

Analysis Report

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

After switching ON the EUT and the corresponding robot(ie. Receiver), activating the control key on the EUT can control the car moving forward, backward, left and right.

Antenna Type: Integral, external
Nominal field strength is 55.4dB μ V/m @ 3m
Production Tolerance of field strength is 52.4 dB μ V/m to 58.4 dB μ V/m
Antenna gain is 0dBi

Based on the Maximum allowed field strength of production tolerance was 58.4dB μ V/m at 3m in frequency 27.145MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30]$ = 0.000208mW

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

Conducted Power = 0.000208mW

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.