

Analysis Report

The Equipment Under Test (EUT) is a Controller for a RC Car Set, the EUT contains a 2.4GHz module, which operating frequency are 2412MHz, 2432MHz and 2452MHz. The EUT can control the corresponding receiver (Car) moving forward, backward, left and right and it is powered by 2 X 1.5V AA batteries.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength is 94.7 dB μ V/m at 3m

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 97.7 dB μ V/m at 3m in frequency 2.452GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 1.77\text{mW}$

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

Conducted Power = 1.77mW.

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}} \\ &= 3.0 \cdot 5 / \sqrt{2.452} \text{ mW} \\ &= 9.58 \text{ mW} \end{aligned}$$

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.