

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Christmas Tree with Bluetooth 5.0 (Single Mode EDR) function operating in 2402-2480MHz. The EUT is powered by DC 5.0V by adaptor. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK, $\pi/4$ -DQPSK and 8-DPSK

Antenna Gain: 0dBi Max

Bluetooth Version: 5.0 (Single Mode EDR)

The normal radiated output power (e.i.r.p) is: -6.0dBm (tolerance: +/- 3dB).

The normal conducted output power is -6.0dBm (tolerance: +/- 3dB).

According to the KDB 447498 D01 V06 section 4.3:

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

The EIRP = $[(FS^*D)^2 / 30]$ mW = -3.63dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 87.2dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -8.03dBm
which is within the production variation.

The maximum conducted output power specified is -3dBm= 0.501mW

The source- based time-averaging conducted output power
=0.501mW

The SAR Exclusion Threshold Level:

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

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