Measurement summary

Android emulator audio and motion capture

Report ID: FT-F934709A

Nov 5, 2026 4:12:12 PM

Measurement object: Android emulator audio and motion capture

Measurement point: MonoProxy_API36 / API 36

Duration: 20.125 s

Vibration RMS: 0.0050135 m/s²

Peak: 0.0053240 m/s²

Dominant frequency: 1.7578 Hz

A Leq: -83.054 dBFS

Event count: 1

For relative comparison; not fault, safety or liability assessment.

Object, conditions & setup

Measurement object: Android emulator audio and motion capture

Measurement point: MonoProxy_API36 / API 36

Scenario: Android emulator capture demo

Channel: BOTH

Equipment: Google sdk_gphone64_arm64 · Android 16

Capture chain: Google/sdk_gphone64_arm64|15|sdk_gphone64_arm64|48000|mono|6|pcm16-v1

Requested duration: 20.000 s

Countdown: 0.0000 s

Runtime: Android API 36 emulator

Calibration: None

Capture: 20 s AudioRecord + virtual motion sensors

Notes: Public demo from actual Android AudioRecord and SensorManager capture on an emulator. No physical equipment, calibrated sound source or real-device accuracy validation. Emulator audio may be near silence; motion sensors are virtual. Levels are dBFS, not environmental dB SPL.

Notes: —

Tags: —

Measurement chain & quality

Equipment: Google sdk_gphone64_arm64 · Android 16

Capture chain: Google/sdk_gphone64_arm64|15|sdk_gphone64_arm64|48000|mono|6|pcm16-v1

Audio sample rate: 48000 Hz

Requested sample rate: 100.00 Hz

Actual sample rate: 100.00 Hz

Mean sample interval: 0.010000 s

Median sample interval: 0.010000 s

P95 sample jitter: 1.7764e-15 s

Largest sample gap: 0.010000 s

Estimated missing-frame ratio: 0.0000 %

Motion frame count: 2012

Audio frame count: 469

Retained audio coverage: 19.974 s

Audio discontinuities: 0

Gyroscope: Usable

Attitude sensor: Usable

Sensor 10: Linear Acceleration Sensor · AOSP · v3 · resolution=2.480159E-4 · range=19.6133 · minDelay=10000 µs

Sensor 1: Goldfish 3-axis Accelerometer · The Android Open Source Project · v1 · resolution=2.480159E-4 · range=39.300102 · minDelay=10000 µs

Sensor 4: Goldfish 3-axis Gyroscope · The Android Open Source Project · v1 · resolution=0.001 · range=16.46 · minDelay=10000 µs

Sensor 11: Rotation Vector Sensor · AOSP · v3 · resolution=5.9604645E-8 · range=1.0 · minDelay=10000 µs

Raw audio: Retained

Reference calibration: No reference calibration

Interpretation gates and scenario observations

Retest

Capture integrity · Pass

20.11 s

Timing · Pass

100.00 Hz · 10.00 ms

Placement evidence · Caution

Significant relative orientation change detected during capture.

Method and evidence · Pass

26b6fa182c62ae75

Measurement profiles · Limitation

No measurement profile. Relative comparison requires the same device and conditions.

Review measurement conditions

Retest under the same conditions.

Phone moved

Secure the phone and retest.

Note retest conditions

Note the state and changes.

