

Analysis Report

Report No.: 19031210HKG-001

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Controller Unit) for a RC plane. The operation frequency range is between 2412MHz and 2472MHz with 61 channels. The channel is separated by 1 MHz channel spacing.

The EUT is powered by DC 3.0V (2 x 1.5V AAA batteries). After switch on the EUT, the plane will be moved forward, backward, upward, downward, left and right based on the switches pressed in the controller.

Antenna Type: Internal, Integral

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Antenna Gain: 0dBi

Nominal rated field strength (Peak): 102.5dB μ V/m at 3m

Nominal rated field strength (Average): 70.1dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

According to the KDB 447498:

Based on the average allowed field strength of production tolerance was 73.1dB μ V/m at 3m.

Thus, it below calculated field strength according to minimum SAR exclusion threshold level as follows:

The worst case of SAR Exclusion Threshold Level:

$$= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$$

$$= 3.0 * 5 / \text{sqrt}(2.4835) \text{ mW}$$

$$= 9.52 \text{ mW}$$

According to the KDB 412172 D01:

$$\text{EIRP} = [(\text{FS} * \text{D})^2 * 1000 / 30]$$

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

Since average field strength plus production tolerance \leq 105dBuV/m at 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.