



Monthly compliance noise monitoring report

Glebe Island / White Bay

Port Authority of New South Wales

January 2022



→ The Power of Commitment

GHD Pty Ltd | ABN 39 008 488 373



133 Castlereagh Street, Level 15

Sydney, New South Wales 2000, Australia

T +61 2 9239 7100 | **F** +61 2 9239 7199 | **E** sydmil@ghd.com | **ghd.com**

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|-------------------------|---|
| Author | Chris Gordon |
| Client name | Port Authority of New South Wales |
| Document title | Monthly compliance noise monitoring report – January 2022 |
| Revision version | Rev 0 |
| Project number | 12540862 |

Document status

| Status Code | Revision | Author | Reviewer | | Approved for issue | | |
|-------------|----------|----------|----------|---|--------------------|---|------------|
| | | | Name | Signature | Name | Signature | Date |
| S4 | 0 | C Gordon | V Lau | | E Milton | | 25/02/2022 |
| S4 | 1 | C Gordon | V Lau | | E Milton | | 08/03/2022 |
| S4 | 2 | C Gordon | V Lau |  | E Milton |  | 01/07/2022 |
| | | | | | | | |
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1. Introduction

GHD Pty Ltd (GHD) has been engaged by Port Authority of New South Wales (Port Authority) to undertake compliance noise monitoring, as required by the *Port Noise Policy (Port Authority, 2020)*.

This report provides the details of the compliance noise monitoring for all vessels at berth during January 2022, as determined using the noise monitoring system. A detailed description of the permanent noise monitoring system including a map of monitoring locations is provided in the Noise Monitoring Plan, available on Port Authority's website.

2. Noise monitoring details and vessel schedule

| Client | Company details | Noise monitor name | Noise monitor location | Noise monitor details / settings | Noise monitor serial numbers | Monthly calibration variance |
|-----------------------------------|------------------------------|-------------------------|-----------------------------------|--|---|---|
| Port Authority of New South Wales | GHD Pty Ltd | L01 | Grafton Street, Balmain | Meter details Norsonic Nor145 Sound Level Meter with Nor1297 Noise Compass Meter settings A-weighted Fast time response 15 minute intervals | 14529640 | Initial calibration level 92.6 dBA Min. deviation = 0.0 dB Max. deviation = 0.2 dB |
| | | L02 | Maintenance Building on White Bay | | 14529642 | Initial calibration level 91.5 dBA Min. deviation = 0.0 dB Max. deviation = 0.2 dB |
| | L03 | Adjacent to White Bay 2 | 14529643 | | Initial calibration level 91.7 dBA Min. deviation = - 0.2 dB Max. deviation = 0.2 dB | |
| | L04 | Onsite at Glebe Island | 14529644 | | Initial calibration level 91.4 dBA Min. deviation = - 0.2 dB Max. deviation = 0.3 dB | |
| Vessel name | Arrival date and time | | Departure date and time | | Berth location | Applicable noise monitoring location/s |
| Akuna | January 18, 2022 09:53 | | January 19, 2022 14:00 | | GLB8 | L03 |
| CSL Thames | January 29, 2022 06:04 | | January 30, 2022 17:00 | | GLB7 | L03 |
| Pioneer | January 30, 2022 22:21 | | February 3, 2022 13:00 | | GLB7 | L03 |

3. Compliance summary

| Vessel | Dates at berth | Monitor location | Vessel Noise Level, dBA (inclusive of any modifying factor penalties) | | | Vessel Noise Trigger Levels, dBA | | | Compliance ¹ | |
|------------|-----------------------|------------------|--|---|---|--|---|---|-------------------------|-----------------|
| | | | Day ² L _{Aeq} (15 hr) | Night ³ L _{Aeq} (1 hr) | Night ³ L _{Amax} | Day ² L _{Aeq} (15 hr) | Night ³ L _{Aeq} (1 hr) | Night ³ L _{Amax} | Day | Night |
| Akuna | Jan 18 – Jan 19, 2022 | L03 | 56 | 54 | 61 | 60 | 55 | 65 | Yes | Yes |
| CSL Thames | Jan 29 – Jan 30, 2022 | L03 | 58 | 58 ⁴ | 59 | 60 | 55 | 65 | Yes | No ⁴ |
| Pioneer | Jan 30 – Feb 3, 2022 | L03 | 56 | 54 | 60 | 60 | 55 | 65 | Yes | Yes |

