

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Car 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 4 x 1.5V AA 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 85.7 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 88.7dB μ V/m at 3m in frequency 2.4716GHz, thus;

The EIRP = $[(FS * D)^2 * 1000 / 30] = 0.22mW$

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

Conducted Power = 0.22mW.

The SAR Exclusion Threshold Level:
= $3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$
= $3.0 * 5 / \text{sqrt}(2.4716)$ mW
= 9.54 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.