

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Sharper Image ANC Headphone with Bluetooth 5.2 EDR function operating in 2402-2480MHz. The EUT is powered by DC 3.7V for rechargeable battery or powered by USB-C port. The wireless function will be disabled when the product is charged. For more detailed features description, please refer to the user's manual.

Bluetooth Version: 5.2 EDR

Antenna Type: Integral antenna

Antenna Gain: 2.49 dBi max

Modulation Type: GFSK, $\pi/4$ -DQPSK and 8-DPSK

The nominal conducted output power specified: -2.49dBm (+/-3dB).

The nominal radiated output power (e.i.r.p) specified: 0dBm (+/- 3dB).

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 97.2 dB μ V/m at 3m in the frequency 2480MHz

The EIRP = [(FS*D) ^2 / 30] mW = 1.97dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 94.1 dB μ V/m at 3m in the frequency 2402MHz

The EIRP = [(FS*D) ^2 / 30] mW = -1.13dBm

which is within the production variation.

The maximum E.I.R.P specified is 3dBm= 1.995mW

The maximum ERP specified is 0.85dBm= 1.216mW

The SAR Exclusion Threshold Level:

$$P_{th}(mW) = ERP_{20cm} * (d/20cm)^x \quad (X = -\log_{10} \left(\frac{60}{ERP_{20cm} \sqrt{f}} \right))$$
$$= 3060 * (0.5/20)^{1.9} mW$$
$$= 2.72 mW$$

Since max. power of the source-based time-averaging conducted output power and effective radiated power (ERP) is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.