Dominant direction

Z · RMS 0.003 m/s²

Main frequency

1.76 Hz · 不代表具体故障。

Repeatability assessment

At least 3 runs needed

Matching records: 0

Excluded records: 7

Latest RMS change: — %

Acceleration · time & events

RMS: 0.0050135 m/s²

Peak: 0.0053240 m/s²

P95: 0.0052365 m/s²

Standard deviation: 0.00026877 m/s²

Crest factor: 1.0619

RMS by axis: 0.0022059 / 0.0031068 / 0.0032583 m/s²

Peak-to-peak by axis: 0.0026743 / 0.00028896 / 0.0034940 m/s²

Vector peak-to-peak: 0.0044094 m/s²

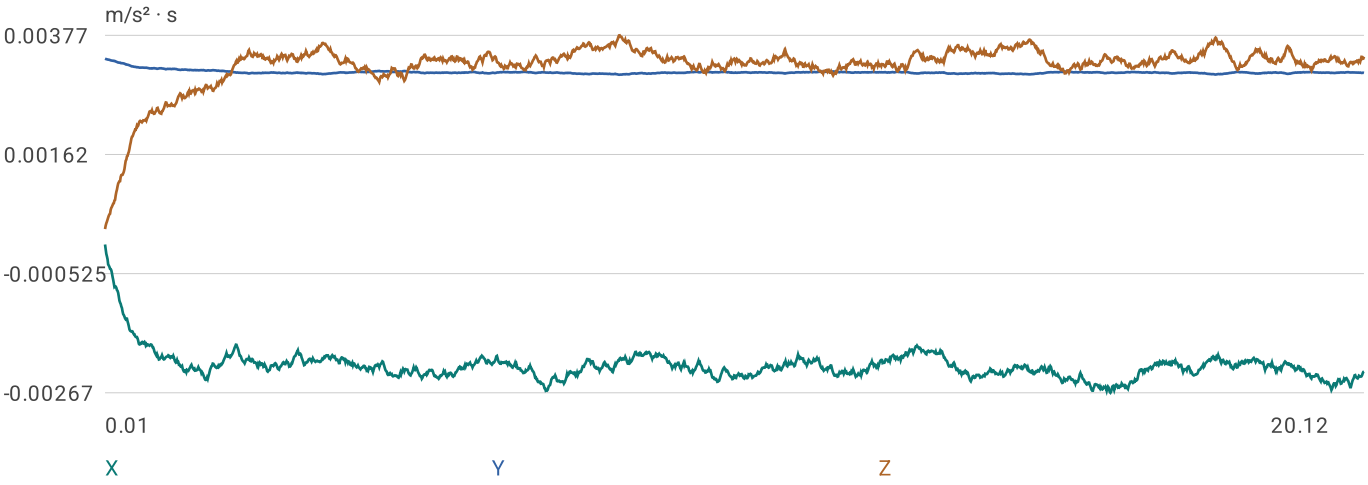
Energy share by axis: 19.360 / 38.401 / 42.239 %

Kurtosis: 21.834

Impulse factor: 13.429

Shape factor: 1.8825

Windowed RMS coefficient of variation: 0.039823



Acceleration · frequency

Dominant axis: Z

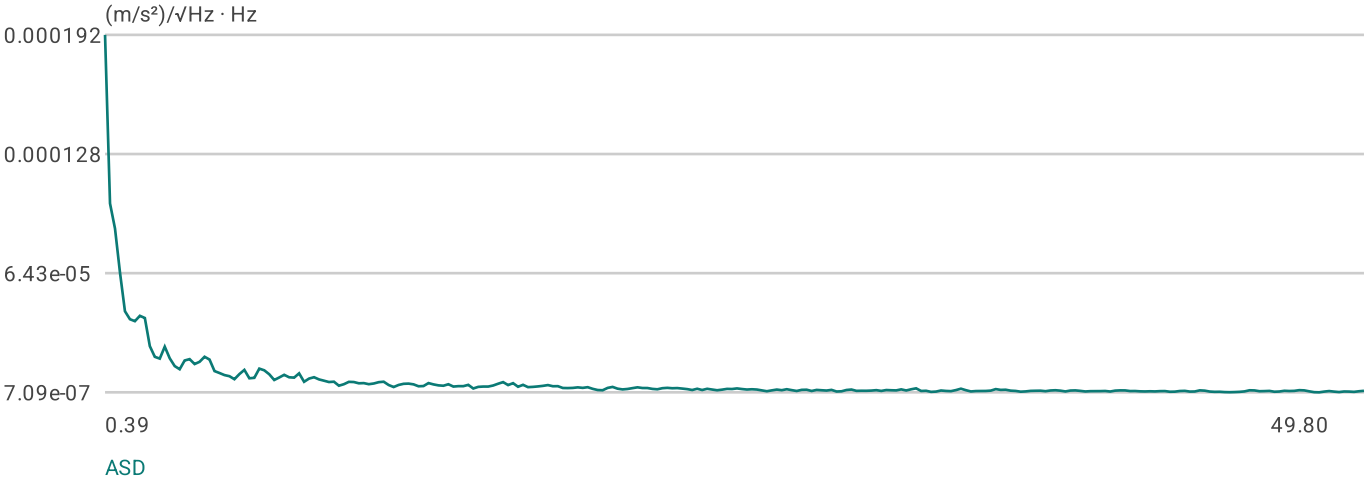
Spectrum method: Welch RMS amplitude spectral density · Hann · 50% overlap

