

# INTERTEK TESTING SERVICES

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## Analysis Report

The equipment under test (EUT) is a transmitter for a R/C Toy 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: -48.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -50.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 46.8dB $\mu$ V/m at 3m in the frequency 27.145MHz

The EIRP = [(FS\*D) ^2 / 30] mW= -48.43dBm

The ERP = EIRP – 2.15 = -50.58dBm

which is within the production variation.

The maximum conducted output power specified is -45dBm =0.00003mW

The source- based time-averaging conducted output power = 0.00003\* Duty Cycle mW < 0.0001mW (Duty Cycle<100%)

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

= 474 \* [1 + log(100/f(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 = 19.8551ms

Effective period of the cycle = 1.6667ms x 4 + 507.2 $\mu$ s x 10 =11.7388ms

DC =11.7388ms / 19.8551ms =0.5912 or 59.12%