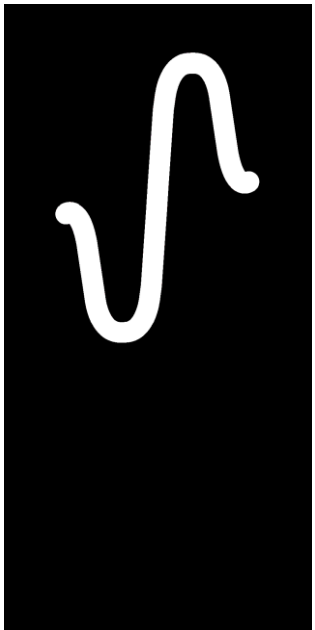
Fusion Deansgate Manchester

Internal Noise Level Testing Report

Client:
Domis Construction Limited
Douglas House, Green Street, Wigan, England, WN3 4DQ

Date:
29 August 2026

Our Ref:
22130-RP-1-R0



JAMESON ACOUSTICS

Consultants in acoustics, noise and vibration

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Document Control

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1.0 Introduction

Jameson Acoustics Limited has been commissioned by Domis Construction Limited to survey and assess internal noise levels within a selection of new student residential rooms at the recently constructed Fusion Student Accommodation building on Deansgate in Manchester.

This report presents the survey methodology and results, together with a comparison against BS 8233 / WHO internal noise level targets adopted by Manchester City Council (MCC).

For a description of the acoustic terminology used herein, please see Appendix A.

2.0 Acceptable Internal Noise Levels

The following table summarises the internal noise levels to be achieved within dwellings.

The requirements apply to finished and furnished dwellings with ventilation systems providing background rates (to Part F) and windows closed.

Location (wrt Figure in Section 3.0)	Acceptable Internal Noise Level	
	Daytime (07:00-23:00)	Night-time (23:00-07:00)
Cluster Living Rooms	35 dB $L_{Aeq,16hr}$	-
Bedrooms	35 dB $L_{Aeq,16hr}$	30 dB $L_{Aeq,8hr}$ 45 dB* L_{Amax}

* not to be exceeded by scheduled noise events more than 10-15 times per night

All apartments are ventilated with whole-house mechanical ventilation systems (MVHR), and some are provided with air condition as part of the overheating mitigation strategy. We understand these systems have been designed to maintain the 35 dB L_{Aeq} (daytime bed/liv) and 30 dB L_{Aeq} (night-time bed) noise levels during normal operation.

3.0 Internal Noise Level Surveys

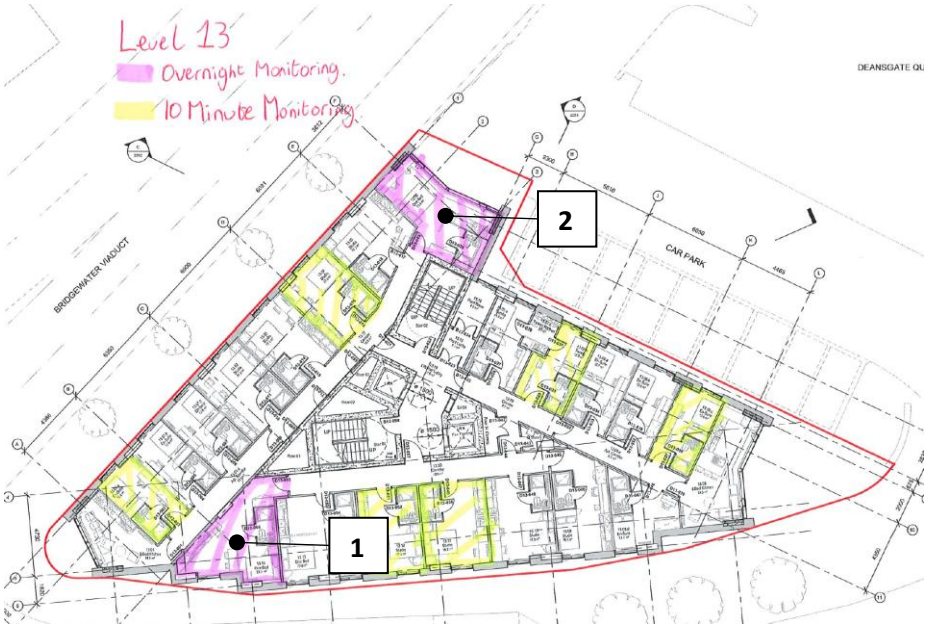
3.1 Overview

The testing comprises a mixture of long-term measurements in 4nr agreed test rooms using automated noise loggers installed, and short-term measurements in a further 17nr agreed test rooms using a handheld sound level meter. For all tests, windows were closed and we understood ventilation systems were operating at their minimum Part F rate.

