

Analysis Report

The Equipment Under Test (EUT) is a portable 2.4GHz Transceiver (Controller Unit) for a RC car operating at the frequency range of 2405-2475MHz with 1 MHz channel spacing.

The EUT is powered by 1*9V battery. After switching on the EUT and being paired with car, the car can be controlled to move forward/backward and turn left/ right by the controller.

Antenna Type: Internal integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 98.5dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 2dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 100.5dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 3.388\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 3.388 mW.

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \text{sqrt}(2.475)$ mW

= 9.53 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.