

FCC ID: 2AAA9-RA641

Maximum Permissible Exposure (MPE)

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency(RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

$$E \text{ (V/m)} = \frac{\sqrt{30 * P * G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = Average RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 * P * G}{377 * D^2}$$

From the EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

2.4G WIFI:

Operation Frequency: WIFI 802.11b/g/n20/ax20: 2412-2462MHz,
802.11n40/ax40:2422-2452MHz
Power density limited: 1mW/ cm²

Antenna Type: Internal PIFA Antenna
Antenna 1: 3.7dBi; Antenna 2: 2.3dBi
Antenna 3: 1.9dBi; Antenna 4: 3.2dBi
R=20cm

Antenna	Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
					tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numeric		
Ant 1	2412	ax20	16.99	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2437	ax20	16.8	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2462	ax20	16.89	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 2	2412	ax20	16.66	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2437	ax20	16.53	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2462	ax20	16.65	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 3	2412	ax20	16.88	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2437	ax20	16.79	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2462	ax20	16.88	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 4	2412	ax20	16.45	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2437	ax20	16.58	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2462	ax20	16.55	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 1	2422	ax40	16.73	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2437	ax40	16.05	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2452	ax40	15.86	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 2	2422	ax40	16.3	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2437	ax40	16.72	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2452	ax40	16.41	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 3	2422	ax40	16.53	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2437	ax40	16.92	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2452	ax40	16.84	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 4	2422	ax40	17.02	17±1	18	63.096	3.20	2.09	0.0262	1
Ant 4	2437	ax40	16.77	17±1	18	63.096	3.20	2.09	0.0262	1
Ant 4	2452	ax40	16.43	17±1	18	63.096	3.20	2.09	0.0262	1
Ant 1	2412	b	17.28	17±1	18	63.096	3.70	2.34	0.0294	1
Ant 1	2437	b	17.21	17±1	18	63.096	3.70	2.34	0.0294	1
Ant 1	2462	b	17.12	17±1	18	63.096	3.70	2.34	0.0294	1
Ant 2	2412	b	16.98	17±1	18	63.096	2.30	1.70	0.0213	1
Ant 2	2437	b	16.94	17±1	18	63.096	2.30	1.70	0.0213	1
Ant 2	2462	b	16.9	17±1	18	63.096	2.30	1.70	0.0213	1
Ant 3	2412	b	17.14	17±1	18	63.096	1.90	1.55	0.0194	1
Ant 3	2437	b	17.09	17±1	18	63.096	1.90	1.55	0.0194	1
Ant 3	2462	b	17.2	17±1	18	63.096	1.90	1.55	0.0194	1
Ant 4	2412	b	16.62	17±1	18	63.096	3.20	2.09	0.0262	1
Ant 4	2437	b	16.84	17±1	18	63.096	3.20	2.09	0.0262	1

Ant 4	2462	b	16.87	17±1	18	63.096	3.20	2.09	0.0262	1
Ant 1	2412	g	16.92	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2437	g	16.82	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2462	g	16.76	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 2	2412	g	16.49	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2437	g	16.37	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2462	g	16.59	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 3	2412	g	16.69	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2437	g	16.79	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2462	g	16.81	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 4	2412	g	16.27	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2437	g	16.53	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2462	g	16.45	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 1	2412	n20	16.79	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2437	n20	16.68	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2462	n20	16.62	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 2	2412	n20	16.39	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2437	n20	16.29	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2462	n20	16.49	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 3	2412	n20	16.63	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2437	n20	16.63	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2462	n20	16.72	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 4	2412	n20	16.17	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2437	n20	16.43	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2462	n20	16.36	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 1	2422	n40	16.64	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2437	n40	15.83	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 1	2452	n40	15.75	16±1	17	50.119	3.70	2.34	0.0234	1
Ant 2	2422	n40	16.21	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2437	n40	16.63	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 2	2452	n40	16.34	16±1	17	50.119	2.30	1.70	0.0169	1
Ant 3	2422	n40	16.31	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2437	n40	16.84	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 3	2452	n40	16.66	16±1	17	50.119	1.90	1.55	0.0154	1
Ant 4	2422	n40	16.92	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2437	n40	16.58	16±1	17	50.119	3.20	2.09	0.0208	1
Ant 4	2452	n40	16.32	16±1	17	50.119	3.20	2.09	0.0208	1

5G WIFI:

Operation Frequency: WIFI 802.11a/ac/n(HT20): 5180-5240MHz; 5745-5825MHz;

WIFI 802.11ac/n(HT40): 5190-5230MHz;5755-5795MHz;

WIFI 802.11ac80:5210-5210MHz;5775-5775MHz

Power density limited: 1mW/cm

Antenna Type: External Antenna

Antenna 1: 5.9dBi; Antenna 2: 5.2dBi

Antenna 3: 4.2dBi; Antenna 4: 5.6dBi

R=20cm

5.2G

Antenna	Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
					tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numeric		
Ant 1	5180	a	16.53	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5200	a	16.89	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5240	a	16.22	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 2	5180	a	15.6	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5200	a	15.26	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5240	a	15.36	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 3	5180	a	15.82	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5200	a	15.56	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5240	a	15.42	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 4	5180	a	16.05	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5200	a	15.9	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5240	a	15.93	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 1	5180	ac20	16.44	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5200	ac20	16.79	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5240	ac20	16.03	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 2	5180	ac20	15.43	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5200	ac20	15.18	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5240	ac20	15.2	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 3	5180	ac20	15.64	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5200	ac20	15.32	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5240	ac20	15.34	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 4	5180	ac20	15.91	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5200	ac20	15.71	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5240	ac20	15.81	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 1	5190	ac40	14.96	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 1	5230	ac40	15.37	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5190	ac40	15.05	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5230	ac40	15.11	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5190	ac40	15.28	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5230	ac40	15.28	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5190	ac40	15.7	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5230	ac40	15.12	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5210	ac80	14.43	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5210	ac80	14.83	15±1	16	39.811	5.20	3.31	0.0262	1

