

Rangebank BESS

Compliance Noise Monitoring

S7794C22

December 2025

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1 INTRODUCTION

The Rangebank BESS (the **Subject Site**) is a 200MW/400MWh battery energy storage system (**BESS**), located in Cranbourne West, Victoria. The Subject Site was approved on 29 September 2022 (Permit No. PA2101362) and the approval was subsequently amended on 14 February 2023 and 10 August 2023.

Condition 13 of the planning permit states the following:

Within 1 year of the commencement of the use, a Post-Construction Acoustic Assessment Report must be prepared by a suitably qualified acoustic engineer and must be submitted to the Responsible Authority demonstrating compliance with the Noise Protocol at all times. The Acoustic Report must be made available to the public. The report must assess the compliance of the use with the Noise Protocol and, where necessary, make recommendations to limit the noise impacts in accordance with the Noise Protocol. If recommendations to limit the noise impacts are made, they must be implemented to the satisfaction of the responsible authority.

This report has been prepared in accordance with Condition 13 to outline the procedure and results of compliance noise measurements taken in the vicinity of the Subject Site on the 4th of December 2025.

2 NOISE LEGISLATION

The *Environment Protection Act 2017* (VIC) (the **Act**) outlines the principles of environment protection that are applicable to developments in Victoria. The *Environment Protection Regulations 2021* (VIC) (the **Regulations**) furthers the purposes of the Act by, among other things, specifying matters in relation to noise. Clause 113 of the Regulations states the following:

113. Prediction, Measurement, assessment and analysis of noise must be in accordance with Noise Protocol

A person who conducts a prediction, measurement, assessment or analysis of noise within a noise sensitive area for the purposes of the Act or these Regulations, other than Division 5 of this Part, must conduct the prediction, measurement, assessment or analysis in accordance with the Noise Protocol.

Note

The Noise Protocol sets out how to conduct the following noise-related assessments –

- (a) noise limits;*
- (b) background levels;*
- (c) alternative assessment criterion at an alternative assessment location, including when the Live music entertainment venues provisions (which include reference to agent of change) set out in the VPPs apply;*
- (d) effective noise levels.*

The Noise Protocol referenced in Condition 13 and the Regulations refers to the EPA Publication 1826.4 *Noise limit and assessment protocol for the control of noise from commercial, industrial and trade premises and entertainment venues* (the **Noise Protocol**). The Noise Protocol defines two methods for determining noise limits, an urban area method and a rural area method.

For the urban area method (applicable for the Subject Site), the zoning noise limit is first determined, then this may be adjusted, depending on existing background noise levels. Excerpts of the relevant clauses from the Noise Protocol are attached in Appendix A.

3 CRITERIA

The current planning permit for the Subject Site was granted in February 2023 (permit no. PA2101362-1) (the **Permit**). Condition 13 of the Permit requires the use of the land to comply with the noise criteria documented in the Noise Protocol. It is noted that no specific noise criteria are provided in the Permit conditions, only referencing the method for determining appropriate conditions. Appropriate noise criteria have therefore been determined in accordance with the urban area method of the Noise Protocol.

As noted in the Noise Legislation section of this report, the criteria determined in accordance with the Noise Protocol are influenced by the background noise level in the area. It is noted that background noise monitoring was previously conducted in February 2021 by Marshall Day Acoustics (**MDA**), however these measurements are not considered to be representative of the conditions on site for the following reasons:

- Noise monitoring was conducted during COVID, where activities were much reduced.
- Short term noise measurements were taken on a limited number of occasions as opposed to continuous long term noise monitoring.
- Noise measurements were not representative of the closest residences to the Subject Site and were instead taken at locations setback further from the site and often shielded by other residences.

As such, further background noise measurements were conducted to better determine the site conditions, prior to the operation of the BESS. This noise monitoring was conducted at two locations near to the Subject Site between 5 August 2024 and 13 August 2024. The noise monitoring locations and receiver locations can be seen in Figure 1. Noise monitoring equipment was placed on Breens Road and Evans Road at similar distances from major noise sources (roads) as residences.



Figure 1: Site layout and receivers

The background noise level is determined as the arithmetic average of all $L_{A90,1}$ hour measurements for each of the day, evening, and night periods, as defined in EPA Publication 1997 *Technical guide: Measuring and analysing industry noise and music noise* (the **Technical Guide**). The resultant background noise levels based on the measurements can be seen in Table 1. It is noted that during the background noise monitoring period, there was construction activity occurring on the opposite side of Evans Road during the day period. As such, the background noise levels for this period have been conservatively assumed to be the same as for the evening period. This results in lower criteria during the day than would otherwise be the case.

