

RF Exposure Evaluation

FCC ID: 2ATDF-ASW001

1. Client Information

Applicant	:	Asure Software Inc.
Address	:	3700 N Capital of Texas Hwy #350, Austin, TX 78746
Manufacturer	:	Asure Software Inc.
Address	:	3700 N Capital of Texas Hwy #350, Austin, TX 78746

2. General Description of EUT

EUT Name	:	Space panel
Models No.	:	WA1022T, WA10XXA, WA10XXT(Note: XX is "01~99", represents the different customers)
Model Difference	:	All models are in the same PCB layout interior structure and electrical circuits, The only difference is model for commercial purpose.
Product Description	:	2.4G: 802.11b/g/n(HT20): 2412MHz~2462MHz Bluetooth 4.0(BLE): 2402MHz~2480MHz 5G: U-NII-1: 5180MHz~5240MHz U-NII-3: 5745MHz~5825MHz
		Modulation Type: 802.11b: DSSS(CCK, DQPSK, DBPSK) 802.11g/n: OFDM(BPSK, QPSK, 16QAM, 64QAM) 802.11a: OFDM (QPSK, BPSK, 16QAM) 802.11ac: OFDM (QPSK, BPSK, 16QAM, 64QAM, 256QAM) BLE: GFSK
Power Supply	:	AC Adapter(S18B22-120A150-CJ): Input: AC 100-240V, 50/60Hz, 0.6A Output: DC 12V, 1.5A
Software Version	:	N/A
Hardware Version	:	R35
Connecting I/O Port(S)	:	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 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) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [S]	Limit of Power Density (mW/ cm ²) (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) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) Numeric [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [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) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) Numeric [G]	Distance (cm) [R]	Power Density (mW/ cm ²) [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 ²)
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/ cm²

The MPE is calculated as **0.02846mW / cm² < limit 1mW / cm²**. 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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