

INTERTEK TESTING SERVICES

Analysis Report

The equipment under test (EUT) is a transmitter for a Toy RC Phantom Racer Trike operating at 27.145 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: Integral antenna

Antenna Gain: 0dBi

The nominal conducted output power specified: -27.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -29.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 68.4dBμV/m at 3m in the frequency 27.145MHz

The EIRP = $[(FS \cdot D)^2 / 30]$ mW = -26.83dBm

The ERP = EIRP - 2.15 = -28.98dBm

which is within the production variation.

The maximum conducted output power specified is -24dBm = 0.004mW

The source-based time-averaging conducted output power
= $0.004 \cdot \text{Duty Cycle}$ mW < 0.004mW (Duty Cycle < 100%)

The SAR Exclusion Threshold Level for 27.145MHz when the minimum test separation distance is < 50mm:

= $474 \cdot [1 + \log(100/f(\text{MHz}))]/2$

= 371.2 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.

Transmitter Duty Cycle Calculation:

The duration of one cycle = 18.2609ms

Effective period of the cycle = $1.5217\text{ms} \times 4 + 478.3\mu\text{s} \times 10 = 10.8698\text{ms}$

DC = $10.8698\text{ms} / 18.2609\text{ms} = 0.5952$ or 59.52%