

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Bluetooth Switch with Bluetooth function operating in 2402-2480MHz. The EUT is powered by DC 3.7V from inner rechargeable battery which can be charged by adaptor. For more detail information pls. refer to the user manual.

Modulation Type: GFSK

Bluetooth Version: 4.0 BLE (single mode)

Antenna Type: PCB Antenna

Antenna Gain: -1.8 dBi Max

The nominal radiated output power (e.i.r.p) specified: -5.8 dBm (Tolerance: +/- 3dB)

The nominal conducted output power specified: -4 dBm (Tolerance: +/- 3dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 91.5dB μ V/m at 3m in the frequency 2402MHz of BT 4.0 BLE

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -3.7 dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 89.8 dB μ V/m at 3m in the frequency 2480MHz of BT 4.0 BLE

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -5.4 dBm
which is within the production variation.

The maximum conducted output power specified is -1dBm = 0.794 mW

The source-based time-averaging conducted output power
= 0.794 * Duty factor mW (where Duty Factor \leq 1)
= 0.794 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.