Analysis Report

The equipment under test (EUT) is a transmitter for a Stunt Tumbler RC - Blue (49Mhz) operating at 49.860 MHz which is controlled by a crystal. The EUT is powered by two 1.5V AA batteries. For more detail information pls. refer to the user manual.

Antenna Type: dedicated antenna
Antenna Gain: 0dBi
Modulation Type: Pulse modulation

The nominal conducted output power specified: -47.0dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -49.15dBm (+/- 3dB)

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 46.8dBuV/m at 3m in the frequency 49.86MHz
The EIRP = [(FS*D) ^2 / 30] mW= -48.43dBm
The ERP = EIRP – 2.15 = -50.58dBm
which is within the production variation.

The maximun conducted output power specified is -44.0dBm = 0.00004mW
The source- based time-averaging conducted output power
= 0.00004* Duty Cycle mW < 0.00004mW (Duty Cycle<100%)

Since the source-based time-averaging conducted output power is well below the SAR low threshold level of 1mW, so the EUT is considered to comply with SAR requirement without testing.

Transmitter Duty Cycle Calculation

The duration of one cycle = 19.4203ms
Effective period of the cycle = 1.5942ms x 4 + 507.2μs x 10=11.4488ms
DC =11.4488ms / 19.4203ms =0.5895 or 58.95%