

Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Transceiver (Helicopter Unit) for a RC helicopter operating at 2412MHz ~ 2460MHz. After Paired, the frequency is 2433MHz. The EUT is powered by 1 X 3.7V rechargeable battery (Li-Poly). After switch on the EUT and paired with controller, the EUT can be controlled to fly forward, backward, turning left/right direction by the corresponding controller. To charge the internal battery in the helicopter, either plug the charging connector from the controller into the charging jack on the helicopter for starting the charge process or using USB charging cable for charging via PC.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength: 97.1dBμV/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 100.1dBμV/m at 3m in frequency 2.4GHz, thus;

$$\text{The EIRP} = [(FS \cdot D)^2 \cdot 1000 / 30] = 3.070\text{mW}$$

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

Conducted Power = 3.070mW.

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}} \\ &= 3.0 * 5 / \sqrt{2.460} \text{ mW} \\ &= 9.56 \text{ mW} \end{aligned}$$

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.