

# Analysis Report

Report No.: 14070525HKG-001

The Equipment Under Test (EUT) is a portable transmitter of a RC Car operating at 49.86 MHz as dictated by a crystal. The EUT is powered by a 9.0 V DC source (1 x 9.0V battery). The EUT has an on/off switch, forward / backward control lever and a left / right control wheel.

After switching ON the EUT and the receiver of the RC Car, activating the control lever / wheel on the EUT can control the receiver moving forward, backward left and right directions.

Antenna Type: External, telescope antenna with unique antenna connector

Antenna Gain: 0dBi

Nominal rated field strength: 58.6dB $\mu$ 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 61.6dB $\mu$ V/m at 3m in frequency 49.860MHz, thus;

The EIRP =  $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.00043\text{mW}$

Thus;

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.00043mW.

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.