

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Dog Unit) for a RC Dog. The sample supplied operated on 27 channels, normally at 2407 - 2475MHz. The channels are shown in below table.

2407	2409	2411	2413	2415	2417	2419	2421	2423
2431	2433	2435	2437	2439	2441	2443	2445	2447
2459	2461	2463	2465	2467	2469	2471	2473	2475

The EUT is powered by 4 x 1.5V AA batteries. After switching on the EUT, the dog will be moved forward or backward, turned left and right and emit sounds based on the switches pressed in the controller.

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Nominal rated field strength is 86.5dB μ V/m at 3m (Peak), 68.0dB μ V/m at 3m (Average)

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the maximum average field strength of production tolerance was 71.0dB μ V/m at 3m in frequency 2.475GHz.

Thus, it below calculated field strength according to minimum SAR exclusion threshold level as follows:

The worst case of SAR Exclusion Threshold Level:

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

$$= 3.0 * 5 / \text{sqrt}(2.483.5) \text{ mW}$$

$$= 9.52 \text{ mW}$$

According to the KDB 412172 D01:

$$\text{EIRP} = [(\text{FS} * \text{D})^2 * 1000 / 30]$$

Calculated Field Strength for 9.52mW is 105dB μ V/m @3m

Since maximum average field strength plus production tolerance \leq 105dB μ V/m @3m and antenna gain is \geq 0.0dBi, it is concluded that maximum Conducted Power and Field Strength are well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.