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Maximum Permissive Exposure

FCC ID: 2AU3BU9W37
 Product Name: Wi-Fi Module
 M/N: U9W37

1. According to FCC CFR 47 §1.1310, the criteria listed in the following table shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b).

Table 1 Limits for Maximum Permissible Exposure

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational / Control Exposures (f = frequency)				
30-300	61.4	0.163	1.0	6
300-1500	---	---	f/300	6
1500-100,000	---	---	5.0	6
(B) Limits for General Population / Uncontrolled Exposures (f = frequency)				
30-300	27.5	0.073	0.2	30
300-1500	---	---	f/1500	30
1500-100,000	---	---	1.0	30

2. MPE Calculation

Funai Electric R & D (Shenzhen) Co., Ltd. declares that the product described above has been evaluated and found to comply with the RF exposure limits for humans, as specified based on ANSI/FCC recommendation.

RF Exposure Calculations: $S = (P * G) / (4 * \pi * r^2)$ or $r = \sqrt{(P * G) / (4 * \pi * S)}$



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2.1. Estimation Result

WiFi 2.4GHz:

Test Mode	Output Power (dBm)		Output Power (mW)		Antenna Gain (dBi)		Antenna Gain (Linear)		MPE	
	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB
11b (SISO)	12.41	14.56	17.42	28.58	-0.74	-2.80	0.84	0.52	0.0029	0.0030
11g (SISO)	14.89	16.91	30.83	49.09	-0.74	-2.80	0.84	0.52	0.0052	0.0051
11n HT20 (SISO)	15.63	17.61	36.56	57.68	-0.74	-2.80	0.84	0.52	0.0061	0.0060
11n HT40 (SISO)	17.93	17.57	62.09	57.15	-0.74	-2.80	0.84	0.52	0.0104	0.0060
Test Mode	Output Power (dBm)		Output Power (mW)		Antenna Gain (dBi)		Antenna Gain (Linear)		MPE	
	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	Total	
11b (MIMO)	12.32	14.25	17.06	26.61	-0.74	-2.80	0.84	0.52	0.0057	
11g (MIMO)	14.88	16.39	30.76	43.55	-0.74	-2.80	0.84	0.52	0.0097	
11n HT20 (MIMO)	15.71	17.58	37.24	57.28	-0.74	-2.80	0.84	0.52	0.0123	
11n HT40 (MIMO)	16.00	17.49	39.81	56.10	-0.74	-2.80	0.84	0.52	0.0126	
Conclusion:Pass										

WiFi 5GHz:

Test Mode	Output Power (dBm)		Output Power (mW)		Antenna Gain (dBi)		Antenna Gain (Linear)		MPE	
	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB
WIFI5G Band1 SISO										
11a (SISO)	14.08	13.37	25.59	21.73	2.56	-4.67	1.80	0.34	0.0092	0.0015
11n HT20 (SISO)	14.01	13.27	25.18	21.23	2.56	-4.67	1.80	0.34	0.0090	0.0014
11n HT40 (SISO)	14.02	13.29	25.23	21.33	2.56	-4.67	1.80	0.34	0.0091	0.0014
11ac VHT20 (SISO)	13.50	13.26	22.39	21.18	2.56	-4.67	1.80	0.34	0.0080	0.0014



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11ac VHT40 (SISO)	13.60	13.13	22.91	20.56	2.56	-4.67	1.80	0.34	0.0082	0.0014
11ac VHT80 (SISO)	13.50	12.87	22.39	19.36	2.56	-4.67	1.80	0.34	0.0080	0.0013
WIFI5G Band2A SISO										
11a (SISO)	16.19	13.05	41.59	20.18	1.82	-0.16	1.52	0.96	0.0126	0.0039
11n HT20 (SISO)	15.96	12.92	39.45	19.59	1.82	-0.16	1.52	0.96	0.0119	0.0038
11n HT40 (SISO)	16.32	12.99	42.85	19.91	1.82	-0.16	1.52	0.96	0.0130	0.0038
11ac VHT20 (SISO)	15.82	12.86	38.19	19.32	1.82	-0.16	1.52	0.96	0.0116	0.0037
11ac VHT40 (SISO)	15.97	12.7	39.54	18.62	1.82	-0.16	1.52	0.96	0.0120	0.0036
11ac VHT80 (SISO)	15.64	12.55	36.64	17.99	1.82	-0.16	1.52	0.96	0.0111	0.0035
WIFI5G Band2C SISO										
11a (SISO)	14.58	13.93	28.71	24.72	3.14	0.09	2.06	1.02	0.0118	0.0050
11n HT20 (SISO)	14.52	13.84	28.31	24.21	3.14	0.09	2.06	1.02	0.0116	0.0049
11n HT40 (SISO)	14.56	13.94	28.58	24.77	3.14	0.09	2.06	1.02	0.0117	0.0050
11ac VHT20 (SISO)	14.54	13.56	28.44	22.70	3.14	0.09	2.06	1.02	0.0117	0.0046
11ac VHT40 (SISO)	14.49	13.60	28.12	22.91	3.14	0.09	2.06	1.02	0.0115	0.0047
11ac VHT80 (SISO)	14.40	13.62	27.54	23.01	3.14	0.09	2.06	1.02	0.0113	0.0047
WIFI5G Band3 SISO										
11a (SISO)	14.64	14.72	29.11	29.65	0.39	-4.36	1.09	0.37	0.0063	0.0022
11n HT20 (SISO)	14.86	14.68	30.62	29.38	0.39	-4.36	1.09	0.37	0.0067	0.0021



