

## Monitoring Music Noise Level for Licensing Review: The Anchor Inn, Sidmouth

**Case Ref:** 25/02531/LIPREM

**Project Title:** Review of music noise levels from the Anchor Inn over the duration of the Sidmouth Folk Festival.

**Executive Summary:** This report is an assessment conducted by Ian Winter, Environmental Health Officer with the Environmental Protection Team at East Devon District Council. It evaluates the music noise levels generated from the Beer Garden of the Anchor Inn during Sidmouth Folk Week, based on submitted evidence and on-site sound monitoring.

Historically, prior to 2014, a music noise level of 70 dB ( $LA_{eq, 15min}$ ) was informally agreed upon between Environmental Health and the licensee as an acceptable limit at the boundary of nearby noise-sensitive properties. However, due to additional audience noise (reaching around 85 dB) this level was never formally adopted as the way it was written made it effectively impossible to monitor and enforce.

According to the Code of Practice on Environmental Noise Control at Concerts, for events held on between one and three days per year, the recommended music noise level should not exceed 65 dB ( $LA_{eq, 15min}$ ) when measured at the façade of a noise-sensitive property. This assessment considers whether the 65 dB limit is realistically achievable at this venue, or whether a higher limit of 70 dB ( $LA_{eq, 15min}$ ) would be more appropriate, given the constraints of the site and the frequency, scale and history of events held within the Beer Garden for Folk Week.

To inform this assessment, two sets of sound monitoring equipment were deployed during the week to gather accurate and representative sound data.

The first set was installed for the full duration of Folk Week inside a ground floor habitable room (dining room) at [REDACTED]. This location was selected because it provided a reliable representation of the noise levels experienced by nearby residential occupants.

The second set of equipment was used by the Environmental Health Officer during on-site visits, to monitor noise levels in real-time while live amplified entertainment was taking place.

Based on the findings, this report concludes that setting a music noise level of 96 dB ( $L_{Aeq, 15min}$ ), measured 1 metre in front of a main stage speaker, strikes an appropriate balance. It allows the venue to continue delivering well-received events during Folk Week while effectively limiting the potential for public nuisance.

The sound data gathered from the recording equipment is considered a reliable and accurate reflection of the music levels produced during the event.

<b>Equipment used:</b>	<p>One NORSONIC 145NNR (Sound Level Meter) Serial Number: 14529799  One NORSONIC 150NNR (Noise Nuisance Recorder) Serial Number: 15030295 incorporating a Nor-150 Sound Level Meter, hand trigger and tripod for microphone support.</p> <p>The sound meters and microphones have been tested and calibrated in accordance to the following standards:  IEC 61672-1: 2002 Class 1  IEC 61260-1 Class 1 Ed 1.0 2014-02  IEC 61094 Part 4  ANSI S1.4-1983 (R2001) with amd. S1.4A-1985 Class1  ANSI S1.43-1997 (R002) Class1  ANSI S1.11-2004 Class1  DIN 45 657, Applicable parts  The Certificate of Calibration for both sets of equipment is dated 9<sup>th</sup> January 2024.</p>
<b>Location and Noise Source</b>	<p>Anchor Inn, Old Fore Street, Sidmouth, EX10 8LP</p> <p>This assessment specifically relates to live amplified music performed in the Beer Garden of the premises during the Sidmouth Folk Festival. The festival typically occurs annually in the first week of August, running from Friday to the following Friday, making it an 8-day event. Currently, no other live amplified music events take place in the Beer Garden at any other time during the year.</p>

