
INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Wireless Keyboard with BLE operating in 2402-2480MHz. The EUT is powered by DC 5V/500mA. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Antenna Gain: 1.87 dBi max

Bluetooth Version: 5.0 BLE (Single Mode)

Modulation Type: GFSK

The nominal conducted output power specified: -5.87dBm (+/-2dB).

The nominal radiated output power (e.i.r.p) specified: -4dBm (+/- 2dB).

According to the KDB 447498 D04:

The Maximum peak radiated emission for the EUT is 90.8 dBμV/m at 3m in the frequency 2402MHz

The EIRP = [(FS*D) ^2 / 30] mW = -4.43dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 89.6 dBμV/m at 3m in the frequency 2480MHz

The EIRP = [(FS*D) ^2 / 30] mW = -5.63dBm

which is within the production variation.

The maximum conducted output power specified is -3.87dBm= 0.410mW

The maximum radiated output power specified is -2dBm= 0.631mW

The SAR Exclusion Threshold Level:

$$P_{th}(mW) = ERP_{20cm} * (d/20cm)^x \quad (X = -\log_{10} \left(\frac{60}{ERP_{20cm} \sqrt{f}} \right))$$
$$= 3060 * (0.5/20)^{1.9} mW$$
$$= 2.72 mW$$

Since max. conducted output power and effective radiated power (ERP) is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.

Note: EIRP is higher than ERP, thus EIRP is compared with the Exclusion Threshold.