

Analysis Report

The Equipment Under Test (EUT) is a Bluetooth 4.2 BLE wearable device (Smart watch) operating at the frequency range of 2402-2480MHz with 2 MHz channel spacing. The smart watch is capable of monitoring wearer's status and sports data. After pairing with the smart phone, data synchronization between the EUT and smart phone would be available. The EUT is powered by 3.82V rechargeable battery and can be charged with thermal energy via the metallic plate on the back.

Antenna Type: Internal, integral

Antenna Gain: 0dBi

Nominal rated field strength: 78.1dB 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 81.1dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.039\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 0.039mW.

The SAR Exclusion Threshold Level:

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

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

= 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.