

Analysis Report

The Equipment Under Test (EUT) is a 2.4GHz transmitter (i.e. Controller) for a RC Elephant. The EUT is powered by DC3.0V (2X1.5V AAA batteries). The operating frequencies are 2410MHz, 2438MHz, and 2462MHz. After powered on the EUT, it can control the Elephant to move forward and circling.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength: 95.9 dB 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 98.9dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 2.329 \text{ mW}$

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

Conducted Power = 2.329 mW .

The SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}} \\ &= 3.0 * 5 / \sqrt{2.462} \text{ mW} \\ &= 9.56 \text{ mW} \end{aligned}$$

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.