Sample rate: 100.00 Hz

FFT length: 512

Window count: 6

Frequency resolution: 0.19531 Hz



P1: 1.7578 Hz · 4.1558e-05 (m/s²)/√Hz

P2: 2.7344 Hz · 2.5076e-05 (m/s²)/√Hz

P3: 4.2969 Hz · 1.9689e-05 (m/s²)/√Hz

Spectral centroid: 1.3636 Hz

Spectral entropy: 0.38607

Prominent frequencies describe measured features, not fault codes.

Gyroscope & orientation

RMS: 0.0000 rad/s

Peak: 0.0000 rad/s

P95: 0.0000 rad/s

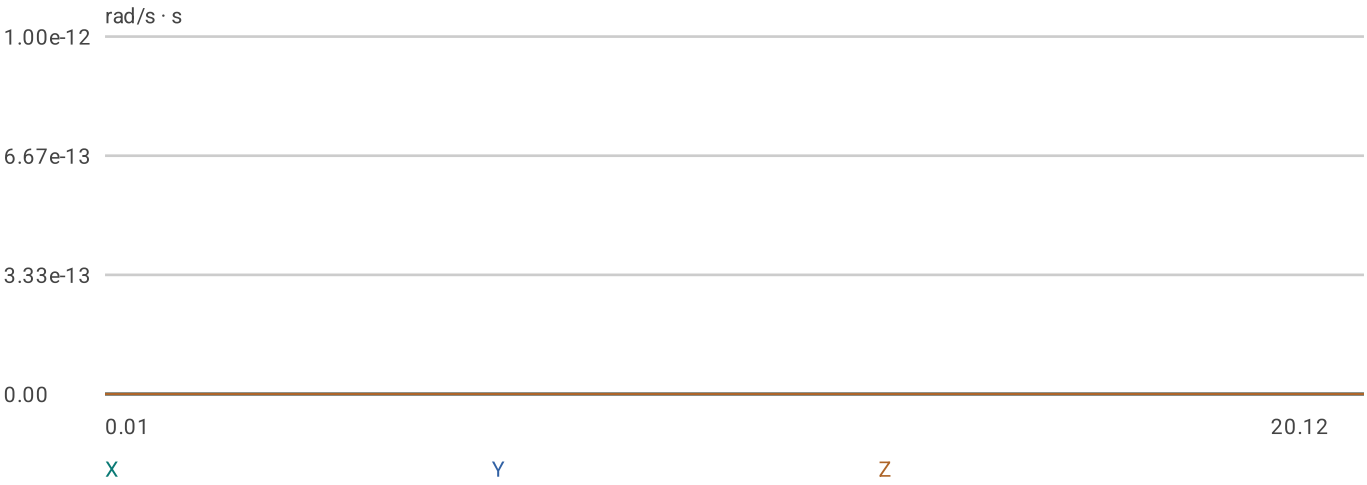
Standard deviation: 0.0000 rad/s

Crest factor: 0.0000

RMS by axis: 0.0000 / 0.0000 / 0.0000 rad/s

