Analysis Report

The equipment under test (EUT) is a portable transmitter for a RC Soft & Squeezable Vehicle-Tow Truck operating at 49.860 MHz which is controlled by a crystal. The EUT is powered by two 1.5V AAA 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: -39dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -41.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 55.3dBμV/m at 3m in the frequency 49.860MHz
The EIRP = [(FS*D) ^2 / 30] mW = -39.93dBm
The ERP = EIRP – 2.15 = -42.08 dBm
which is within the production variation.

The maximum conducted output power specified is -36dBm = 0.0003mW
The source- based time-averaging conducted output power
= 0.0003* Duty Cycle mW< 0.1 mW (Duty Cycle<100%)

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.

The duration of one cycle = 3.0ms
Effective period of the cycle = 1.50ms
DC = 1.5ms / 3.0ms = 0.5 or 50%