

Analysis Report

Report No.: HK12120217-1

The Equipment Under Test (EUT) is a portable transmitter of a RC Car operating at 27.145 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 power ON/OFF switch and two forward / backward control lever for the left and right wheel of RC car respectively.

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: Telescope antenna with unique antenna connector

Antenna Gain: 0dBi

Nominal rated field strength: 67.6dBμV/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 70.6dBμV/m at 3m in frequency 27.145MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.00344\text{mW}$

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

Conducted Power = 0.00344mW.

The SAR Exclusion Threshold Level for 27.145MHz when the minimum test separation distance is < 50mm:

$$= [474 \cdot (1 + \log_{10}(f(\text{MHz})))]/2$$
$$= 371.2\text{mW}$$

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.