Peak-to-peak by axis: 0.0000 / 0.0000 / 0.0000 rad/s

Vector peak-to-peak: 0.0000 rad/s



Dominant axis: X

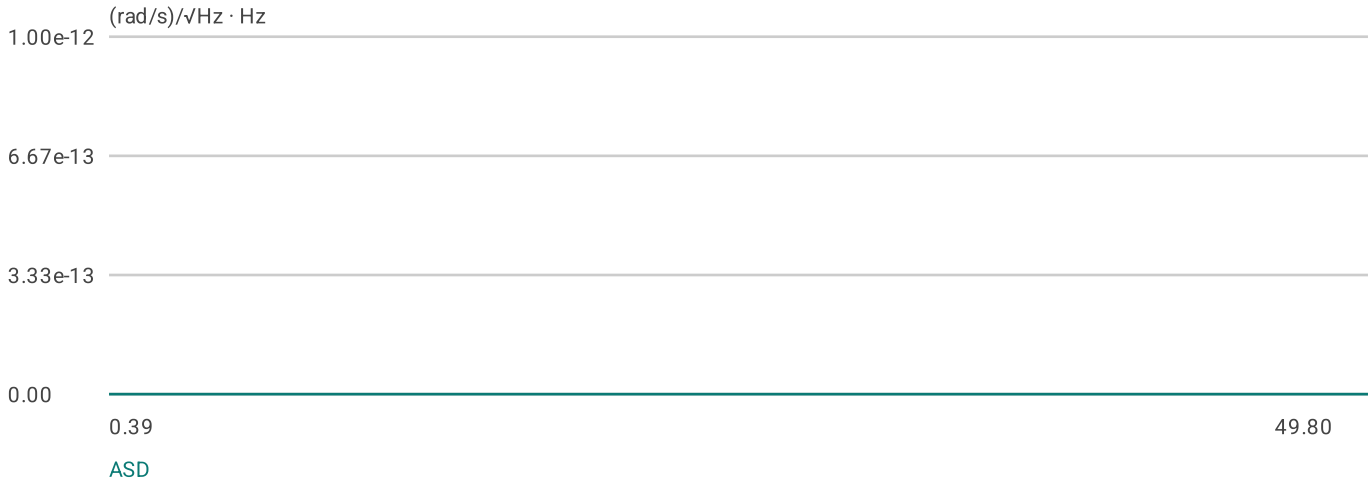
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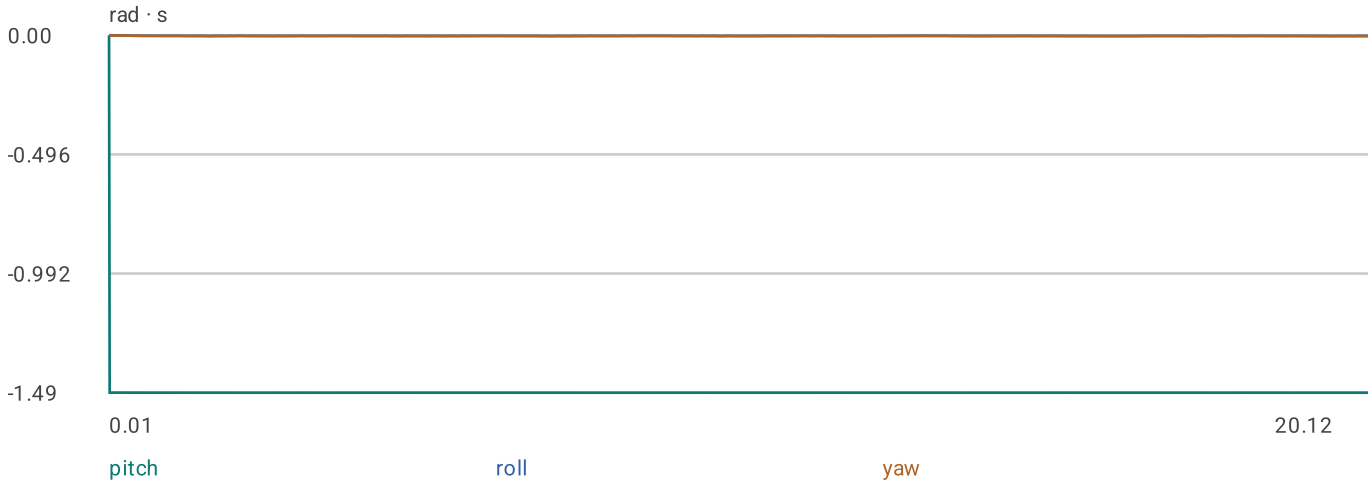
Frequency resolution: 0.19531 Hz



Maximum relative attitude change: 1.4883 rad

Final relative attitude change: 1.4882 rad

Attitude range by axis: 1.4883 / 0.0033025 / 0.0036126 rad



Attitude is relative to the first frame; crossings of ±π use the shortest angular difference.

