

The Equipment Under Test (EUT) is a 2.4GHz Bluetooth 4.0 BLE signal mode Pressure-Based Breathing Sensor. The EUT is powered by a 3.0VDC lithium battery (CR2302). The Bluetooth module is operating in the frequency range from 2402MHz to 2480MHz (79 channels with 2MHz channel spacing). The EUT can be connected with an IOS device for measuring the breath rate.

Antenna Type: Internal antenna

Antenna Gain: 1.4dBi

Nominal rated field strength: 93.2 dB 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 with the Antenna Gain was 94.8dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.91\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.91mW.

The SAR Exclusion Threshold Level:

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

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

$= 9.53 \text{ mW}$

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.