# MAC Encore Two
## Acoustic Test Report



HARMAN Professional Denmark ApS - Olof Palmes Allé 44 - 8200 Aarhus N - Denmark - www.martin.com

## Title

MAC Encore Two Acoustic Test Report

## Test conditions.

Test carried out according to ISO 3744:2010(E)

## Device tested.

Make: HARMAN Professional Denmark ApS

Model: MAC Encore Two

Serial no: 15082293053

Software version: V0.9.0.B6

## Results

An image of the test setup can be found on Page 3. Test results are listed in Table 1 on Page 5. Figures of measurement results are shown in Appendix A on Page 7~10.

HARMAN Professional Denmark ApS, R&D QA are responsible for the test results given in this report.

## Environment

Temperature: 23±2°C Ta

Humidity: 35 %RH

AC mains power: 230 V, 50 Hz

Background noise level: 8.9 dBA

Warm-up time: 30 minutes at each test scenario till fixture heat stable.

Fixture placement: Fixture was placed at least one meter from walls and ceiling, as described in the Standard ISO 3744:2010(E)

## Remarks

Test results apply only to the tested specimen.

| Rev: (last five) | Made by: | Description: | Approved by: | Date approved: |
|---|---|---|---|---|
| A | Guo, Kevin | MAC Encore Two noise level measurement | Poulsen, Bo Horsted | 2025-12-01 |
| | | | | |
| | | | | |

## Setup

The product was placed indoors in a semi-anechoic room in the internal Lab of Harman Technology in Shenzhen, China (See Figure 1). The main dimensions of the room were 5.9m * 4.9m * 3.3m (length * width * height).

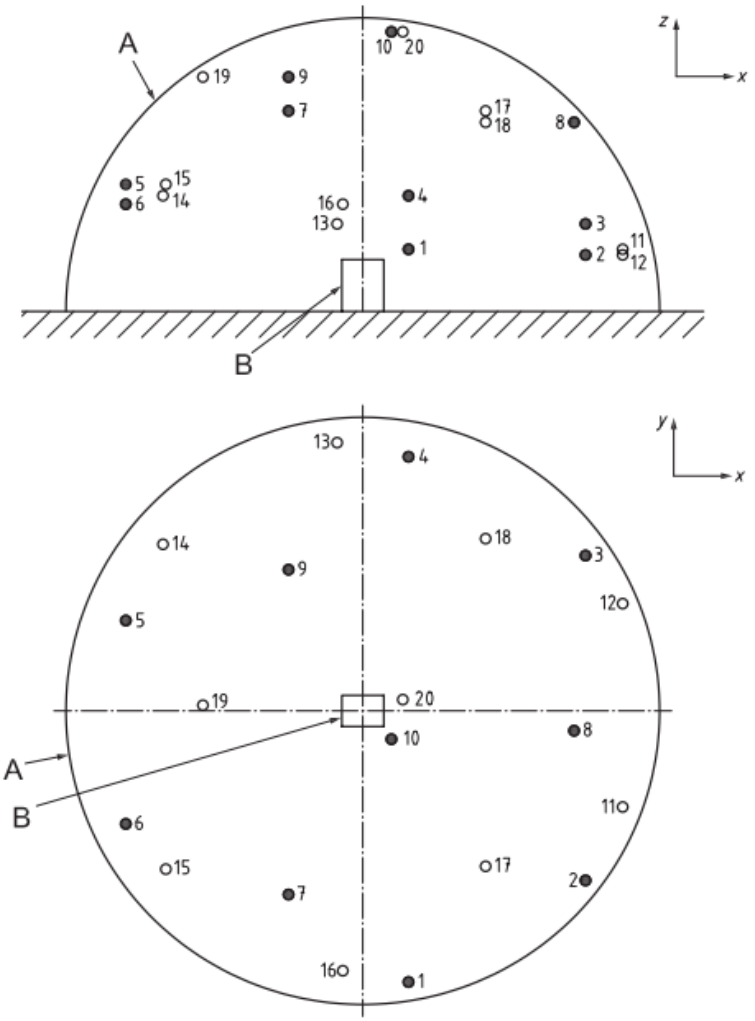
**Figure 1: Test setup**

The product was allowed a minimum 30 minutes of warm-up time before measurements were performed.

## Measurement method

Measurements were carried out using a setup with 1 microphone. The microphone was in turn moved to the measurement positions described below.

