

INTERTEK TESTING SERVICES

RF Exposure

The Equipment under Test (EUT) is a Control unit for TOY RC HOBBY LITE STREET THRASHER 12.5MPH model: 1002391 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: 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 98.9dBμV/m at 3m in the frequency 2465MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 3.67dBm
which is within the production variation.

The Minimum peak radiated emission for the EUT is 98.4dBμV/m at 3m in the frequency 2420MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = 3.17dBm
which is within the production variation.

The maximum conducted output power specified is 5dBm = 3.2mW

The source- based time-averaging conducted output power
= $3.2 \cdot \text{Duty Cycle}$ mW < 3.2mW (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
= 9.55mW

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 duration of one cycle = 5.942ms

Effective period of the cycle = 405.8us = 0.4058ms

DC = 0.4058ms / 5.942 ms = 0.0683 or 6.83 %