

MPE ESTIMATION
FCC ID: 2AUPL-M16

1,Limit for General Population/ Uncontrolled Exposures

Frequency	Power density (mW/ cm ²)	Averaging time(minutes)
300MHz----1.5GHz	F/1500	30
1.5GHz---100GHz	1.0	30

Note: F= Frequency in MHz

2 Estimation Result

2.4G WIFI ANT. 1:

Mode	Max PK Output power(dBm)	Tune Up Power(dBm)	Max Tune Up power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm ²)
11b	14.48	14±1(15)	31.62	2	1.5849	0.00998
11g	13.17	13±1(14)	25.12	2	1.5849	0.00792
11n/HT20	10.46	10±1(11)	12.59	2	1.5849	0.00397
11n/HT40	9.56	9±1(10)	10.00	2	1.5849	0.00315

$$Pd = \frac{P_{out} * G}{4\pi r^2} ;$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1909202379-E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=2dBi, antenna port 2 gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm ²)
11b	CH1	14.12	25.82	2	1.5849	0.00815
	CH6	14.22	26.42	2	1.5849	0.00834
	CH11	14.48	28.05	2	1.5849	0.00885
11g	CH1	12.52	17.86	2	1.5849	0.00564
	CH6	12.03	15.96	2	1.5849	0.00503
	CH11	13.17	20.75	2	1.5849	0.00655
11n/HT20	CH1	10.46	11.12	2	1.5849	0.00351
	CH6	10.03	10.07	2	1.5849	0.00318
	CH11	10.11	10.26	2	1.5849	0.00324
11n/HT40	CH1	9.55	9.02	2	1.5849	0.00284
	CH4	9.09	8.11	2	1.5849	0.00256
	CH7	9.56	9.04	2	1.5849	0.00285

$$Pd = \frac{P_{out} * G}{4\pi r^2};$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1909202379-E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=2dBi, antenna port 2 gain=2dBi.

2.4G WIFI ANT. 2:

Mode	Max PK Output power(dBm)	Tune Up Power(dBm)	Max Tune Up power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm ²)
11b	14.66	14±1(15)	31.62	2	1.5849	0.00998
11g	12.75	12±1(13)	19.95	2	1.5849	0.00629
11n/HT20	10.45	10±1(11)	12.59	2	1.5849	0.00397
11n/HT40	10.66	10±1(11)	12.59	2	1.5849	0.00397

$$Pd = \frac{Pout * G}{4\pi r^2};$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1909202379-E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=1dBi, antenna port 2 gain=1dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm ²)
11b	CH1	14.22	26.42	2	1.5849	0.00834
	CH6	14.66	29.24	2	1.5849	0.00922
	CH11	14.15	26.00	2	1.5849	0.00820
11g	CH1	12.26	16.83	2	1.5849	0.00531
	CH6	12.33	17.10	2	1.5849	0.00539
	CH11	12.75	18.84	2	1.5849	0.00594
11n/HT20	CH1	10.16	10.38	2	1.5849	0.00327
	CH6	10.45	11.09	2	1.5849	0.00350
	CH11	10.03	10.07	2	1.5849	0.00318
11n/HT40	CH1	10.66	11.64	2	1.5849	0.00367
	CH4	9.78	9.51	2	1.5849	0.00300
	CH7	9.69	9.31	2	1.5849	0.00294

$$Pd = \frac{Pout * G}{4\pi r^2};$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1909202379-E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=2dBi, antenna port 2 gain=2dBi.

For MIMO:

Mode	Max PK Output power(dBm)	Tune Up Power(dBm)	Max Tune Up power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm ²)
11b	--	--	--	--	--	--
11g	--	--	--	--	--	--
11n/HT20	13.32	13±1(14)	25.12	5.011	3.170	0.01585
11n/HT40	13.15	13±1(14)	25.12	5.011	3.170	0.01585

$$Pd = \frac{Pout * G}{4\pi r^2};$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1909202379-E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=2dBi, antenna port 2 gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm ²)
11b	CH1	--	--	--	--	--
	CH6	--	--	--	--	--
	CH11	--	--	--	--	--
11g	CH1	--	--	--	--	--
	CH6	--	--	--	--	--
	CH11	--	--	--	--	--
11n/HT20	CH1	13.32	21.48	5.011	3.170	0.01355
	CH6	13.26	21.18	5.011	3.170	0.01337
	CH11	13.08	20.32	5.011	3.170	0.01282
11n/HT40	CH1	13.15	20.65	5.011	3.170	0.01303
	CH4	12.46	17.62	5.011	3.170	0.01112
	CH7	12.64	18.37	5.011	3.170	0.01159

$$Pd = \frac{Pout * G}{4\pi r^2};$$

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1909202379-E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=2dBi, antenna port 2 gain=2dBi.