

RF EXPOSURE EVALUATION

EUT Specification

| | |
|--|---|
| EUT | Bluetooth Bedside Alarm Clock with USB Charging |
| Model Number | iOP235, iOP235W, iOP235X (X could be single or multiple digits by any alphabets denote different cabinet color) |
| FCC ID | EMOIOP235A |
| Antenna gain (Max) | 0 dBi |
| Operation Frequency | 2.4G:2402MHz-2480MHz |
| Input Rating | AC 120V/60Hz |
| Classification Per Stipulated Test Standard | § 15.247(i), § 2.1093 |
| Modulation | GFSK, pi/4-DQPSK , 8-DPSK |
| Max. output power | 1.52 dBm(0.001419W) |
| Evaluation applied | <input checked="" type="checkbox"/> MPE Evaluation <input type="checkbox"/> SAR Evaluation |

Test Requirement:

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)

Limits for Maximum Permissible Exposure (MPE)

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

1 Friis transmission formula: $P_d = \frac{P_{out} \cdot G}{4 \cdot \pi \cdot R^2}$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1416

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

P_d the limit of MPE, 1mW/cm². 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.

2 Measurement Result

Antenna gain: 0 dBi

| Mode | Frequency (MHz) | Output Power (dBm) | Target Power W/tolerance (dBm) | Max tune up power tolerance (dBm) | Max tune up power tolerance (mW) | Power Density at R=20cm (mW/cm ²) | Limit (mW/cm ²) | Verdict |
|------------|-----------------|--------------------|--------------------------------|-----------------------------------|----------------------------------|---|-----------------------------|---------|
| GFSK | 2402 | -1.89 | -2±1 | -1 | 0.79 | 0.000158 | 1 | PASS |
| | 2441 | -1.39 | -2±1 | -1 | 0.79 | 0.000158 | 1 | PASS |
| | 2480 | -1.09 | -2±1 | -1 | 0.79 | 0.000158 | 1 | PASS |
| pi/4-DQPSK | 2402 | 0.15 | 0±1 | 1 | 1.26 | 0.000250 | 1 | PASS |
| | 2441 | 0.51 | 0±1 | 1 | 1.26 | 0.000250 | 1 | PASS |
| | 2480 | 0.98 | 0±1 | 1 | 1.26 | 0.000250 | 1 | PASS |
| 8-DPSK | 2402 | 0.69 | 0±1 | 1 | 1.26 | 0.000250 | 1 | PASS |
| | 2441 | 1.2 | 1±1 | 2 | 1.58 | 0.000315 | 1 | PASS |
| | 2480 | 1.52 | 1±1 | 2 | 1.58 | 0.000315 | 1 | PASS |

Signature:

A handwritten signature in black ink is written over a circular purple stamp. The stamp contains the text "EMTEK (HONGGUAN) CO., LTD." around the top edge and "TESTING" at the bottom. In the center of the stamp is a stylized logo consisting of a circle with a checkmark-like shape inside.

Sam Lv

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