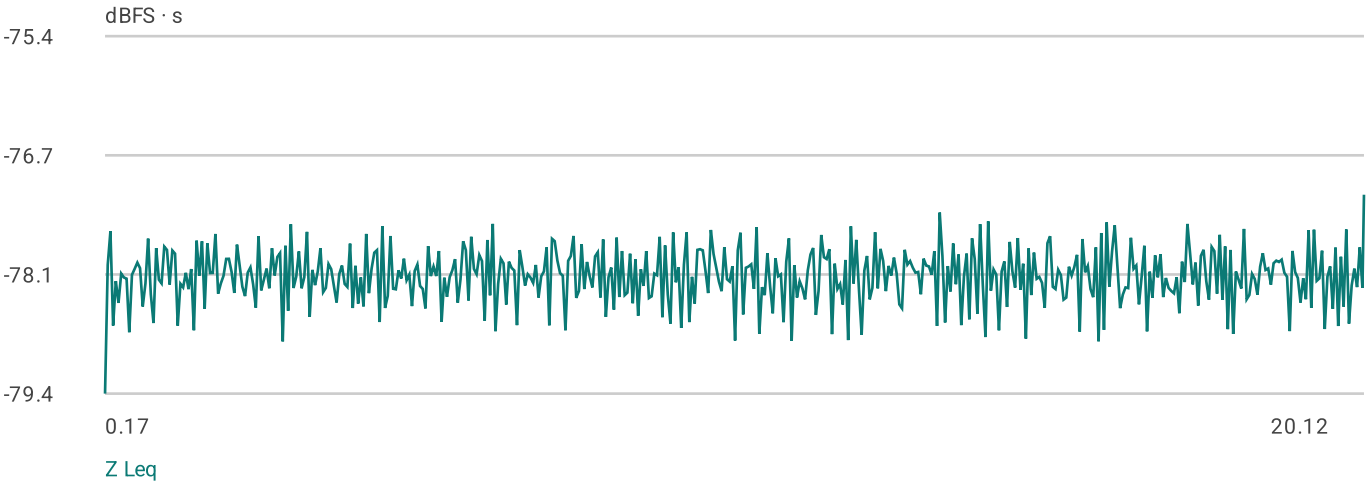
Audio · energy & bands

Relative equivalent level: -78.061 dBFS(Z)

PCM waveform peak: -72.247 dBFS

Clipped samples: 0

Clipping ratio: 0.0000 %



Spectrum method: Hann FFT power; fractional bin-cell third-octave integration; base10 edges; Z ; v1

FFT length: 32768

Window count: 39

Dominant frequency: 213.41 Hz

Spectrum time window: 19.151010082666666–19.833676749333332 s



Spectrum shows the last complete window. Maxima cover complete session windows, not the ti me selection.