## Monitoring Location

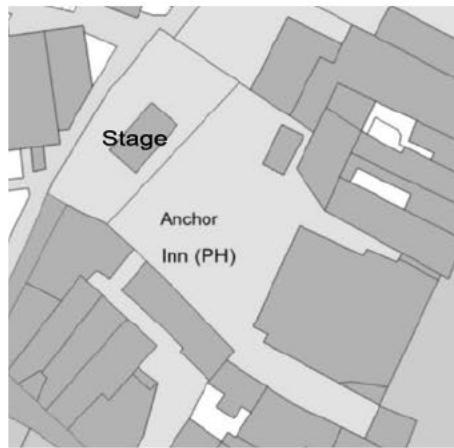


Figure 1

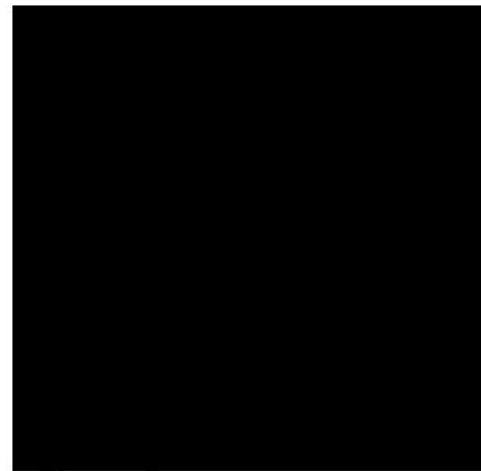


Figure 2

The plan of the Anchor Inn is shown in figure 1. The greatest density of noise sensitive properties are situated to the West of the premises.

Figure 2 shows the locations of the two main speakers located at each side of the main stage. They are represented in figure 2 by the two red points.

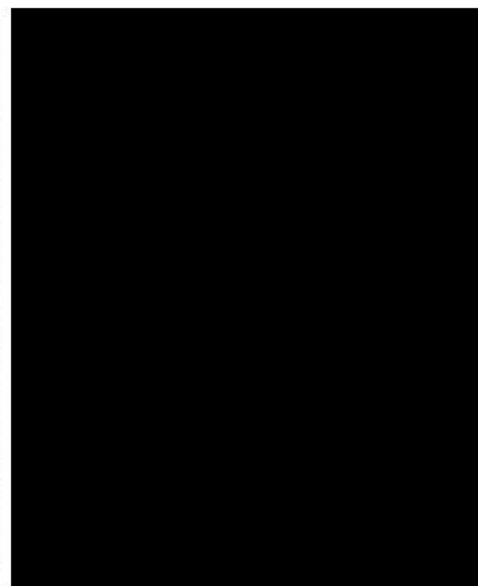
Monitoring point 1 was located 1m in front of speaker 1.

Monitoring point 2 was located below the window of Mr Chalkley's property. This is shown as a green point with a red outline. The distance of speaker 1 to Mr Chalkley's [REDACTED]

The distance between the speakers and Mr Chalkley's window is a key factor in assessing the impact from the music. As sound waves travel away from the source, they disperse over a wider area, resulting in a natural reduction in energy and volume. This phenomenon is known as distance attenuation and follows the inverse square law, meaning that with every doubling of distance from the speakers, the sound level decreases by approximately 6 decibels (dB).