Measurement setup at hemispherical measurement model, as figure 2




**Key**

- ● key microphone positions (1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
- ○ additional microphone positions (11, 12, 13, 14, 15, 16, 17, 18, 19, 20)
- A measurement surface
- B reference box

**Figure 2: Microphone Positions**

Note：

1. R=1.5m.
2. S=2πR², Measurement surface area: 14.14 m².
3. 10 key microphones were taken measurement, as the range of A-weighted sound pressure levels measured at position 1 to 10 does not exceed 10 dB, additional 11 to 20 can be not considered.
4. The dimensions of the reference box (L: W: H): 59.6 cm x 42.9 cm x 55.5 cm.

# Results

The MAC Encore Two was measured in below fan modes:

1. All effects static, Light source ON, 100% output white light - REGULATED HIGH.
2. All effects static, Light source ON, 100% output white light - REGULATED MEDIUM.
3. All effects static, Light source ON, 100% output white light - REGULATED LOW.
4. All effects static, Light source ON, 100% output white light - REGULATED ULTRA LOW.

With head horizontal as “Figure 1” show.

Measured sound pressure levels results are shown in Table 1.

| Distance from fixture | REGULATED HIGH [dBA] | REGULATED MEDIUM [dBA] | REGULATED LOW [dBA] | REGULATED ULTRA LOW [dBA] |
|---|---|---|---|---|
| LpA at 0m | 44.2 | 39.7 | 35.6 | 35.2 |
| LpA at 1m | **36.2** | **31.7** | **27.6** | **27.2** |
| LpA at 4m | 24.2 | 19.7 | 15.6 | 15.2 |
| LpA at 7m | 19.3 | 14.8 | 10.7 | 10.3 |

**Table 1: Sound Pressure Levels**

The duration of the acoustical measurement for each position is 10s.

Sound Pressure Levels have been converted from Sound Power Levels using the formula: $L_pA = (L_wA - \text{reduction}_{\text{distance}})$

Reductions used: 8dB(A)@1m, 20dB(A)@4m, 24.9dB(A)@7m.

Appendix A displays measurement detail of noise level in REGULATED HIGH scenario.

[Standby state]

5. All effects are static state, Light source OFF, 0% output white light - REGULATED HIGH.

| Distance from fixture | Standby [dBA] |
|---|---|
| LpA at 1m | 18.1 |

# Instrumentation

Test equipment list:

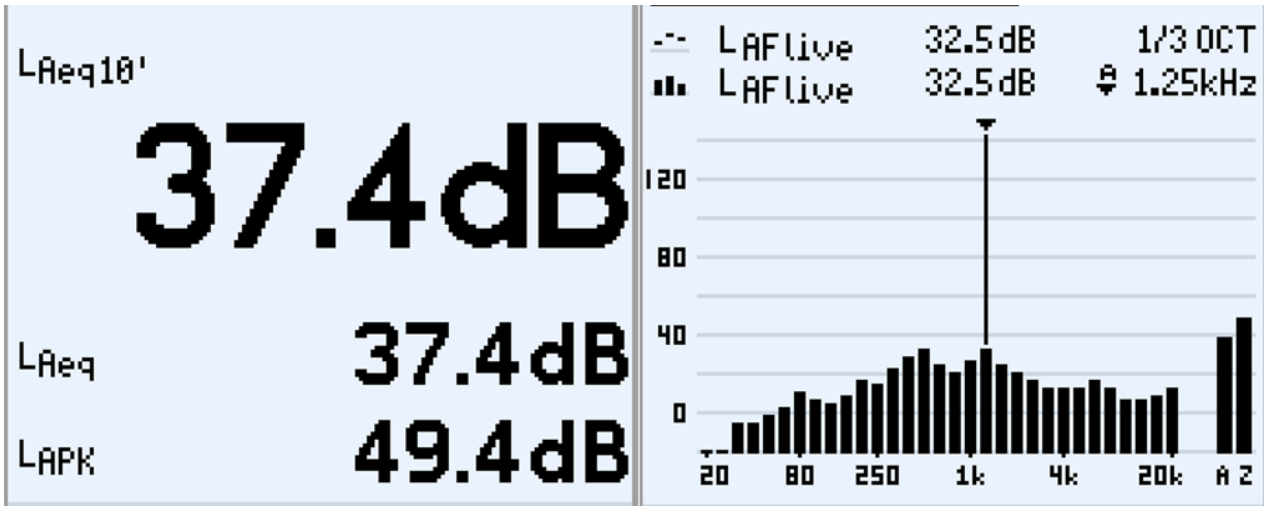
| Equipment | Maker | Type |
|---|---|---|
| Harman | NTi Audio | NTi XL2 A2A-14709-E0 |
| Harman | NTi Audio | MIC MA220 No.7587 |
| Harman | | Semi-anechoic room |
| Harman | | Digital Barometer |
| Harman | | Data logger for atmosphere & environment |
| | | |

