

RF Exposure

The equipment under test (EUT) is a Wireless Mouse with 2.4GHz BT function operating in 2402-2480MHz and a 2.4GHz wireless transmitter function operating in 2403-2480MHz. The EUT is powered by DC 1.5V battery. 2.4G wireless transmitter function and BT function cannot be simultaneous transmission. For more detail information pls. refer to the user manual.

Bluetooth Version: 5.0 BLE (Single Mode)

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: 2.34dBi Max

The nominal conducted output power specified: -4.34dBm (+/-2dB)

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

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 92.5dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -2.73dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 92.0dB μ V/m at 3m in the frequency 2402MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -3.23dBm
which is within the production variation.

The maximum conducted output power specified is -2.34 dBm = 0.58 mW

The source-based time-averaging conducted output power
= $0.58 * \text{Duty factor mW}$ (where Duty Factor ≤ 1)
= 0.58 mW

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.

2.4GHz wireless transmitter function:

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: 2.34dBi Max

The nominal conducted output power specified: -2.34dBm (+/-3dB)

The nominal radiated output power (e.i.r.p) specified: 0dBm (+/-3dB)

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 98.0dB μ V/m at 3m in the frequency 2403MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = 2.77dBm
which is within the production variation.

The minimum peak radiated emission for the EUT is 92.3dB μ V/m at 3m in the frequency 2480MHz

The EIRP = $[(FS^*D)^2 / 30]$ mW = -2.93dBm
which is within the production variation.

The maximum conducted output power specified is 0.66 dBm = 1.16 mW

The source-based time-averaging conducted output power
= 1.16 * Duty factor mW (where Duty Factor ≤ 1)
= 1.16 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.

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