Figure 3





	<p>A third monitoring location was established to assess music noise levels inside a [REDACTED] property. A set of sound recording equipment was installed within Mr Chalkley's home and remained there for the duration of Folk Week. This setup provided a reliable representation of the music noise levels experienced within nearby noise-sensitive properties.</p>																												
<b>Set-up Procedure:</b>	<p>Both sound level meters were calibrated at the beginning and end of each monitoring period using a sound level calibrator compliant with BS 7189:1989. No significant drift in calibration was detected.</p> <p>The equipment provided to Mr Chalkley was set up by the Environmental Health Officer and secured within a tamper-proof box. Operation of the equipment was controlled via a hand-held trigger. Log sheets were supplied to Mr Chalkley at the time of installation to record any perceived adverse impacts throughout the monitoring period.</p> <p>During installation, it was observed that the room in which the equipment was placed had double-aspect windows, with openable windows facing both the front and rear of the property.</p>																												
<b>Post - Installation Analysis of the recordings made within Ebdons Mews Cottage</b>	<p>The sound data accumulated over the monitoring period has been downloaded onto NorReview (the Council's noise data analysis software). Each recording has been reviewed in sequence. In total, 6 audio recordings were made totalling 2 hours and 6 minutes. The recordings were dominated by, music and people noise.</p> <p>On reviewing the recordings, no unexpected change in levels (signs of tampering) were identified on any of the recordings. It would appear that the noise recording equipment was operated and functioned correctly. On collection, the sound equipment was still securely locked.</p> <p>Six recordings were made by Mr Chalkley. Each recording lasted 21 minutes. This allowed for the calculation of the 15 minute continuous equivalent sound (<math>L_{Aeq\ 15min}</math>). These are shown in date order in table 1.</p> <p>No audio recordings were made by Mr Chalkley during the first 2 days of Folk Week. When questioned why no recordings were made during this period, Mr Chalkley inferred that he was happy with the music noise levels during this period, so no recordings were made.</p> <table><tr><th>Date</th><th>Monitoring Location</th><th>Time Period</th><th>Music Noise Level</th></tr><tr><td>03/08/2025</td><td>[REDACTED]</td><td>22:19 – 22:40</td><td>44dB (<math>L_{Aeq\ 15min}</math>)</td></tr><tr><td>04/08/2025</td><td>[REDACTED]</td><td>21:15 – 21:36</td><td>42 dB (<math>L_{Aeq\ 15min}</math>)</td></tr><tr><td>05/08/2025</td><td>[REDACTED]</td><td>21:57 – 22:18</td><td>41 dB (<math>L_{Aeq\ 15min}</math>)</td></tr><tr><td>06/08/2025</td><td>[REDACTED]</td><td>21:17 – 21:38</td><td>47 dB (<math>L_{Aeq\ 15min}</math>)</td></tr><tr><td>06/08/2025</td><td>[REDACTED]</td><td>22:47 – 23:08</td><td>42 dB (<math>L_{Aeq\ 15min}</math>)</td></tr><tr><td>07/08/2025</td><td>[REDACTED]</td><td>21:42 – 22:03</td><td>46 dB (<math>L_{Aeq\ 15min}</math>)</td></tr></table> <p><b>Table 1</b></p> <p>Detailed in Appendix 2 are the graphical representations of the six sets of audio recordings showing the <math>L_{Aeq}</math> level recorded throughout the event.</p>	Date	Monitoring Location	Time Period	Music Noise Level	03/08/2025	[REDACTED]	22:19 – 22:40	44dB ( $L_{Aeq\ 15min}$ )	04/08/2025	[REDACTED]	21:15 – 21:36	42 dB ( $L_{Aeq\ 15min}$ )	05/08/2025	[REDACTED]	21:57 – 22:18	41 dB ( $L_{Aeq\ 15min}$ )	06/08/2025	[REDACTED]	21:17 – 21:38	47 dB ( $L_{Aeq\ 15min}$ )	06/08/2025	[REDACTED]	22:47 – 23:08	42 dB ( $L_{Aeq\ 15min}$ )	07/08/2025	[REDACTED]	21:42 – 22:03	46 dB ( $L_{Aeq\ 15min}$ )
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**Post - Installation Analysis of the monitoring attended within the Anchor's Beer Garden**

The sound data from each attended visit has been downloaded onto NorReview. Each recording has been reviewed. In total, 7 attended recordings were made totalling a time of 1 hour and 45 minutes.

The recording periods were dominated by, music and people noise.

Each recording lasted a minimum of 15 minutes. This allowed for the calculation of the 15 minute continuous equivalent sound ( $LA_{eq\ 15min}$ ). These are shown in date order in table 2.

Date	Monitoring Location	Time Period	Music Noise Level
01/08/2025	Location 1 (speaker)	22:12 – 22:27	96 dB ( $LA_{eq\ 15min}$ )
01/08/2025	Location 2 (window)	22:35 – 22:50	83 dB ( $LA_{eq\ 15min}$ )
02/08/2025	Location 1 (speaker)	21:19 – 21:34	101 dB ( $LA_{eq\ 15min}$ )
02/08/2025	Location 1 (speaker)	21:34 – 21:49	* 98 dB ( $LA_{eq\ 15min}$ )
02/08/2025	Location 2 (window)	21:55 – 22:10	84 dB ( $LA_{eq\ 15min}$ )
05/08/2025	Location 1 (speaker)	12:35 – 12:50	93 dB ( $LA_{eq\ 15min}$ )
05/08/2025	Location 2 (window)	12:56 – 13:11	79 dB ( $LA_{eq\ 15min}$ )

**Table 2**

\*The recording made on the 2nd August at 21:34 (at Location 1) was influenced by clapping. As demonstrated in this recording, the sound of the audiences applause, has been a contributor to the overall music noise level. Without the audiences applause, it's felt that the  $LA_{eq\ 15min}$  would have been nearer to the 96 dB level.

The following calculations of music noise levels have been made, taking into account distance attenuation in accordance with the inverse square law:

A sound pressure level ( $L_p$ ) of 96 dB 1 m in front a speaker would equate to a sound power level ( $L_w$ ) of 104 dB. As the noise source is hemispherical a - 8 dB correction has been applied. A distance attenuation of 25m has been applied for speaker 1. This is shown as:

$$104 - 20\log(25) - 8 = 68 \text{ dB}$$

This gives us a sound pressure level of 68 dB(A) at Mr Chalkley's window for speaker 1. Applying a distance attenuation of            to speaker 2 would be shown as:

$$68 - 20\log(30/25) = 66 \text{ dB}$$

This gives us a sound pressure level of 66 dB(A) at Mr Chalkley's window for speaker 2.