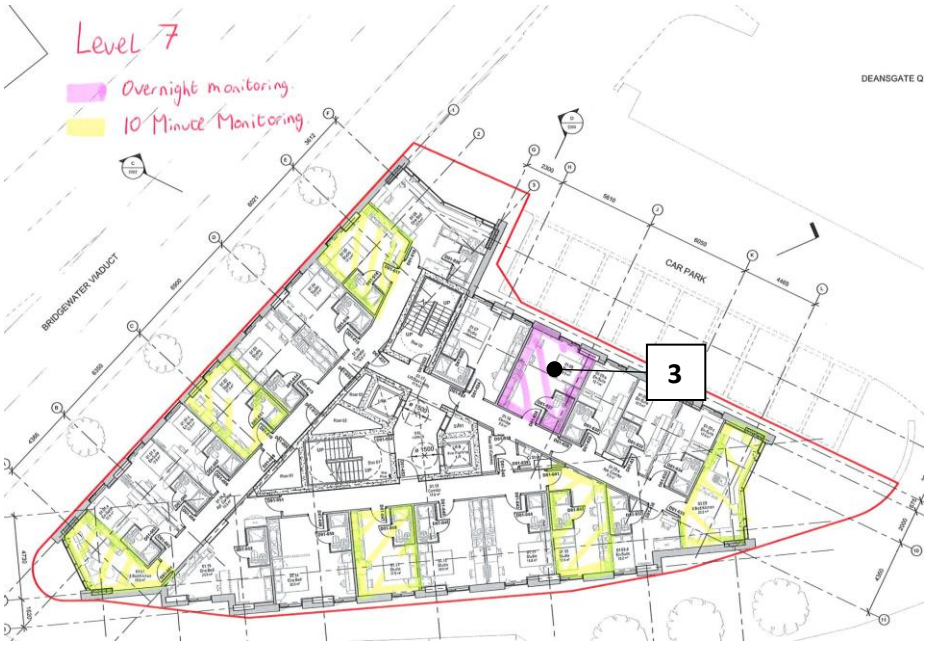
3.2 Long Term Survey

Automated noise level measurements were taken from early afternoon (13:00-14:30 hours) on Tuesday 18 August 2026 to 07:00 hours on Wednesday 19 August 2026 within 4nr test habitable rooms as described below.

Position	Description
1	Level 13, 1314 Bedroom
2	Level 13, 1306 Bedroom
3	Level 07, 708 Bedroom
4	Level 01, 103 Bedroom



Level 13



Level 07



Level 01

The microphones were fitted with windshields and mounted in the centre of the rooms, at least 1.4 metres from walls at a height of ~1.5 metres. The equipment was programme to continuously log all relevant A-weighted broadband (dBA) and linear spectral noise level indices, including L_{eq}, L_{90}, L_{10} and L_{max}, over 5-minute and 15-minute intervals.

The instrumentation used for the survey is summarised below. The sound level meters were hand-calibrated at the beginning and end of the survey period. No significant deviations in calibration level were noted.

Description	Equipment	Serial Nr	Lab Calibration Expiry	Lab Calibration Certificate Nr
Class 1 sound level meter	Svantek 971A (with Type 7152 mic)	124663 (82835)	26 Aug 2026	1509611-1
Class 1 sound level meter	Svantek 971A (with Type 7152 mic)	131642 (85571)	25 July 2027	1512926-2
Class 1 sound level meter	Svantek 971A (with Type 7152 mic)	154301 (94512)	16 Jan 2027	16 Jan 2025
Class 1 sound level meter	Svantek 971A (with Type 7152 mic)	154288 (94517)	16 Jan 2027	16 Jan 2025
Class 1 sound calibrator	Cirrus CR:515	57570	11 Nov 2026	1190855

Based on internet reports, weather conditions remained suitable for obtaining representative internal noise level measurement results, with no periods of notably adverse weather.

The results of the survey have been plotted on Time History Graphs 22130-G1 to G4 enclosed in Appendix B. The graphs present the uncorrected 15-minute A-weighted (dBA) L_{eq} and L_{max} levels at each position throughout the duration of the survey.

