

RF Exposure

The Equipment Under Test (EUT) is a BLUETOOTH SPEAKER with Bluetooth 5.0 (EDR Mode) function operating in 2402-2480MHz. The EUT is powered by DC 3.7V by rechargeable battery that could be charged by DC 5V 1A from USB Port. For more detailed features description, please refer to the user's manual.

Bluetooth Version: 5.0 EDR (Single Mode)

Antenna Type: Integral antenna

Modulation Type: GFSK, $\pi/4$ -DQPSK and 8-DPSK

Antenna Gain: 1.9 dBi Max

The nominal conducted output power specified: -2.9dBm (+/-2dB)

The nominal radiated output power (e.i.r.p) specified: -1dBm (+/-2dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 95.1dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -0.13dBm

which is within the production variation.

The minimum peak radiated emission for the EUT is 94.0dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -1.23dBm

which is within the production variation.

The maximum conducted output power specified is -0.9 dBm = 0.81 mW

The source- based time-averaging conducted output power

= 0.81 * Duty factor mW (where Duty Factor ≤ 1)

= 0.81 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.