



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

# FCC ID: 2AIGA38021

### 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, R=0.2m

## TEST RESULTS

	Maximum peak output power (mW)	Output power to antenna (dBm)	Antenna Gain (numeric)	Power Density (S) (mW/ cm <sup>2</sup> )	Limit of Power Density (S) (mW/ cm <sup>2</sup> )	Result
2.4G 802.11b	61.31	17.88	6.31(8.0dBi)	0.07704	1	Pass
2.4G 802.11g	37.59	15.75	6.31(8.0dBi)	0.04718	1	Pass
2.4G 802.11n (HT20)	27.91	14.46	6.31(8.0dBi)	0.03505	1	Pass
2.4G 802.11n (HT40)	18.16	12.59	6.31(8.0dBi)	0.02279	1	Pass
5G 802.11a	75.87	18.80	6.31(8.0dBi)	0.09522	1	Pass
5G 802.11n (HT20)	45.09	16.54	6.31(8.0dBi)	0.05659	1	Pass
5G 802.11n (HT40)	37.67	15.76	6.31(8.0dBi)	0.04729	1	Pass

For 2.4G & 5G

Note: Directional Gain=5.0dBi+10log(2)=8.0dBi