Spectral centroid: 831.82 Hz

Spectral flatness: 0.026911

85% spectral rolloff: 1077.1 Hz

205.13 Hz · Leq -83.84 dBFS · max -80.61 dBFS · 81.4 %

155.27 Hz · Leq -87.37 dBFS · max -80.54 dBFS · 53.2 %

407.48 Hz · Leq -92.97 dBFS · max -86.31 dBFS · 45.7 %

234.54 Hz · Leq -93.91 dBFS · max -82.49 dBFS · 13.5 %

117.19 Hz · Leq -94.38 dBFS · max -85.30 dBFS · 21.6 %

366.24 Hz · Leq -94.77 dBFS · max -87.52 dBFS · 31.4 %

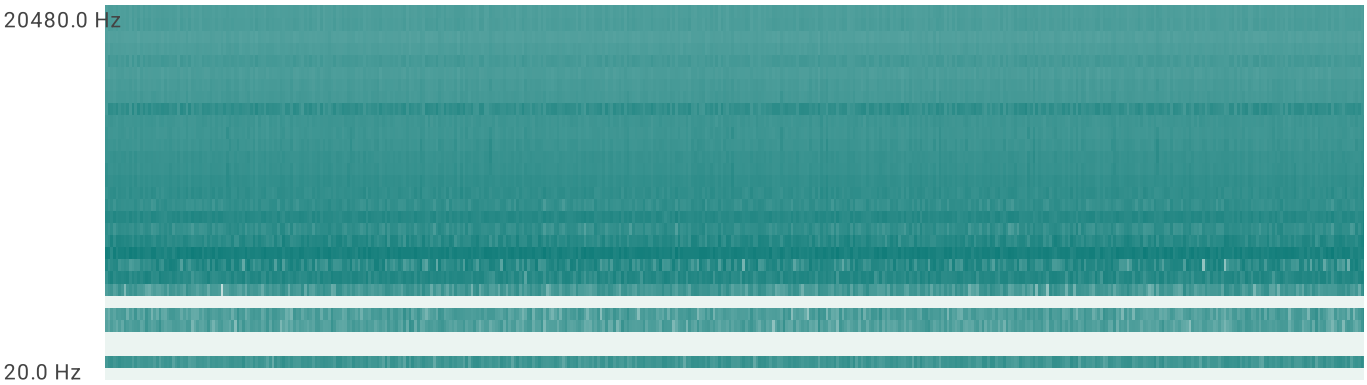
575.42 Hz · Leq -95.00 dBFS · max -89.10 dBFS · 56.6 %

