

## Analysis Report

The equipment under test (EUT) is a portable transmitter for a Toy RC Construction Vehicles Excavator operating at 27.145 MHz which is controlled by a crystal. The EUT is powered by two 1.5V AA size batteries. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Antenna Gain: 0dBi

The nominal conducted output power specified: -24.4dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -26.55dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 70.3dB $\mu$ V/m at 3m in the frequency 27.145MHz

The EIRP = [(FS\*D) ^2 / 30] mW= -24.93dBm

The ERP = EIRP – 2.15 = -27.08 dBm

which is within the production variation.

The maximum conducted output power specified is -21.4dBm =0.007mW

The source- based time-averaging conducted output power

= 0.007 \* Duty Cycle mW= 0.0031 mW < 0.1 mW

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 = 32.4ms

Effective period of the cycle = 0.5ms x 10 + 1.5ms x 6 = 14.0ms

DC = 14.0ms / 32.4ms = 0.432 or 43.2%