

Analysis Report

Report No.: HK12080099-3
FCC ID: OTA56812TX27

The Equipment Under Test (EUT) is a portable transmitter of a RC system, which is operating at 27.145MHz as dictated by a crystal. The EUT is powered by 1 x 9.0V Alkaline battery. The EUT has a power ON/OFF switch, control key and a red LED indicator.

After switching ON the EUT and the corresponding car(i.e. receiver), activating the control key on the EUT can control the car moving forward, backward, left and right.

Antenna Type: External, Telescope-type antenna with unique antenna connector

Antenna Gain: 0.5dBi

Nominal rated field strength: 75.6dBuV/m at 3m

Maximum allowed field strength of production tolerance: +/- 5dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 80.6dBuV/m at 3m in frequency 27.145MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.034\text{mW}$
or EIRP = $10 \cdot \log(0.034) = -14.7\text{dBm}$

Conducted power = Radiated Power (EIRP) – Antenna Gain
= $-14.7 - 0.5$
= -15.2 dBm

So;

Conducted Power = $10^{(-15.2 / 10)} = 0.0302\text{mW}$.

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

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

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.