

Analysis Report

Report No.: 14061540HKG-001

The Equipment Under Test (EUT) is a Bluetooth Smart Socket. The EUT is using direct sequence spread spectrum for Bluetooth module. The Bluetooth can support Bluetooth 4.0 BLE only. The Bluetooth portion operates in frequency range from 2402MHz to 2480MHz. The EUT is powered by AC Mains (120VAC 15A 1800W max).

Module:

Modulation Type: GFSK

Antenna Type: Integral, Internal

Frequency Range: 2402MHz – 2480MHz, 2MHz channel spacing, 40 channels.

Nominal field strength is 96.0dBμV/m @ 3m

Production Tolerance of field strength is +/- 3dB

Antenna gain is 0dBi

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 99.0dBμV/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30]$ = 2.38mW

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 2.38mW

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{(2.48)}$ 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.