Table 1: Background Noise Levels

| Location | Time Period | | |
|-------------|-------------|----------|----------|
| | Day | Evening | Night |
| Breens Road | 44 dB(A)* | 44 dB(A) | 42 dB(A) |
| Evans Road | 56 dB(A)* | 56 dB(A) | 46 dB(A) |

* Background noise levels as per evening period.

The Noise Protocol defines noise limits based on the background classification of the area. This is determined, as per the method in clause 4 of the Noise Protocol, by comparing the zoning levels with the background noise levels. The noise limits are then determined using the background classification in accordance with clauses 5 and 6. Given the zoning levels and the measured background levels, the noise limits can be seen in Table 2. It is noted that the criteria reported below have been decreased by 3 dB(A) to account for the potential cumulative noise from other industrial sources in the vicinity. This is in accordance with the equal sharing principle outlined in the Technical Guide, which adjusts the noise limits based on the total number of industrial noise sources in the vicinity. The applied correction is based on there being a total of 2 industrial premises at the time of application.

Table 2: Noise Protocol noise limits

| Receiver | Representative Logging Location | Zoning Level | | | Background Classification | Noise Limits | | |
|----------|---------------------------------|--------------|---------|-------|---------------------------|--------------|---------|-------|
| | | Day | Evening | Night | | Day | Evening | Night |
| R1 | Breens Road | 53 | 47 | 42 | High | 47 | 44 | 42 |
| R2 | | 53 | 47 | 42 | High | 47 | 44 | 42 |
| R3 | | 53 | 47 | 42 | High | 47 | 44 | 42 |
| R4 | | 54 | 48 | 43 | High | 47 | 44 | 42 |
| R5 | | 54 | 48 | 43 | High | 47 | 44 | 42 |
| R6 | | 55 | 48 | 43 | High | 47 | 44 | 42 |
| W1 | Evans Road | 58 | 51 | 46 | High | 59 | 56 | 46 |
| W2 | | 58 | 52 | 46 | High | 59 | 56 | 46 |
| W3 | | 58 | 52 | 47 | High | 59 | 56 | 46 |
| W4 | | 58 | 52 | 47 | High | 59 | 56 | 46 |

4 MEASUREMENT PROCEDURE

Attended noise measurements were taken on the night of the 4th of December 2025. The most exposed residence, R1, was not located downwind from the Subject Site and was therefore not exposed to the worst case conditions for noise propagation. Where the noise level is affected by atmospheric conditions, clause 76 of the Noise Protocol requires an alternate assessment location to be used, as stated below:

Where the effective noise level at the noise sensitive area is likely to be affected by atmospheric conditions, an alternative assessment location located near to the commercial, industrial or trade premises must be used unless there is no appropriate alternative assessment location (refer clause 77).

An alternate assessment location was therefore chosen that was downwind from the Subject Site, E1. The location where the measurements were taken can be seen in Table 3 and graphically in Figure 2.

Table 3: Measurement Location

| Location | Coordinates (UTM WGS84 55H) | |
|----------|-----------------------------|----------|
| | Easting | Northing |
| R1 | 347325 | 5783025 |
| E1 | 347423 | 5783434 |

The BESS was operated at maximum capacity (200MW) for the duration of the testing. The schedule in Table 4 outlines the operating modes and conditions during the testing.

Table 4: Operating Schedule

| Time | Mode | Inverter Fan Speed | Battery Cooling Mode |
|---------------------|-----------------|--------------------|----------------------|
| 11:00pm to 11:30pm | 200MW discharge | 80% | Mode 8* |
| 11:30pm to Midnight | 200MW charge | 80% | Mode 8* |

* Mode 8 = long duration cubes operating with the *Envicool* chiller and HVAC both switched on.

Fluence has indicated that these operating conditions represent “worst case” acoustic contribution with the site under full load, inverter fans operating at 80% and all chillers and HVAC in standard operating modes.



Figure 2: Measurement Location

Noise measurements were taken using a Rion NL-52 sound level meter (serial number 00520898), last calibrated by a NATA laboratory on 18 April 2024. The calibration certificate and datasheet for the sound level meter can be seen in Appendix B. The sound level meter was placed on a tripod to facilitate the measurements, with a typical measurement setup shown in Figure 3. The sound level meter was calibrated on site before and after the noise measurements to a level of 94.0 dB(A) with no drift observed. The measurements were taken using the 'fast' time weighting and 'A' frequency weighting.



