

Analysis Report

Report No.: 17010680HKG-001

The Equipment Under Test (EUT) is a Bluetooth Speaker which equips with a 2.4GHz Bluetooth transceiver. The EUT operates at frequency range of 2402MHz to 2480MHz. There are total 79 channels with 1MHz channel spacing. The EUT can accept analog audio (AUX-in) and wireless audio when paired with a Bluetooth devices. The audio signal is amplified and driving internal loudspeaker. The EUT is power by USB port (5VDC) or 3.7VDC internal rechargeable battery. The applicant declared that the NFC tag is a passive device.

2.4GHz Bluetooth Module:
Modulation Type: GFSK
Antenna Type: Integral, Internal

Frequency Range: 2402MHz - 2480MHz, 1MHz channel spacing, 79 channels
Nominal field strength is 91.0dB μ V/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 94.0 dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 0.754 \text{ mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain
So;

Conducted Power = 0.754 mW.

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 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.