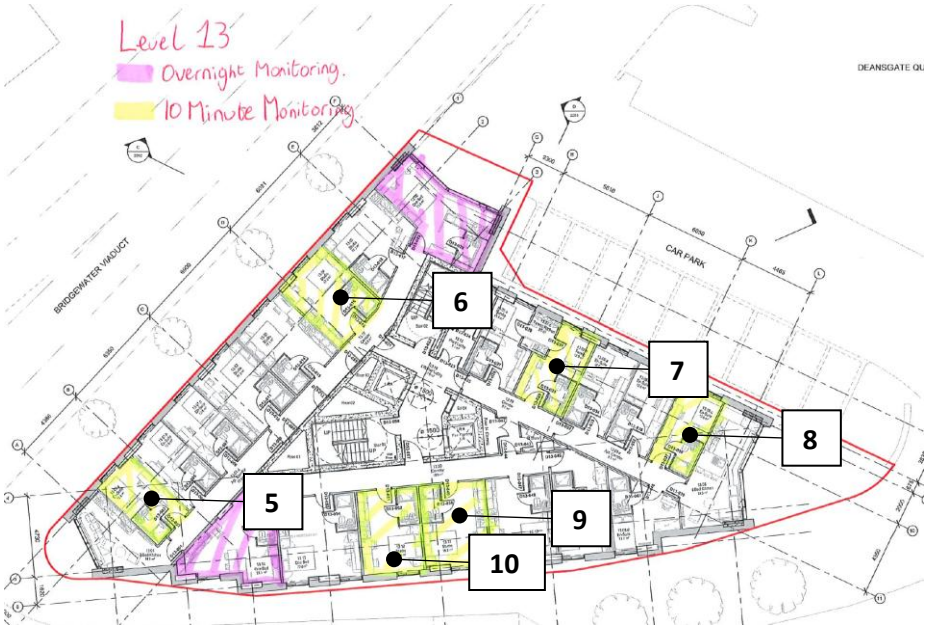
The graphs include indicators of periods affected by extraneous noise, caused by internal activities within the building (e.g. cleaners entering the room or security circling the building (doors closing)). These periods shall be excluded from our analysis.

3.3 Short Term Survey

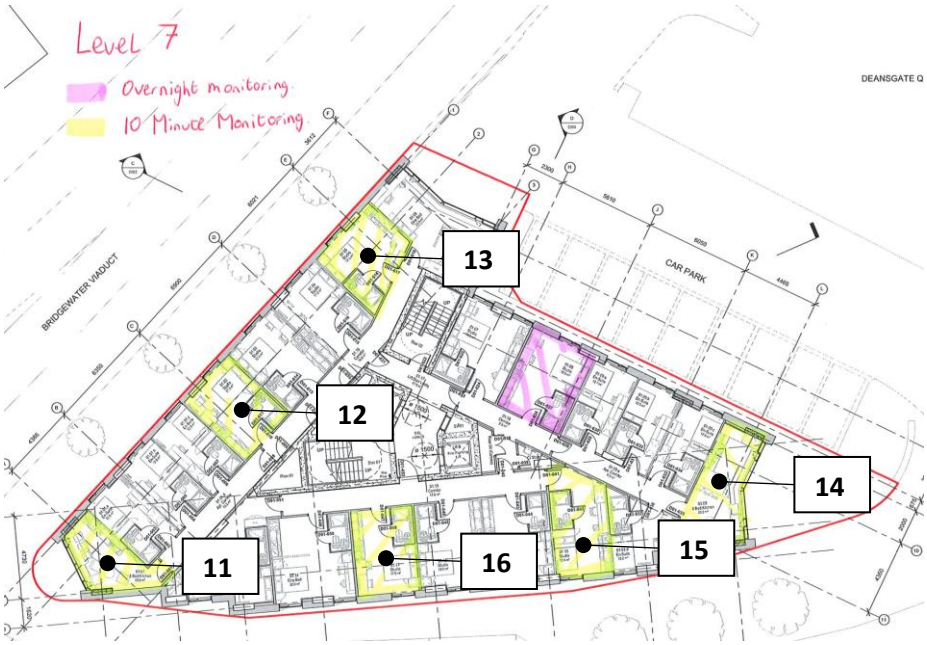
Manned noise level measurements were taken within 17nr agree test rooms in the afternoon of Tuesday 18 August 2026 (between 15:00 – 18:00hr). Additional measurements were taken on the morning of Wednesday 19 August 2026 (between 06:00-07:00hr) to cover any test bedrooms that failed to satisfy the night-time L_{Aeq} noise limit during the preceding afternoon test period. The rooms tested were as below.

Position	Description
5	Level 13, 1301a Cluster Bedroom
6	Level 13, 1304 Bedroom
7	Level 13, 1307b Cluster Bedroom
8	Level 13, 1308c Cluster Bedroom
9	Level 13, 1311 Bedroom
10	Level 13, 1312 Bedroom
11	Level 07, 701 Kitchen
12	Level 07, 702 Bedroom

