

Analysis Report

The Equipment Under Test (EUT), is a portable 27.145MHz Transmitter (Controller Unit) for a RC car. The EUT is powered by 2 x 1.5V AA size batteries.

After switch on the EUT, model: 83658, the car will be moved forward or backward, turned left or right based on the joystick control in the controller.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Maximum allowed field strength range is from 61.4 dBμV/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 64.4 dBμV/m at 3m in frequency 27MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.001\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain
So;

Conducted Power = 0.001mW.

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}} \\ &= 3.0 * 5 / \sqrt{0.027145} \text{ mW} \\ &= 90.6 \text{ mW} \end{aligned}$$

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.