

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 2403.6MHz and 2471.6MHz with the following 35 Channel used:

Channel	Frequency (MHz)
1	2403.6
2	2405.6
3	2407.6
4	2409.6
5	2411.6
6	2413.6
7	2415.6
8	2417.6
9	2419.6
10	2421.6
11	2423.6
12	2425.6
13	2427.6
14	2429.6
15	2431.6
16	2433.6
17	2435.6
18	2437.6
19	2439.6
20	2441.6
21	2443.6
22	2445.6
23	2447.6
24	2449.6
25	2451.6
26	2453.6
27	2455.6
28	2457.6
29	2459.6
30	2461.6
31	2463.6
32	2465.6
33	2467.6
34	2469.6
35	2471.6

The EUT is powered by 2 x 1.5V AAA batteries.

After switch on the EUT, the car will be moved forward or backward and turned left and right based on the switches pressed in the controller.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength is 88.2 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 91.2 dB μ V/m at 3m in frequency 2.4716GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.40\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.40mW .

The SAR Exclusion Threshold Level:

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

$= 3.0 \cdot 5 / \sqrt{2.4716} \text{ mW}$

$= 9.54 \text{ mW}$

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.