

Analysis Report

The Equipment Under Test (EUT) is a portable 49.86MHz Transmitter (Controller Unit) for a RC car.

The EUT is powered by 9V battery. After switch on the EUT, the car can be controlled to move forward/backward and turn left/ right by the controller.

Antenna Type: External integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 67.0dB 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 70.0dB μ V/m at 3m in frequency 27.145MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.003\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.003mW.

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

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

= 371.2mW

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.