

## Analysis Report

The equipment under test (EUT) is a portable transmitter for a RC CAR operating at 27.200 MHz which is controlled by LC oscillate circuit. The EUT is powered by a 9.0V AF22 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: -16.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -18.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 78.5dB $\mu$ V/m at 3m in the frequency 27.200MHz

The EIRP = [(FS\*D) ^2 / 30] mW = -16.73dBm

The ERP = EIRP – 2.15 = -18.88 dBm

which is within the production variation.

The maximum conducted output power specified is -13.0dBm =0.05mW

The source- based time-averaging conducted output power

= 0.05 \* Duty Cycle mW = 0.024 mW < 0.1 mW

The SAR Exclusion Threshold Level for 27.200MHz when the minimum test separation distance is < 50mm:

= 474 \* [1 + log(100/f(MHz))/2

= 371.0 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 = 970us

Effective period of the cycle = 470us

DC = 470us / 970us = 0.48454 or 48.454%

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