

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is an Toy RC Robotic Robotosaur Trainable operating at 2.4G Band. The EUT can be powered by DC 4.5V (3 x 1.5V AA 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: 9.0dBm (tolerance: +/- 3dB).

The normal conducted output power is 9.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 106.7dB μ V/m at 3m in the frequency 2407MHz

The EIRP = [(FS*D) ^2 / 30] mW = 11.47dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 102.9dB μ V/m at 3m in the frequency 2475MHz

The EIRP = [(FS*D) ^2 / 30] mW = 7.67dBm
which is within the production variation.

The maximum conducted output power specified is 12.0dBm= 15.849mW

The source- based time-averaging conducted output power
=15.849* 0.0323 mW =0.512 mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:

= 3.0 * (min. test separation distance, mm) / sqrt(freq. in GHz)

= 3.0 * 5 / sqrt (2.475) 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.

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

The duration of one cycle = 53.913ms

Effective period of the cycle = 217.4 μ s x8 = 1.7392ms

DC =1.7392ms / 53.913ms =0.0323 or 3.23%

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