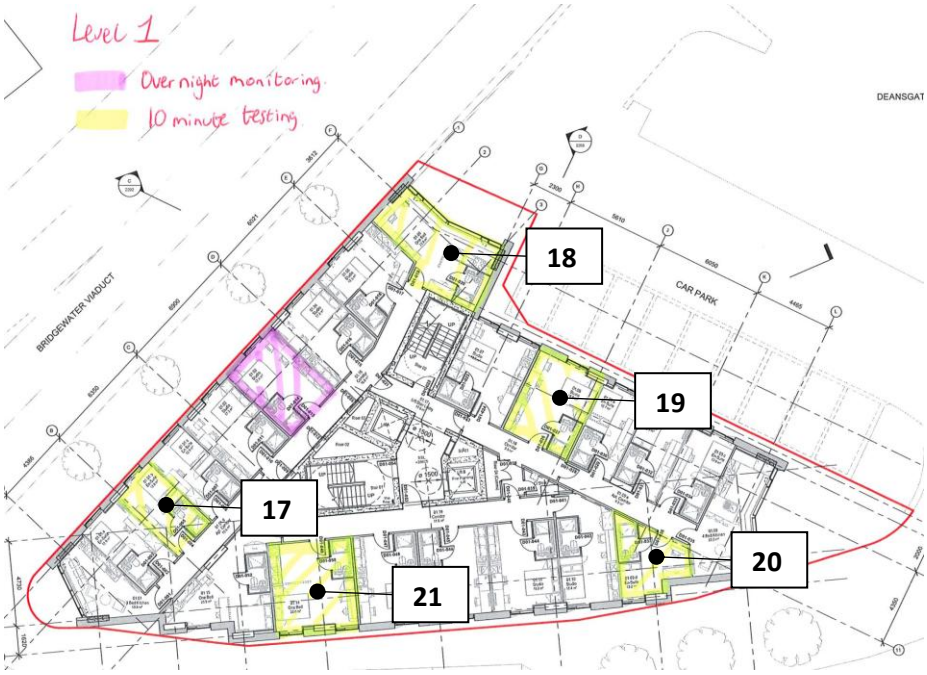
Position	Description
13	Level 07, 705 Bedroom
14	Level 07, 709 Kitchen
15	Level 07, 710 Bedroom
16	Level 07, 713 Bedroom
17	Level 01, 101b Cluster Bedroom
18	Level 01, 106 Bedroom
19	Level 01, 108 Bedroom
20	Level 01, 109d Cluster Bedroom
21	Level 01, 114 Bedroom



Level 13



Level 07



Level 01

Measurements were taken over periods of not less than 10-minutes per test room. The microphone was mounted on a tripod and positioned centrally in the room, but general near to beds where applicable. Extraneous noise from any internal activities (doors closing, cleaners working nearby) were excluded as far as reasonably possible.

The instrumentation used for the survey is summarised below. The sound level meters were hand-calibrated at the beginning and end of the survey period. No significant deviations in calibration level were noted.

Description	Equipment	Serial Nr	Lab Calibration Expiry	Lab Calibration Certificate Nr
Class 1 sound level meter	Cirrus CR:171B (with MK:224 mic)	G056718 (204055A)	11 Nov 2026	1190853
Class 1 sound calibrator	Cirrus CR:515	57570	11 Nov 2026	1190855

Weather conditions were suitable for obtaining representative internal noise level measurement results, with no periods of notably adverse weather. Road surfaces were damp but not wet, and so did not influence traffic speeds.

4.0 Internal Noise Level Assessment

4.1 Long Term Survey

The internal noise levels are to be achieved in finished and furnished rooms. The rooms tested were finished and furnished, meaning there are no corrections required.

With periods of internal activity noise excluded, the following table summarises the measured internal ambient L_{Aeq} and maximum L_{Amax} noise levels in each test room. Compliance is indicated by cell colour (red = fail, green = pass).

Position	Ambient Noise Level (dB)		10-15th Highest Noise Level at Night, dB $L_{Amax,5min}$ (23:00-07:00)
	Daytime $L_{Aeq,16hr}$ (07:00-23:00)	Night-time $L_{Aeq,8hr}$ (23:00-07:00)	
1 – 1314 Bedroom	28	26	44
2 – 1306 Bedroom	28	26	39
3 – 708 Bedroom	29	27	43
4 – 103 Bedroom	30	28	43
Max.	**35**	**30**	**45**

The results demonstrate that, in all test rooms, the internal ambient noise levels and internal maximum noise levels at night achieved the upper limits of acceptable internal noise levels.

5.2 Short Term Survey

The internal noise levels are to be achieved in finished and furnished rooms. The rooms tested were finished and furnished, meaning there are no corrections required.

The following table summarises the measured internal ambient L_{Aeq} noise levels in each test room. In bedrooms, compliance with the night-time 30 dB L_{Aeq} target is indicated by cell colour (red = fail, green = pass). In kitchens, compliance is verified against the daytime 35 dB L_{Aeq} target with the same colour code applied.

Position	Ambient Noise Level (dB)	
	Test Period 1 Afternoon of Tue 18th	Test Period 2 Pre-7am on
5 – 1301a Cluster Bedroom	28	-
6 – 1304 Bedroom	29	-
7 – 1307b Cluster Bedroom	30	-
8 – 1308c Cluster Bedroom	29	-
9 – 1311 Bedroom	30	-
10 – 1312 Bedroom	30	-
11 – 701 Kitchen	32	-
12 – 702 Bedroom	30	-
13 – 705 Bedroom	28	-
14 – 709 Kitchen	33	-
15 – 710 Bedroom	30	-
16 – 713 Bedroom	29	-
17 – 101b Cluster Bedroom	31	29
18 – 106 Bedroom	33	29
19 – 108 Bedroom	30	-
20 – 109d Cluster Bedroom	27	-
21 – 114 Bedroom	29	-

The results demonstrate that, in all test rooms, the internal ambient noise levels achieved the upper limits of acceptable internal noise levels.

