

Preliminary Noise Report

Scope

To study the noise generated by Amplified Music and loud voices from the bar. And assess whether a complaint by the sensitive receptor,, is justified. The SR residence is at, The Strand; next to the.....Bar.

Relevant guidelines

Ambient sound is the noise from all sources near and far, including the specific noise ($L_a = L_{Aeq,T}$).

Background noise ($L_{A90,T}$); sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time, excluding the specific noise.

The specific noise is the noise under investigation ($L_s = L_{Aeq,Tr}$).

Rating level ($L_{Ar,Tr}$); the specific sound level plus any adjustment for the characteristic feature of the sound.

BS 4142: 2019 state the 'Ambient Noise', is measured at the receptor's *outdoor location*. If the noise contains any discrete tones irregular enough in character to attract attention a correction is made and then it is termed the, 'rating noise level'

The standard defines the likelihood of complaints by the excess of the rating level above the background noise level as follows:

A difference of + 5dB is of marginal significance

A difference of +10 dB or more indicates that complaints are likely.

BS 8233 Guidance on sound insulation and noise reduction for buildings

In general, for steady external noise sources, it is desirable that the internal ambient noise level does not exceed the guideline values in Table 4.

Table 1 Indoor ambient noise levels for dwellings

Table 1			
Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 dB L_{Aeq} 16hour	
Dining	Dining room/area	40 dB L_{Aeq} 16hour	
Sleeping (daytime resting)	Bedroom	35 dB L_{Aeq} 16hour	30 dB L_{Aeq} 8hour

NOTE: If relying on closed windows to meet the guide values, there needs to be appropriate alternative ventilation that does not compromise the façade insulation or the resulting noise level.

If applicable, any room should have adequate ventilation (e.g., trickle ventilators should be open) during assessment.

WHO Guidelines for Community Noise' (GCN)

Annoyance: The capacity of a noise to induce annoyance depends upon its physical characteristics, including the sound pressure level, spectral characteristics and variations of these properties with time.

During daytime, few people are highly annoyed at L_{Aeq} levels below 55 dB (A), and few are moderately annoyed at L_{Aeq} levels below 50 dB (A). Sound levels during the evening and night should be 5–10 dB lower than during the day.

"At night, the sound levels at the residential façades should not exceed 45 dB L_{Aeq} and 60 dB L_{Amax} , so that the noise level inside the bedroom is 30dB (A); assuming that the noise reduction from outside to inside with the window partly open is 15 dB (A)."

Measuring instruments specification:

Sound Level Meter

Make: Cirrus

Model : CK 171A

Class : 1

Octave band analyser: 1:1

Data logger

Acoustic Calibrator

Make: Cirrus

Model: CR515

Class: 1

Weather Conditions

Wind conditions (applicable to all tests)

Wind speed

Speed less than Force 2 (Beaufort scale),

Wind direction: variable

Weather conditions

Calm

Precipitation

none

Method of Determination

Specific Noise Level

The specific noise level is the continuous A-weighted sound pressure level at the assessment position over a given time interval that is produced by the noise source being investigated: Amplified & Loud voices .

Residual Noise Level

The residual noise level is the continuous A-weighted sound pressure level of the ambient noise remaining at a given position, when the specific noise is suppressed and does not contribute to the background noise: Traffic Noise.

Specific Sound Level(SSL) = $10\log(10L_A/10-10L_R/10)$

Rating level R_A = SSL + character correction as necessary

Excess rating level is the difference between the specific noise and the background noise measured during the different periods of the Day ^{24 hrs}

Table 2 Measured - Ambient & Residual noise

Table 2									
Activity	Report	Date	Time		Duration	Noise Level in dB(A)			Remarks: Noise traffic is predominant
						L _{Aeq, T}	L _{A, 90 T}	L _{A, 10}	
Residual	188	20/11/2021	15:00	15:12	00.12.00	68.9	62.1	71.9	Traffic
Ambient	190	20/11/2021	22.41	23.48	01.06.00	67.9	60.9	69.0	Traffic- Music & loud voices
Residual	191	21/11/2021	09.44	10.50	01.05.48	65.4	55.3	68.2	Traffic
Residual	192	22/11/2021	14.18	14.54	00.36.02	69.8	59.6	72.7	Traffic
Ambient	193	23/11/2021	22.10	23.22	01.12.30	63.4	52.6	67.1	Traffic- Music & loud voices
Ambient	053	24/02/2022	19:33	20:39	01.06.00	65.9	57.4	68.7	