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11n HT40 (SISO)	14.84	14.82	30.48	30.34	0.39	-4.36	1.09	0.37	0.0066	0.0022
11ac VHT20 (SISO)	14.49	14.71	28.12	29.58	0.39	-4.36	1.09	0.37	0.0061	0.0022
11ac VHT40 (SISO)	14.58	14.55	28.71	28.51	0.39	-4.36	1.09	0.37	0.0063	0.0021
11ac VHT80 (SISO)	14.32	14.54	27.04	28.44	0.39	-4.36	1.09	0.37	0.0059	0.0021
Test Mode	Output Power (dBm)		Output Power (mW)		Antenna Gain (dBi)		Antenna Gain (Linear)		MPE	
	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	ANTA	ANTB	Total	
WIFI5G Band1 MIMO										
11a (MIMO)	13.61	13.41	22.96	21.93	2.56	-4.67	1.80	0.34	0.0097	
11n HT20 (MIMO)	13.64	13.23	23.12	21.04	2.56	-4.67	1.80	0.34	0.0097	
11n HT40 (MIMO)	13.76	13.29	23.77	21.33	2.56	-4.67	1.80	0.34	0.0099	
11ac VHT20 (MIMO)	13.45	13.18	22.13	20.80	2.56	-4.67	1.80	0.34	0.0093	
11ac VHT40 (MIMO)	13.58	13.10	22.80	20.42	2.56	-4.67	1.80	0.34	0.0096	
11ac VHT80 (MIMO)	13.70	12.88	23.44	19.41	2.56	-4.67	1.80	0.34	0.0097	
WIFI5G Band2A MIMO										
11a (MIMO)	15.85	13.10	38.46	20.42	1.82	-0.16	1.52	0.96	0.0155	
11n HT20 (MIMO)	15.81	12.92	38.11	19.59	1.82	-0.16	1.52	0.96	0.0153	
11n HT40 (MIMO)	15.99	12.94	39.72	19.68	1.82	-0.16	1.52	0.96	0.0158	
11ac VHT20 (MIMO)	15.64	12.83	36.64	19.19	1.82	-0.16	1.52	0.96	0.0148	
11ac VHT40 (MIMO)	15.94	12.81	39.26	19.10	1.82	-0.16	1.52	0.96	0.0156	



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11ac VHT80 (MIMO)	15.69	12.50	37.07	17.78	1.82	-0.16	1.52	0.96	0.0146
WIFI5G Band2C MIMO									
11a (MIMO)	14.40	13.39	27.54	21.83	3.14	0.09	2.06	1.02	0.0157
11n HT20 (MIMO)	14.43	13.70	27.73	23.44	3.14	0.09	2.06	1.02	0.0162
11n HT40 (MIMO)	14.56	13.76	28.58	23.77	3.14	0.09	2.06	1.02	0.0165
11ac VHT20 (MIMO)	14.34	13.36	27.16	21.68	3.14	0.09	2.06	1.02	0.0155
11ac VHT40 (MIMO)	14.42	13.57	27.67	22.75	3.14	0.09	2.06	1.02	0.0159
11ac VHT80 (MIMO)	14.28	13.44	26.79	22.08	3.14	0.09	2.06	1.02	0.0155
WIFI5G Band3 MIMO									
11a (MIMO)	14.42	14.91	27.67	30.97	0.39	-4.36	1.09	0.37	0.0083
11n HT20 (MIMO)	14.19	14.69	26.24	29.44	0.39	-4.36	1.09	0.37	0.0078
11n HT40 (MIMO)	14.36	14.77	27.29	29.99	0.39	-4.36	1.09	0.37	0.0081
11ac VHT20 (MIMO)	14.16	14.58	26.06	28.71	0.39	-4.36	1.09	0.37	0.0078
11ac VHT40 (MIMO)	14.09	14.56	25.64	28.58	0.39	-4.36	1.09	0.37	0.0077
11ac VHT80 (MIMO)	14.32	14.44	27.04	27.80	0.39	-4.36	1.09	0.37	0.0079
Conclusion:Pass									



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Based on safety distance (r) **20cm**, the antenna gain (G) numerical as below:

Antenna System	
Type of Antenna	ANTA: monopole Antenna ANTB: External Metal Antenna
Antenna Peak Gain	DTS Band (2400-2483.5MHz) Peak Gain: ANTA: -0.74; ANTB: -2.80dBi; U-NII-1 Band(5150-5250MHz) Peak Gain: ANTA: 2.56dBi; ANTB: -4.67dBi; U-NII-2A Band(5250-5350MHz) Peak Gain: ANTA: 1.82dBi; ANTB: -0.16dBi; U-NII-2C Band(5470-5725MHz) Peak Gain: ANTA: 3.14dBi; ANTB: 0.09dBi; U-NII-3 Band (5725-5850MHz) Peak Gain: ANTA: 0.39dBi; ANTB:-4.36dBi

and the WiFi 2.4GHz highest power output (P) is **62.09mW**, and the WiFi 5GHz highest power output (P) is **42.85mW**;

the WiFi 2.4GHz power density (S) is **0.0126 mW/cm²**, the WiFi 5GHz power density (S) is **0.0165 mW/cm²**.