

The Equipment Under Test (EUT) is a 2.4GHz pure transmitter for a RC car operating at 2405MHz to 2475MHz with 1 MHz channel spacing. The EUT is powered by 1x9.0V battery. After switched ON the EUT and pair with RC car, the RC car can be controlled to move forward, backward, turning left/right direction by the controller.

Antenna Type: Internal antenna

Antenna Gain: 2dBi

Nominal rated field strength: 90.6 dB 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 93.6dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.687\text{mW}$

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

Conducted Power = 0.434mW.

The SAR Exclusion Threshold Level:

= $3.0 \cdot (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$

= $3.0 \cdot 5 / \sqrt{2.480} \text{ mW}$

= 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.