

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Wireless Earbuds with Bluetooth function operating in 2402-2480MHz. The EUT is powered by DC 3.7V, 120mAh new rechargeable battery which can be charged by USB port (DC 5V). The USB port is only use for charging purpose. The EUT cannot operate when charging. For more detail information pls. refer to the user manual.

Modulation Type: GFSK, $\pi/4$ DQPSK, 8DPSK for BT 2.1+EDR &GFSK for BT 4.0 BLE

Bluetooth Version: 2.1+EDR&4.0

Antenna Type: Integral antenna

Antenna Gain: 2dBi

The nominal radiated output power (e.i.r.p) specified: 1dBm (Tolerance: +/- 3dB)

The nominal conducted output power specified: -1dBm (Tolerance: +/- 3dB)

According to the KDB 447498:

The maximun peak radiated emission for the EUT is 98.9dB μ V/m at 3m in the frequency 2480MHz of BT 2.1 +EDR

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 3.7 dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 97.3 dB μ V/m at 3m in the frequency 2402MHz of BT 2.1+EDR

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 2.1 dBm
which is within the production variation.

The maximun conducted output power specified is 2.0dBm = 1.58mW

The source- based time-averaging conducted output power
= 1.58 * Duty factor mW (where Duty Factor ≤ 1)
= 1.58 mW

The SAR Exclusion Threshold Level:

= $3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$
= $3.0 * 5 / \text{sqrt} (2.480)$ mW
= 9.53 mW

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.