59.3	58.3	58.4	58.8	60.1	61.6	62.1	62.2	61.9
31.5 Hz	64.6	64.6	63.2	63.7	64.9	64.0	64.1	64.4	65.5	66.8	67.2	67.3	67.1
40 Hz	69.0	69.1	67.9	68.7	69.9	69.2	69.2	69.5	70.4	71.5	71.9	71.9	71.7
50 Hz	73.0	73.0	72.1	73.2	74.4	73.8	73.9	74.1	74.9	75.7	76.0	76.0	75.9
63 Hz	76.4	76.4	75.7	77.1	78.4	77.9	77.9	78.1	78.7	79.4	79.7	79.7	79.5
80 Hz	79.2	79.3	78.8	80.4	81.7	81.4	81.4	81.5	82.0	82.6	82.8	82.8	82.6
100 Hz	81.5	81.6	81.3	83.1	84.5	84.2	84.3	84.4	84.8	85.2	85.3	85.3	85.2
125 Hz	83.3	83.4	83.2	85.3	86.7	86.5	86.6	86.6	86.9	87.2	87.3	87.3	87.2
160 Hz	84.6	84.7	84.7	86.9	88.4	88.3	88.3	88.3	88.5	88.7	88.7	88.7	88.7
200 Hz	85.5	85.6	85.6	88.1	89.5	89.5	89.5	89.5	89.6	89.7	89.7	89.7	89.6
250 Hz	86.4	86.5	86.6	88.7	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2
315 Hz	86.9	87.0	87.2	89.3	90.8	90.8	90.8	90.8	90.8	90.7	90.7	90.7	90.7
400 Hz	87.5	87.6	87.8	89.5	91.0	91.1	91.1	91.1	91.0	90.9	90.9	90.8	90.8
500 Hz	87.7	87.8	88.0	89.8	91.2	91.3	91.3	91.3	91.2	91.1	91.0	91.0	91.0
630 Hz	87.6	87.7	87.9	89.6	91.1	91.2	91.2	91.2	91.1	90.9	90.9	90.9	90.9
800 Hz	87.2	87.2	87.4	89.1	90.6	90.7	90.7	90.6	90.5	90.4	90.4	90.4	90.4
1 kHz	86.4	86.4	86.6	88.2	89.7	89.7	89.7	89.7	89.6	89.5	89.5	89.5	89.6
1.25 kHz	85.3	85.3	85.4	87.0	88.4	88.4	88.4	88.4	88.4	88.3	88.3	88.3	88.4
1.6 kHz	83.8	83.8	83.8	85.4	86.7	86.7	86.7	86.7	86.7	86.7	86.7	86.8	86.8
2 kHz	82.0	81.9	81.9	83.4	84.7	84.6	84.6	84.6	84.7	84.7	84.8	84.9	85.0
2.5 kHz	79.9	79.8	79.6	81.0	82.2	82.2	82.2	82.2	82.3	82.4	82.5	82.6	82.7
3.15 kHz	77.4	77.3	76.9	78.3	79.4	79.3	79.3	79.3	79.5	79.8	79.9	80.0	80.1
4 kHz	74.6	74.4	73.9	75.1	76.2	76.0	76.0	76.1	76.4	76.7	76.9	77.1	77.2
5 kHz	71.4	71.2	70.5	71.7	72.7	72.4	72.4	72.5	72.9	73.4	73.6	73.8	73.9
6.3 kHz	67.9	67.7	66.8	67.8	68.7	68.3	68.4	68.5	69.0	69.6	70.0	70.1	70.3
8 kHz	64.1	63.8	62.7	63.6	64.4	63.9	63.9	64.1	64.7	65.5	65.9	66.2	66.3
10 kHz	59.9	59.6	58.2	59.0	59.7	59.1	59.1	59.3	60.1	61.1	61.6	61.8	62.0
A-wgt	97.6	97.6	97.7	99.5	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0	101.0

