

INTERTEK TESTING SERVICES

RF Exposure

The equipment under test (EUT) is a SNF0023 - SNF - Remote Control Vehicle (Spidey RC Vehicle) operating at 2.4G Band. The EUT can be powered by DC 3.0V (2 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: -2.0dBm (tolerance: +/- 3dB).

The normal conducted output power is -2.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 93.7 dBμV/m at 3m in the frequency 2475MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -1.53dBm

which is within the production variation.

The Minimum peak radiated emission for the EUT is 91.3 dBμV/m at 3m in the frequency 2405MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -3.93dBm

which is within the production variation.

The maximum conducted output power specified is 1dBm= 1.259mW

The source- based time-averaging conducted output power

= $1.259 \cdot \text{Duty cycle}$ mW < 1.259 mW (Duty cycle < 100%)

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.475}$ 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 = 18.9130ms

Effective period of the cycle = 0.5797ms

DC = $0.5797\text{ms} / 18.9130\text{ms}$ = 0.0307 or 3.07%