

## RF Exposure

# FCC ID: 2AC8NS8PRO

### Applied procedures / limit

According to FCC §15.247(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

### Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

Note: f is frequency in MHz

\* = Power density limit is applicable at frequencies greater than 100 MHz

### Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz

\* = Plane-wave equivalent power density

## MPE PREDICTION

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

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

Where: S = power density

P = power input to 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

## TEST RESULTS

### 2.4G:

TX 802.11b Mode				
Test Channel	Frequency	Maximum Peak Conducted Output Power (PK)	Maximum Peak Conducted Output Power (AV)	LIMIT
	(MHz)	(dBm)	(dBm)	dBm
CH01	2412	15.26	12.57	30
CH06	2437	15.21	12.35	30
CH11	2462	15.35	12.51	30
TX 802.11g Mode				
CH01	2412	13.51	10.31	30
CH06	2437	13.36	10.23	30
CH11	2462	13.42	10.28	30
TX 802.11n(20) Mode				
CH01	2412	11.44	8.58	30
CH06	2437	11.68	8.52	30
CH11	2462	11.43	8.46	30

Mode	Maximum peak output power (dBm)	Output power to antenna (mW)	(Antenna Gain) numeric	Power Density (S) (mW/cm <sup>2</sup> )	Limit of Power Density (S) (mW/cm <sup>2</sup> )	Result
802.11b	15.35	34.28	1.26 (1.0dBi)	0.0086	1	Pass
802.11g	13.51	22.44	1.26 (1.0dBi)	0.0056	1	Pass
802.11n-HT20	11.68	14.72	1.26 (1.0dBi)	0.0037	1	Pass

**5.8G:**

Test Channe	Frequency	Maximum Conducted Output Power(PK)	Maximum Conducted Output Power(AV)	LIMIT
	(MHz)	(dBm)	(dBm)	(dBm)
<b>TX 802.11a Mode</b>				
CH149	5745	13.75	10.11	30
CH157	5785	13.89	10.54	30
CH165	5825	13.43	10.12	30
<b>TX 802.11n-HT20 Mode</b>				
CH149	5745	10.09	7.13	30
CH157	5785	10.11	7.81	30
CH165	5825	10.34	7.76	30

Mode	Maximum peak output power (dBm)	Output power to antenna (mW)	(Antenna Gain) numeric	Power Density (S) (mW/ cm <sup>2</sup> )	Limit of Power Density (S) (mW/ cm <sup>2</sup> )	Result
802.11a	13.89	24.49	1.26 (1.0dBi)	0.0061	1	Pass
802.11n (20)	10.34	10.81	1.26 (1.0dBi)	0.0027	1	Pass

Note: This device 5GHz and 2.4GHz can not transmit simultaneously, don't have to assess exposure when transmit simultaneously.