Analysis Report

The Equipment Under Test (EUT), is a 2.4GHz Transceiver (Receiver Unit) for a RC Shark. The sample supplied operated on 31 channels, normally at 2405 - 2475MHz. The channels are shown on the following table.

2405	2407	2409	2411	2413	2415	2417	2419
2421	2423	2425	2427	2429	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 Shark 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 88.0dBµV/m at 3m (Peak), 68.5dBµV/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 71.5dBµV/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 * (min. test separation distance, mm) / sqrt(freq. in GHz)
= 3.0 * 5 / sqrt (2.483.5) 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 average 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.