Figure 3: Typical Measurement Setup

It is noted that the operation of the site was inaudible while conducting the measurements at R1, with noise from traffic being the dominant noise source observed. The sky was slightly cloudy and there was a slight breeze blowing towards the site from R1 during the measurements. Therefore, measurements were taken at an alternate assessment location positioned downwind of the site during this period. Site operations were the dominant noise source at this alternate location. The potential for tonality was observed during the measurements at D1.

5 MEASUREMENT RESULTS

The results of the measurements and the atmospheric conditions at the time of the measurements can be seen in Table 5. The atmospheric conditions have been taken from the nearest Bureau of Meteorology station to the Subject Site, being the station at Frankston (Ballam Park). The observations for the time closest to the start of the measurement have been reported.

Table 5: Measurement Results

| Measurement Number | Measurement Location | Measurement Time | Measured Noise Level | Temperature | Humidity | Wind Speed | Wind Direction |
|--------------------|----------------------|------------------|----------------------|-------------|----------|------------|----------------|
| 1 | E1 | 04/12 11:05pm | 50 dB(A) | 14.5°C | 80% | 4 km/h | South |
| 2 | R1 | 04/12 11:20pm | 35 dB(A) | 14.3°C | 82% | 4 km/h | South |
| 3 | E1 | 04/12 11:35pm | 48 dB(A) | 14.3°C | 82% | 4 km/h | South |

In order to determine compliance based on the measurements taken at the alternate assessment location, the noise levels were extrapolated back to the primary assessment location, R1, using the alternate assessment criterion principles of the Noise Protocol. This was accomplished by comparing the predicted noise levels at these two locations. The extrapolation has been completed taking into account the surrounding warehouses, specifically those recently constructed to the south. It is noted that this does not include the potential attenuation provided by any fencing to the south of the southern warehouses. The results of this extrapolation can be seen in Table 6.

Table 6: Extrapolated Noise Level

| Measurement Number | Extrapolated Noise Level |
|--------------------|--------------------------|
| 1 | 38 dB(A) |
| 3 | 36 dB(A) |

The Noise Protocol requires the measured noise level to be adjusted for noise character where it is found to contain excessive tonality, impulsiveness, or intermittency. Tonality was observed during the attended measurements at E1 (but not at R1). The data were then further analysed in accordance with the procedure outlined in Annex C of the Noise Protocol. This further analysis indicated that a 2 dB(A) penalty for tonality is warranted for the measurements at E1. It is noted that with the additional distance and masking influence of ambient noise, the prominence of the tonality would be less at R1 than at E1.

An overall noise level for each location has been determined based on the highest measured noise levels. In addition, a 2 dB(A) penalty has been conservatively applied to the extrapolated noise levels for a tonal noise character. This results in a level of 37 dB(A) for the measured noise level at R1 (controlled by other sources) and a level of 40 dB(A) when extrapolating from the highest measured noise level at E1. Both of these levels will achieve the criterion of 42 dB(A) applicable at R1.

The measurement results have also been extrapolated out to the other nearby noise sensitive receivers. The highest result at these locations, inclusive of a conservative 2 dB(A) penalty for a tonal noise character, can be seen in Table 7 alongside the relevant noise criteria.

Table 7: Extrapolated Noise Levels - Additional Receivers

| Receiver | Extrapolated Noise Level | Night Period Criterion | Receiver | Extrapolated Noise Level | Night Period Criterion |
|----------|--------------------------|------------------------|----------|--------------------------|------------------------|
| R1 | 40 dB(A) | 42 dB(A) | R6 | 35 dB(A) | 42 dB(A) |
| R2 | 29 dB(A) | 42 dB(A) | W1 | 30 dB(A) | 46 dB(A) |
| R3 | 36 dB(A) | 42 dB(A) | W2 | 32 dB(A) | 46 dB(A) |
| R4 | 31 dB(A) | 42 dB(A) | W3 | 40 dB(A) | 46 dB(A) |
| R5 | 34 dB(A) | 42 dB(A) | W4 | 34 dB(A) | 46 dB(A) |

It can therefore be seen that the operation of the Subject Site complied with the relevant criterion from the Noise Protocol at the nearest noise sensitive location.

6 CONCLUSION

The planning permit for the Rangebank BESS includes the requirement for the use of the land to comply with the noise criteria documented in the Noise Protocol.

The noise criteria were determined in accordance with the Noise Protocol, including background noise monitoring conducted in August 2024, prior to operation of the BESS.

