INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Wireless keyboard with Bluetooth 5.0 BLE function operating in 2402-2480MHz, 2.4G function operating in 2405-2475MHz. The EUT is powered by DC 3V by AAA battery*2. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna
Modulation Type: GFSK
Antenna Gain: -1.2 dBi
Bluetooth Version: 5.0 BLE (Single Mode)
The nominal conducted output power specified: -8.8 dBm (±2dB)
The nominal radiated output power (e.i.r.p) specified: -10 dBm (±2dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 86.5 dBμV/m at 3m in the frequency 2480MHz
The EIRP = [(FS*D) ^2 / 30] mW =-8.73dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 84.1 dBμV/m at 3m in the frequency 2402MHz
The EIRP = [(FS*D) ^2 / 30] mW = -11.13dBm
which is within the production variation.

The maximum conducted output power specified is -6.8dBm= 0.209mW

Antenna Type: Integral antenna
Modulation Type: GFSK
Antenna Gain: -1.2 dBi
The nominal conducted output power specified: -9.8 dBm (±2dB)
The nominal radiated output power (e.i.r.p) specified: -11 dBm (±2dB)

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is   84.4   dBμV/m at 3m in the frequency 2440MHz
The EIRP = [(FS*D) ^2 / 30] mW =-10.83dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is   83.1   dBμV/m at 3m in the frequency 2475MHz
The EIRP = [(FS*D) ^2 / 30] mW = -12.13dBm
which is within the production variation.

The maximum conducted output power specified is   -7.8dBm=   0.166mW

The SAR Exclusion Threshold Level:

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

$$= 3060 * (0.5/20)^{1.9} \text{ mW}$$

$$= 2.72 \text{ mW}$$

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.

FCC ID: OXM000149