Notes:

- 1.1) The noise measurements were recorded outside, at the third floor balcony, facing the road.
- 1.2) The traffic flow is continuous from early afternoon till late in the evening. Traffic flow is less frequent during the night.
- 1.3) The target noise (AM & Loud Voices) is predominant at street level.
- 1.4) Road traffic is predominant, when the ambient noise is monitored at the residents' balcony. **In between traffic breaks, the target noise is perceptible.**
- 1.5) During the night the target noise is discernible more frequently.
- 1.6) Noise nuisance is justified if the target noise is reasonably louder than the traffic noise.

2) BS 4142:2019: defines the likelihood of complaints by the excess of the rating level above the background noise level as follows

A difference of + 5dB is of marginal significance

A difference of +10 dB or more indicates that complaints are likely.

3) WHO- Guidelines for Community Noise' (GCN)

During daytime, few people are highly annoyed at LAeq levels below 55 dB (A), and few are moderately annoyed at LAeq levels below 50 dB (A). Sound levels during the evening and night should be 5–10 dB lower than during the day.

Conclusion:

Music and loud voices are perceptible during low traffic flow.

End of report

John Fenech

Bar – The Strand

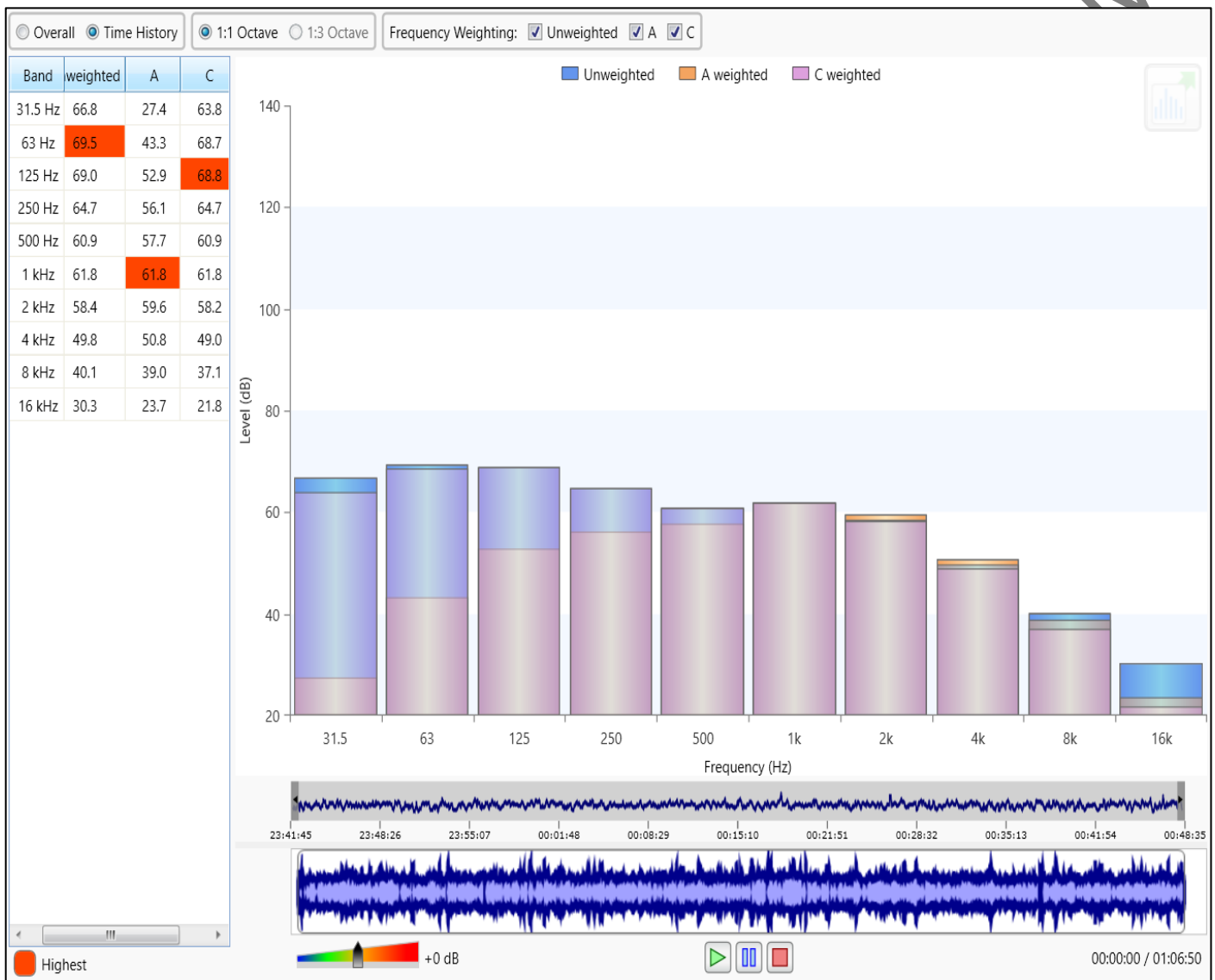


Sensitive receptors residence on either side of..... Bar