7.0 Conclusion

Jameson Acoustics Limited has been commissioned by Domis Construction Limited to survey and assess internal noise levels within a selection of new student residential rooms at the recently constructed Fusion Student Accommodation building on Deansgate in Manchester.

The assessment demonstrates that internal noise levels within the tested residential rooms achieved the upper limits of acceptable internal noise levels.

Appendix A – Acoustic Terminology

dB Decibel. A logarithmic unit used to express sound level or the ratio between two acoustic quantities.

dB(A) The human ear is more sensitive to mid-frequency sounds than to very high or very low frequencies. The A-weighting scale approximates this response and allows sound levels to be expressed as a single-figure value in dB(A). A change of 10 dB(A) is generally perceived as a doubling or halving of loudness, whilst a change of 3 dB(A) is only just perceptible. The $_A$ subscript is applied to an acoustical parameter to indicate the stated noise level is A-weighted (e.g. $L_{Aeq,T}$ in dB).

$L_{Aeq,T}$ The equivalent continuous A-weighted sound pressure level. It represents the average sound energy over a specified measurement period, T.

$L_{A10,T}$ The A-weighted noise level exceeded for 10% of the measurement period, T. It is commonly used to describe the influence of intermittent louder noise events and has historically been used in the assessment of road traffic noise.

$L_{A90,T}$ The A-weighted noise level exceeded for 90% of the measurement period, T. It is commonly used as an indicator of the prevailing background noise level.

L_{Amax} The A-weighted maximum sound pressure level recorded during the measurement period, T. It is often used in the assessment of discrete noise events, particularly at night where they may cause sleep disturbance.

R_w The weighted sound reduction index, R_w, is a single-number rating of the airborne sound insulation performance of a building element, determined from laboratory measurements in accordance with BS EN ISO 717-1.

R'_w The apparent weighted sound reduction index, R'_w, is a single-number rating of airborne sound insulation determined from measurements undertaken in completed buildings. It accounts for flanking transmission and site construction effects and is therefore typically lower than the corresponding laboratory-derived Rw value.

$D_{nT,w}$ The weighted standardised level difference, $D_{nT,w}$, is a single-number rating of airborne sound insulation measured between rooms in a building and standardised to a reference reverberation time. It is commonly used to assess compliance with building acoustic performance requirements.

$D_{n,e,w}$ The weighted element-normalised level difference, $D_{n,e,w}$, is a single-number rating describing the sound insulation performance of small building elements, such as trickle ventilators and air transfer devices.

C_{tr} A spectrum adaptation term that may be applied to airborne sound insulation ratings (e.g. R_w or $D_{nT,w}$) to account for low-frequency sound. The reference spectrum used in the calculation is representative of urban road traffic noise.

