

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Bluetooth audio kit with BT 4.2 EDR function operating in 2402-2480MHz. The EUT is powered by DC 3.7V by rechargeable battery or DC 5V with AC adaptor. The Bluetooth function can operate when charging. For more detail information pls. refer to the user manual.

Modulation Type: GFSK, $\pi/4$ -DQPSK and 8-DPSK
Bluetooth Version: 4.2 (Single Mode EDR)

Antenna Type: Integral antenna.

Antenna Gain: -0.58dBi.

The nominal radiated output power (e.i.r.p) specified: 4.0dBm (+/- 3dB).

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 100.5dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 5.27dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 100.2dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 4.97dBm
which is within the production variation.

The maximum radiated output power specified is 7dBm = 5.0mW

The source- based time-averaging conducted output power
= 5.0 * Duty factor mW (where Duty Factor ≤ 1)
= 5.0 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.