796.88 Hz · Leq -99.33 dBFS · max -92.76 dBFS · 34.4 %

Candidate fundamental: 117.19 Hz

Matched orders: 1, 2, 3, 5

Component energy share: 17.748 %



Duration-weighted band energy

20.0 Hz · -160.00 dBFS

25.2 Hz · -96.93 dBFS

31.7 Hz · -160.00 dBFS

40.0 Hz · -160.00 dBFS

50.4 Hz · -102.53 dBFS

63.5 Hz · -101.62 dBFS

80.0 Hz · -160.00 dBFS

100.8 Hz · -98.32 dBFS

127.0 Hz · -88.12 dBFS

160.0 Hz · -88.33 dBFS

201.6 Hz · -83.46 dBFS

254.0 Hz · -88.48 dBFS

320.0 Hz · -92.41 dBFS

403.2 Hz · -88.79 dBFS

508.0 Hz · -93.18 dBFS

640.0 Hz · -92.44 dBFS

806.3 Hz · -92.90 dBFS

1015.9 Hz · -94.57 dBFS

1280.0 Hz · -94.88 dBFS

1612.7 Hz · -96.34 dBFS

2031.9 Hz · -97.37 dBFS

2560.0 Hz · -97.17 dBFS

3225.4 Hz · -92.67 dBFS

4063.7 Hz · -99.77 dBFS

5120.0 Hz · -100.65 dBFS

6450.8 Hz · -102.11 dBFS

8127.5 Hz · -99.97 dBFS

10240.0 Hz · -102.63 dBFS

12901.6 Hz · -104.37 dBFS

16255.0 Hz · -102.33 dBFS

20480.0 Hz · -102.86 dBFS

Levels, time responses and exposure

A Leq: -83.054 dBFS

A L10 / L50 / L90: -82.670 / -83.085 / -83.437 dBFS

A F Lmax: -82.591 dBFS

A F L10 / L50 / L90: -82.913 / -83.063 / -83.170 dBFS

A S Lmax: -82.965 dBFS

A S L10 / L50 / L90: -83.024 / -83.060 / -83.677 dBFS

A I Lmax: -71.926 dBFS

A I L10 / L50 / L90: -71.995 / -72.036 / -72.300 dBFS

C Leq: -78.359 dBFS

C L10 / L50 / L90: -77.972 / -78.364 / -78.822 dBFS

C F Lmax: -78.044 dBFS

C F L10 / L50 / L90: -78.228 / -78.354 / -78.499 dBFS

C S Lmax: -78.289 dBFS

C S L10 / L50 / L90: -78.326 / -78.362 / -78.969 dBFS

C I Lmax: -72.642 dBFS

C I L10 / L50 / L90: -72.699 / -72.758 / -72.821 dBFS

Z Leq: -78.061 dBFS

Z L10 / L50 / L90: -77.683 / -78.054 / -78.495 dBFS

Z F Lmax: -77.774 dBFS

Z F L10 / L50 / L90: -77.946 / -78.058 / -78.181 dBFS

Z S Lmax: -78.013 dBFS

Z S L10 / L50 / L90: -78.038 / -78.067 / -78.670 dBFS

Z I Lmax: -73.522 dBFS

Z I L10 / L50 / L90: -73.555 / -73.579 / -73.602 dBFS

B Leq: -79.778 dBFS

B L10 / L50 / L90: -79.384 / -79.761 / -80.256 dBFS

B F Lmax: -79.467 dBFS

B F L10 / L50 / L90: -79.653 / -79.772 / -79.904 dBFS

B S Lmax: -79.717 dBFS

B S L10 / L50 / L90: -79.750 / -79.780 / -80.389 dBFS

B I Lmax: -71.249 dBFS

B I L10 / L50 / L90: -71.290 / -71.327 / -71.380 dBFS

468 Leq: -78.624 dBFS

468 L10 / L50 / L90: -78.176 / -78.639 / -79.045 dBFS

468 F Lmax: -78.088 dBFS

468 F L10 / L50 / L90: -78.465 / -78.631 / -78.772 dBFS

468 S Lmax: -78.518 dBFS

468 S L10 / L50 / L90: -78.580 / -78.631 / -79.250 dBFS

468 I Lmax: -66.283 dBFS

468 I L10 / L50 / L90: -66.348 / -66.407 / -66.979 dBFS

Audio shows relative recording level in dBFS, not environmental sound level in dBA.

Multisensor events

Temporal coincidence does not establish causation.

E1 · Measurement point movement · 0.501–0.501 s

1.4881 rad · Threshold 0.25000 rad

Evidence identity & meaning

Report ID: FT-F934709A

Record ID: f934709a-4b05-43d1-bda5-8e2ef12255af

SHA-256: 26b6fa182c62ae757d617cc5a6752b359b1d49e269ec2f448706dddbb4a248b3

Analysis method: Android retained-evidence analysis 1; iOS 3.2 formula baseline

Data version: 1

Report format: Android Measurement Report 2 · A4

Equipment: Google sdk_gphone64_arm64 · Android 16

Capture chain: Google/sdk_gphone64_arm64|15|sdk_gphone64_arm64|48000|mono|6|pcm16-v1

The record fingerprint identifies original evidence; reanalysis does not alter retained capture fra mes.

Hardware capabilities absent from older records are not treated as verified.

Methods, terms & limits

RMS = √mean(x²); P95 = nearest-rank index round((N−1)·0.95); crest = peak/RMS.

Welch: dominant axis, per-segment detrend, periodic Hann, 50% overlap, one-sided PSD = 2|FFT|²/(fs·Σw²), ASD = √mean(PSD). 0.2–min(fs/2,50) Hz.

Impact: median + max(0.35 m/s²,7 MADσ), ≤0.30 s; angular max(0.08 rad/s,7 MADσ), ≤0.40 s; separation ≥0.35 s.

Elevated/jitter: 0.50 s RMS windows, 50% overlap; median + max(floor,5 MADσ,0.55 median), ≥0.75 s; floors 0.15/0.08 m/s². Jitter subtracts ±0.20 s moving average.

Audio surge: Z-frame Leq > median + max(6 dB,6 MADσ). Band transient: own baseline + max(8 dB,6 MADσ). Coincidence interval separation ≤0.20 s.

A/B/C/468 continuous minimum-phase FIR; sample-energy F 125 ms / S 1 s / I 35–1500 ms. 468 frequency curve only, not quasi-peak. No IEC instrument certification.

For relative comparison; not fault, safety or liability assessment.

Prominent frequencies describe measured features, not fault codes.