

Analysis Report

Report No.: 17061439HKG-001

The Equipment Under Test (EUT) is a 2.4GHz Transceiver (Controller Unit) of a RC car operating at a frequency range of 2402-2480MHz with 1MHz channel spacing.

The EUT is powered by 1 x 9V batteries. After switching on the EUT and being paired with the car, the car can be controlled to move forward, backward and turn left/ right by the controller.

Antenna Type: Internal integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 89.3dBμV/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 92.3dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.509mW$

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

Conducted Power = 0.509mW.

The SAR Exclusion Threshold Level:

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

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.