

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz pure Transmitter (Controller Unit) for a RC Boat. The sample supplied operated on 8 channels, normally at 2408 - 2467 MHz. The channel table is shown below.

2408	2414	2428	2434
2440	2455	2461	2467

The EUT is powered by 4 x 1.5V AA batteries. After switch on the EUT, the boat will be moved forward or backward 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 84.7 dB μ V/m at 3m
Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 87.7dB μ V/m at 3m in frequency 2.467GHz.

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 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.4835) mW
= 9.52 mW

According to the KDB 412172 D01:
EIRP = [(FS*D) ^2*1000 / 30]

Calculated Field Strength for 9.52mW is 105dBuV/m @3m

Since maximum field strength plus production tolerance <= 105dBuV/m @3m and antenna gain is >= 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.