Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Shark Unit) for a RC Shark. The sample supplied operated on 61 channels, normally at 2412 - 2472 MHz for transmitter and receiver. The channels are separated by 1 MHz spacing.

The EUT is powered by 2 x 1.5V AAA batteries. After switch on the EUT, the shark will be moved forward, turned left and right based on the switches pressed on the controller.

The Models: 90002, 90003, 90004, 90005, 90006, 90007, 90008 and 90009 are the same as the Model: 90001 in hardware aspect as declared by client. The difference in model number serves as marketing strategy as declared by client. The models are different in model number, item name, color, packaging and non-accessories only as declared by client.

Antenna Type: Internal, Integral antenna
Antenna Gain: 0dBi
Nominal rated field strength is 102.0 dBµV/m at 3m
Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 105.0dBµV/m at 3m in frequency 2.442GHz.

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 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.