

Analysis Report

Report No.: 14050815HKG-003

The Equipment Under Test (EUT) is a 2.4GHz transceiver of RC toy Combat Creature. The EUT is powered by DC6.0V (4 X 1.5V) AA batteries. It is designed to operate frequency hopping system in 2402– 2480MHz with 36 physical frequency channels and 16 logical hopping channels when communication with corresponding transceiver (i.e. Controller).

After Switched ON and pairing with controller, the EUT can be controlled to moving forward/backward and rotate the launcher to any direction and adjust the angle of launcher and fire a dart by Controller.

36 physical channels are shown on below table.

2402	2404	2406	2410	2412	2414	2416	2418	2420
2422	2424	2426	2428	2432	2434	2436	2438	2440
2442	2444	2446	2448	2450	2454	2456	2458	2460
2462	2464	2466	2468	2470	2472	2476	2478	2480

Antenna Gain: 0dBi

Nominal rated field strength: 99.9dBμV/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 102.9dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30]$ = 5.850mW

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 5.850mW.

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.480}$ 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.