Adding the two decibel levels together is shown as:

$$10\log(10^{6.8} + 10^{6.6}) = 70 \text{ dB}$$

This results in a decibel level of **70 dB** at Mr Chalkley's window.



	<p>During the initial monitoring period, the Environmental Health Officer requested that music noise levels should be set closer to 92 dB (LAeq, 15min) to assess the potential impact on the event. At this level, the music noise level at Mr Chalkley's window from both speakers was calculated to be approximately 66 dB (LAeq 15min).</p> <p>However, it quickly became clear that this volume was insufficient for the needs of the event. Audience members towards the middle of the car park particularly those dancing, began shouting for the volume to be increased, as the callers for the Ceilidh could not be heard above the general background noise of the crowd.</p> <p>Audience noise levels remained consistent throughout the event, typically ranging between 80–84 dB (LAeq), depending on the context i.e., type of music. A music noise level of 92 dB (LAeq, 15min) proved to be unsustainable, as key elements of the performance, especially the vocal frequencies were being masked by the ambient noise from the audience. This level did not support the delivery of a successful event.</p> <p>Detailed within Appendix 2 are the graphical representations of the seven sets of sound data based on the LAeq recorded throughout the event.</p>																												
Conclusion	<p>The music noise levels recorded on the 1<sup>st</sup> and 2<sup>nd</sup> August (Friday and Saturday night) have been assessed externally within the Beer Garden (at monitoring locations 1 &amp; 2) and internally (at monitoring location 3) within Mr Chalkley's property.</p> <table><tr><th>Date</th><th>Monitoring Location</th><th>Time Period</th><th>Music Noise Level</th></tr><tr><td>01/08/205</td><td>Location 1 (speaker)</td><td>22:12 – 22:27</td><td>96 dB (LAeq 15min)</td></tr><tr><td>01/08/205</td><td>Location 2 (window)</td><td>22:35 – 22:50</td><td>83 dB (LAeq 15min)</td></tr><tr><td>01/08/2025</td><td></td><td>22:34 – 22:49</td><td>44 dB (LAeq 15min)</td></tr><tr><td>02/08/205</td><td>Location 1 (speaker)</td><td>21:34 – 21:49</td><td>98 dB (LAeq 15min)</td></tr><tr><td>02/08/205</td><td>Location 2 (window)</td><td>21:55 – 22:10</td><td>84 dB (LAeq 15min)</td></tr><tr><td>02/08/2025</td><td></td><td>22:02 – 22:17</td><td>43 dB (LAeq 15min)</td></tr></table> <p><b>Table 3</b></p> <p>When the music noise level was limited to 96 dB (LAeq, 15min), the music noise at the façade of Mr Chalkley's property has been calculated to be 70 dB (considering only the music levels). However, when accounting for additional people noise from the audience, this level was shown to increase to 83 dB (LAeq, 15min). Inside Mr Chalkley's home, the combined music and people noise was recorded at 44 dB (LAeq, 15min). There is a slight time difference with the time comparisons made. This is due to the presence of other influencing internal noise within Mr Chalkley's property.</p>	Date	Monitoring Location	Time Period	Music Noise Level	01/08/205	Location 1 (speaker)	22:12 – 22:27	96 dB (LAeq 15min)	01/08/205	Location 2 (window)	22:35 – 22:50	83 dB (LAeq 15min)	01/08/2025		22:34 – 22:49	44 dB (LAeq 15min)	02/08/205	Location 1 (speaker)	21:34 – 21:49	98 dB (LAeq 15min)	02/08/205	Location 2 (window)	21:55 – 22:10	84 dB (LAeq 15min)	02/08/2025		22:02 – 22:17	43 dB (LAeq 15min)
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To put this in context, typical sounds at around 45 dB in the home include a quiet refrigerator, soft conversation, the sound of a washing machine, or keyboard typing. However, music noise is perceived differently. Even at lower levels, it can be clearly audible due to its contrast with the surrounding soundscape.

Mr Chalkley confirmed that on Friday and Saturday, when the music noise levels were restricted to 96 dB ( $LA_{eq, 15min}$ ), he did not experience any nuisance.