Noise monitoring was conducted on the evening of 4 December 2025. Fluence has confirmed that at the time of the monitoring, equipment was operating under *“worst case” acoustic contribution, with the site under full load, inverter fans operating at 80% and all chillers and HVAC in standard operating modes.*

At the times of noise monitoring, the noise from the BESS was inaudible at the closest residence. However, as the wind was not blowing toward the measurement location, an additional analysis was conducted by measuring the noise at an alternate location, as required by the Noise Protocol. The measured noise levels were then extrapolated to the location of nearest residence, under worst case meteorological conditions (wind toward residences) in accordance with the Noise Protocol. The extrapolation calculations include the influence of the recently constructed warehouses to the south, but no fences associated with these warehouses. These levels therefore represent the worst case operational conditions (confirmed by Fluence), under the worst case meteorological conditions.

Based on the above, the measured noise levels complied with the Noise Protocol. At all other times (in lower noise operating conditions and/or with different meteorological conditions), it is expected that noise levels will be lower at residences.

The compliance of the facility therefore does not rely on any fences on the southern boundary of the industrial park. Any temporary fences in this location may be removed from an environmental noise perspective.

APPENDIX A: RELEVANT NOISE PROTOCOL CLAUSES

Part I:

Commercial, industrial and trade premises

A: Determining noise limits for commercial, industrial and trade premises

1. Noise limits – urban area method

- (1) Noise limits must be set at an assessment location within a *noise sensitive area* as defined by the Regulations. The values of the noise limits must be whole numbers, rounded to the nearest decibel.
- (2) Determine the zoning level for each period using the method in clauses 7 to 15.
- (3) Assess the background level in accordance with clauses 39 to 51.
- (4) Determine whether the background level, relative to the zoning level, for each period as relevant is neutral, low or high:
 - a. for the day period the background level is –
 - i. neutral when it is at least 6 dB, and no more than 12 dB, below the zoning level;
 - ii. high when the background level plus 6 dB exceeds its respective zoning level; and
 - iii. low when the background level is 13 dB or more below the zoning level.
 - b. for the evening and night periods the background level is –
 - i. neutral when it is at least 3 dB and no more than 9 dB below the zoning level;
 - ii. high when the background level plus 3 dB exceeds the zoning level; and
 - iii. low when the background level is 10 dB or more below the zoning level.
- (5) If the background level is neutral, the noise limit for the respective period is the zoning level determined according to clauses 7 to 15.
- (6) Where the background noise level is not neutral, the noise limit for each period is based on whether the background relative to the zoning level is low or high (and having regard to the base noise limits in Regulation 118(2)(a) and the night period noise limit in Regulation 118(3) –
 - a. for the day period:
 - i. if the background level relative to the zoning level is high, the noise limit for the day period is the background level plus 6 dB;
 - ii. if the background level relative to the zoning level is low, the noise limit for the day period must be calculated from the following formula –
noise limit = $\frac{1}{2}$ (zoning level + background level) + 4.5 dB.

- b. for the evening period:
 - i. if the background level relative to the zoning level is high, the noise limit for the evening period is the background level plus 3 dB;
 - ii. if the background level relative to the zoning level is low, the noise limit for the evening period must be calculated from the following formula –
noise limit = $\frac{1}{2}$ (zoning level + background level) + 3 dB.
- c. for the night period:
 - i. if the background level relative to the zoning level is high, the noise limit for the night period is the background level plus 3 dB, but no greater than 55 dB(A);
 - ii. if the background level relative to the zoning level is low, the noise limit for the night period must be calculated from the following formula –
noise limit = $\frac{1}{2}$ (zoning level + background level) + 3 dB.

1.1 Zoning level

- (7) To determine the zoning level, the relevant planning scheme or schemes for the area under consideration must be used. (Refer to Annex A).
- (8) Two concentric circles of diameter 140 metres and 400 metres must be drawn or reproduced to scale on the relevant map, centred on the measurement point in the noise sensitive area (but if an alternative assessment location is specified, the centre of the two circles must be located at an appropriate point in the noise sensitive area).
- (9) The zones and reservations specified by the planning scheme or schemes within each circle must be designated by the Authority as type 1, type 2 or type 3 according to the tables in Annex A to this Noise Protocol, as amended from time to time.
- (10) In designating a zone or reservation as a type, the Authority must have regard to the nature of uses permitted in that zone or reservation and must generally designate –
 - a. residential, rural and open spaces as type 1; and
 - b. commercial, business and light industry as type 2; and
 - c. general industry and major roads as type 3.
- (11) If a zone or reservation is not listed in Annex A to this Noise Protocol, the Authority, having regard to the nature of the uses permitted in similar zones or reservations, will designate a type accordingly.
- (12) A type designated by the Authority under clause 11 must be published on the Authority's website.

(13) The total area of the 140 metre circle and the 400 metre circle must be measured from the relevant map specified in clause 8 above.

