

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a G-BOOM3 Bluetooth Wireless Speaker with Bluetooth 5.1 EDR function operating in 2402-2480MHz. The EUT is powered by DC 7.4V by battery which can be charged by DC 12V/1.5A through adapter input. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

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

Antenna Gain: -0.59 dBi Max

The nominal radiated output power (e.i.r.p) specified: 2.5dBm (+/-1dB)

The nominal conducted output power specified: 3.09dBm (+/-1dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 98.2 dBμV/m at 3m in the frequency 2402MHz

The EIRP = [(FS*D) ^2 / 30] mW = 2.97dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 96.8 dBμV/m at 3m in the frequency 2480MHz

The EIRP = [(FS*D) ^2 / 30] mW = 1.57dBm
which is within the production variation.

The maximum conducted output power specified is 4.09dBm = 2.56 mW

The source- based time-averaging conducted output power
= 2.56 * Duty factor mW (where Duty Factor ≤ 1)
= 2.56 mW

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 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.