

Analysis Report

The Equipment Under Test (EUT) is a portable 2.4GHz Transceiver (Controller Unit) for a RC Car from 2410-2475MHz with 1MHz channel spacing. The EUT is powered by 3 X 1.5V AAA batteries. After switch on the EUT and paired with car, the car can be controlled to move forward, backward, turning left/right direction by the controller.

Antenna Type: External integral antenna
Antenna Gain: 0dBi
Nominal rated field strength: 85.7dB 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 88.7dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS * D)^2 * 1000 / 30] = 0.222\text{mW}$

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

Conducted Power = 0.222mW.

The SAR Exclusion Threshold Level:
= $3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz}) = 3.0 * 5 / \text{sqrt}(2.475) \text{ mW}$
= 9.53 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.