

# RF Exposure Evaluation

## FCC ID: 2ATDF-ASW001

### 1. Client Information

|                     |   |                                                    |
|---------------------|---|----------------------------------------------------|
| <b>Applicant</b>    | : | Asure Software Inc.                                |
| <b>Address</b>      | : | 3700 N Capital of Texas Hwy #350, Austin, TX 78746 |
| <b>Manufacturer</b> | : | Asure Software Inc.                                |
| <b>Address</b>      | : | 3700 N Capital of Texas Hwy #350, Austin, TX 78746 |

### 2. General Description of EUT

|                               |   |                                                                                                                                                                                                                 |
|-------------------------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EUT Name</b>               | : | Space panel                                                                                                                                                                                                     |
| <b>Models No.</b>             | : | WA1022T, WA10XXA, WA10XXT(Note: XX is "01~99", represents the different customers )                                                                                                                             |
| <b>Model Difference</b>       | : | All models are in the same PCB layout interior structure and electrical circuits, The only difference is model for commercial purpose.                                                                          |
| <b>Product Description</b>    | : | <b>Operation Frequency:</b><br><b>2.4G:</b><br>802.11b/g/n(HT20): 2412MHz~2462MHz<br>Bluetooth 4.0(BLE): 2402MHz~2480MHz<br><b>5G:</b><br>U-NII-1: 5180MHz~5240MHz<br>U-NII-3: 5745MHz~5825MHz                  |
|                               |   | <b>Modulation Type:</b><br>802.11b: DSSS(CCK, DQPSK, DBPSK)<br>802.11g/n: OFDM(BPSK, QPSK, 16QAM, 64QAM)<br>802.11a: OFDM (QPSK, BPSK, 16QAM)<br>802.11ac: OFDM (QPSK, BPSK, 16QAM, 64QAM, 256QAM)<br>BLE: GFSK |
| <b>Power Supply</b>           | : | AC Adapter(S18B22-120A150-CJ):<br>Input: AC 100-240V, 50/60Hz, 0.6A<br>Output: DC 12V, 1.5A                                                                                                                     |
| <b>Software Version</b>       | : | N/A                                                                                                                                                                                                             |
| <b>Hardware Version</b>       | : | R35                                                                                                                                                                                                             |
| <b>Connecting I/O Port(S)</b> | : | Please refer to the User's Manual                                                                                                                                                                               |

**Note:** More test information about the EUT please refer the RF Test Report.

## MPE Calculations for WIFI

### 1. Antenna Gain:

| FPC<br>Antenna: | Model | Frequency Range | Frequency Range | Frequency Range |
|-----------------|-------|-----------------|-----------------|-----------------|
|                 | N/A   | 2400~2483.5MHz  | 5150~5250MHz    | 5725~5850MHz    |
|                 |       | 1.14dBi         | 1.5dBi          | 1.57dBi         |

### 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&BLE

| Mode          | Conducted Power(max)<br>(dBm) | Turn-up Power<br>(dB) | Max tune up power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>[G] | Distance<br>(cm)<br>[R] | Power Density<br>(mW/ cm <sup>2</sup> )<br>[S] | Limit of Power Density<br>(mW/ cm <sup>2</sup> )<br>(S) |
|---------------|-------------------------------|-----------------------|-----------------------------------|--------------------------|-------------------------|------------------------------------------------|---------------------------------------------------------|
| BLE           | 8.155                         | 9±1                   | 10                                | 1.14                     | 20                      | 0.00259                                        | 1                                                       |
| 802.11B       | 15.67                         | 15±1                  | 16                                | 1.14                     | 20                      | 0.01030                                        | 1                                                       |
| 802.11G       | 19.33                         | 19±1                  | 20                                | 1.14                     | 20                      | 0.02587                                        | 1                                                       |
| 802.11N(HT20) | 18.88                         | 18±1                  | 19                                | 1.14                     | 20                      | 0.02055                                        | 1                                                       |

## 5G WIFI U-NII-1

| Mode            | Conducted Power(max)<br>(dBm) | Turn-up Power<br>(dB) | Max tune up power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>Numeric<br>[G] | Distance<br>(cm)<br>[R] | Power Density<br>(mW/ cm <sup>2</sup> )<br>[S] |
|-----------------|-------------------------------|-----------------------|-----------------------------------|-------------------------------------|-------------------------|------------------------------------------------|
| 802.11a         | 12.54                         | 13±1                  | 14                                | 1.5                                 | 20                      | 0.00706                                        |
| 802.11ac(VHT20) | 13.43                         | 13±1                  | 14                                | 1.5                                 | 20                      | 0.00706                                        |
| 802.11ac(VHT40) | 11.68                         | 11±1                  | 12                                | 1.5                                 | 20                      | 0.00445                                        |
| 802.11ac(VHT80) | 10.44                         | 10±1                  | 11                                | 1.5                                 | 20                      | 0.00354                                        |
| 802.11n(HT20)   | 13.34                         | 13±1                  | 14                                | 1.5                                 | 20                      | 0.00706                                        |
| 802.11n(HT40)   | 11.61                         | 12±1                  | 13                                | 1.5                                 | 20                      | 0.00561                                        |

## 5G WIFI U-NII-3

| Mode            | Conducted Power(max)<br>(dBm) | Turn-up Power<br>(dB) | Max tune up power<br>(dBm)<br>[P] | ANT Gain<br>(dBi)<br>Numeric<br>[G] | Distance<br>(cm)<br>[R] | Power Density<br>(mW/ cm <sup>2</sup> )<br>[S] |
|-----------------|-------------------------------|-----------------------|-----------------------------------|-------------------------------------|-------------------------|------------------------------------------------|
| 802.11a         | 13.29                         | 13±1                  | 14                                | 1.57                                | 20                      | 0.00717                                        |
| 802.11ac(VHT20) | 12.97                         | 13±1                  | 14                                | 1.57                                | 20                      | 0.00717                                        |
| 802.11ac(VHT40) | 11.59                         | 11±1                  | 12                                | 1.57                                | 20                      | 0.00453                                        |
| 802.11ac(VHT80) | 10.07                         | 10±1                  | 11                                | 1.57                                | 20                      | 0.00360                                        |
| 802.11n(HT20)   | 13.48                         | 13±1                  | 14                                | 1.57                                | 20                      | 0.00717                                        |
| 802.11n(HT40)   | 12.73                         | 12±1                  | 13                                | 1.57                                | 20                      | 0.00570                                        |

## The worst RF Exposure Evaluation

| Worst Calculation Value |                | Total Calculation Value | Threshold Value |
|-------------------------|----------------|-------------------------|-----------------|
| WiFi Mode               | Bluetooth Mode |                         |                 |
| 0.02587                 | 0.00259        | 0.02846                 | 1.0             |

**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                                  |

For BT:2402~2480 MHz

For WIFI:2412~2462 MHz

U-NII-1: 5180MHz~5240MHz

U-NII-3: 5745MHz~5825MHz

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

The MPE is calculated as **0.02846mW / 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.

-----END OF REPORT-----