

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Wireless headphones with Bluetooth 5.0 (dual-mode) function operating in 2402-2480MHz. The Bluetooth transmitter will be disabled while the EUT is charging. The EUT is powered by DC 3.7V by battery. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK, p/4-DQPSK and 8-DPSK

Antenna Gain: -0.58dBi

Bluetooth Version: 5.0 (Dual Mode)

The nominal conducted output power specified: -3.0 dBm (± 3 dB)

The nominal radiated output power (e.i.r.p) specified: -3.58 dBm (± 3 dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 92.6 dB μ V/m at 3m in the frequency 2402MHz

The EIRP = [(FS*D) ^2 / 30] mW = -2.63dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 89.5 dB μ V/m at 3m in the frequency 2480MHz

The EIRP = [(FS*D) ^2 / 30] mW = -5.73dBm

which is within the production variation.

The maximum conducted output power specified is 0dBm= 1.000mW

The SAR Exclusion Threshold Level:

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

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.