

## RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

FCC ID: 2AJ2CCKS2024

### EUT Specification

<b>EUT</b>	Alarm clock radio
<b>Frequency band (Operating)</b>	<input checked="" type="checkbox"/> BLE: 2.402GHz ~ 2.480GHz
<b>Device category</b>	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation)
<b>Exposure classification</b>	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm <sup>2</sup> ) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm <sup>2</sup> )
<b>Antenna diversity</b>	<input checked="" type="checkbox"/> Single antenna <input type="checkbox"/> Multiple antennas <input type="checkbox"/> Tx diversity <input type="checkbox"/> Rx diversity <input type="checkbox"/> Tx/Rx diversity
<b>Max. output power (peak power)</b>	BLE BLE 1M: -1.31 dBm
<b>Antenna gain (Max)</b>	BLE: -0.58 dBi
<b>Evaluation applied</b>	<input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation

Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density(mW/cm <sup>2</sup> )	Average Time
<b>(A) Limits for Occupational/Control Exposures</b>				
300-1500	--	--	F/300	6
1500-100000	--	--	5	6
<b>(B) Limits for General Population/Uncontrol Exposures</b>				
300-1500	--	--	F/1500	6
1500-100000	--	--	1	30

**Friis transmission formula:  $P_d=(P_{out}*G)/(4*\pi*R^2)$**

Where

$P_d$ = Power density in mW/cm<sup>2</sup>,  $P_{out}$ =output power to antenna in mW.

G= gain of antenna in linear scale, Pi=3.1416

R= distance between observation point and center of the radiator in cm=20cm

$P_d$  the limit of MPE,  $1\text{mW}/\text{cm}^2$ . If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

## Measurement Result

### BLE:

Mode	Max Measured Power (dBm)	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Ant. Gain (dBi)	Ant. Gain (numeric)	Power density at 20cm (mW/ cm <sup>2</sup> )	Power density Limits (mW/ cm <sup>2</sup> )
GFSK	-1.31	-2±1	-1	0.794	-0.58	0.875	0.00014	1

The Product unsupported at the same time to Transmitting. According to KDB 447498, and no simultaneous SAR measurement is required.

Signature:




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Date: 2024-5-8