MPE ESTIMATION

FCC ID: TVV-PIAPGW4

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:

For 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/cm²)
11b	13.26	13±1(14)	25.12	2	1.585	0.00792
11g	12.84	13±1(14)	25.12	2	1.585	0.00792
11n/HT20	12.43	13±1(14)	25.12	2	1.585	0.00792
11n/HT40	11.67	12±1(13)	19.95	2	1.585	0.00629

Note: $Pd = \dfrac{Pout * G}{4\pi r^2}$:

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E011, antenna gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm²)
11b	CH1	13.26	21.18	2	1.585	0.00668
	CH6	13.11	20.46	2	1.585	0.00646
	CH11	12.89	19.45	2	1.585	0.00614
11g	CH1	12.84	19.23	2	1.585	0.00607
	CH6	12.67	18.49	2	1.585	0.00583
	CH11	12.52	17.86	2	1.585	0.00564
11n/HT20	CH1	12.43	17.50	2	1.585	0.00552
	CH6	12.28	16.90	2	1.585	0.00533
	CH11	12.15	16.41	2	1.585	0.00518
11n/HT40	CH1	11.67	14.69	2	1.585	0.00463
	CH4	11.51	14.16	2	1.585	0.00447
	CH7	11.44	13.93	2	1.585	0.00440

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

Note:

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E011, antenna gain=2dBi.

For 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/cm²)
11a	16.82	16±1(17)	50.12	2	1.585	0.01581
11n/HT20	16.42	16±1(17)	50.12	2	1.585	0.01581
11n/HT40	16.32	16±1(17)	50.12	2	1.585	0.01581

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

Note:

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

    Conducted power see the test report TCT171204E012, antenna gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm²)
11a	CH36	15.91	38.99	2	1.585	0.01230
	CH40	16.82	48.08	2	1.585	0.01517
	CH48	16.13	41.02	2	1.585	0.01294
11n/HT20	CH36	15.52	35.65	2	1.585	0.01125
	CH40	16.33	42.95	2	1.585	0.01355
	CH48	16.42	43.85	2	1.585	0.01384
11n/HT40	CH38	16.32	42.85	2	1.585	0.01352
	CH46	15.71	37.24	2	1.585	0.01175

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

Note:

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

    Conducted power see the test report TCT171204E012, antenna gain=2dBi.

For 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/cm²)
11a	16.11	16±1(17)	50.12	2	1.585	0.01581
11n/HT20	16.96	16±1(17)	50.12	2	1.585	0.01581
11n/HT40	16.79	16±1(17)	50.12	2	1.585	0.01581

Note: $Pd = \dfrac{Pout * G}{4\pi r^2}$;

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E012, antenna gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm²)
11a	CH149	15.73	37.41	2	1.585	0.01180
	CH157	16.11	40.83	2	1.585	0.01288
	CH165	16.11	40.83	2	1.585	0.01288
11n/HT20	CH149	16.96	49.66	2	1.585	0.01567
	CH157	15.55	35.89	2	1.585	0.01132
	CH165	16.93	49.32	2	1.585	0.01556
11n/HT40	CH151	16.79	47.75	2	1.585	0.01507
	CH159	16.35	43.15	2	1.585	0.01361

Note: $Pd = \dfrac{Pout * G}{4\pi r^2}$;

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E012, antenna gain=2dBi.

For antenna 2:

For 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/cm²)
11b	13.35	13±1(14)	25.12	2	1.585	0.00792
11g	12.72	13±1(14)	25.12	2	1.585	0.00792
11n/HT20	12.59	13±1(14)	25.12	2	1.585	0.00792
11n/HT40	11.54	12±1(13)	19.95	2	1.585	0.00629

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

Note:

Note: The estimation distance is 20cm

Note:　PK Output power= conducted power.

　　　Conducted power see the test report TCT171204E011, antenna gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm²)
11b	CH1	13.35	21.63	2	1.585	0.00682
	CH6	13.09	20.37	2	1.585	0.00643
	CH11	13.27	21.23	2	1.585	0.00670
11g	CH1	12.72	18.71	2	1.585	0.00590
	CH6	12.64	18.37	2	1.585	0.00579
	CH11	12.48	17.70	2	1.585	0.00558
11n/HT20	CH1	12.59	18.16	2	1.585	0.00573
	CH6	12.31	17.02	2	1.585	0.00537
	CH11	12.05	16.03	2	1.585	0.00506
11n/HT40	CH1	11.54	14.26	2	1.585	0.00450
	CH4	11.38	13.74	2	1.585	0.00433
	CH7	11.23	13.27	2	1.585	0.00419

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

Note:

Note: The estimation distance is 20cm

Note:　PK Output power= conducted power.

　　　Conducted power see the test report TCT171204E011, antenna gain=2dBi.

For 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/cm²)
11a	14.19	14±1(15)	31.62	2	1.585	0.00998
11n/HT20	13.49	14±1(15)	31.62	2	1.585	0.00998
11n/HT40	13.84	14±1(15)	31.62	2	1.585	0.00998

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

Note:

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E012, antenna gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm²)
11a	CH36	14.19	26.24	2	1.585	0.00828
	CH40	12.69	18.58	2	1.585	0.00586
	CH48	13.78	23.88	2	1.585	0.00753
11n/HT20	CH36	12.96	19.77	2	1.585	0.00624
	CH40	13.49	22.34	2	1.585	0.00705
	CH48	13.53	22.54	2	1.585	0.00711
11n/HT40	CH38	12.64	18.37	2	1.585	0.00579
	CH46	13.84	24.21	2	1.585	0.00764

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

Note:

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E012, antenna gain=2dBi.

For 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/cm²)
11a	13.13	14±1(15)	31.62	2	1.585	0.00998
11n/HT20	13.31	14±1(15)	31.62	2	1.585	0.00998
11n/HT40	14.71	14±1(15)	31.62	2	1.585	0.00998

Note: $Pd = \dfrac{Pout * G}{4\pi r^2}$;

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E012, antenna gain=2dBi.

Mode	CH	PK Output power(dBm)	Output power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm²)
11a	CH149	13.13	20.56	2	1.585	0.00649
	CH157	12.61	18.24	2	1.585	0.00575
	CH165	12.33	17.10	2	1.585	0.00539
11n/HT20	CH149	12.93	19.63	2	1.585	0.00619
	CH157	12.63	18.32	2	1.585	0.00578
	CH165	13.31	21.43	2	1.585	0.00676
11n/HT40	CH151	14.71	29.58	2	1.585	0.00933
	CH159	13.11	20.46	2	1.585	0.00646

Note: $Pd = \dfrac{Pout * G}{4\pi r^2}$;

Note: The estimation distance is 20cm

Note: PK Output power= conducted power.

Conducted power see the test report TCT171204E012, antenna gain=2dBi.