

Analysis Report

The Equipment Under Test (EUT) is a Bluetooth version 4.0 BLE for a Robot operating from 2402-2480MHz with 2MHz channel spacing. The EUT is powered by 3X1.5VDC AAA batteries. After switch on the EUT and paired with smart device, the EUT can be controlled to move forward, backward, turn left/right.

Antenna Type: External integral antenna
Antenna Gain: 0dBi
Nominal rated field strength: 93.8dB 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 96.8dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS * D)^2 * 1000 / 30] = 1.436mW$

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

Conducted Power = 1.436mW.

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