

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Electric Skatedboard operating at 2.4G Band. The EUT can be powered by DC25.2V (1 x 25.2V rechargeable battery). For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

The normal radiated output power (e.i.r.p) is: -15.0dBm (tolerance: +/- 3dB).

The normal conducted output power is -15.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 81.1dB μ V/m at 3m in the frequency 2411MHz

The EIRP = $[(FS^*D)^2 / 30] \text{ mW} = -14.13 \text{ dBm}$
which is within the production variation.

The Minimum peak radiated emission for the EUT is 78.4dB μ V/m at 3m in the frequency 2429MHz

The EIRP = $[(FS^*D)^2 / 30] \text{ mW} = -16.83 \text{ dBm}$
which is within the production variation.

The maximum conducted output power specified is -12dBm =0.063mW

The source- based time-averaging conducted output power
=0.063* Duty cycle mW <0.063 mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt(freq. in GHz)} \\ &= 3.0 * 5 / \text{sqrt}(2.446) \text{ mW} \\ &= 9.59 \text{ mW} \end{aligned}$$

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.

The duty cycle is simply the on-time divided by the period:

The duration of one cycle = 440.44 μ s

Effective period of the cycle = 210.21 μ s

DC = 210.21 μ s / 440.44 μ s = 0.4773 or 47.73%