Analysis Report

The equipment under test (EUT) is a portable transmitter for a RC Monster Car operating at 49.860 MHz which is controlled by a crystal. The EUT is powered by one 9.0Vdc 6F22 battery. For more detail information pls. refer to the user manual.

Antenna Type 1: telescope antenna with unique antenna connector
Antenna Type 2: Integral antenna with plastic enclosure
Antenna Gain: 0dBi

The nominal conducted output power specified: -41.00dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -43.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The maximum peak radiated emission for the EUT is 54.2dBμV/m for Ant1 at 3m in the frequency 49.860MHz
The EIRP = [(FS*D) ^2 / 30] mW= -41.03dBm
The ERP = EIRP – 2.15 = -43.18 dBm which is within the tolerance.

The minimum peak radiated emission for the EUT is 53.3dBμV/m for Ant2 at 3m in the frequency 49.860MHz
The EIRP = [(FS*D) ^2 / 30] mW= -41.93dBm
The ERP = EIRP – 2.15 = -44.08 dBm which is within the tolerance.

The maximun conducted output power specified is -38dBm = 0.0002mW
The source- based time-averaging conducted output power
= 0.0002 * Duty Cycle mW< 0. 1mW (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
= 308.6 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.