Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transmitter (Robot Unit) for a RC Robot. The sample supplied operated on 40 channels, normally at 2402 - 2480 MHz. The channels are separated by 2 MHz spacing.

The EUT is powered by 1 x 3.7 V rechargeable battery. After switch on the EUT, the robot will be moved forward or backward and rotate left and right based on the switches pressed in the smartphone Bluetooth controller.

Antenna Type: Internal, Integral antenna
Antenna Gain: 0dBi
Nominal rated field strength is 94.3 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 97.3dBµV/m at 3m in frequency 2.402GHz.

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.