(14) The area of all type 2 and 3 zones and reservations must be measured for each of the two circles from the same map and the following applies –

a. The influencing factor (IF) must be calculated from the following formula:

$$IF = \frac{1}{2} \left(\frac{\text{area type 3} + \frac{1}{2}(\text{area type 2})}{\text{total area of circle}} \right)_{140\text{m circle}} + \frac{1}{2} \left(\frac{\text{area type 3} + \frac{1}{2}(\text{area type 2})}{\text{total area of circle}} \right)_{400\text{m circle}}$$

b. Alternatively, the fraction of each circle occupied by type 2 and 3 zones and reservations must be measured and the influencing factor (IF) calculated from the following equivalent formula:

$$IF = 0.25 (\text{Sum of type 2 fractions for both circles}) + 0.5 (\text{Sum of type 3 fractions for both circles}).$$

(15) The zoning level for a day period, evening period or night period must be determined from figure 1 below and must be rounded to the nearest decibel.

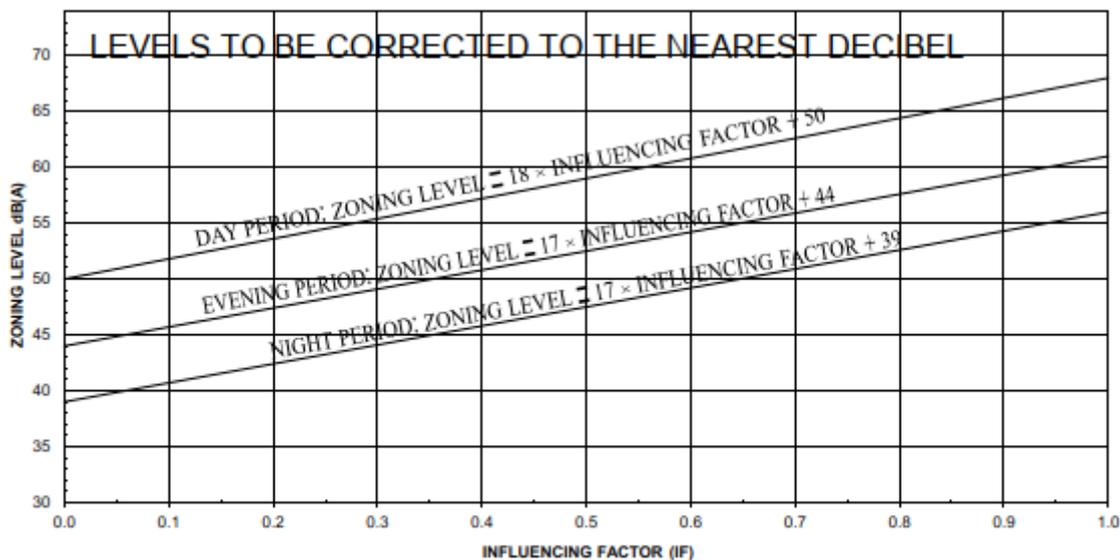


Figure 1: Zoning Level vs Influencing Factor

4. Assess background level to set noise limits for the urban area method or the rural area method

4.1 Measurement of background level

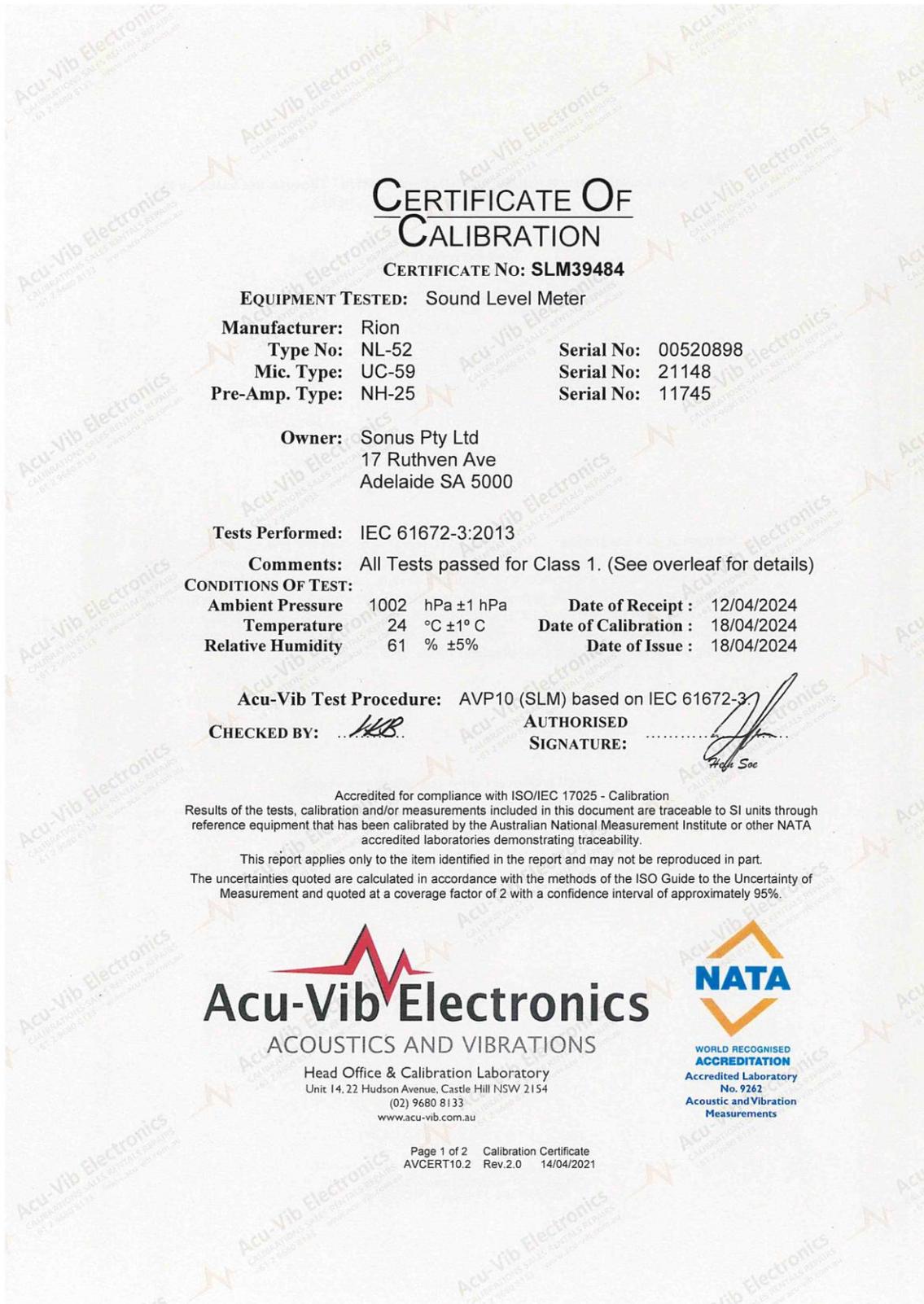
(39) The background level must, where possible, be measured outdoors at the assessment location in the noise sensitive area.

- (40) Where it is not possible for the measurement of the background level to be made in the noise sensitive area, then the measurement may be made at another point (background equivalent location) which is representative of the likely background level at the assessment location in the noise sensitive area.
- (41) The background level must be measured during dry conditions with wind conditions satisfying Beaufort Wind Scale 0, 1, 2 or 3.
- (42) The background level must include all noise sources except noise from any commercial, industrial or trade premises which appears to be intrusive at the point where the background level is measured.
