

## Analysis Report

The Equipment Under Test (EUT) is a Bluetooth Light Bulb Speaker. The EUT is powered by 110-240V 50/60Hz AC power source that can be controlled to change light colour and play sound by the apps after being paired with the smart phone. The EUT supports both Bluetooth 3.0 and 4.0 BLE.

### 2.4GHz Bluetooth:

**Modulation Type: GFSK**

**Antenna Type: Integral, Internal (PCB Trace)**

### Bluetooth 3.0

**Frequency Range: 2402MHz - 2480MHz, 1MHz channel spacing, 79 channels**

### Bluetooth 4.0 BLE

**Frequency Range: 2402MHz - 2480MHz, 2MHz channel spacing, 40 channels**

**EIRP range is -4dBm to 4dBm**

**Antenna gain is 0dBi**

According to the KDB 447498:

Conducted Power (max) = EIRP – Antenna gain

$$= 4 \text{ dBm} - 0 \text{ dBi}$$

$$= 4 \text{ dBm} (2.51 \text{ mW})$$

The SAR Exclusion Threshold Level:

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

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

$$= 9.53 \text{ mW}$$

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.