

## Analysis Report

The equipment under test (EUT) is a portable transmitter for a Toy RC Truck operating at 27.145 MHz which is controlled by a crystal. The EUT is powered by a 9.0V 6F22 size battery. For more detail information pls. refer to the user manual.

Antenna Type: Integral antenna

Antenna Gain: 0dBi

The nominal conducted output power specified: -33dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -35.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 59.6dBμV/m at 3m in the frequency 27.145MHz

The EIRP =  $[(FS \cdot D)^2 / 30]$  mW = -35.63dBm

The ERP = EIRP – 2.15 = -37.8 dBm

which is within the production variation.

The maximum conducted output power specified is -30dBm = 0.001mW

The source- based time-averaging conducted output power

= 0.001 \* Duty Cycle mW = 0.00066 mW < 0.1 mW

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

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

= 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 = 17.6ms

Effective period of the cycle = 0.53ms x 10 + 1.6ms x 4 = 11.7ms

DC = 11.7ms / 17.6ms = 0.66477 or 66.477%