- (43) When the microphone is located outdoors and 1 to 2 metres from an acoustically reflecting surface an adjustment of -2.5 dB must be made to the measured L_{A90} .
- (44) No adjustment for noise character is applied to the measured background level.
- (45) The background level must be rounded to the nearest decibel.
- (46) To determine the background level, the L_{A90} must be measured continuously over each hour of the day, evening and night period that the commercial, industrial or trade premises under investigation normally operates.
- (47) Where the conditions of clause 46 cannot be met, the L_{A90} may be measured over less than the full period using the short background method in clause 48.
- (48) For the short background method, at least two measurements of the L_{A90} must be made, each of at least 10-minutes duration, in each period, so as to obtain a representative measure of the background level for the periods when the commercial, industrial or trade premises normally operates.

4.2 Determination of background level

- (49) Where the hourly L_{A90} levels ($L_{A90, 1 \text{ hour}}$) have been measured, the background level is determined for each period as the arithmetic average of the $L_{A90, 1 \text{ hour}}$ for each hour of that period for which the commercial, industrial or trade premises under investigation normally operates.
- (50) For the purpose of clause 49, for the relevant period, the background level must be based on valid $L_{A90, 1 \text{ hour}}$ measurements for each and every hour that the premises under investigation normally operates.
- (51) Where the L_{A90} levels have been measured using the short background method in clause 48, the measurements in each period must be arithmetically averaged to obtain the background level during the relevant period.