Note: 1) If non-compliance is detected, a detailed investigation of the results will be undertaken and reported separately if required

Note: 2) Daytime period (7 am to 10 pm) – 15 hour logarithmic average

Note: 3) Night-time (10 pm to 7 am) – worst case 1 hour period

Note: 4) See discussion in Section 4.2

4. Detailed results

4.1 Akuna – January 18 – January 19, 2022 (GLB8)

4.1.1 Daily noise monitoring results

| Date | Time period | Monitor location | Noise descriptor | Vessel noise level dBA ² | Tonal | LFN ³ | Vessel Noise Trigger Levels, dBA | Compliance |
|------------------|-------------|------------------|---|-------------------------------------|-------|------------------|----------------------------------|------------|
| January 18, 2022 | Day | L03 | L _{Aeq} , 15 hour ¹ | 56 | No | No | 60 | Yes |
| | Night | | L _{Aeq} , 1 hour ¹ | 54 | No | No | 55 | Yes |
| | | | L _{Amax} | 61 | - | - | 65 | Yes |
| January 19, 2022 | Day | L03 | L _{Aeq} , 15 hour ¹ | 55 | No | No | 60 | Yes |
| | Night | | L _{Aeq} , 1 hour ¹ | - | - | - | 55 | - |
| | | | L _{Amax} | - | - | - | 65 | - |

Notes

- 1) Daytime period (7 am to 10 pm) – 15 hour logarithmic average
Night-time period (10 pm to 7 am) – worst case 1 hour
- 2) Inclusive of any penalties for modifying factors
- 3) LFN = Low Frequency Noise

