



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

**FCC ID: 2ANRXUPAIRFAIRY**

### 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

### 5745-5825MHz

Test Channel	Frequency	Maximum output		Total Power	LIMIT	Result
		(PK) (dBm)		(PK)		
	(MHz)	ANT 1	ANT 2	dBm	dBm	
TX 802.11 n20M Mode						
CH 149	5745	10.27	10.96	13.64	30	Pass
CH 157	5785	10.41	11.05	13.75	30	Pass
CH 165	5825	10.16	10.85	13.53	30	Pass



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## 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=20cm

## Test Result of RF Exposure Evaluation

5G

	Target power W/ tolerance (dBm)	Max tune up power toleranc e (dBm)	Total Output power to antenna (mW)	Antenna Gain(dBi)	Total Power Density at R=20cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Result
5745- 5825MHz 802.11n(20)	13	14	25.12	5 (3.16)	0.0158	1.0	Pass