APPENDIX B: SOUND LEVEL METER DETAILS



Specifications

| | NL-52 | NL-42 |
|--------------------------------|--|--|
| Applicable standards | IEC 61672-1: 2013/2002 class 1 ANSI/ASA S1.4-2014/Part1 class 1 JIS C 1509-1: 2017 class 1 | IEC 61672-1: 2013/2002 class 2 ANSI/ASA S1.4-2014/Part2 class 2 JIS C 1509-1: 2017 class 2 |
| CE Marking | WEEE Directives, Chinese RoHS (export model for China only) | |
| Measurement functions | Simultaneous measurement of the following items, with selected time weighting and frequency weighting | |
| Processing (main ch) | Instantaneous sound pressure level: L_p Equivalent continuous sound pressure level: L_{eq} Sound exposure level: L_E Maximum sound pressure level: L_{max} Minimum sound pressure level: L_{min} Percentile sound levels: L_N (0.1 to 99.9 %, 0.1-increment steps, max. 5 values) | |
| Processing (sub ch) | Instantaneous sound pressure level: L_p | |
| Additional processing | In addition to main processing items, one of the following can be selected for simultaneous processing: C-weighted equivalent continuous sound level: L_{Ceq} C-weighted peak sound level: L_{Cpeak} Z-weighted peak sound level: L_{Zpeak} 1-time-weighted equivalent continuous sound level: L_{A1eq}^{*2} Maximum 1-time-weighted equivalent continuous sound level: L_{A1max}^{*2} The power average of the maximum level of each 5 second interval: L_{Ams} The frequency weighting for the additional processing synchronizes with the frequency weighting of the sub-channel, so when the sub-channel has A-weighting, L_{Ams} can be selected. When C-weighting (Z-weighting) is selected, the additional processing L_{Ceq} and L_{Cpeak} (L_{Zpeak}) are selectable. | |
| Microphone | Type UC-59 Sensitivity level -27 dB | UC-52 -33 dB |
| Measurement range | A-weighting: 25 dB to 138 dB C-weighting: 33 dB to 138 dB Z-weighting: 38 dB to 138 dB C-weighting peak sound level: 55 dB to 141 dB Z-weighting peak sound level: 60 dB to 141 dB | |
| Inherent noise | A-weighting 17 dB or less C-weighting 25 dB or less Z-weighting 30 dB or less | 19 dB or less 27 dB or less 32 dB or less |
| Frequency range | 10 Hz to 20 kHz | |
| Frequency weighting | A, C, and Z | |
| Time weighting | F (Fast) and S (Slow) | |
| Level range | Single range (Linearity range: 113 dB) | |
| Bar graph display range max | Max. 110 dB (20 to 130 dB) | |
| Switching of bar graph display | Set the upper/lower limit in 10 dB increments. | |
| RMS detection circuit | Digital processing method | |
| Sampling cycle | 20.8 μ s (L_p , L_{eq} , L_E , L_{max} , L_{min} , L_{peak} : sampling frequency: 48 kHz) 100 ms (L_N) | |
| Calibration | Electrical calibration performed according to IEC and JIS standards, using internally generated signals: acoustic calibration performed with the NC-75. | |
| Correction functions | Windscreen correction: Compliant with IEC 61672-1 and JIS C 1509-1 standards when the windscreen is installed. Diffuse sound field correction: Correction of frequency characteristics in order to comply with standards (ANSI S1.4) in diffuse sound field. | |
| Delay time | The meter can be set to start measuring a specified time (OFF, 1, 3, 5 or 10 s) after the start button has been pressed or when a user-set trigger is exceeded. | |
| Back erase function | When the PAUSE key is pressed to pause measurement, the preceding (user selectable) 0, 1, 3 or 5 s data are excluded from processing. | |
| Display | Backlit semitransparent color TFT LCD display WQVGA (400 x 240 dots) * LCD with touch panel (Capacitive Touch Panel) Numerical display update frequency: 1 s Bar graph update frequency: 100 ms | |
| Store | Manual Number of data Auto *2 | Data for measurement results are stored manually in single address increments. Internal memory: max. 1000 sets SD Card: depends on the capacity of the SD Card *1 Instantaneous values (L_p mode) and processed values (L_{eq} mode) are stored continuously and automatically at preset intervals. |
| | L_p sampling cycle L_{eq} sampling cycle Measurement Time | 100 ms, 200 ms, 1 s, L_{eq} 1s 10 s, 1, 5, 10, 15, 30 min, 1, 8, 24 h, and user selected time (up to 24 hours) Max. 1000 h in Auto L_p storage mode, max. 100 000 addresses in Auto L_{eq} storage mode (depends on the capacity of the SD card) *1 |
| Data recall | Allows viewing of stored data | |

