

Analysis Report

Report No.: 14061336HKG-001

The Equipment Under Test (EUT) is a portable 2.4GHz transceiver (i.e. Controller) for a RC toy Video Recon Car. The EUT is powered by DC6.0V (4 X 1.5V) AA batteries. It is designed to operate frequency hopping system in 2410 – 2473MHz with 16 frequency hopping channels when communication with corresponding transceiver (i.e. RC Video Recon Car).

The EUT has 5 control buttons, an ON/OFF switch and a display (can see the instant video from the camera on the Video Recon Car). The 2 buttons on the left hand side are used to control the RC Video Recon moving forward/backward. The other 2 buttons on the right hand side are used to control the RC Video Recon Car turning left/right. There is a button on the upper right hand corner is used to turn the RC Video Recon Car 360 degree.

16 frequency hopping channels are shown as below;

2410MHz	2415MHz	2420MHz	2425MHz	2429MHz	2430MHz
2434MHz	2435MHz	2439MHz	2445MHz	2449MHz	2454MHz
2459MHz	2464MHz	2469MHz	2473MHz		

Antenna Gain: 0dBi

Nominal rated field strength: 100.7dBμV/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 103.7dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30]$ = 7.033mW

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

Conducted Power = 7.033mW.

The SAR Exclusion Threshold Level:

= $3.0 \cdot (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$
= $3.0 \cdot 5 / \text{sqrt}(2.480)$ mW
= 9.53 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.