

Analysis Report

Report No.: 14020519HKG-002

The Equipment Under Test (EUT) is a transmitter of a RC Car operating at 49.860 MHz as dictated by LC oscillator. The EUT is powered by a 9.0 V DC source (1 x 9V battery). The EUT has a forward or backward control lever and a left or right control lever.

After switching ON the EUT and the receiver of the RC Car, activating the control levers on the EUT can control the receiver moving forward, backward, and switching mode for robot and race car.

Antenna Type: External integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 79dB μ V/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 82dB μ V/m at 3m in frequency 49.860MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.0475\text{mW}$

Thus;

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.0475mW.

The SAR Exclusion Threshold Level for 49.860MHz when the minimum test separation distance is < 50mm:

$$= [474 * (1 + \log_{10}(100/f(\text{MHz})))]/2$$

$$= 308.6\text{mW}$$

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.