**Table 3: Instruments Used**

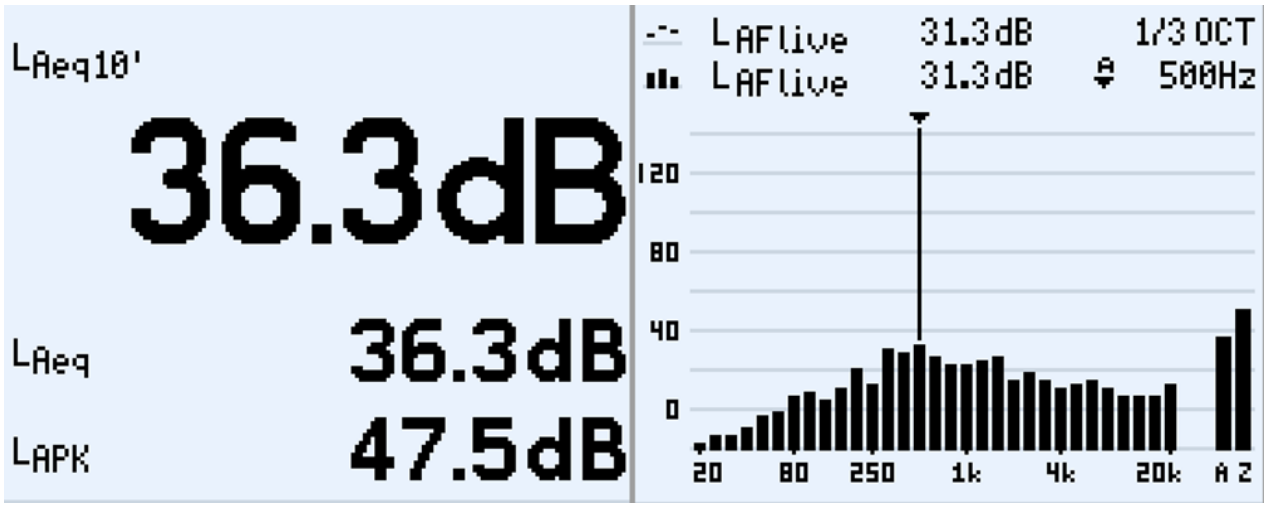
**Appendix A**:

