

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transmitter (Controller Unit) for a RC car. The sample supplied operated on 71 channels, normally at 2405 - 2475MHz. The channels are separated with 1MHz spacing.

The EUT is powered by 1 x 9.0V Alkaline battery. After switching on the EUT, the car will be moved forward or backward and turned left and right based on the switches pressed in the controller.

Antenna Type: External, Whip antenna

Antenna Gain: 0dBi

Nominal rated field strength is 98.3dB μ V/m at 3m (Peak), 91.2dB μ V/m at 3m (Average)

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the maximum average field strength of production tolerance was 94.2dB μ V/m at 3m in frequency 2.440GHz.

Thus, it below calculated field strength according to minimum SAR exclusion threshold level as follows:

The worst case of SAR Exclusion Threshold Level:

= $3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$

= $3.0 * 5 / \text{sqrt} (2.483.5) \text{ mW}$

= 9.52 mW

According to the KDB 412172 D01:

$\text{EIRP} = [(\text{FS} * \text{D}) ^2 * 1000 / 30]$

Calculated Field Strength for 9.52mW is 105dBuV/m @3m

Since maximum average field strength plus production tolerance < = 105dBuV/m @3m and antenna gain is > = 0.0dBi, it is concluded that maximum Conducted Power and Field Strength are well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.