

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 2420MHz and 2465MHz with the following channels were used. The EUT is powered by 3 x 1.5V AAA batteries.

Channel	Frequency (MHz)
0	2420
1	2422
2	2424
3	2426
4	2428
5	2430
6	2431
7	2433
8	2435
9	2437
10	2439
11	2441
12	2443
13	2445
14	2446
15	2447
16	2449
17	2451
18	2453
19	2455
20	2457
21	2459
22	2461
23	2463
24	2465

After switch on the EUT, the car will be moved forward or turned around based on the switches pressed in the controller. Besides, there is a light and sound effect on the controller based on the switch pressed.

The Model: 647239X1E4C is the same as the Model: 647239X1 in hardware aspect. The difference in model number serves as marketing strategy. The models are different in packaging only.

Antenna Type: Internal, Integral

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Antenna Gain: 0dBi

Nominal rated field strength is 95.8 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 98.8dB μ V/m at 3m in frequency 2.465GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 2.276\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 2.276mW.

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \text{sqrt}(2.465) \text{ mW}$

= 9.554 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.