

Analysis Report

Report No.: 15041365HKG-002

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 a left / right control lever and a forward / backward 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 left and right directions.

Antenna Type: External, telescope type antenna with unique antenna connector
Antenna Gain: 0dBi
Nominal rated field strength: 53.9dB 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 56.9dB μ V/m at 3m in frequency 49.860MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.000147\text{mW}$

Thus;

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.000147mW.

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

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

= 308.6mW

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.