

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Portable Controller Unit) for a RC car set. The operation frequency range is between 2420MHz and 2465MHz with following 25 channels used.

Channel	Frequency (MHz)
1	2420
2	2422
3	2424
4	2426
5	2428
6	2430
7	2431
8	2433
9	2435
10	2437
11	2439
12	2441
13	2443
14	2445
15	2446
16	2447
17	2449
18	2451
19	2453
20	2455
21	2457
22	2459
23	2461
24	2463
25	2465

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

After switching on the EUT, the controller can controller the car to move forward or backward and turn left and right.

Antenna Type: Internal, Integral

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength is 98.4 dBµV/m at 3m

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was $101.4 \text{ dB}\mu\text{V/m}$ at 3m in frequency 2.465GHz, thus;

$$\text{The EIRP} = [(FS * D)^2 * 1000 / 30] = 4.14 \text{ mW}$$

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

$$\text{Conducted Power} = 4.14 \text{ mW}.$$

The SAR Exclusion Threshold Level:

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

$$= 3.0 * 5 / \sqrt{2.465} \text{ mW}$$

$$= 9.55 \text{ mW}$$

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.