

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a control unit for the XVR with Bluetooth function operated at 2.4GHz band. The EUT is powered by DC 4.5V (3 x 1.5V AA batteries). For more detail information pls. refer to the user manual.

Modulation Type: GFSK.

Bluetooth Version: 4.0 BLE (single mode)

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

The normal radiated output power (e.i.r.p) is: -3.0dBm (tolerance: +/- 3dB).

The normal conducted output power is: -3.0dBm (tolerance: +/- 3dB).

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 91.6dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -3.63dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 91.4dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -3.83dBm

which is within the production variation.

The maximum conducted output power specified is 0dBm = 1.0mW

The source- based time-averaging conducted output power
= $1.0 \cdot \text{Duty cycle}$ mW < 1.0 mW (Duty cycle < 100%)

The SAR Exclusion Threshold Level:

= $3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$

= $3.0 \cdot 5 / \sqrt{2.480}$ 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.