Noise assessment based on the monitored reports data:

- Time based graph
- Audio recording, in synch with graph
- Noise frequencies
- Noise Descriptors

The time domain graph indicates the sound intensity over a timed period and the audio recording, in synch with the timed period, distinguish the noise sources. The frequency indicates the noise sources during the recorded time. Descriptors, to assist in the investigation of noise complaints.



The voiced speech of a typical adult male has a fundamental frequency from - **85 to 155 Hz**, and that of an typical adult female from - **165 to 255 Hz**.

Bass frequency, pitch and range from **60 to 256 Hz**

Most frequency spectra of exterior tyre/road noise display a prominent peak in the range of **700 – 1300Hz**.

Low frequency-20 to 200Hz, is common to- HVAC, compressors , extraction fans and other types of rotary machinery.

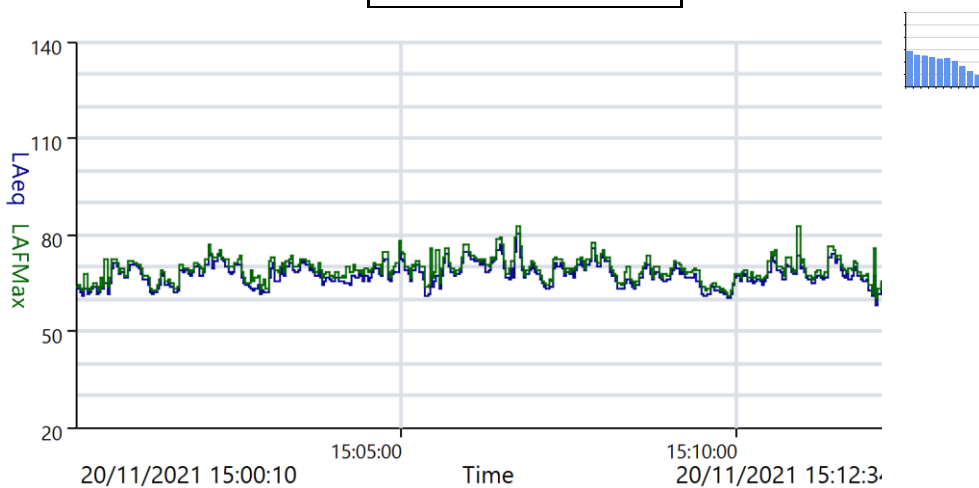
Measurement Summary Report

Name	188	Person		Place		Project	
Time	20/11/2021 15:00:10			Apartment x		Measured- Traffic	
Duration	00:12:24			xxThe Strand		noise	
Instrument	G080702, CR:171A						

Calibration

Before	20/11/2021	Offset	-0.36	After	Offset
---------------	------------	--------	-------	--------------	--------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	68.9 dB	LAF1	76.4 dB
L _{AE}	97.6 dB	LAF5	73.1 dB
L _{AFMax}	82.4 dB	LAF10	71.9 dB
		LAF50	67.3 dB
		LAF90	62.1 dB
		LAF95	61.2 dB
		LAF99	59.3 dB



