

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Bluetooth speaker with BT 5.0 BR+EDR function operating in 2402-2480MHz. The EUT is only powered by DC 20V by rechargeable battery. For more detail information pls. refer to the user manual.

Modulation Type: GFSK, $\pi/4$ -DQPSK
Bluetooth Version: 5.0 (Single Mode BR+EDR)

Antenna Type: Integral antenna.

Antenna Gain: -0.68dBi.

The nominal conducted output power specified: 1dBm (+/-2dB).

The nominal radiated output power (e.i.r.p) specified: 0.32dBm (+/-2dB).

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 97.15dB μ V/m at 3m in the frequency 2441MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 1.92dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 94.16dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -1.07dBm
which is within the production variation.

The maximum conducted output power specified is 3dBm = 2.0mW

The source-based time-averaging conducted output power
= 2.0 * Duty factor mW (where Duty Factor \leq 1)
= 2.0 mW

The SAR Exclusion Threshold Level:

= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / 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.