

Analysis Report

The Equipment Under Test (EUT) is a portable 27MHz Transmitter (Controller Unit) for a RC car.

The EUT is powered by 2*1.5V AA battery. After switching on the EUT, the car can be controlled to move forward/backward and turn left/ right by the controller.

Antenna Type: Internal, integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 66dB 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 69 dB μ V/m at 3m in frequency 27.145MHz, thus;

The $ERP = [(FS^*D)^2 * 1000 / 30] = 0.002$ mW

Thus;

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.002 mW.

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

$$= [474 * (1 + \log_{10}(f/\text{MHz}))]/2$$
$$= 371.5 \text{ mW}$$

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.