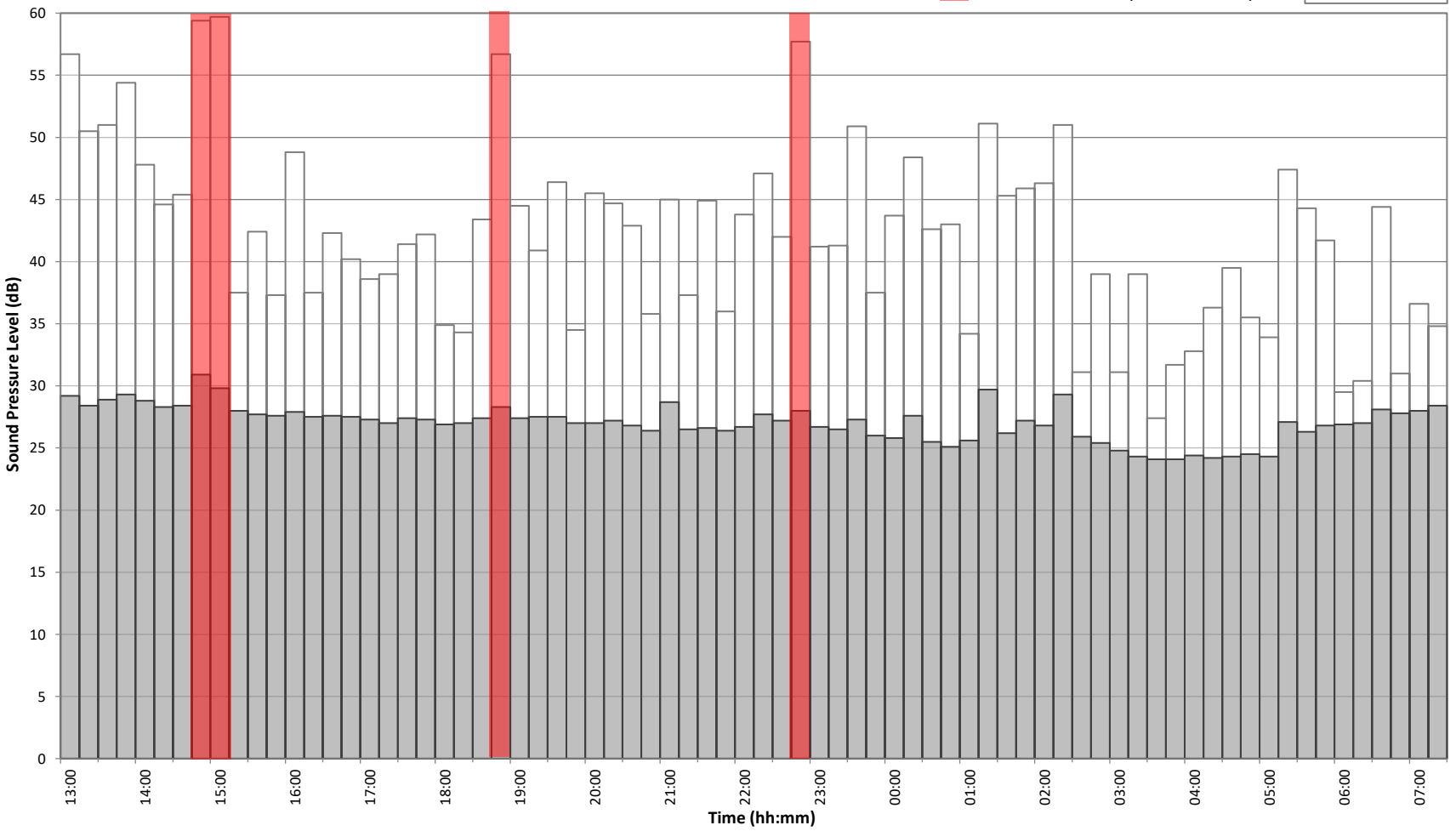
Appendix B – Time History Graphs

Fusion, Deansgate, Manchester

22130-G1

Measurement Position 1 (1314 Bedroom)

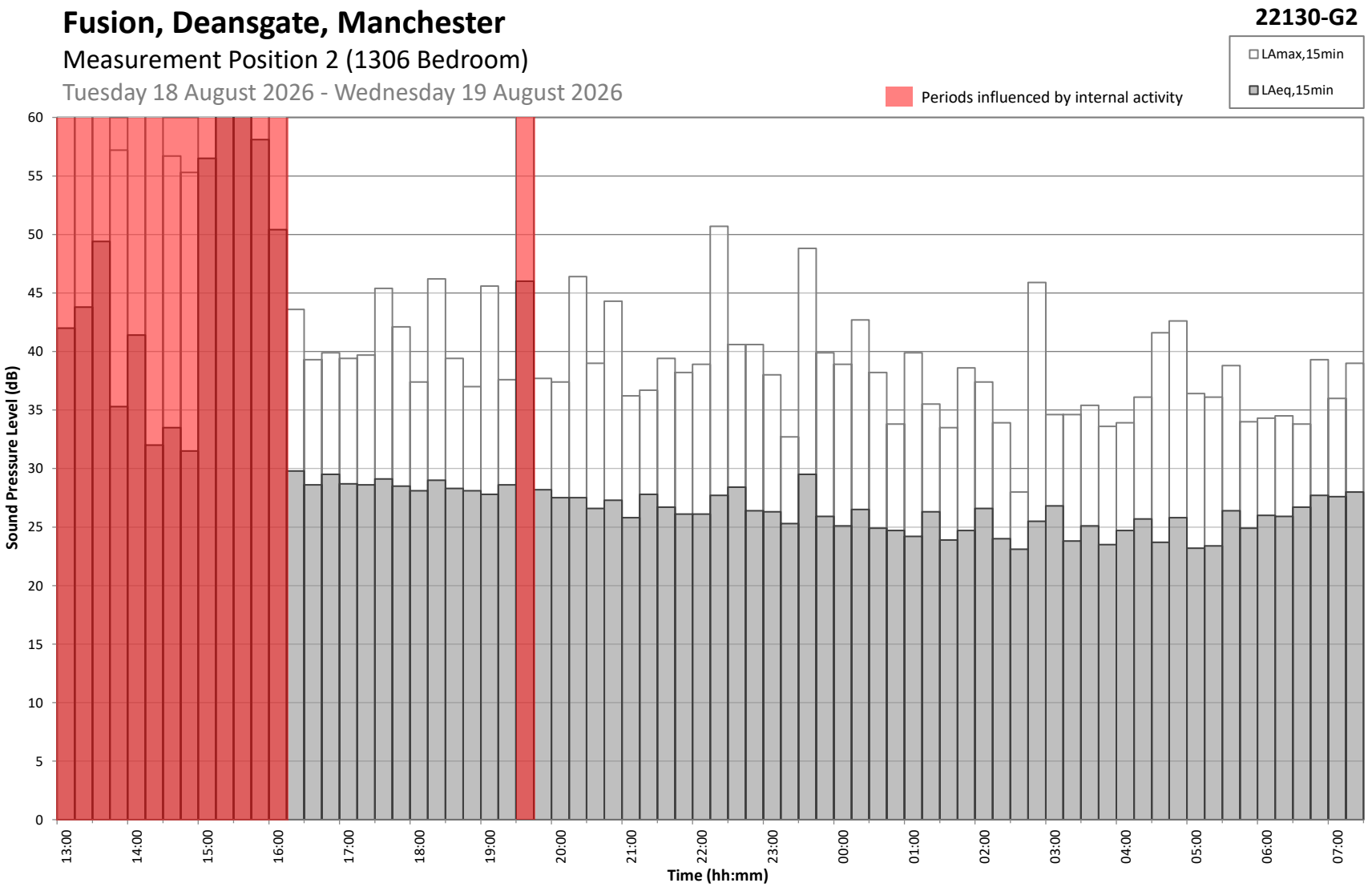
Tuesday 18 August 2026 - Wednesday 19 August 2026

