

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Portable Bluetooth Speaker with Bluetooth function. The EUT was powered by a fully-charged 14.8Vdc lithium rechargeable battery which was charged by AC adaptor (Input: AC 100-240V, 50/60Hz, 1.0A max, Output: DC 18.0V, 2.2A). For more detail information pls. refer to the user manual.

Modulation Type: GFSK for BT 4.0 and GFSK, $\pi/4$ DQPSK, 8DPSK for BT 3.0+EDR.
Bluetooth Version: 4.0 and 3.0 with EDR.

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

The nominal conducted output power specified: 6dBm +/-3dB.

The nominal radiated output power (e.i.r.p) specified: 6dBm (+/- 3dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 103.3dB μ V/m at 3m in the frequency 2440MHz and 2480MHz of BT 4.0

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 8.07dBm

which is within the production variation.

The minimum peak radiated emission for the EUT is 99.9dB μ V/m at 3m in the frequency 2402MHz of BT 3.0+EDR

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 4.67dBm

which is within the production variation.

The maximum conducted output power specified is 9.0dBm = 7.94mW

The source- based time-averaging conducted output power

= 7.94 * Duty Cycle mW (where Duty Cycle \leq 100%)

= 7.94 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.