

Analysis Report

The Equipment Under Test (EUT) is a plug in 2.4GHz Bluetooth 4.0 transceiver set for a BT Force Band. The EUT is powered by 1X3.7V rechargeable battery pack. The Bluetooth module in the EUT is operating in the frequency range from 2402MHz to 2480MHz (40 channels with 2MHz channel spacing). After pairing with smart device with the application through Bluetooth, The EUT can be controlled by the command listed in the application such as sound and vibration. Also, the EUT can be pairing with Bluetooth robot. The Bluetooth robot can be controlled to move forward, backward, left/right turn by the EUT.

Antenna Type: External integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 91.0B μ V/m at 3m

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

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 94.0dB μ V/m at 3m in frequency 2.4GHz, thus;

$$\text{The EIRP} = [(FS \cdot D)^2 \cdot 1000 / 30] = 0.754 \text{mW}$$

Conducted power = Radiated Power (EIRP) – Antenna Gain
So;

Conducted Power = 0.754mW.

The SAR Exclusion Threshold Level:
= $3.0 * (\text{min. test separation distance, mm}) / \sqrt{\text{freq. in GHz}}$ = $3.0 * 5 / \sqrt{2.475}$ mW
= 9.53 mW

Since the above conducted output power is well below the SAR Exclusion threshold level, so the EUT is considered to comply with SAR requirement without testing.