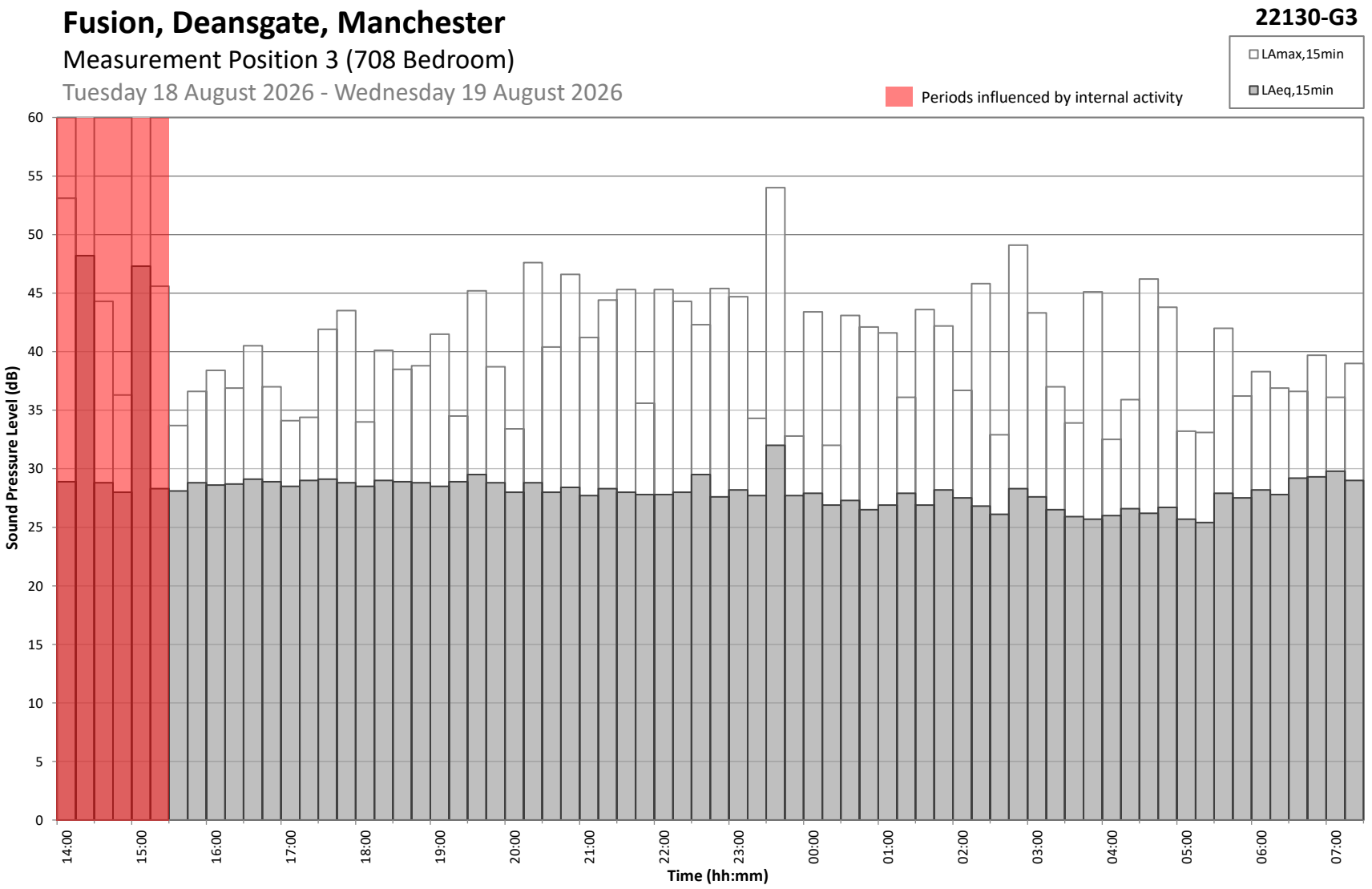


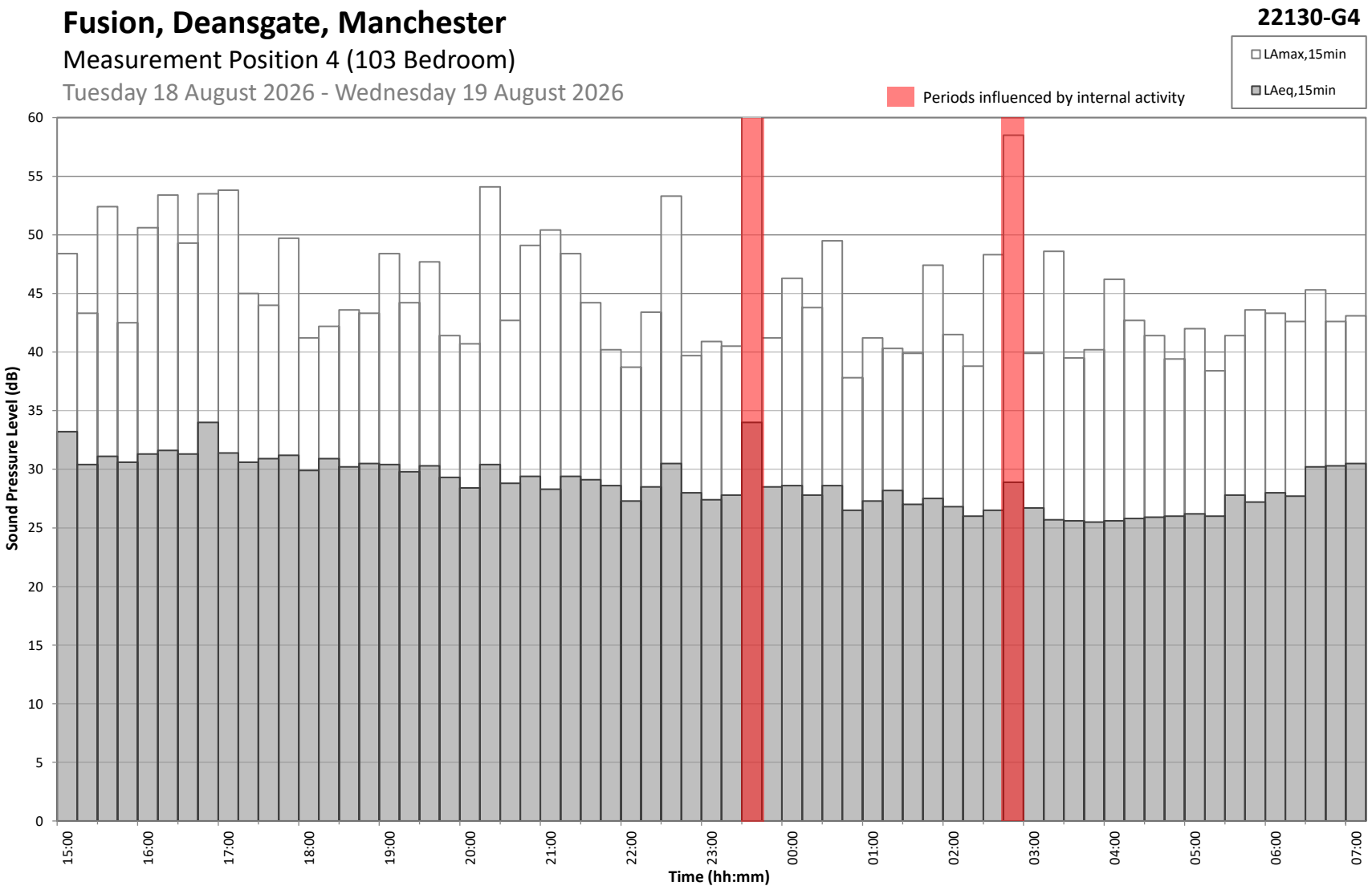
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Measurement Position 2 (1306 Bedroom)

Tuesday 18 August 2026 - Wednesday 19 August 2026




Fusion, Deansgate, Manchester
Measurement Position 3 (708 Bedroom)
Tuesday 18 August 2026 - Wednesday 19 August 2026
22130-G3
LAmax,15min
LAeq,15min
Periods influenced by internal activity
Sound Pressure Level (dB)
60
55
50
45
40
35
30
25
20
15
10
5
0
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
Time (hh:mm)


Fusion, Deansgate, Manchester
Measurement Position 4 (103 Bedroom)
Tuesday 18 August 2026 - Wednesday 19 August 2026
22130-G4
LAmax,15min
LAeq,15min
Periods influenced by internal activity
Sound Pressure Level (dB)
60
55
50
45
40
35
30
25
20
15
10
5
0
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
00:00
01:00
02:00
03:00
04:00
05:00
06:00
07:00
Time (hh:mm)