

FCC ID: 2AZ2R-PW7PRO

Maximum Permissible Exposure (MPE)

According to FCC 2.1091, FCC 1.1310 and KDB447498 D01 General RF Exposure Guidance V06: 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)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 * P * G}}{d}$$

$$\text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Average RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 * P * G}{377 * D^2}$$

From the EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

Measurement Result

BLE:

Antenna gain: 2.98dBi;

R=20cm

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density
		(dBm)		tune-up power		Gain			
				(dBm)	(mW)	(dBi)	Numeric	(mW/cm2)	(mW/cm2)
2402	BLE 1M	4.42	4±1	5	3.162	2.98	1.99	0.0012	1
2440		3.63	3±1	4	2.512	2.98	1.99	0.0010	1
2480		3.58	3±1	4	2.512	2.98	1.99	0.0010	1

2.4GWIFI:

Antenna gain ANT1: 2.98dBi

R=20cm

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
2412	11b	15.84	15±1	16	39.811	2.98	1.99	0.0157	1
2437		16.04	16±1	17	50.119	2.98	1.99	0.0198	1
2462		16.05	16±1	17	50.119	2.98	1.99	0.0198	1
2412	11g	13.5	13±1	14	25.119	2.98	1.99	0.0099	1
2437		15.24	15±1	16	39.811	2.98	1.99	0.0157	1
2462		14.12	14±1	15	31.623	2.98	1.99	0.0125	1
2412	11n20	11.58	11±1	12	15.849	2.98	1.99	0.0063	1
2437		13.18	13±1	14	25.119	2.98	1.99	0.0099	1
2462		12.1	12±1	13	19.953	2.98	1.99	0.0079	1

5G WIFI:

WIFI 5.2G

Antenna gain ANT1: 2.57dBi

R=20cm

modulation	Antenna	Channel Freq. (MHz)	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density
			(dBm)		tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numeric		
802.11a	Ant 1	5180	12.16	12±1	13.00	19.953	2.57	1.81	0.0072	1
	Ant 1	5200	11.77	11±1	12.00	15.849	2.57	1.81	0.0057	1
	Ant 1	5240	11.17	11±1	12.00	15.849	2.57	1.81	0.0057	1
802.11n20	Ant 1	5180	13.04	13±1	14.00	25.119	2.57	1.81	0.0090	1
	Ant 1	5200	11.99	11±1	12.00	15.849	2.57	1.81	0.0057	1
	Ant 1	5240	11.36	11±1	12.00	15.849	2.57	1.81	0.0057	1

WIFI 5.3G
 Antenna gain ANT1: 2.55dBi
 R=20cm

modulation	Antenna	Channel Freq. (MHz)	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm2)	Power density (mW/cm2)
			(dBm)		tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numeric		
802.11a	Ant 1	5260	12.25	12±1	13.00	19.953	2.55	1.80	0.0071	1
	Ant 1	5280	12.17	12±1	13.00	19.953	2.55	1.80	0.0071	1
	Ant 1	5320	12.39	12±1	13.00	19.953	2.55	1.80	0.0071	1
802.11n20	Ant 1	5260	12.05	12±1	13.00	19.953	2.55	1.80	0.0071	1
	Ant 1	5280	12.3	12±1	13.00	19.953	2.55	1.80	0.0071	1
	Ant 1	5320	12.31	12±1	13.00	19.953	2.55	1.80	0.0071	1

WIFI 5.6G
 Antenna gain ANT1: 2.91dBi
 R=20cm

modulation	Antenna	Channel Freq. (MHz)	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm2)	Power density (mW/cm2)
			(dBm)		tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numeric		
802.11a	Ant 1	5500	12.44	12±1	13.00	19.953	2.91	1.95	0.0078	1
	Ant 1	5600	11.55	11±1	12.00	15.849	2.91	1.95	0.0062	1
	Ant 1	5700	11.29	11±1	12.00	15.849	2.91	1.95	0.0062	1
802.11n20	Ant 1	5500	12.44	12±1	13.00	19.953	2.91	1.95	0.0078	1
	Ant 1	5600	11.34	11±1	12.00	15.849	2.91	1.95	0.0062	1
	Ant 1	5700	11.54	11±1	12.00	15.849	2.91	1.95	0.0062	1

WIFI 5.8G
 Antenna gain ANT1: 2.49dBi
 R=20cm

modulation	Antenna	Channel Freq. (MHz)	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density
			(dBm)		tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numeric	(mW/cm2)	(mW/cm2)
802.11a	Ant 1	5745	11.34	11±1	12.00	15.849	2.49	1.77	0.0056	1
	Ant 1	5785	10.96	10±1	11.00	12.589	2.49	1.77	0.0044	1
	Ant 1	5825	11.43	11±1	12.00	15.849	2.49	1.77	0.0056	1
802.11n20	Ant 1	5745	11.2	11±1	12.00	15.849	2.49	1.77	0.0056	1
	Ant 1	5785	11.09	11±1	12.00	15.849	2.49	1.77	0.0056	1
	Ant 1	5825	11.16	11±1	12.00	15.849	2.71	1.87	0.0059	1

SIMULTANEOUS TRANSMISSIONS

When a number of sources at different frequencies, and/or broadband sources, contribute to the total exposure, it becomes necessary to weigh each contribution relative to the MPE. To comply with the MPE, the fraction of the MPE in terms of E^2 , H^2 (or power density) incurred within each frequency interval should be determined and the sum of all such fractions should not exceed unity. In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^n \frac{S_i}{MPE_i} \leq 1$$

Note: The BLE/WIFI 2.4G/WIFI 5G share the same ANT cannot transmit at same time.

Conclusion: pass

Signature: 

Date: 2026-05-27

NAME AND TITLE (Please print or type): alex li/Manager

COMPANY (Please print or type): Shenzhen NTEK Testing Technology Co., Ltd./ No. 24 Xinfu East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China