

Analysis Report

FCC ID: 2AK26-179000

The Equipment Under Test (EUT) is a Bluetooth Speaker which equips with a 2.4GHz Bluetooth 4.2 Module. The EUT operates at frequency range of 2402MHz to 2480MHz. There are total 79 channels with 1MHz channel spacing. The EUT can accept wireless audio when paired with a Bluetooth devices. The audio signal is amplified and driving internal loudspeaker. The EUT is powered by a 12V internal rechargeable battery. The internal battery can be charged by 13.5V AC/DC adaptor (Model: YLS0301E-T135200). The applicant declared that the Bluetooth 4.0 BLE is not used.

2.4GHz Bluetooth Module:

Modulation Type: GFSK

Antenna Type: Integral, Internal (PCB Trace)

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

Nominal field strength is 97.6BμV/m @ 3m

Production Tolerance of field strength is +/- 3dB

Antenna gain is 0dBi

According to the KDB 447498:

For Bluetooth:

Based on the Maximum allowed field strength of production tolerance was 100.6dBμV/m at 3m in frequency 2.480GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 3.444mW$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 3.444mW.

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.