

Analysis Report

The Equipment Under Test (EUT) is a portable transmitter of a RC Car operating at 27.145 MHz as dictated by a crystal. The EUT is powered by a 3.0 V DC source (2 x 1.5V battery). The EUT has forward / backward control buttons.

After switching ON the EUT and the receiver of the RC Car, pressing the control buttons on the EUT can control the receiver moving forward and backward.

Antenna Type: External integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 45.54dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 48.54dB μ V/m at 3m in frequency 27.145MHz, thus;

The EIRP = $[(FS^2 * D) / 30] = 0.00002\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.00002mW.

The SAR Exclusion Threshold Level for 27.145MHz when the minimum test separation distance is < 50mm:

$$= [474 * (1 + \log_{10}(f/\text{MHz}))]/2$$

$$= 371.2\text{mW}$$

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.