

Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Transceiver (Controller Unit) for a RC helicopter operating at 2412, 2424, 2442 and 2460MHz. The EUT is powered by 6 X 1.5V AA batteries. After switch on the EUT and paired with helicopter, the helicopter can be controlled to fly forward, backward, turning left/right direction by the controller. While controlling the helicopter, the controller will produce some sound effects. Also, the EUT has a charging circuitry, the corresponding receiver can be charged by this controller.

After paired with the helicopter, the helicopter will transmit a 2433MHz signal. The EUT will keep transmitting 2412, 2424, 2442 and 2460MHz after received this signal from helicopter.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength: 93.9dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 96.9dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 1.469\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 1.469mW.

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.460} \text{ mW}$

= 9.56 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.