

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a 2.4G R/C Aircraft operating at 2.4G Band. The EUT can be powered by DC4.5V (3 x 1.5V AAA batteries). For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna.

Antenna Gain: 0dBi.

Modulation Type: GFSK.

The normal radiated output power (e.i.r.p) is: -1.0dBm (tolerance: +/- 3dB).

The normal conducted output power is -1.0dBm (tolerance: +/- 3dB).

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 94.9dBμV/m at 3m in the frequency 2416MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -0.33dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 92.5dBμV/m at 3m in the frequency 2470MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -2.73dBm

which is within the production variation.

The maximum conducted output power specified is 2.0dBm = 1.58mW

The source- based time-averaging conducted output power
= $1.58 \cdot \text{Duty cycle}$ mW < 1.58 mW (Duty cycle < 100%)

The SAR Exclusion Threshold Level:

= $3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$

= $3.0 \cdot 5 / \sqrt{2.470}$ mW

= 9.54 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.

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

The duration of one cycle = 7.4783ms

Effective period of the cycle = 478.3μs

DC = $0.4783\text{ms} / 7.4783\text{ms}$ = 0.0640 or 6.40%