

INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a transmitter for a Toy RC Monster Spinning Car operating at 49.860 MHz which is controlled by a crystal. The EUT is powered by one 9.0V 6F22 battery. For more detail information pls. refer to the user manual.

Antenna Type: dedicated antenna

Antenna Gain: 0dBi

Modulation Type: Pulse modulation

The nominal conducted output power specified: -47.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -49.15dBm (+/- 3dB)

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 47.8dBuV/m at
3m in the frequency 49.86MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -47.43dBm

The ERP = EIRP - 2.15 = -49.58dBm

which is within the production variation.

The maximum conducted output power specified is -44.0dBm = 0.00004mW

The source-based time-averaging conducted output power
= $0.00004 \cdot \text{Duty Cycle}$ mW < 0.00004mW (Duty Cycle < 100%)

Since the source-based time-averaging conducted output power is well below the SAR low threshold level of 1mW, so the EUT is considered to comply with SAR requirement without testing.

Transmitter Duty Cycle Calculation

The duration of one cycle = 68.406ms

Effective period of the cycle = $1.449\text{ms} \times 4 + 435\mu\text{s} \times 64 = 33.636\text{ms}$

DC = $33.636\text{ms} / 68.406\text{ms} = 0.4917$ or 49.17%

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