4.1.2 Additional information

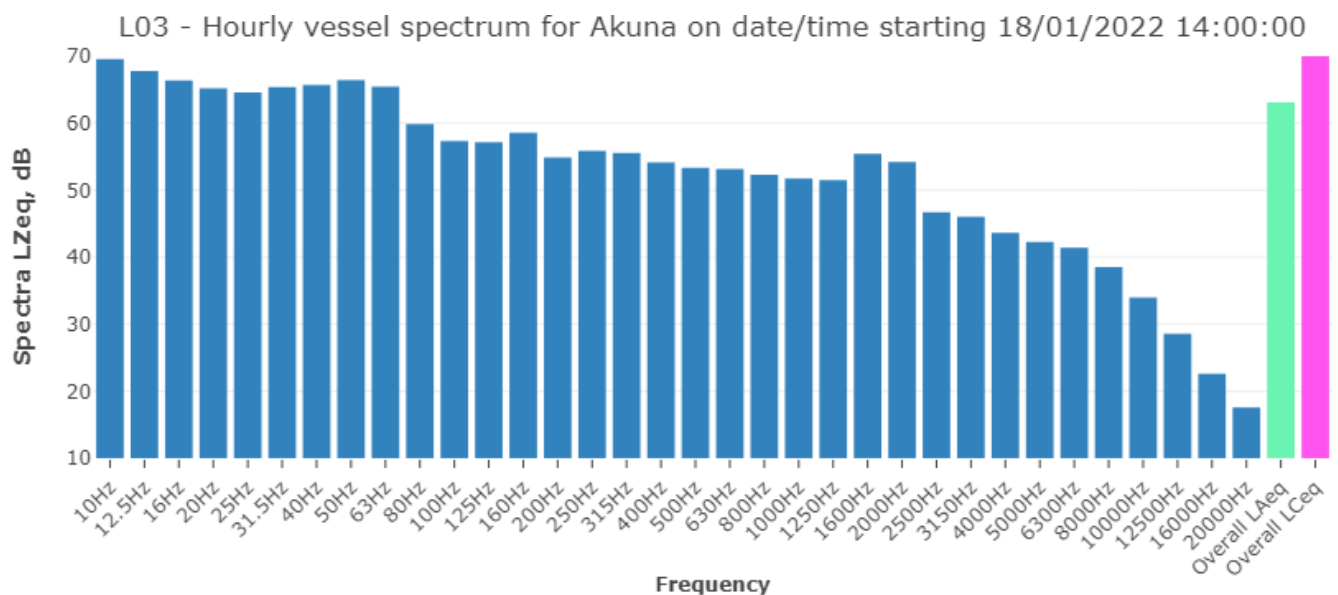


Figure 4.1 Typical vessel spectrum – noise level at L03

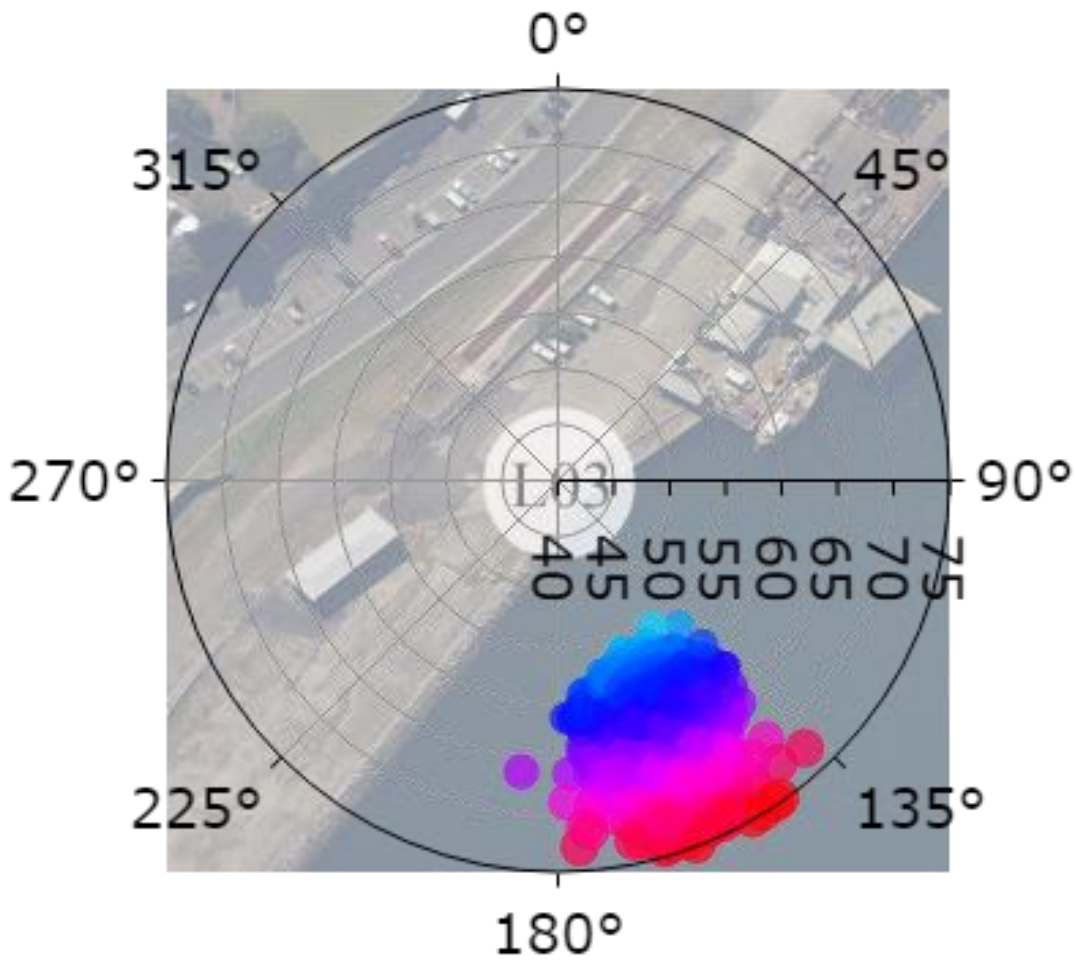


Figure 4.2 Typical vessel polar (directional) plot

4.2 CSL Thames – January 29 – January 30, 2022 (GLB7)

4.2.1 Daily noise monitoring results

| Date | Time period | Monitor location | Noise descriptor | Vessel noise level dBA ² | Tonal | LFN ³ | Vessel Noise Trigger Levels, dBA | Compliance |
|------------------|-------------|------------------|---|-------------------------------------|-------|------------------|----------------------------------|------------|
| January 29, 2022 | Day | L03 | L _{Aeq} , 15 hour ¹ | 58 | No | No | 60 | Yes |
| | Night | | L _{Aeq} , 1 hour ¹ | 58 | No | No | 55 | No |
| | | | L _{Amax} | 59 | - | - | 65 | Yes |
| January 30, 2022 | Day | L03 | L _{Aeq} , 15 hour ¹ | 47 | No | No | 60 | Yes |
| | Night | | L _{Aeq} , 1 hour ¹ | - | - | - | 55 | - |
| | | | L _{Amax} | - | - | - | 65 | - |

Notes

- 1) Daytime period (7 am to 10 pm) – 15 hour logarithmic average
Night-time period (10 pm to 7 am) – worst case 1 hour
- 2) Inclusive of any penalties for modifying factors
- 3) LFN = Low Frequency Noise

4.2.2 Discussion

Noise monitoring indicated a non-compliance from the CSL Thames during the night-time period.

During the previous visit of the CSL Thames (23 December 2021), the noise level from the vessel was estimated to be 56 dBA during operation of the conveyor. The vessel was compliant during the night-time period as they ceased operations of the conveyor. It can be deduced that during this visit the conveyor continued operating throughout the night-time period, as the level doesn't change between daytime and night-time. For the vessel to be compliant during the night-time period, the conveyor should not be operated between the hours of 10 pm and 7 am. If the conveyor was not in operation, it would be expected that the night-time criteria would be achieved.

