

Analysis Report

The Equipment Under Test (EUT) is a Radio Alarm Clock with 2.4GHz Bluetooth 4.0/3.0/2.0 Speaker. For Bluetooth 4.0, the EUT occupies a frequency range from 2402MHz to 2480MHz (40 channels with channel spacing of 2MHz) For Bluetooth 3.0/2.0, the EUT operates in a frequency range from 2402MHz to 2480MHz (79 channels with channel spacing of 1MHz). The EUT can pair with smart device through Bluetooth for playing music. Also, It is able to play FM Radio. The EUT is powered by AC Adapter and 2 X 1.5 VDC AAA backup batteries. The USB portal is for charging to other mobile devices.

Antenna Type: External integral antenna

Antenna Gain: 0dBi

Nominal rated field strength: 93.9dB μ V/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

According to the KDB 447498:

Based on the Maximum allowed field strength of production tolerance was 96.9dB μ V/m at 3m in frequency 2.4GHz, thus;

The EIRP = $[(FS \cdot D)^2 \cdot 1000 / 30] = 1.469\text{mW}$

Conducted power = Radiated Power (EIRP) – Antenna Gain

So;

Conducted Power = 1.469mW.

The SAR Exclusion Threshold Level:

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

= $3.0 \cdot 5 / \sqrt{2.48} \text{ mW}$

= 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.