Of the six audio recordings Mr Chalkley submitted, four were at or below 44 dB ( $LA_{eq, 15min}$ ). This strongly suggests that the music noise at the time was within the 96 dB ( $LA_{eq, 15min}$ ) level. These recordings were made during periods comparable to, or quieter than, the Friday and Saturday evenings, when no disturbance was reported by Mr Chalkley.

It is important to note that individual sensitivity to noise can vary, and complaints may arise simply because music is audible leading to the perception that it is too loud, even when it remains within the agreed levels.

Two of Mr Chalkley's recordings exceeded the 44 dB ( $LA_{eq, 15min}$ ) level. One was recorded on Wednesday 6th August at 21:17, registering 47 dB ( $LA_{eq, 15min}$ ) and another on Thursday 7th August at 46 dB ( $LA_{eq, 15min}$ ). These levels indicate that the music at those times likely exceeded the 96 dB ( $LA_{eq, 15min}$ ) threshold.

The Code of Practice on Environmental Noise Control at Concerts allows for some flexibility. It notes that where a single event occurs annually, a higher noise limit may be acceptable without causing undue disturbance. Given the unique nature of Folk Week, it is reasonable to apply a similar approach to events in Sidmouth, including those at the Anchor Inn.

Overall, the music noise levels from the Anchor Inn were generally consistent with the proposed Noise Management Plan. However, some improvements are necessary to ensure the 96 dB ( $LA_{eq, 15min}$ ) level is consistently met each day.

The work of Environmental Health and the premises management (including the sound engineer), during Folk Week have shown that the effective control of music noise levels is achievable.

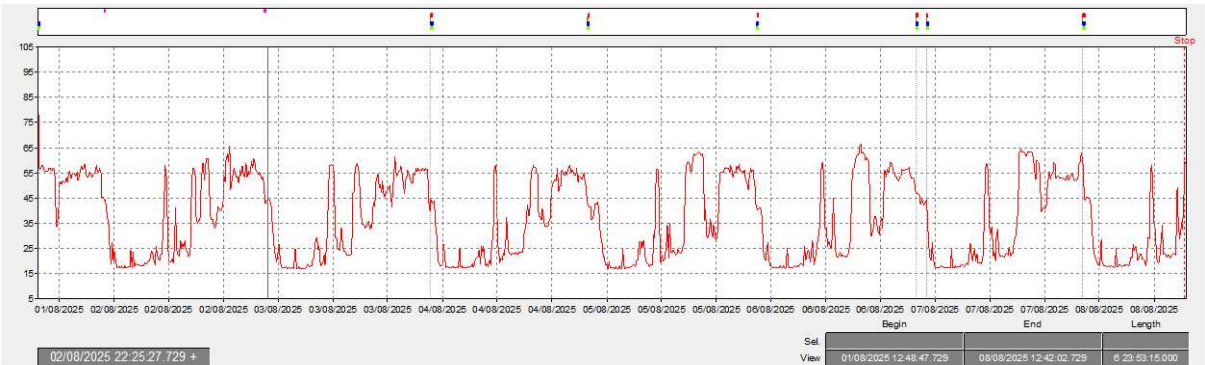
Based on the data collected throughout Folk Week and my professional assessment, I recommend setting the music noise level for the Anchor Beer Garden at 96 dB ( $LA_{eq, 15min}$ ), measured one metre in front of a main stage speaker.

The sound level data clearly indicates that with committed management, effective noise control is possible, though it will require ongoing effort. This approach strikes a practical balance between enforcing appropriate noise controls and avoiding excessive restrictions on the premises, allowing successful events to continue while also minimising any public nuisance.

There is no evidence to suggest that the music noise levels recorded during Folk Week were unrepresentative of typical levels generated by the event.

