

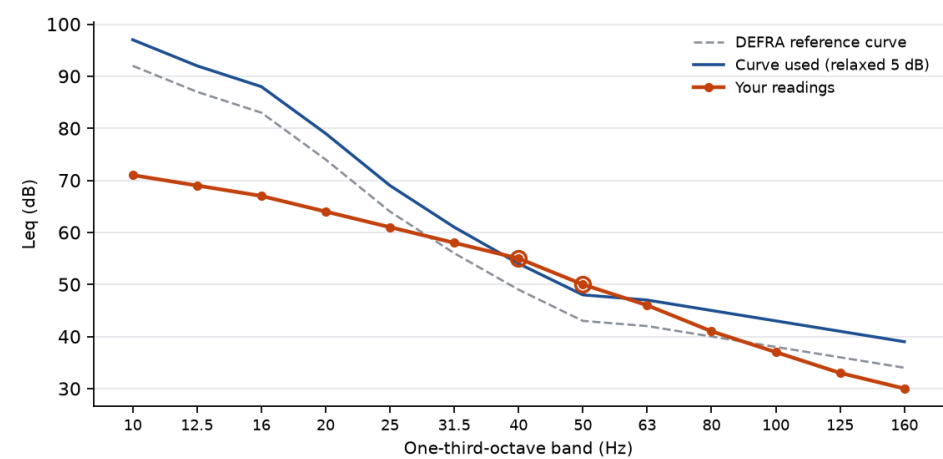
Low-frequency noise screening report

Prepared 26 October 2026 · Location: Sample: back bedroom · Reference SAMPLE

Result: Above the DEFRA reference curve in 2 bands (up to 2 dB at 50 Hz).

Bands above the curve: 40, 50 Hz. Under the DEFRA procedure, a sound that exceeds the curve at the position where it is heard is one that may cause disturbance, and the procedure then asks whether the sound is present, from the source, at the times complained of. This screen does not decide a nuisance or a breach of any local limit.

Relaxations applied to the curve: steady, not fluctuating (+5 dB). Bands measured: 13 of 13.



Band-by-band comparison

Band (Hz)	Your reading, Leq (dB)	Curve used (dB)	Difference (dB)
10	71	97	-26
12.5	69	92	-23
16	67	88	-21
20	64	79	-15
25	61	69	-8
31.5	58	61	-3
40	55	54	+1
50	50	48	+2
63	46	47	-1
80	41	45	-4
100	37	43	-6
125	33	41	-8
160	30	39	-9

A positive difference means the reading is above the curve. The curve is the DEFRA NANR45 reference curve, relaxed by 5 dB for daytime-only noise and by 5 dB for steady noise where those apply.

Quick screen (dBC minus dBA)

A 21 dB gap: a low-frequency noise problem is possible. dBA 42, dBC 63. The gap is over 20 dB, which the 2003 DEFRA review describes as the potential for a low-frequency noise problem. A dBA reading alone understates this sound; one published method adds 6 dB, giving 48 dBA. The next step is a one-third-octave measurement (the full screen).

What this means, and what it does not

The DEFRA procedure was developed so that environmental health officers could assess complaints about low-frequency noise consistently. Readings above its reference curve, taken inside a home where the noise is heard, indicate a sound that may cause disturbance. There is no single U.S. federal limit for low-frequency noise, and local ordinances usually set limits in dBA, which understates low-frequency sound. That is why a band-by-band comparison is useful evidence when asking a council or an operator to act.

This report is a screen of the readings you entered. It does not check your meter, how the readings were taken, or whether the sound comes from a particular source, and it does not decide whether a nuisance exists or a local limit has been broken. Those questions need measurements by your council or a qualified acoustician.

Make the evidence stronger

- Measure inside, at the spot where the noise bothers you, with windows closed and other sources (fridge, fans, traffic) off or noted.
- Record over several minutes (Leq) at the times the noise is worst, on several different days, including at night.
- Note the time, the date, the weather and wind direction, and what you hear or feel, in the log below.
- If you can, take a reading when the facility is quiet (for example during an outage) for comparison.
- Ask your council's environmental health or code enforcement team to measure in one-third-octave bands.

Measurement log

Date	Start time	Duration	Room and position	dBA / dBC	What you hear or feel

Letter you can adapt

[Date]

Dear [Environmental Health Officer / Code Enforcement / Facility Manager],

I am writing about low-frequency noise that I hear and feel inside my home at [your address], which I believe comes from [name of facility]. It is present [describe when: for example, every night from about 10 p.m.].

On [date or dates] I took one-third-octave readings indoors, at the position where the noise is heard. Compared with the reference curve in the UK Government's published procedure for assessing low-frequency noise complaints (DEFRA NANR45), the readings were above the reference curve in 2 bands, by up to 2 dB at 50 Hz.

A dBA measurement alone does not capture this kind of sound. I ask that you:

1. measure inside my home at the times described, in one-third-octave bands from 10 to 160 Hz;
2. confirm whether the sound comes from the facility; and
3. tell me in writing what steps will be taken, and by when.

A copy of my readings and the comparison is attached. I can arrange access at a time that suits you.

Yours sincerely,

[Name]

[Address and phone]

Method and sources

1. Moorhouse, A., Waddington, D. and Adams, M. (2005, revised 2011). Procedure for the assessment of low frequency noise complaints (NANR45). University of Salford for the UK Department for Environment, Food and Rural Affairs (DEFRA). <https://salford-repository.worktribe.com/output/1473667/procedure-for-the-assessment-of-low-frequency-noise-disturbance>
2. Leventhall, G. (2003). A Review of Published Research on Low Frequency Noise and its Effects. DEFRA. Section 8.2.7. <https://westminsterresearch.westminster.ac.uk/item/935y3/a-review-of-published-research-on-low-frequency-noise-and-its-effects>
3. World Health Organization (1999). Guidelines for Community Noise, chapter 4. <https://www.who.int/publications-detail-redirect/a68672>
4. Institute of Acoustics (UK). Briefing note: low frequency noise annoyance. https://www.ioa.org.uk/sites/default/files/briefing_note_low_frequency_noise_annoyance_0.pdf

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