

# Maximum Permissible Exposure Evaluation

## ***FCC ID: 2ADYO-SL170X***

### 1. Client Information

<b>Applicant</b>	:	Sensoro Co., Ltd.
<b>Address</b>	:	Room 2807, Building 1B, Wangjing SOHO, No. 10 Wangjing Street, Chaoyang District, Beijing, China
<b>Manufacturer</b>	:	Hangzhou Xiongmai Technology Co., Ltd.
<b>Address</b>	:	No2 Dongqiao Rd Dongzhou Functional Zone, Dongzhou Street Fuyang District, Hangzhou, China

## 2. General Description of EUT

<b>EUT Name</b>	:	SENSORO LENS	
<b>Models No.</b>	:	SL1701,SL170X	
<b>Model Difference</b>	:	All these models are identical in the same PCB layout and electrical circuit, The only difference is the difference Appearance of the color and model.	
<b>Product Description</b>	:	Operation Frequency:	802.11b/g/n(HT20): 2412MHz~2462MHz 802.11n(HT40): 2422MHz~2452MHz U-NII-3: 5745MHz~5825MHz BLE:2402MHz-2480MHz IoT:902.3MHz-927.5MHz
	:	Antenna Gain:	2.4GWIFI&5.8GWIFI: 5dBi FPC Antenna BLE: 1.5 dBi PIFA Antenna IoT: 3dBi Spring Antenna
<b>Power Supply</b>	:	DC Voltage supplied by AC/DC Adapter	
<b>Power Rating</b>	:	AC/DC Adapter (SLU2808): Input: AC 100~240V, 50/60Hz, 0.6A. Output: DC 5V, 2A.	
<b>Software Version</b>	:	V1.03	
<b>Hardware Version</b>	:	V1.4x	
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual	



## MPE Calculations for WIFI

### 1. Antenna Gain:

2.4GWIFI&5.8GWIFI: 5dBi FPC Antenna

BLE: 1.5dBi PIFA Antenna

IoT: 3dBi Spring Antenna

### 2. EUT Operation Condition:

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

### 3. Exposure Evaluation:

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=(PG)/4\pi R^2$$

Where

**S:** power density

**P:** power input to the antenna

**G:** power gain of the antenna in the direction of interest relative to an isotropic radiator.

**R:** distance to the center of radiation of the antenna

### 4. Test Result:

#### 2.4G WIFI

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) Numeric [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]
802.11b	17.60	17±1	18	5	20	0.039597
802.11g	15.29	15±1	16	5	20	0.025046
802.11n (HT20)	15.27	15±1	16	5	20	0.025046
802.11n (HT40)	14.15	14±1	15	5	20	0.019895

#### BLE

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) Numeric [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]
GFSK	-3.140	-3±1	-2	1.5	20	0.000177

## IoT

Mode	Declared Max Average Output Power (including tune-up tolerance ) (dBm)	ANT Gain(dBi) Numeric [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]
CSS	-7.8176	3	20	0.00006561

## 5G WIFI

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) Numeric [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]
802.11a	13.69	13±1	14	5	20	0.015803
802.11n (HT20)	13.72	13±1	14	5	20	0.015803
802.11ac (HT20)	13.42	13±1	14	5	20	0.015803
802.11n (HT40)	12.59	13±1	14	5	20	0.015803
802.11ac(40)	12.73	13±1	14	5	20	0.015803
802.11ac(80)	11.72	12±1	13	5	20	0.012553



**5. Conclusion:**

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

**Limits for General Population/ Uncontrolled Exposure**

Frequency Range (MHz)	Power density (mW/ cm <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

Power density Limits (mW/cm <sup>2</sup> ) 915MHz IoT	Power density Limits (mW/cm <sup>2</sup> ) 2.4G WIFI	Power density Limits (mW/cm <sup>2</sup> ) 2.4G BLE	Power density Limits (mW/cm <sup>2</sup> ) 5G WIFI	Calculate Evaluation result (mW/cm <sup>2</sup> )	Power density Limits (mW/cm <sup>2</sup> )
0.00006561	0.039597	0.000177	0.015803	0.05564261	1.0

For 802.11b/g/n:2412~2462 MHz

For BLE: 2402MHz~2480MHz

For IoT: 902.3MHz-927.5MH

For U-NII-3: 5745MHz~5825MHz

MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as **0.05564261mW / cm<sup>2</sup> < limit 1mW / cm<sup>2</sup>**. So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

**Note**

For a more detailed features description, please refer to the RF Test Report.

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