Measurement of Noise Level in REGULATED HIGH Fan Mode

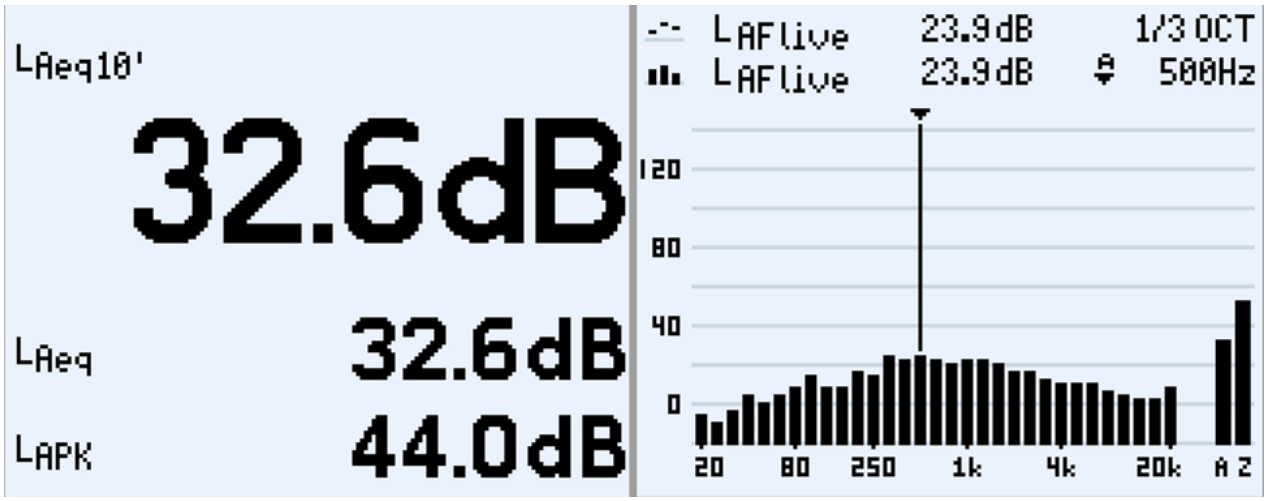
Position 1



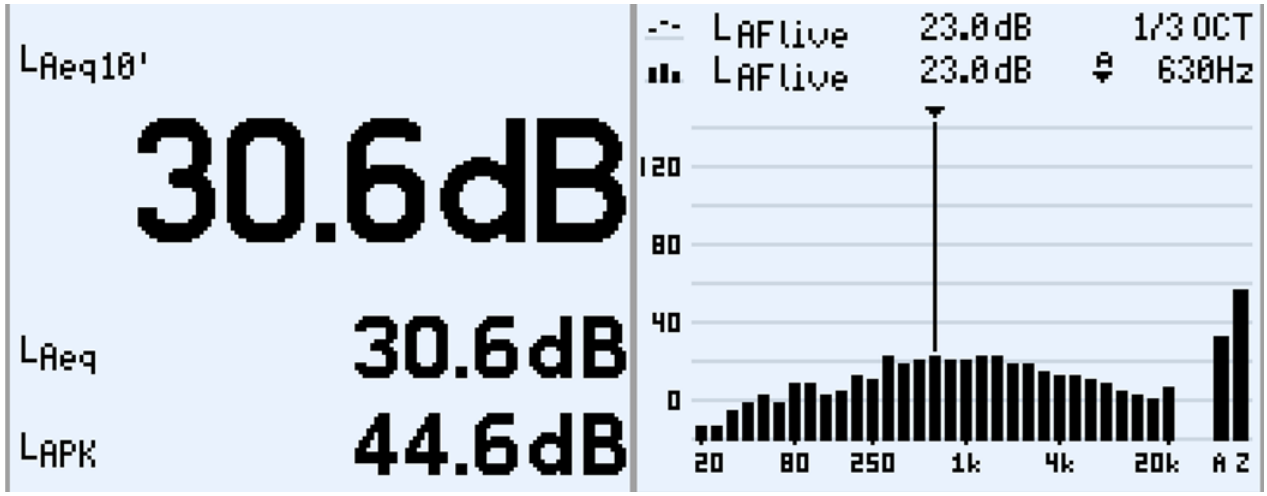

Position 2



