

# INTERTEK TESTING SERVICES

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## Analysis Report

The equipment under test (EUT) is a transmitter for a Toy RC Off Road Explorer 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: -35.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -37.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 60.0dBuV/m at 3m in the frequency 27.145MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = -35.23dBm

The ERP = EIRP - 2.15 = -37.38 dBm

which is within the production variation.

The maximum conducted output power specified is -32dBm = 0.0006mW

The source-based time-averaging conducted output power

=  $0.0006 \cdot \text{Duty Cycle}$  mW < 0.0006mW (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 = 17.8986ms

Effective period of the cycle =  $1.4493\text{ms} \times 4 + 507.2\mu\text{s} \times 10 = 10.8692\text{ms}$

DC =  $10.8692\text{ms} / 17.8986\text{ms} = 0.6073$  or 60.73%