4.2.3 Additional information

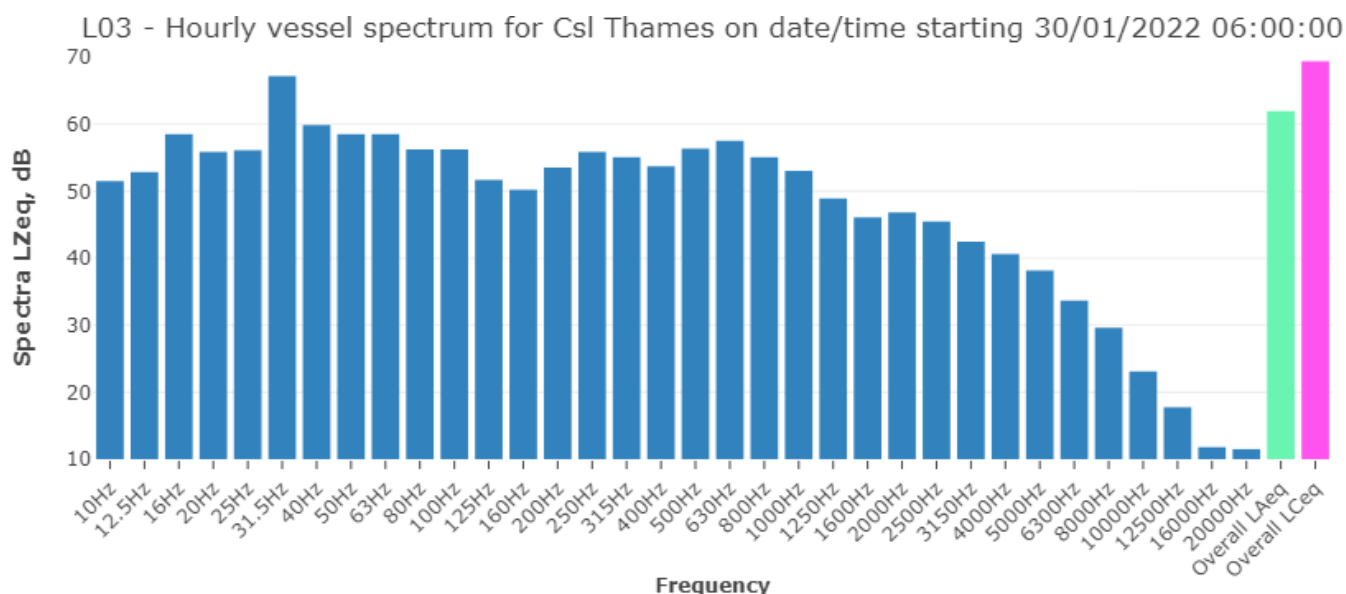


Figure 4.3 Typical vessel spectrum – noise level at L03

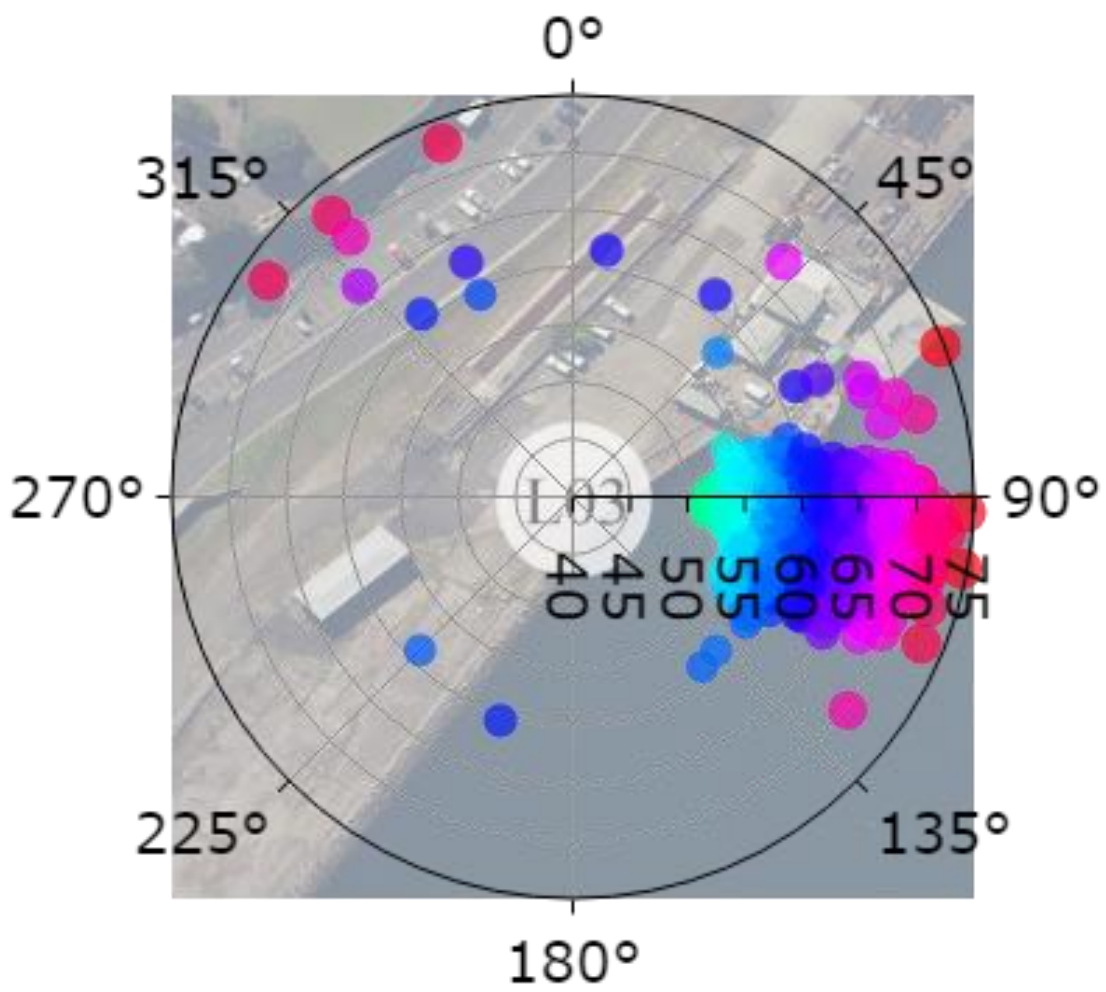


Figure 4.4 Typical vessel polar (directional) plot

4.3 Pioneer – January 30 – February 3, 2022 (GLB7)

4.3.1 Daily noise monitoring results

| Date | Time period | Monitor location | Noise descriptor | Vessel noise level dBA ² | Tonal | LFN ³ | Vessel Noise Trigger Levels, dBA | Compliance |
|------------------|-------------|------------------|--|-------------------------------------|-------|------------------|----------------------------------|------------|
| January 30, 2022 | Day | L03 | L _{Aeq, 15 hour} ¹ | 51 | No | No | 60 | Yes |
| | Night | | L _{Aeq, 1 hour} ¹ | 53 | No | No | 55 | Yes |
| | | | L _{Amax} | 56 | - | - | 65 | Yes |
| January 31, 2022 | Day | L03 | L _{Aeq, 15 hour} ¹ | 52 | No | No | 60 | Yes |
