

## INTERTEK TESTING SERVICES

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### RF Exposure

The equipment under test (EUT) is a Remote control car series operating at 2.4G Band. The EUT can be powered by DC 3.0V (2 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: -18.0dBm (tolerance: +/- 3dB).

The normal conducted output power is -18.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 78.6dB $\mu$ V/m at 3m in the frequency 2480MHz

The EIRP = [(FS\*D) ^2 / 30] mW = -16.63dBm  
which is within the production variation.

The Minimum peak radiated emission for the EUT is 75.1dB $\mu$ V/m at 3m in the frequency 2405MHz

The EIRP = [(FS\*D) ^2 / 30] mW = -20.13dBm  
which is within the production variation.

The maximum conducted output power specified is -15.0dBm= 0.032mW

The source- based time-averaging conducted output power  
=0.032\* Duty cycle mW <0.032 mW(Duty cycle <100%)

The SAR Exclusion Threshold Level:

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

= 3.0 \* 5 / sqrt (2.480) 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 = 3.0145ms

Effective period of the cycle = 173.9 $\mu$ s x 3 = 521.7 $\mu$ s = 0.5217ms

DC =0.5217ms / 3.0145ms =0.1731 or 17.31%