

Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz Transceiver (Plane) for a ARH Extreme Air Board Set. The EUT is powered by 3.7 VDC (2 x 3.7V Lithium batteries in parallel). The 2.4GHz module is operating at the frequencies (2405, 2408, 2411, 2418, 2423, 2427, 2433, 2438, 2445, 2453, 2457, 2460, 2465, 2467, 2470 and 2475) MHz. After switching on the EUT, the corresponding Transceiver (Controller) can control the EUT (Plane) moving forward, backward, left and right.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength: 77.2 dBμV/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 80.2dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30]$ = 0.031mW

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

Conducted Power = 0.031mW.

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}} \\ &= 3.0 * 5 / \sqrt{2.475} \text{ mW} \\ &= 9.53 \text{ mW} \end{aligned}$$

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.