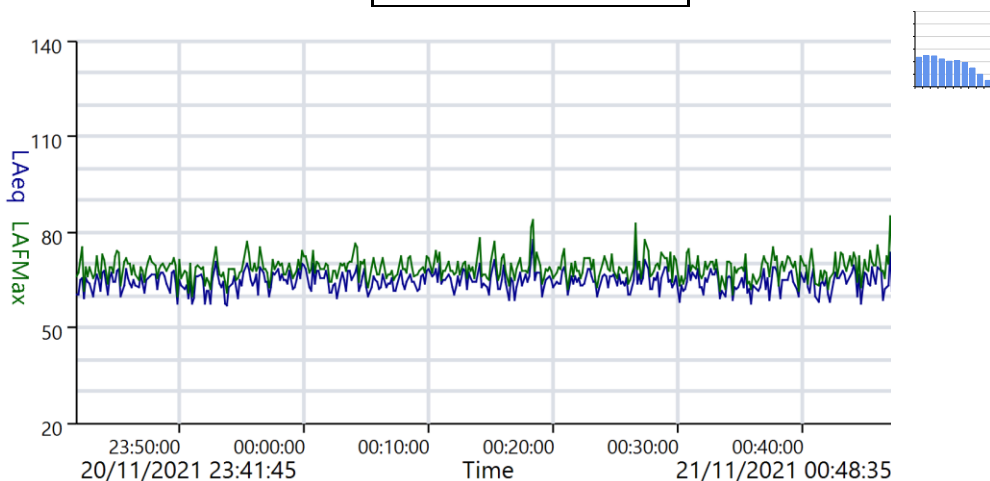
Measurement Summary Report

Name	190	Person		Place		Project	
Time	20/11/2021 23:41:45						
Duration	01:06:50			Apartment x		Measured- Traffic &	
Instrument	G080702, CR:171A			xx The Strand		Amplified music noise	

Calibration

Before	20/11/2021	Offset	-0.70	After	21/11/2021	Offset	-0.70
---------------	------------	---------------	-------	--------------	------------	---------------	-------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	65.6 dB	LAF1	72.8 dB
L _{AE}	101.6 dB	LAF5	69.8 dB
L _{AFMax}	85.0 dB	LAF10	68.5 dB
		LAF50	63.8 dB
		LAF90	58.8 dB
		LAF95	57.5 dB
		LAF99	55.3 dB



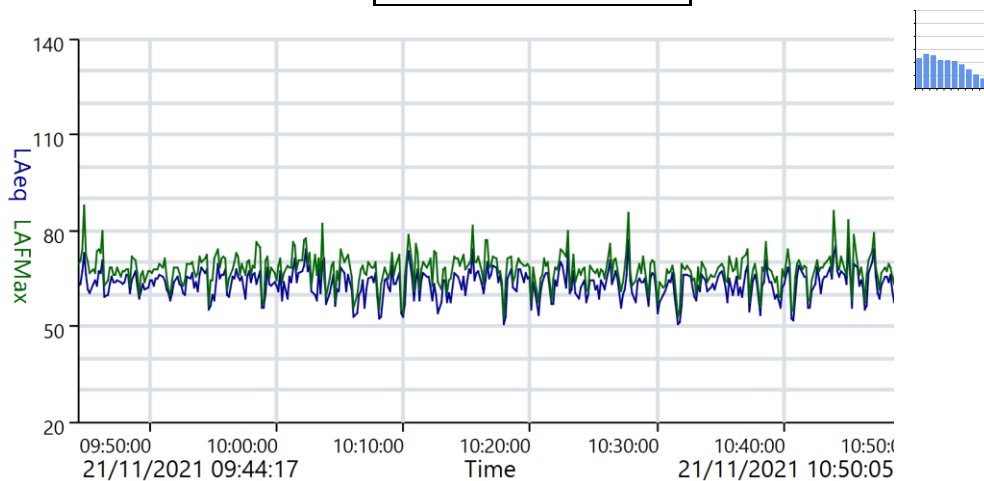
Measurement Summary Report

Name	191	Person		Place		Project	
Time	21/11/2021 09:44:17						
Duration	01:05:48			Apartment x		Measured traffic	
Instrument	G080702, CR:171A			xx The Strand		noise	

