

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a BLUETOOTH SPEAKER with Bluetooth function. The EUT was powered by DC 3.7V lithium battery and charged by DC 5V USB port. For more detail information pls. refer to the user manual.

Modulation Type: GFSK, $\pi/4$ DQPSK, 8DPSK.
Bluetooth Version: 4.1.

Antenna Type: Integral antenna.

Antenna Gain: 1dBi.

The nominal conducted output power specified: -10.7dBm (+/-3dB).

The nominal radiated output power (e.i.r.p) specified: -9.7dBm (+/- 3dB)

According to the KDB 447498:

The maximum tested peak radiated emission for the EUT is 87.5dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -7.73dBm
which is within the production variation.

The minimum tested peak radiated emission for the EUT is 84.4dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -10.83dBm
which is within the production variation.

The maximum conducted output power specified is -7.7dBm = 0.17 mW

The source- based time-averaging conducted output power
= 0.17 * Duty Cycle mW (where Duty Cycle < 100%) < 0.2 mW

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}} \\ &= 3.0 * 5 / \sqrt{2.480} \text{ mW} \\ &= 9.5 \text{ mW} \end{aligned}$$

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.