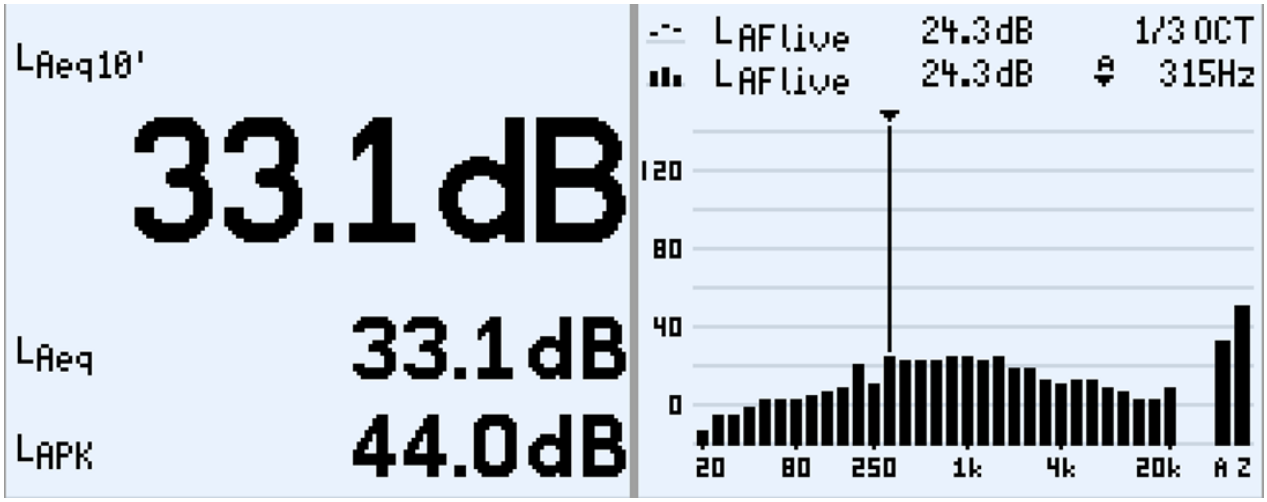
Position 3



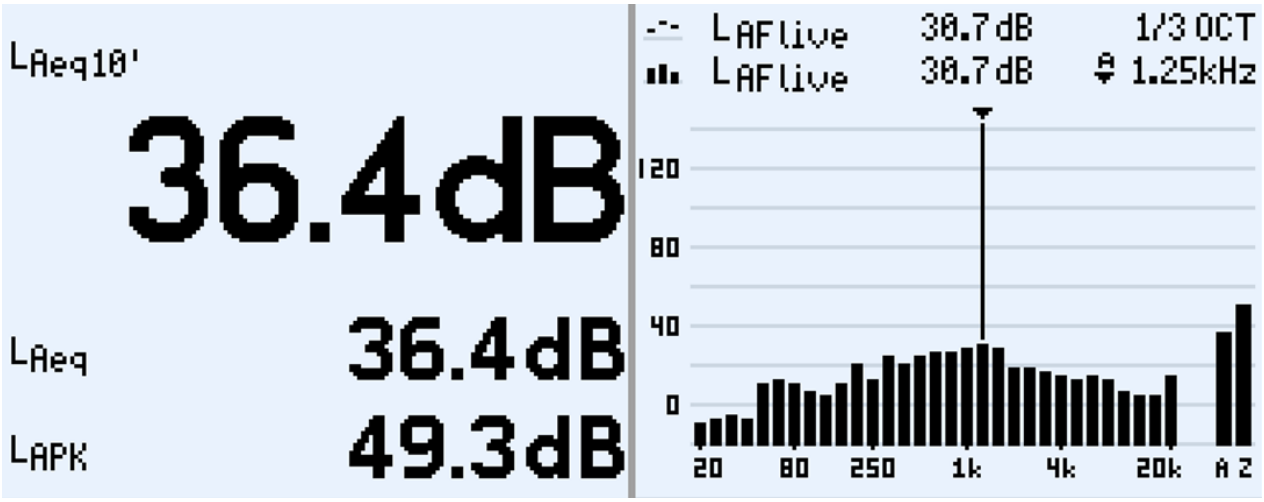

Position 4



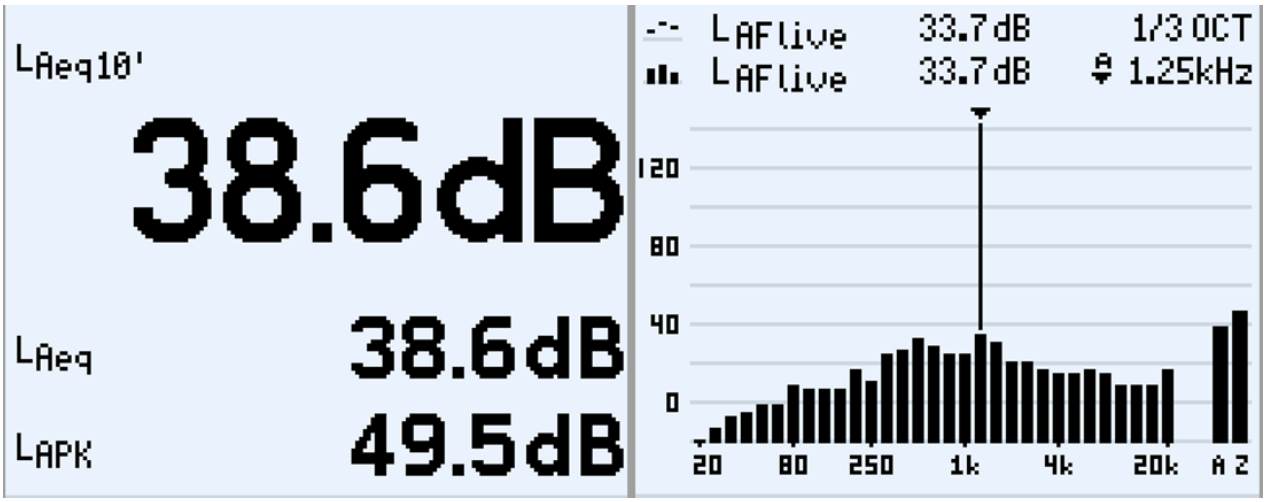

