



MPE ESTIMATION

FCC ID: 2ATVI-P105GW

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

For antenna 1:

2.4G WIFI

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	14.42	14±1(15)	31.62	1	1.2589	0.00792
11g	13.04	13±1(14)	25.12	1	1.2589	0.00629
11n/HT20	10.75	10±1(11)	12.59	1	1.2589	0.00315
11n/HT40	9.45	10±1(11)	12.59	1	1.2589	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 HK1908162016-3E, antenna port 1 gain=1dBi, antenna port 2 gain=1dBi, MIMO gain=4.01dBi



5.2G WIFI

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)
11a	10.45	10±1(11)	12.59	1	1.2589	0.00315
11n(HT20)	9.89	10±1(11)	12.59	1	1.2589	0.00315
11n(HT40)	9.80	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT20)	9.60	10±1(11)	12.59	1	1.2589	0.00315
11ac(HT40)	8.13	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT80)	8.00	8±1(9)	7.94	1	1.2589	0.00199

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

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1908162016-1E, antenna port 1 gain=1dBi, antenna port 2 gain=1dBi,MIMO gain=4.01dBi

5.8G WIFI

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)
11a	9.88	9±1(10)	10.00	1	1.2589	0.00251
11n(HT20)	9.70	9±1(10)	10.00	1	1.2589	0.00251
11n(HT40)	9.44	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT20)	8.92	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT40)	8.79	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT80)	8.49	9±1(10)	10.00	1	1.2589	0.00251

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

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1908162016-2E, antenna port 1 gain=1dBi, antenna port 2 gain=1dBi,MIMO gain=4.01dBi



For antenna 2:

2.4G WIFI

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	14.75	14±1(15)	31.62	1	1.2589	0.00792
11g	12.52	12±1(13)	19.95	1	1.2589	0.00500
11n/HT20	10.53	10±1(11)	12.59	1	1.2589	0.00315
11n/HT40	10.25	10±1(11)	12.59	1	1.2589	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 HK1908162016-3E, antenna port 1 gain=1dBi, antenna port 2 gain=1dBi, MIMO gain=4.01dBi

5.2G WIFI

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)
11a	10.71	10±1(11)	12.59	1	1.2589	0.00315
11n(HT20)	9.90	9±1(10)	10.00	1	1.2589	0.00251
11n(HT40)	9.76	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT20)	9.76	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT40)	8.85	8±1(9)	7.94	1	1.2589	0.00199
11ac(HT80)	8.64	8±1(9)	7.94	1	1.2589	0.00199

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

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1908162016-1E, antenna port 1 gain=1dBi, antenna port 2 gain=1dBi, MIMO gain=4.01dBi



5.8G WIFI

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)
11a	9.71	9±1(10)	10.00	1	1.2589	0.00251
11n(HT20)	9.64	9±1(10)	10.00	1	1.2589	0.00251
11n(HT40)	9.50	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT20)	8.91	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT40)	8.69	9±1(10)	10.00	1	1.2589	0.00251
11ac(HT80)	8.55	9±1(10)	10.00	1	1.2589	0.00251

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

Note:

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1908162016-2E, antenna port 1 gain=1dBi, antenna port 2 gain=1dBi, MIMO gain=4.01dBi

For MIMO:

2.4G WIFI

Mode	MPE (mW/cm ²)
11n/HT20	0.0063
11n/HT40	0.0063

Note: The estimation distance is 20cm

Note:

PK Output power= conducted power.

Conducted power see the test report HK1908162016-3E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=1dBi, antenna port 2 gain=1dBi.



5.2G WIFI

Mode	MPE (mW/cm ²)
11n(HT20)	0.00566
11n(HT40)	0.00502
11ac(HT20)	0.00566
11ac(HT40)	0.0045
Note: The estimation distance is 20cm	
Note: PK Output power= conducted power. Conducted power see the test report HK1908162016-1E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=1dBi, antenna port 2 gain=1dBi.	

5.8G WIFI

Mode	MPE (mW/cm ²)
11n(HT20)	0.00502
11n(HT40)	0.00502
11ac(HT20)	0.00502
11ac(HT40)	0.00502
Note: The estimation distance is 20cm	
Note: PK Output power= conducted power. Conducted power see the test report HK1908162016-2E, The MIMO mode power is max, so only calculate max power mode and antenna port 1 gain=1dBi, antenna port 2 gain=1dBi.	

when the minimum test separation distance is >20 cm, a distance of 20 cm is applied to determine SAR test exclusion. The test exclusion threshold is 0.00792mW/cm² which is < 1.0mW/cm², SAR testing is not required.

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