

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a BLUETOOTH LIGHT UP SPEAKER with Bluetooth 5.0 (Single Mode EDR) function operating in 2402-2480MHz. The EUT is powered by DC 5.0V by adapter. For more detail information pls. refer to the user manual.

Bluetooth Version: 5.0 (Single Mode EDR)

Antenna Type: Integral antenna

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

Antenna Gain: 1.2dBi Max

The nominal conducted output power specified: -16.2 dBm (± 3 dB)

The nominal radiated output power (e.i.r.p) specified: -15.0 dBm (± 3 dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 80.5dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -14.73 dBm

which is within the production variation.

The minimum peak radiated emission for the EUT is 78.3dB μ V/m at 3m in the frequency 2441MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -16.93dBm

which is within the production variation.

The maximum conducted output power specified is -13.2 dBm = 0.048 mW

The source- based time-averaging conducted output power

= 0.048 * Duty factor mW (where Duty Factor ≤ 1)

= 0.048 mW

The SAR Exclusion Threshold Level:

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

= $3.0 * 5 / \sqrt{2.480}$ 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.