Appendix 1

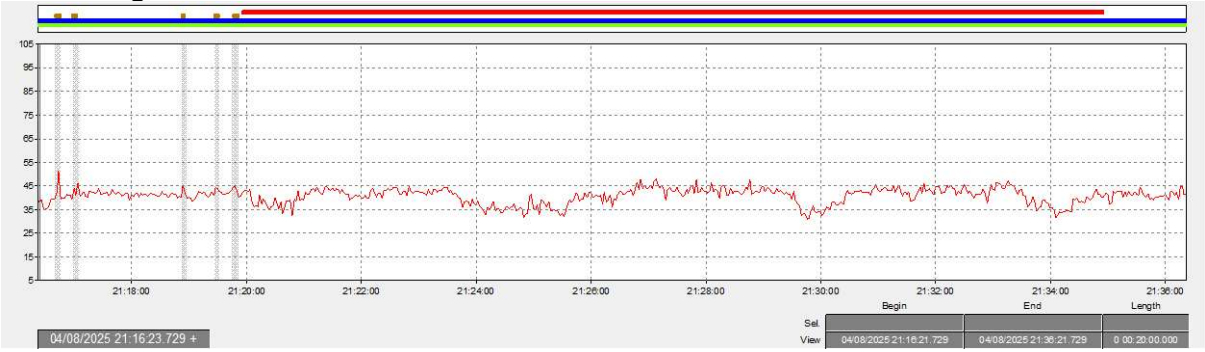
The LAeq is shown as a red line recorded within Mr Chalkley’s property. The X-axis shows the time and the Y-axis shows the decibel level. The solid red line (at the top) shows that the calculations have run for 15 minutes and tie in with the table above. The dark blue and green lines show where an audio recording has been made.



