

INTERTEK TESTING SERVICES

RF Exposure

The Equipment Under Test (EUT) is a Bluetooth Tracker with BT function operating at 2402-2480MHz for Bluetooth, 40 channels with 2MHz channel spacing. The EUT is powered by DC 3.0V for battery. For more detailed features description, please refer to the user's manual.

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: 0dBi

Bluetooth Version: 4.2 BLE (Single Mode)

The normal radiated output power (e.i.r.p) is: -0.5dBm (tolerance: +/-2dB).

The normal conducted output power is -0.5dBm (tolerance: +/-2dB).

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 94.8 dBμV/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -0.43dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 92.8 dBμV/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -2.43dBm

which is within the production variation.

The maximum conducted output power specified is 1.5dBm = 1.413mW

The source- based time-averaging conducted output power

= $1.413 \cdot \text{Duty cycle}$ mW < 1.413 mW (Duty cycle < 100%)

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.