Calibration

Before	21/11/2021	Offset	-0.70	After	Offset
---------------	------------	--------	-------	--------------	--------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	65.4 dB	LAF1	74.3 dB
L _{AE}	101.3 dB	LAF5	69.7 dB
L _{AFMax}	87.6 dB	LAF10	68.2 dB
		LAF50	62.6 dB
		LAF90	55.3 dB
		LAF95	53.6 dB
		LAF99	50.9 dB



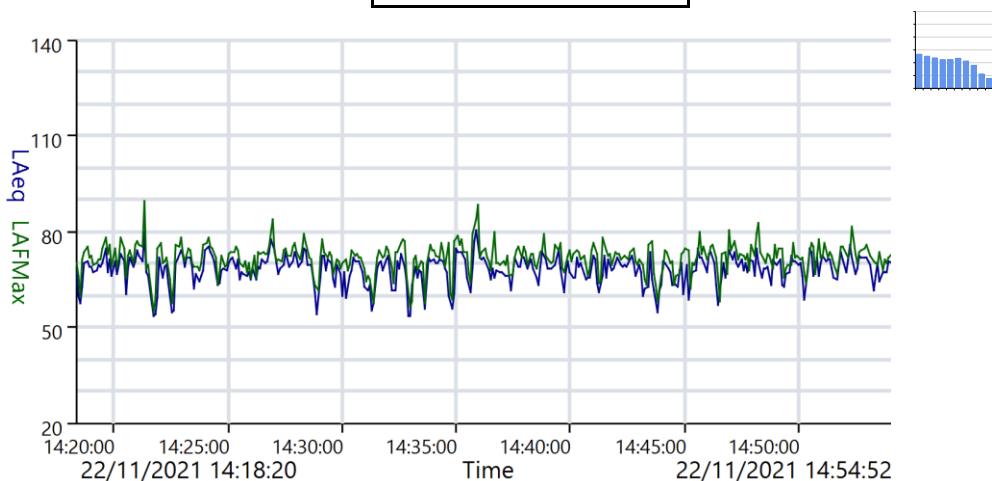
Measurement Summary Report

Name	192	Person	Place	Project
Time	22/11/2021 14:18:20		Apartment x	Measured traffic noise
Duration	00:36:32		xx The Strand	
Instrument	G080702, CR:171A			

Calibration

Before	22/11/2021	Offset	-0.48	After	Offset
---------------	------------	--------	-------	--------------	--------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	69.8 dB	LAF1	77.0 dB
L _{AE}	103.2 dB	LAF5	74.0 dB
L _{AFMax}	89.6 dB	LAF10	72.7 dB
		LAF50	68.1 dB
		LAF90	59.6 dB
		LAF95	56.7 dB
		LAF99	53.3 dB



