

## Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Car Unit) for a RC car. The sample supplied operated on 32 channels, normally at 2410 - 2470MHz. The channels are shown in below table.

|      |      |      |      |      |
|------|------|------|------|------|
| 2410 | 2414 | 2415 | 2416 | 2417 |
| 2418 | 2419 | 2421 | 2426 | 2428 |
| 2429 | 2430 | 2431 | 2433 | 2434 |
| 2439 | 2441 | 2442 | 2444 | 2446 |
| 2450 | 2452 | 2454 | 2456 | 2458 |
| 2462 | 2464 | 2465 | 2466 | 2467 |
| 2469 | 2470 |      |      |      |

The EUT is powered by 3 x 1.5V AAA batteries. After switching on the EUT, the car 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 87.4dB $\mu$ V/m at 3m

Maximum allowed production tolerance: +/- 3dB

According to the KDB 447498:

Based on the maximum field strength of production tolerance was 90.4dB $\mu$ V/m at 3m in frequency 2.470GHz.

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 105dB $\mu$ V/m @3m

Since maximum field strength plus production tolerance  $\leq$  105dB $\mu$ V/m @3m and antenna gain is  $\geq$  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.