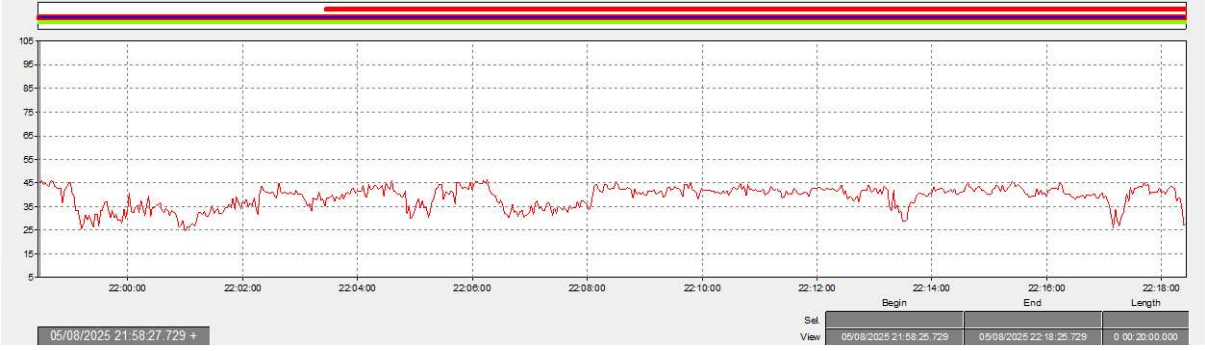
Total Monitoring period



Recording 1

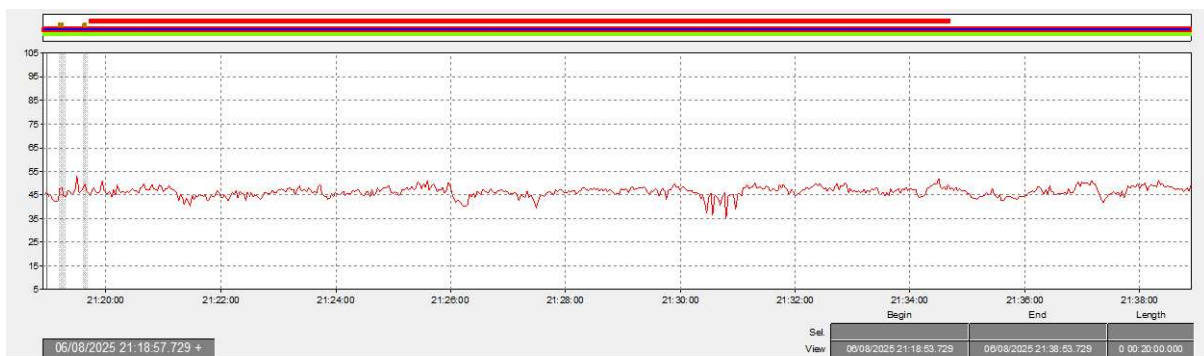


Recording 2

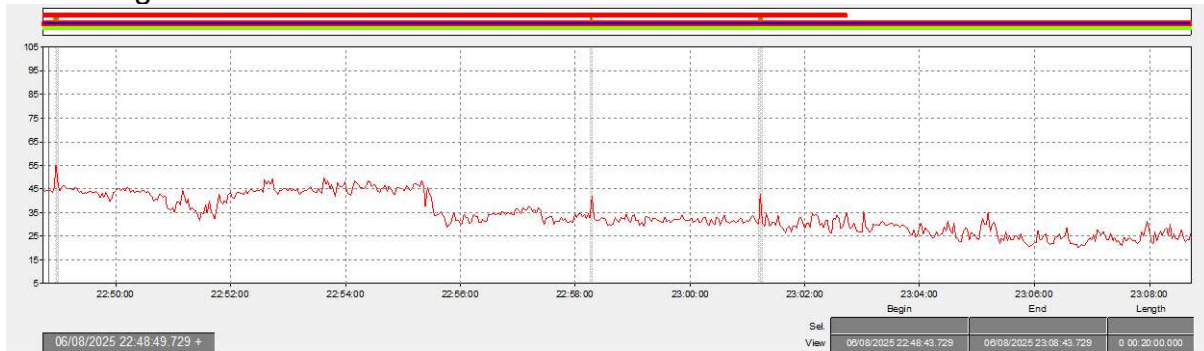


Recording 3





Recording 4



Recording 5

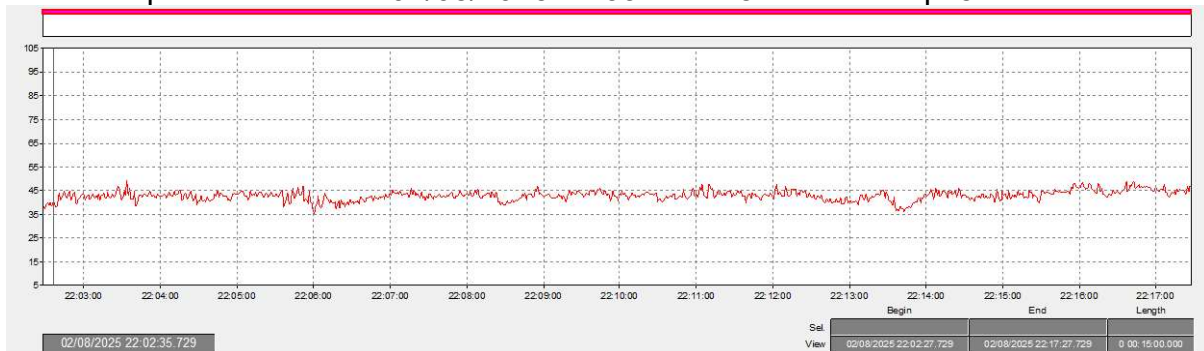


Recording 6



Time comparison 1

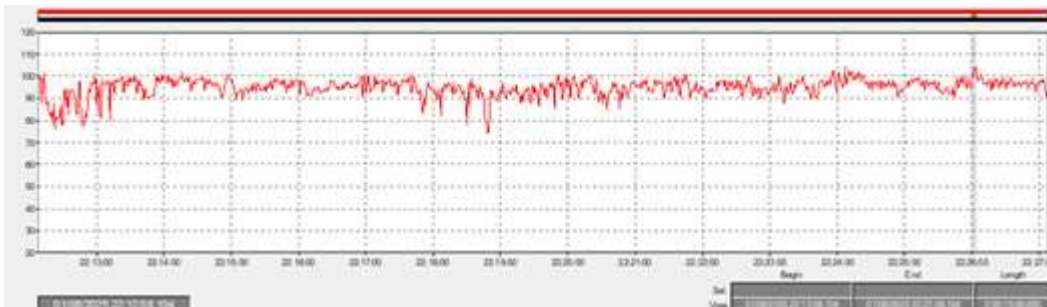
01/08/2025 22:33 – 22:48 44 dB LAeq 15min



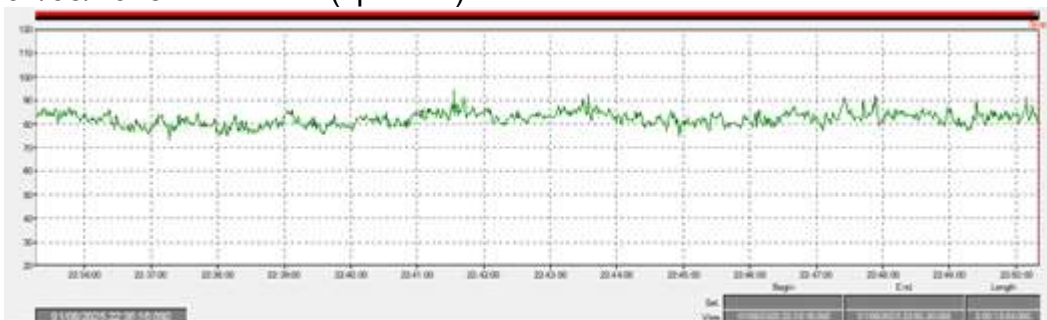
Time comparison 2 02/08/2025 22:02 – 22: 17 43 dB (LAeq 15min)

