Analysis Report

The equipment under test (EUT) is a portable transmitter for a Toy RC Savage operating at 49.860 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: -23dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -25.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 70.1dBμV/m at 3m in the frequency 49.860MHz
The EIRP = [(FS*D) ^2 / 30] mW = -25.13dBm
The ERP = EIRP – 2.15 = -27.28 dBm
which is within the production variation.

The maximum conducted output power specified is -20dBm = 0.01mW
The source- based time-averaging conducted output power
= 0.01 * Duty Cycle mW= 0.0057 mW < 0.1 mW

The SAR Exclusion Threshold Level for 49.860MHz when the minimum test separation distance is < 50mm:
= 474 * [1 + log(100/f(MHz)]/2
=308.6mW

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 = 18.60ms
Effective period of the cycle = 1.40msx 4 + 500μs x 10 = 10.60ms
DC = 10.60ms / 18.60ms = 0.5699 or 56.99%