

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a Sherlock Hide and Seek Puppy 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.

The normal radiated output power (e.i.r.p) is: -8.0dBm (tolerance: +/- 3dB).

The normal conducted output power is -8.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 86.5dB μ V/m at 3m in the frequency 2474MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -8.73dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 85.7dB μ V/m at 3m in the frequency 2450MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -9.53dBm

which is within the production variation.

The maximum conducted output power specified is -5dBm = 0.32mW

The source- based time-averaging conducted output power
= $0.32 \cdot \text{Duty cycle}$ mW < 0.32mW (Duty cycle < 100%)

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{(2.474)}$ 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 = 7.7536ms

Effective period of the cycle = 1.0145ms

DC = $1.0145\text{ms} / 7.7536\text{ms}$ = 0.1308 or 13.08%