## Appendix 2

The LAeq is shown as a red line when taken 1m in front of the speakers and a green line when taken from below Mr Chalkley's window. The X-axis shows the time and the Y-axis shows the decibel level. The solid red line (at the top) shows that the calculations have run for 15 minutes and tie in with the table above. The dark blue and green lines show where an audio recording has been made.



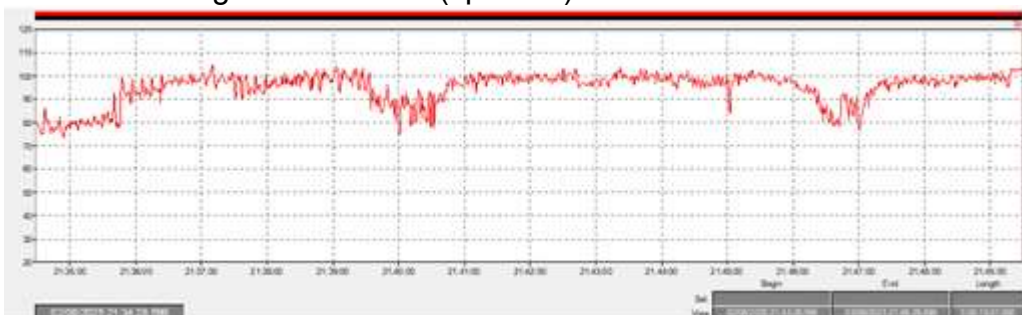
01/08/2025 Location 1 (speaker)



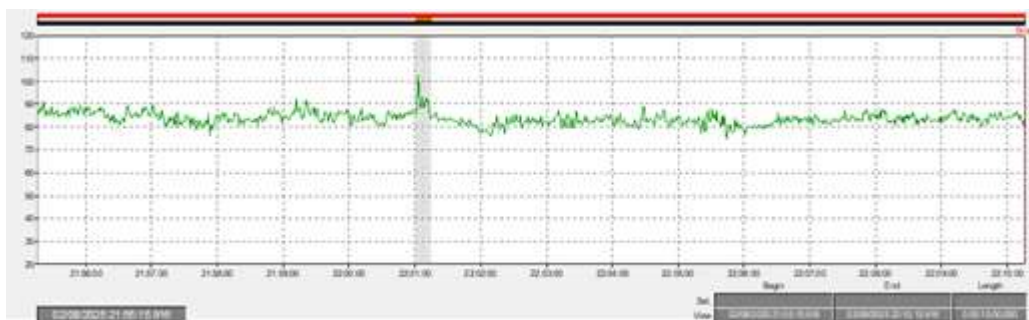
01/08/2025 Location 2 (window)



02/08/2025 August Location 1 (speaker)



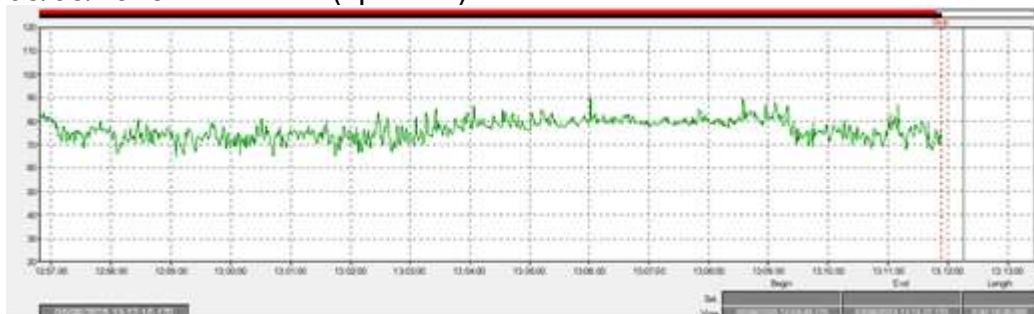
02/08/2025 August 21:06 Location 1 (speaker)



02/08/2025 Location 2 (window)



05/08/2025 Location 1 (speaker)



05/08/2025 Location 2 (window)