

Analysis Report

The Equipment Under Test(EUT) is a 2.4GHz Bluetooth 4.0 transceiver (Robot), which is operating at 2402MHz to 2480MHz (40 Channels with 2MHz channel spacing). The EUT is powered by 6VDC (4 x 1.5V “AAA” size batteries). The EUT has a power ON/OFF switch, a pairing button and a LED. When the EUT is switched ON, the LED will flash and waiting corresponding controller(for example: Android mobile or Iphone). After pairing , the LED will stay lit, and the EUT can be controlled to move forward, backward, left and right by the corresponding Bluetooth device.

Antenna Type: Internal antenna

Antenna Gain: 0dBi

Nominal rated field strength: 88.3 dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 5dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 93.3 dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.405\text{mW}$

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

Conducted Power = 0.405mW.

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \text{sqrt}(2.480)$ mW

= 9.68 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.