

INTERTEK TESTING SERVICES

RF Exposure

The Equipment under Test (EUT) is a control unit for the TOY RC HOBBY LITE STREET TRASHER 12.5MPH model: 1001328 operating at 2.4GHz band. It is 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: 3.0dBm (tolerance: +/- 3dB).

The normal conducted output power is: 3.0dBm (tolerance: +/- 3dB).

Modulation Type: GFSK.

According to the KDB 447498:

The Maximum peak radiated emission for the EUT is 97.8dBμV/m at 3m in the frequency 2420MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 2.57dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 97.1dBμV/m at 3m in the frequency 2465MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 1.87dBm
which is within the production variation.

The maximum conducted output power specified is 6dBm = 4.0mW

The source- based time-averaging conducted output power
= $4.0 \cdot \text{Duty cycle}$ mW < 4.0 mW (Duty cycle < 100%)

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.465}$ mW

= 9.55 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 = 6.0000 ms

Effective period of the cycle = 0.4058ms

DC = 0.4058ms / 6.0000 ms = 0.0676 or 6.76 %