Analysis Report

The equipment under test (EUT) is a portable transmitter for a R/C Car operating at 27.145 MHz which is controlled by a crystal oscillator. The EUT is powered by a 9.0V AF22 size battery. For more detail information pls. refer to the user manual.

Antenna Type: telescope antenna with unique antenna connector
Antenna Gain: 0dBi

The nominal conducted output power specified: -29.00dBm (+/- 3dB)

The nominal radiated output power (e.r.p) specified: -31.15dBm (+/- 3dB)

Modulation Type: Pulse modulation

According to the KDB 447498:

The worst-case peak radiated emission for the EUT is 66.2dBμV/m at 3m in the frequency 27.145MHz
The EIRP = [(FS*D) ^2 / 30] mW= -29.03dBm
The ERP = EIRP – 2.15 = -31.18 dBm
which is within the production variation.

The maximun conducted output power specified is -26dBm = 0.0025mW
The source- based time-averaging conducted output power
= 0.0025 * Duty Cycle mW < 0.1 mW

The SAR Exclusion Threshold Level for 27.145MHz when the minimum test separation distance is < 50mm:
= 474 * [1 + log(100/f(MHz)]/2
= 371.2 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.

The duration of one cycle = 15.96ms
Effective period of the cycle = 440μsx 10 + 1.36ms x 4 = 9.84ms
DC = 9.84ms / 15.96ms = 0.6165 or 61.65%