Position 5



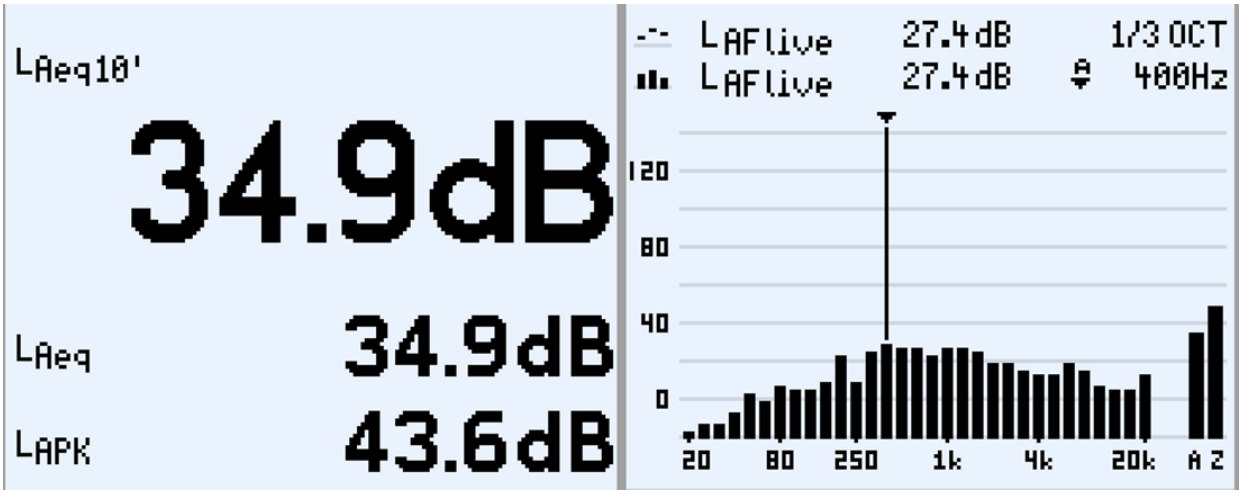
Position 6



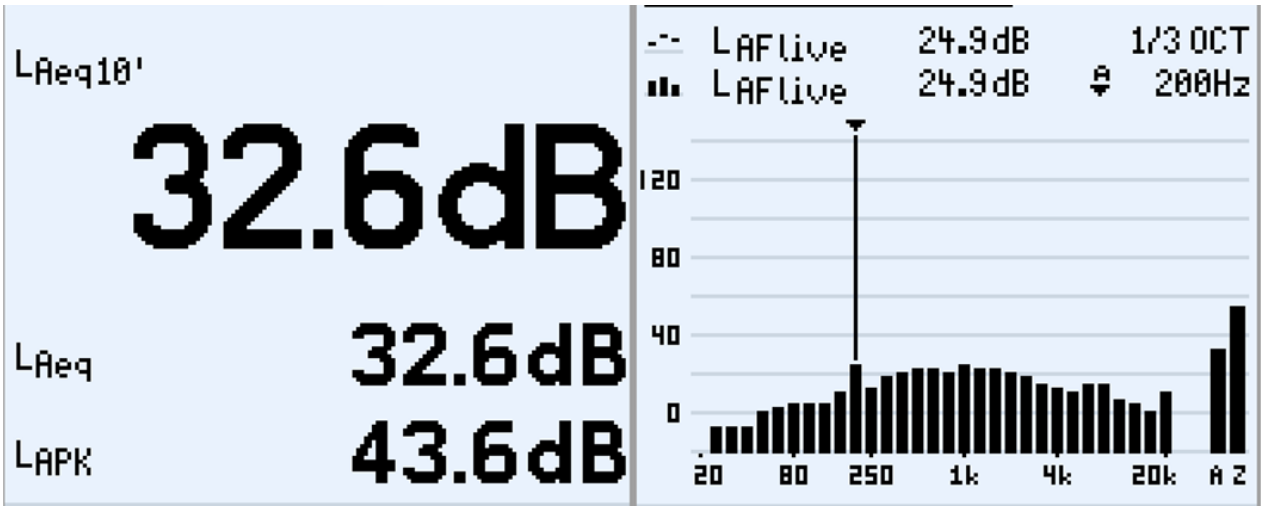

Position 7




Position 8



Position 9




Position 10