

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Centipede Unit) for a RC Centipede. The sample supplied operated on 24 channels, normally at 2410 - 2475MHz. The channels are shown in below table.

2410	2413	2416	2419	2422
2425	2428	2431	2434	2437
2440	2442	2444	2446	2448
2451	2454	2457	2460	2463
2466	2469	2472	2475	

The EUT is powered by 3 x 1.5V AAA batteries. After switching on the EUT, the centipede will be moved forward and turned left and right based on the switches pressed in the controller.

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Nominal rated field strength is 91.8dBμV/m at 3m (Peak), 69.0dBμV/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 72.0dBμV/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 105dBuV/m @3m

Since maximum average field strength plus production tolerance $\leq 105\text{dBuV/m @3m}$ and antenna gain is $\geq 0.0\text{dBi}$, 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.