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

RESTRICTED

DMS no.: 0128-4336_02
Issued by: Vestas R&D

Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 16 of 17

4.6 1/3 Octave values, Sound Optimized Mode SO6

Frequency	Hub height wind speeds [m/s]												
	3	4	5	6	7	8	9	10	11	12	13	14	15
10 Hz	37.5	37.4	34.4	34.9	33.3	32.6	33.0	33.5	35.3	38.0	39.2	39.5	39.2
12.5 Hz	43.2	43.1	40.5	41.1	39.8	39.2	39.4	39.9	41.5	43.9	45.0	45.2	45.0
16 Hz	48.9	48.9	46.6	46.9	45.8	45.3	45.5	46.0	47.4	49.5	50.5	50.6	50.4
20 Hz	54.3	54.3	52.3	52.8	51.9	51.4	51.7	52.0	53.2	55.1	55.9	56.1	55.9
25 Hz	59.7	59.7	58.0	58.3	57.6	57.2	57.4	57.7	58.7	60.3	61.1	61.2	61.0
31.5 Hz	64.6	64.6	63.2	63.7	63.2	62.8	63.0	63.3	64.2	65.6	66.2	66.2	66.1
40 Hz	69.0	69.1	67.9	68.7	68.3	68.0	68.2	68.4	69.2	70.3	70.8	70.9	70.7
50 Hz	73.0	73.0	72.1	73.1	72.9	72.7	72.8	73.0	73.6	74.6	75.0	75.0	74.9
63 Hz	76.4	76.4	75.7	77.0	76.9	76.8	76.9	77.0	77.5	78.3	78.6	78.6	78.5
80 Hz	79.2	79.3	78.8	80.4	80.4	80.3	80.3	80.5	80.9	81.5	81.7	81.7	81.6
100 Hz	81.5	81.6	81.3	83.1	83.2	83.2	83.2	83.3	83.6	84.1	84.2	84.2	84.2
125 Hz	83.3	83.4	83.2	85.3	85.5	85.5	85.5	85.6	85.8	86.1	86.2	86.2	86.1
160 Hz	84.6	84.7	84.7	86.9	87.2	87.2	87.3	87.3	87.4	87.6	87.7	87.7	87.6
200 Hz	85.5	85.6	85.6	88.0	88.4	88.4	88.4	88.5	88.5	88.6	88.7	88.6	88.6
250 Hz	86.4	86.5	86.6	88.7	89.1	89.1	89.2	89.2	89.2	89.2	89.2	89.2	89.1
315 Hz	86.9	87.0	87.2	89.3	89.8	89.8	89.8	89.8	89.8	89.7	89.7	89.7	89.7
400 Hz	87.5	87.6	87.8	89.5	90.0	90.1	90.1	90.0	90.0	89.9	89.8	89.8	89.8
500 Hz	87.7	87.8	88.0	89.8	90.3	90.3	90.3	90.3	90.2	90.1	90.0	90.0	90.0
630 Hz	87.6	87.7	87.9	89.6	90.1	90.2	90.2	90.2	90.1	89.9	89.9	89.9	89.9
800 Hz	87.2	87.2	87.4	89.1	89.6	89.7	89.7	89.6	89.6	89.4	89.4	89.4	89.4
1 kHz	86.4	86.4	86.6	88.2	88.7	88.8	88.8	88.7	88.7	88.5	88.5	88.5	88.6
1.25 kHz	85.3	85.3	85.4	87.0	87.4	87.5	87.5	87.4	87.4	87.3	87.3	87.3	87.4
1.6 kHz	83.8	83.8	83.8	85.4	85.7	85.8	85.8	85.8	85.7	85.7	85.7	85.8	85.9
2 kHz	82.0	81.9	81.9	83.4	83.6	83.7	83.7	83.7	83.7	83.8	83.8	83.9	84.0
2.5 kHz	79.9	79.8	79.6	81.0	81.2	81.2	81.2	81.2	81.3	81.5	81.6	81.7	81.8
3.15 kHz	77.4	77.3	76.9	78.2	78.3	78.3	78.4	78.4	78.5	78.8	79.0	79.1	79.2
4 kHz	74.6	74.4	73.9	75.1	75.1	75.1	75.1	75.2	75.4	75.8	76.0	76.2	76.3
5 kHz	71.4	71.2	70.5	71.6	71.5	71.4	71.5	71.6	71.9	72.4	72.7	72.9	73.0
6.3 kHz	67.9	67.7	66.8	67.8	67.5	67.4	67.5	67.6	68.0	68.6	69.0	69.2	69.4
8 kHz	64.1	63.8	62.7	63.5	63.1	63.0	63.0	63.2	63.7	64.5	65.0	65.3	65.4
10 kHz	59.9	59.6	58.2	58.9	58.3	58.1	58.2	58.4	59.0	60.1	60.7	61.0	61.1
A-wgt	97.6	97.6	97.7	99.5	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Blades with Serrated Trailing Edges

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA

DMS no.: 0128-4336_02
Issued by: Vestas R&D

RESTRICTED
Third octave noise emission
EnVentus™ V172

Date 2025-05-15

Type: T05

Page 17 of 17

5. Limitations

The values as stated in the present document are to be regarded as "best estimates" for the octave band performance for the turbine.

The values are to be regarded as informative for siting purposes. Due to site-to-site and part-to-part variability the stated values should not be directly used for issuing guarantees on any project.

6. Recalculation to 10 m wind speeds

In case 10 m height wind speed references are required, recalculation of the stated values can be made using the following procedure:

1. The stated hub height wind speeds are recalculated to 10 m reference height.
2. Integer 10 m height wind speed related sound power levels are calculated using linear interpolation between the nearest non-integer values.

Recalculation is made using procedures as defined in IEC 61400-11 ed.3. Appendix D.

Classification: Restricted

Vestas Wind Systems A/S · Hedeager 42 · 8200 Aarhus N · Denmark · www.vestas.com

VESTAS PROPRIETARY NOTICE

T05 0128-4336 Ver 02 - Approved- Exported from DMS: 2026-05-11 by VAKCA