

Analysis Report

The Equipment Under Test (EUT) is a Bluetooth Alarm Clock which equips with 2.4GHz Bluetooth audio playback feature. The EUT operates at frequency range of 2402MHz to 2480MHz. There are total 79 channels with 1MHz channel spacing. The EUT can play wireless audio signal when paired with a Bluetooth devices. The audio signal is then amplified and driving internal loudspeakers. The applicant declared that Bluetooth 4.0 BLE is not used in the product. The two USB ports are for charging external devices only. The EUT is powered by 120VAC only. A CR2032 (3V Lithium) and 2X size "AAA" batteries are for internal memory backup of Alarm Clock portion.

2.4GHz Bluetooth portion

Antenna Type: Internal, Integral

EIRP range is -4dBm to 0dBm

Antenna gain is 0dBi

Modulation Type: GFSK

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

According to the KDB 447498:

$$\begin{aligned}\text{Conducted Power (max)} &= \text{EIRP} - \text{Antenna gain} \\ &= 0 \text{ dBm} - 0 \text{ dBi} \\ &= 0 \text{ dBm (1.00 mW)}\end{aligned}$$

The SAR Exclusion Threshold Level:

$$\begin{aligned}&= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt(freq. in GHz)} \\ &= 3.0 * 5 / \text{sqrt (2.480)} \text{ mW} \\ &= 9.53 \text{ mW}\end{aligned}$$

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.