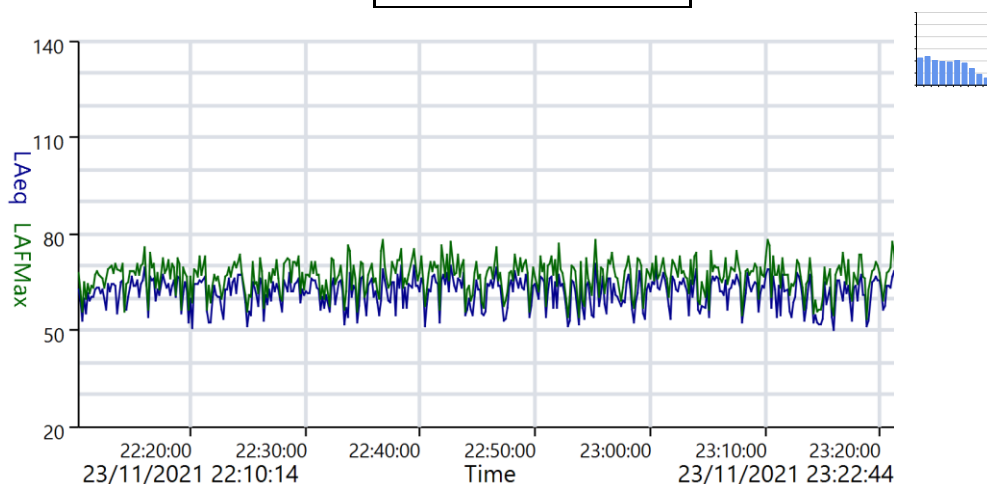
Measurement Summary Report

Name	193	Person		Place		Project	
Time	23/11/2021 22:10:14					Measure- Traffic & Amplified Music noise	
Duration	01:12:30						
Instrument	G080702, CR:171A						

Calibration

Before	23/11/2021	Offset	-0.81	After	Offset
---------------	------------	--------	-------	--------------	--------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	63.4 dB	LAF1	71.7 dB
L _{AE}	99.8 dB	LAF5	68.7 dB
L _{AFMax}	78.2 dB	LAF10	67.1 dB
		LAF50	60.5 dB
		LAF90	52.6 dB
		LAF95	51.4 dB
		LAF99	49.5 dB



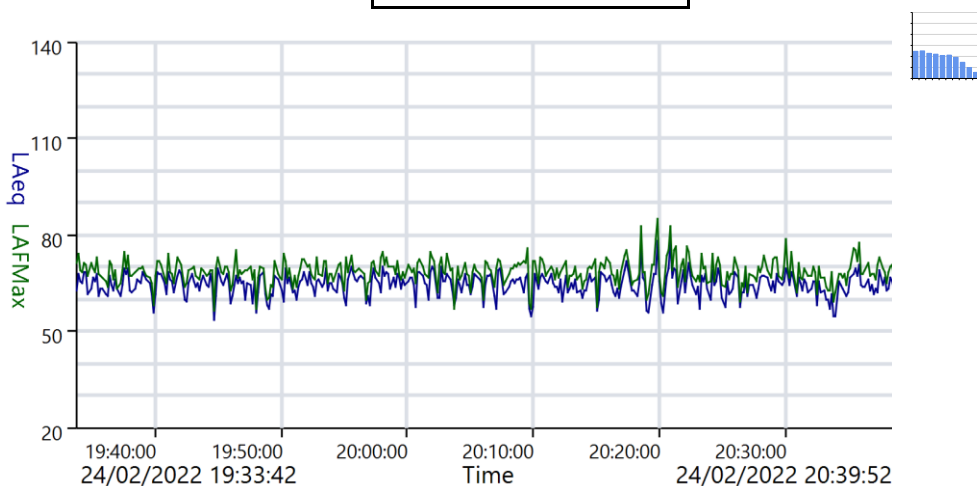
Measurement Summary Report

Name	53	Person	Place	Project
Time	24/02/2022 19:33:42		Apartment x	Measuring Traffic & Amplified Music noise
Duration	01:06:10		xx The Strand	
Instrument	G080702, CR:171A			

Calibration

Before	24/02/2022	Offset	-1.16	After	24/02/2022	Offset	-0.90
---------------	------------	--------	-------	--------------	------------	--------	-------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	65.9 dB	LAF1	72.7 dB
L _{AE}	101.8 dB	LAF5	69.9 dB
L _{AFMax}	85.0 dB	LAF10	68.7 dB
		LAF50	64.0 dB
		LAF90	57.4 dB
		LAF95	55.8 dB
		LAF99	53.4 dB