| | |
|--|--|
| Setup memory | Up to five setup configurations can be saved in internal memory, for later recall Start up via file settings previously stored on SD card possible |
| Waveform recording *3 | File format Uncompressed waveform WAVE file Sampling frequency Select 48 kHz, 24 kHz or 12 kHz Data length Select 24 bit or 16 bit |
| Outputs | DC output Output DC signals using a frequency weighting characteristic selected by processing. Output voltage 2.5 V, 25 mV / dB at bar graph display full scale AC output Output AC signals using a frequency weighting characteristic selected by processing or by A, C, Z-weighting. Output voltage 1 V (rms values) at bar graph display full scale Comparator output *2 Turns on when the open-collector output exceeds the set value (max. applied voltage 24 V, max. current 60 mA, allowable dissipation 300 mW). |
| USB | Allows USB to be connected to a computer and recognized as a removable disk Allows USB to be controlled via communication commands |
| RS-232C communication | Allows for RS-232C communication via use of a dedicated cable |
| Data continuous output *2 | Type of data Instantaneous value L_p Processed value L_{eq} , L_{max} , L_{min} , L_{peak} Output interval 100 ms |
| Print out | Printing of measurement results on dedicated printer DPU-414 |
| Power requirements | Four IEC R6 (size AA) batteries (alkaline or rechargeable batteries) or external power supply Battery life (23 °C) Alkaline battery LR6 (AA): 26 h Ni-MH secondary battery: 25 h At the maximum * Depends on the setting |
| AC adapter | NC-98C (NC-34 for previous models cannot be used) |
| External power voltage | 5 to 7 V (rated voltage: 6 V) |
| Current consumption | Approximately 90 mA (normal operation, rated voltage) |
| Ambient conditions | Temperature -10 to +50 °C Humidity 10 to 90 % RH (non-condensing) |
| Dustproof / water-resistant performance *4 | IP code: IP54 (except for microphone) See precautions regarding waterproofing |
| Dimensions, weight | Approx. 250 (H) x 76 (W) x 33 mm(D), approx. 400 g (with batteries) |
| Supplied accessories | Storage case x 1, Windscreen WS-10 x 1, Windscreen fall prevention rubber x 1, Hand strap x 1, LR6 (AA) alkaline batteries x 4, SD card 512 MB x 1 (NX-42EX preinstalled model only) |

Options

| Product name | Product number |
|--|-------------------------------|
| Extended function program (Inst.on 512 MB SD card) | NX-42EX |
| Waveform recording program *2 (Inst.on 2 GB SD card) | NX-42WR |
| Octave, 1/3 octave real-time analysis program *2 (Inst.on 512 MB SD card) | NX-42RT |
| Reverberation time measurement program *2 (Inst.on 512 MB SD card) | NX-42RV |
| FFT analysis program *2 (Inst.on 512 MB SD card) | NX-42FT |
| Data management software for environmental measurement | AS-60 |
| Data management software for environmental measurement (Includes the octave and 1/3 octave data management software) | AS-60RT |
| Data management software for environmental measurement (Includes the vibration level data management software) | AS-60VM |
| Waveform analysis software | AS-70 |
| SD Card 512 MB | MC-51SD1 |
| SD Card 2 GB | MC-20SD2 |
| SD Card 32 GB | MC-32SD3 |
| AC adapter (100 V to 240 V) | NC-98C |
| Battery pack | BP-21A |
| Microphone extension cables | EC-04 (from 2 m) |
| BNC-Pin output code | CC-24 |
| Comparator output cable | CC-42C |
| Printer | DPU-414 |
| Printer cable | CC-42P |
| RS 232C serial I/O cable | CC-42R |
| USB cable | Generic USB cable can be used |
| Sound calibrator | NC-75 |
| All-weather windscreen | WS-15 |
| Windscreen mounting adapter | WS-15006 |
| Rain-protection windscreen | WS-16 |
| Sound level meter tripod | ST-80 |
| All-weather windscreen tripod | ST-81 |

*1 Use Rion fully guaranteed products. *2 NX-42EX required (sold separately). *3 NX-42WR required (sold separately). *4 Protection against harmful dust and water splashing from any direction.

Precautions regarding waterproofing

Before use, verify that the rubber bottom cover and the battery compartment lid are firmly closed. To maintain the water and dust proof rating, internal packing replacement is required every two years (at cost).



RION Co., Ltd. is recognized by the JCSS which uses ISO/IEC 17025 (JIS Q 17025) as an accreditation standard and bases its accreditation scheme on ISO/IEC 17011. JCSS is operated by the accreditation body (IA Japan) which is a signatory to the Asia Pacific Laboratory Accreditation Cooperation (APLAC) as well as the International Laboratory Accreditation Cooperation (ILAC). The Quality & Environmental Management system Center of RION Co., Ltd. is an international MRA compliant JCSS operator with the accreditation number JCSS 0197.

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