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

FCC ID:2AGZG-AEEAP120001

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

Power

TX 802.11b Mode				
Test Channe	Frequency	Maximum Peak Conducted Output Power（PK）	Maximum Peak Conducted Output Power（AV）	LIMIT
	(MHz)	(dBm)	(dBm)	dBm
CH01	2412	12.66	9.45	30
CH06	2437	12.35	9.38	30
CH11	2462	11.78	9.52	30
TX 802.11g Mode				
CH01	2412	11.62	8.49	30
CH06	2437	11.58	8.45	30
CH11	2462	11.54	8.41	30
TX 802.11n(20) Mode				
CH01	2412	10.58	8.35	30
CH06	2437	10.49	8.26	30
CH11	2462	10.39	8.16	30

Test Channe	Frequency	Maximum output power. Antenna port		LIMIT
		(PK)	(AV)	
	(MHz)	(dBm)	(dBm)	dBm
TX 5G Mode				
CH01	5728	12.75	8.36	30
CH09	5757	12.63	8.89	30
CH16	5803	12.12	8.21	30

Test Channel	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	11~13	13	19.95	1.5(1.41)	0.0056	1	Pass
802.11g	10~12	12	15.85	1.5(1.41)	0.0044	1	Pass
802.11n-HT20	10~12	12	15.85	1.5(1.41)	0.0044	1	Pass
CH01	11~13	13	19.95	1.5(1.41)	0.0056	1	Pass
CH09	11~13	13	19.95	1.5(1.41)	0.0056	1	Pass
CH16	11~13	13	19.95	1.5(1.41)	0.0056	1	Pass

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