

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Drone Lumo Glow Stunt 5inch operating at 2.4G Band. The EUT can be powered by DC 6.0V (4 x 1.5V AA batteries). For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Modulation Type: GFSK

Antenna Gain: 0dBi

The nominal conducted output power specified: -3.0 dBm (± 3 dB)

The nominal radiated output power (e.i.r.p) specified: -3.0 dBm (± 3 dB)

According to the KDB 447498:

The Maximum peak radiated emission for the 93.8 dB μ V/m at 3m in EUT is

the frequency 2420MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -1.43dBm

which is within the production variation.

The Minimum peak radiated emission for the 90.5 dB μ V/m at 3m in EUT is

the frequency 2442MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -4.73dBm

which is within the production variation.

The maximum conducted output power specified is 0dBm = 1.000mW

The source- based time-averaging conducted output power
= $1.000 \cdot \text{Duty cycle mW}$ < 1.000 mW (Duty cycle < 100%)

The SAR Exclusion Threshold Level:

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

Since max. power of the source-based time-averaging 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.

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

The duration of one cycle = 6.4058ms

Effective period of the cycle = 0.7536ms

DC = $0.7536\text{ms} / 6.4058\text{ms} = 0.1176$ or 11.76%