quiet communities

DATA CENTER NOISE

How to check what you're hearing

https://datacenternoise.org/how-to-check-what-youre-hearing/

Pathway from problem to solution:

If what you're experiencing is a low, ongoing hum or throb — the kind some people say they can feel more than hear — there's a good chance it has a real, physical explanation that a standard noise measurement doesn't capture. Most noise rules are built around a single overall decibel number, and that number quietly discounts the very low-frequency sound that residents near data centers usually describe.

Key points

Compare the readings

You don't need professional equipment to get a useful first read.

Most free sound-meter phone apps show two numbers — the standard “A-weighted” decibel (dBA) and a “C-weighted” decibel (dBC) or unweighted decibel (zero-weighted; dBZ) that includes the contribution of low frequency components. If the difference between the dBC and dBA is 10 decibels or more, that’s a real signal that low-frequency sound plays a critical role in what you’re hearing.

Limits of a phone measurement

It's important to be clear about the limits of a phone reading.

A phone's volume reading isn't calibrated, so don't treat it as an official or legal measurement. Even so, a large gap between the two readings is useful information. It's enough to know the problem is worth pursuing, and it’s enough to hand an official something more specific than “it's loud at night.” Night is the best time to check, and indoor noise matters as much as outdoor noise, since ordinary walls and windows don't block low-frequency sound.

For a full explanation of the standards behind this and what professional measurement adds beyond what a phone can tell you, see Measuring and Assessing Data Center Noise.

The next page explains what you can do with all this information.