

FCC §15.247 (i), §2.1091 – RF Exposure

FCC ID:2AG9UED01-001**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 ²)	Averaging Time E ² , H ² 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 ²)	Averaging Time E ² , H ² 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

WIFI Power

TX 802.11b Mode				
Test Channel	Frequency	Maximum Conducted Output Power(PK)	Maximum Conducted Output Power(AV)	LIMIT
	(MHz)	(dBm)	(dBm)	(dBm)
CH01	2412	19.56	14.66	30
CH06	2437	19.65	14.56	30
CH11	2462	19.58	14.63	30
TX 802.11g Mode				
CH01	2412	17.34	9.39	30
CH06	2437	17.32	9.46	30
CH11	2462	17.36	9.64	30
TX 802.11n-HT20 Mode				
CH01	2412	18.54	7.37	30
CH06	2437	18.47	7.45	30
CH11	2462	18.52	7.34	30

Mode	Range	Maximum peak output power (dBm)	Output power (mW)	Antenna Gain (numeric)	Power Density (S) (mW/ cm ²)	Limit of Power Density (S) (mW/ cm ²)	Result
802.11b	18~20	20	100.00	1.51(1.42)	0.0282	1	Pass
802.11g	16~18	18	63.10	1.51(1.42)	0.0178	1	Pass
802.11n-HT20	17~19	19	79.43	1.51(1.42)	0.0224	1	Pass

Note: The Output power is the maximum eirp power of this EUT, and the data comes from the RF report for this EUT.

Note: The assess distance is 20cm.