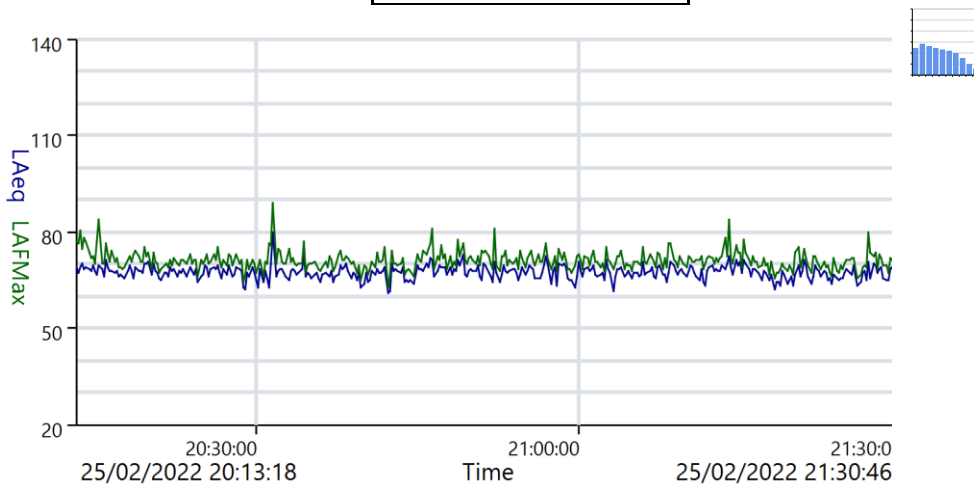
Measurement Summary Report

Name	54	Person		Place		Project	
Time	25/02/2022 20:13:18						
Duration	01:17:28			Apartment x		Monitoring Ambient noise	
Instrument	G080702, CR:171A			xx The Strand			

Calibration

Before	25/02/2022	Offset	-0.88	After	25/02/2022	Offset	-0.91
---------------	------------	---------------	-------	--------------	------------	---------------	-------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	67.9 dB	LAF1	73.7 dB
L _{AE}	104.6 dB	LAF5	71.1 dB
L _{AFMax}	88.8 dB	LAF10	70.1 dB
		LAF50	66.8 dB
		LAF90	63.3 dB
		LAF95	62.0 dB
		LAF99	59.8 dB



During the noise monitoring, voices and music were notable

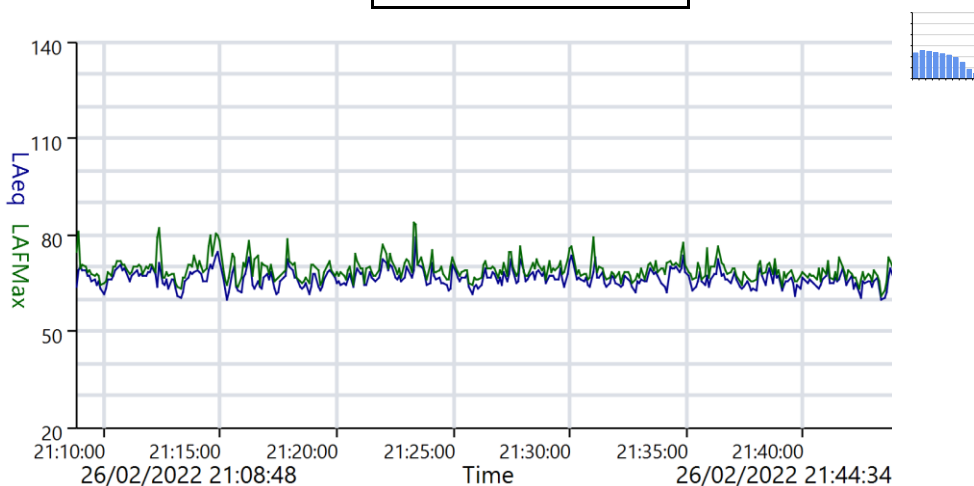
Measurement Summary Report

Name	55	Person		Place		Project	
Time	26/02/2022 21:08:48						
Duration	00:35:46			Apartment x		Monitoring Ambient	
Instrument	G080702, CR:171A			xx The Strand		noise	

Calibration

Before	26/02/2022	Offset	-1.10	After	26/02/2022	Offset	-0.99
---------------	------------	---------------	-------	--------------	------------	---------------	-------

Basic Values		Statistical Levels (Ln)	
L _{Aeq}	67.3 dB	LAF1	74.4 dB
L _{AE}	100.6 dB	LAF5	70.9 dB
L _{AFMax}	83.6 dB	LAF10	69.6 dB
		LAF50	66.0 dB
		LAF90	62.3 dB
		LAF95	61.2 dB
		LAF99	59.1 dB



Music and loud voices notable during low traffic noise