

Analysis Report

Report No.: 14051140HKG-001

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 4.5 V DC source (3 x 1.5V AA size batteries). The EUT has a left / right joystick and a forward / backward joystick.

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

Antenna Type: External, detachable dedicated antenna
Antenna Gain: 0dBi
Nominal rated field strength: 67.5dB 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 70.5dB μ V/m at 3m in frequency 27.145MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.00337\text{mW}$

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

Conducted Power = 0.00337mW.

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

$$= [474 * (1 + \log_{10}(100/f(\text{MHz})))]/2$$
$$= 371.2\text{mW}$$

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.