| | Night | | L _{Aeq, 1 hour} ¹ | 53 | No | No | 55 | Yes |
| | | | L _{Amax} | 57 | - | - | 65 | Yes |
| February 1, 2022 | Day | L03 | L _{Aeq, 15 hour} ¹ | 52 | No | No | 60 | Yes |
| | Night | | L _{Aeq, 1 hour} ¹ | 53 | No | No | 55 | Yes |
| | | | L _{Amax} | 59 | - | - | 65 | Yes |
| February 2, 2022 | Day | L03 | L _{Aeq, 15 hour} ¹ | 54 | No | No | 60 | Yes |
| | Night | | L _{Aeq, 1 hour} ¹ | 54 | No | No | 55 | Yes |
| | | | L _{Amax} | 60 | - | - | 65 | Yes |
| February 3, 2022 | Day | L03 | L _{Aeq, 15 hour} ¹ | 56 | No | No | 60 | Yes |
| | Night | | L _{Aeq, 1 hour} ¹ | - | - | - | 55 | - |
| | | | L _{Amax} | - | - | - | 65 | - |

Notes

- 1) Daytime period (7 am to 10 pm) – 15 hour logarithmic average
Night-time period (10 pm to 7 am) – worst case 1 hour
- 2) Inclusive of any penalties for modifying factors
- 3) LFN = Low Frequency Noise

