



RF Exposure

FCC ID: 2AK6P-6124NM

Applied procedures / limit

According to 47 CFR §1.1310, the criteria listed in below table shall be used to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of §2.1093.

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



	Frequency	Maximum Conducted Output Power(PK) ANT A	Maximum Conducted Output Power(PK) ANT B	Total Power Conducted Output Power(PK)	LIMIT
	(MHz)	(dBm)	(dBm)	(dBm)	dBm
802.11b	2412	9.25	9.22	/	30
	2437	9.12	9.25	/	30
	2462	9.43	9.05	/	30
802.11g	2412	8.14	8.84	/	30
	2437	8.16	8.58	/	30
	2462	8.24	8.45	/	30
802.11n 20	2412	7.73	7.78	10.77	30
	2437	7.44	7.35	10.41	30
	2462	7.85	7.86	10.87	30
802.11n 40	2422	7.23	7.11	10.18	30
	2437	7.53	7.70	10.63	30
	2452	7.21	7.42	10.33	30

The maximum transmitting power of single antenna is 802.11b and MIMO mode two antenna is 802.11n20.

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



倍测检测
BCTC TEST

Test Result of RF Exposure Evaluation

	Target power W/ tolerance (dBm)	Max tune up power tolerance (dBm)	Output power to antenna (mW)	Antenna Gain(dBi)	Power Density at R=20cm (mW/cm ²)	Limit (mW/cm ²)	Result
802.11b	9±1.0	10.0	10	1.26 (1.0dBi)	0.00251	1.0	Pass
802.11n20MHz (MIMO mode)	10±1.0	11	12.59	2.52 (4.01dBi)	0.00631	1.0	Pass

Note: Directional Gain=1.0dBi+10log(2)=4.01dBi

Conclusion:

the max result : $0.00631 \leq 1.0$ compliance with FCC's RF Exposure.

Summary: Since the ERP (effective radiated power) operated at < 1.5 GHz is less than 1.5 watts and > 1.5 GHz is less than 3 watts, the routine environmental evaluation is not required, and the MPE result calculated for this device complies with the MPE limit as specified in 47 CFR §1.1310.