

Analysis Report

The Equipment Under Test (EUT) is a transmitter of a RC system, which is operating at 49.860MHz 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 robot moving forward, backward, left and right. It can charge the receiver by plug in the charging port over the receiver.

Antenna Type: Integral, external
Nominal field strength is 66.3dB μ V/m @ 3m
Production Tolerance of field strength is 63.3 dB μ V/m to 69.3dB μ V/m
Antenna gain is 0dBi

Based on the Maximum allowed field strength of production tolerance was 69.3dB μ V/m at 3m in frequency 49MHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.00255\text{mW}$

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

Conducted Power = 0.00255mW

The SAR Exclusion Threshold Level for 49MHz when the minimum test separation distance is < 50mm:
= $[474 \cdot (1 + \log_{10}(100/f(\text{MHz})))]/2$
= 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.