4.3.2 Additional information

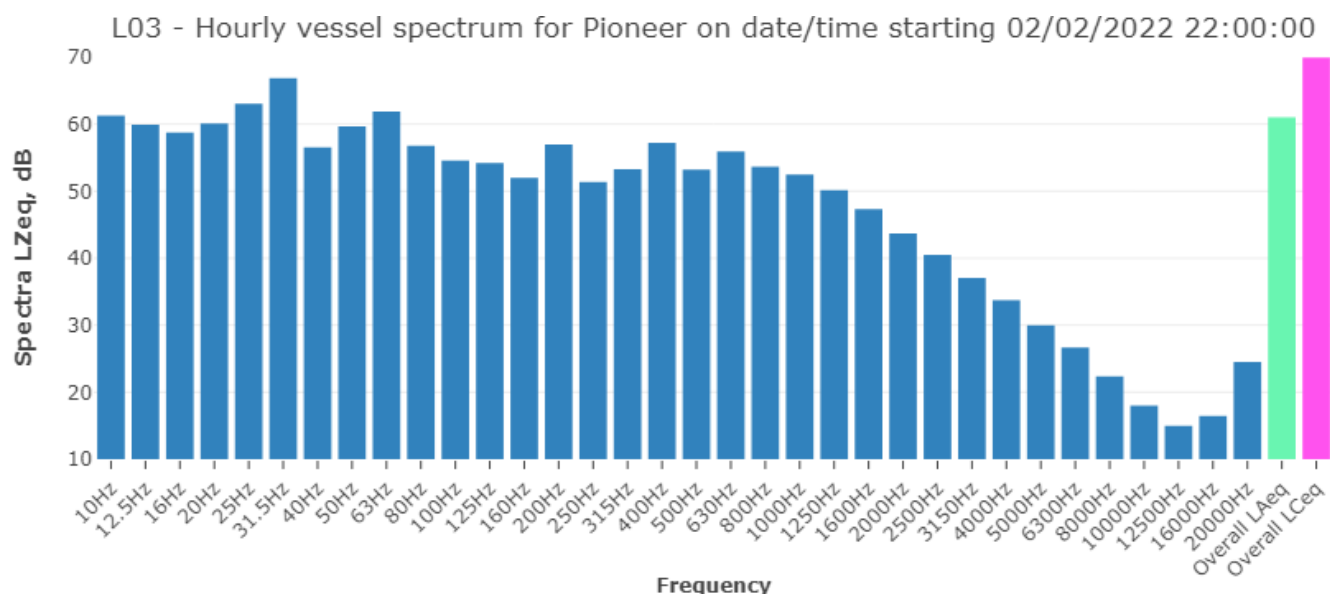


Figure 4.5 Typical vessel spectrum – noise level at L03

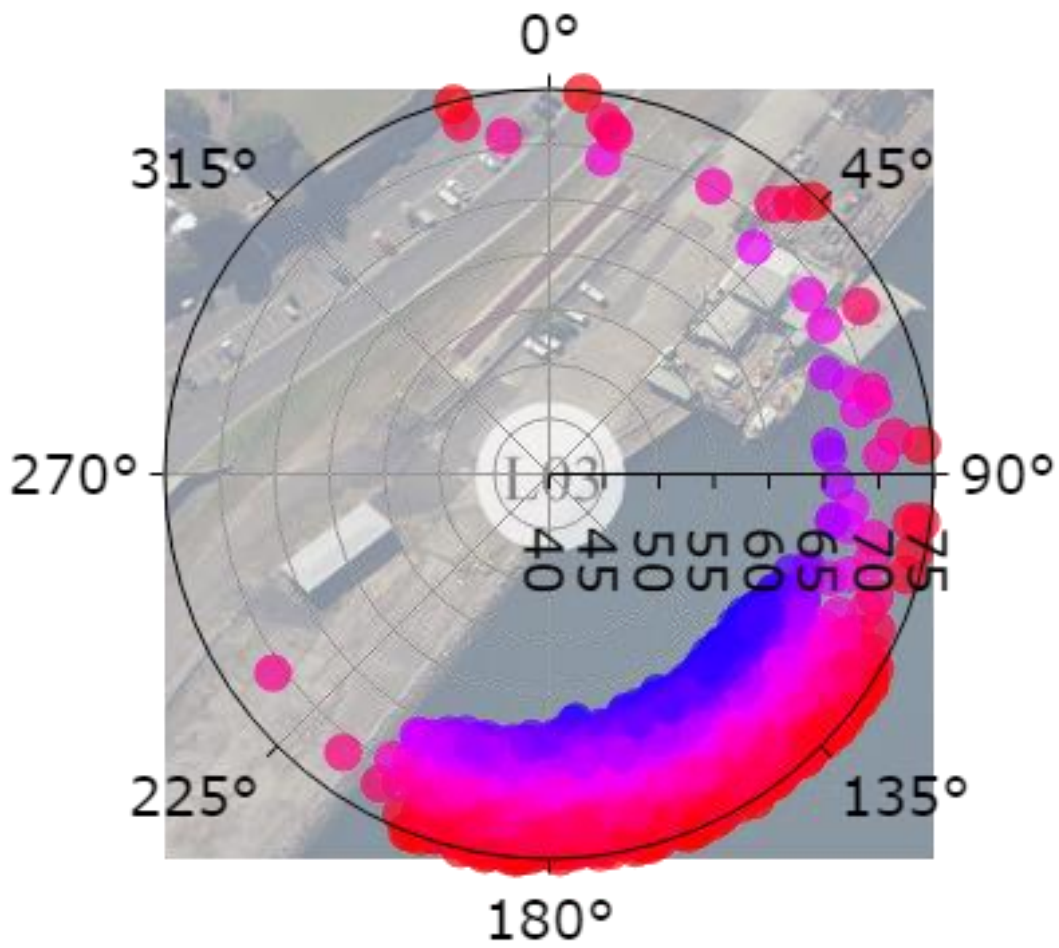


Figure 4.6 Typical vessel polar (directional) plot



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