

Analysis Report

The Equipment Under Test (EUT), is a portable 2.4GHz BLE only Transceiver (Cube Unit) for a RC Cube. The sample operates at 1Mbps only. The sample supplied operated on 40 channels, normally at 2402 - 2480MHz. The channels are separated with 2MHz spacing.

The EUT is powered by 1 x 3.7V Rechargeable battery. After switching on the EUT, the cube will communicate with the App based on the buttons pressed in the App.

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Nominal rated field strength is 86.5dB μ V/m at 3m (Peak), 70.4dB μ V/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 73.4dB μ V/m at 3m in frequency 2.480GHz.

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

The worst case of SAR Exclusion Threshold Level:

$$\begin{aligned} &= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt(freq. in GHz)} \\ &= 3.0 * 5 / \text{sqrt}(2.483.5) \text{ mW} \\ &= 9.52 \text{ mW} \end{aligned}$$

According to the KDB 412172 D01:

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

Calculated Field Strength for 9.52mW is 105dB μ V/m @3m

Since maximum average field strength plus production tolerance \leq 105dB μ 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.