

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Controller Unit) for a RC car. The operation frequency range is between 2411MHz and 2472MHz with 21 channels, where 2457MHz is for pairing channel.

2411	2441
2413	2443
2420	2445
2422	2451
2424	2453
2426	2455
2428	2461
2435	2468
2437	2470
2439	2472
2457	

The EUT is powered by 2 x 1.5 V AAA batteries. After switch on the EUT, the car will be moved forward or backward, turned left or right based on the switches pressed in the controller.

Antenna Type: Internal, Integral

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Antenna Gain: 0dBi

Nominal rated field strength is 86.8 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 89.8dB μ V/m at 3m in frequency 0.027145GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.286mW$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.286mW.

The SAR Exclusion Threshold Level:

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

$$= 3.0 * 5 / \sqrt{2.472} \text{ mW}$$

$$= 9.540 \text{ mW}$$

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.