Ant 3	5210	ac80	14.82	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5210	ac80	15.35	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5180	ax20	15.78	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 1	5200	ax20	16.13	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 1	5240	ax20	15.44	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5180	ax20	15.71	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5200	ax20	15.36	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5240	ax20	15.49	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5180	ax20	15.91	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5200	ax20	15.65	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5240	ax20	15.48	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5180	ax20	15.37	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5200	ax20	15.99	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5240	ax20	15.98	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5190	ax40	15.06	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 1	5230	ax40	15.52	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5190	ax40	15.27	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5230	ax40	15.22	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5190	ax40	15.5	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5230	ax40	15.48	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5190	ax40	14.93	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5230	ax40	15.23	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5210	ax80	14.75	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5210	ax80	15.05	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5210	ax80	15.19	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5210	ax80	14.7	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5180	n20	16.44	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5200	n20	16.78	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5240	n20	16.14	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 2	5180	n20	15.55	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5200	n20	15.15	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5240	n20	15.19	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 3	5180	n20	15.75	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5200	n20	15.45	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5240	n20	15.33	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 4	5180	n20	16.03	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5200	n20	15.82	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5240	n20	15.81	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 1	5190	n40	14.99	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 1	5230	n40	15.43	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5190	n40	15.09	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5230	n40	15.1	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5190	n40	15.29	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5230	n40	15.26	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5190	n40	15.7	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5230	n40	15.1	15±1	16	39.811	5.60	3.63	0.0288	1

5.8G

Antenna	Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max		Antenna		Evaluation result (mW/cm ²)	Power density Limits (mW/cm ²)
					tune-up power		Gain			
					(dBm)	(mW)	(dBi)	Numeric		
Ant 1	5745	a	16.96	17±1	18	63.096	5.90	3.89	0.0488	1
Ant 1	5785	a	17.02	17±1	18	63.096	5.90	3.89	0.0488	1
Ant 1	5825	a	17.58	17±1	18	63.096	5.90	3.89	0.0488	1
Ant 2	5745	a	15.73	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5785	a	15.13	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5825	a	15.48	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 3	5745	a	15.53	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5785	a	15.84	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5825	a	15.37	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 4	5745	a	15.65	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5785	a	15.82	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5825	a	15.38	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 1	5745	ac20	16.26	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5785	ac20	16.35	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5825	ac20	16.03	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 2	5745	ac20	15.58	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5785	ac20	15.8	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5825	ac20	15.27	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5745	ac20	15.34	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5785	ac20	15.71	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5825	ac20	15.22	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5745	ac20	15.45	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5785	ac20	15.67	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5825	ac20	14.25	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5755	ac40	15.27	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 1	5795	ac40	15.74	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5755	ac40	15.37	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5795	ac40	15.09	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5755	ac40	15.26	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5795	ac40	14.96	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5755	ac40	15.53	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5795	ac40	15.29	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5775	ac80	14.96	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5775	ac80	15.25	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5775	ac80	15.09	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5775	ac80	15.39	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5745	ax20	16.24	17±1	18	63.096	5.90	3.89	0.0488	1
Ant 1	5785	ax20	17.1	17±1	18	63.096	5.90	3.89	0.0488	1
Ant 1	5825	ax20	16.92	17±1	18	63.096	5.90	3.89	0.0488	1
Ant 2	5745	ax20	15.84	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5785	ax20	16.14	16±1	17	50.119	5.20	3.31	0.0330	1

Ant 2	5825	ax20	15.68	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 3	5745	ax20	15.61	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5785	ax20	15.97	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5825	ax20	15.51	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5745	ax20	14.8	14±1	15	31.623	5.60	3.63	0.0228	1
Ant 4	5785	ax20	14.88	14±1	15	31.623	5.60	3.63	0.0228	1
Ant 4	5825	ax20	13.68	14±1	15	31.623	5.60	3.63	0.0228	1
Ant 1	5755	ax40	16.1	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5795	ax40	16.54	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 2	5755	ax40	16.45	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 2	5795	ax40	16.24	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 3	5755	ax40	15.54	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 3	5795	ax40	15.17	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 4	5755	ax40	15.63	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 4	5795	ax40	15.53	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 1	5775	ax80	15.82	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 2	5775	ax80	16.48	16±1	17	50.119	5.20	3.31	0.0330	1
Ant 3	5775	ax80	15.51	16±1	17	50.119	4.20	2.63	0.0262	1
Ant 4	5775	ax80	15.73	16±1	17	50.119	5.60	3.63	0.0362	1
Ant 1	5745	n20	16.33	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5785	n20	16.38	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 1	5825	n20	16.03	16±1	17	50.119	5.90	3.89	0.0388	1
Ant 2	5745	n20	15.59	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5785	n20	15.88	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5825	n20	15.3	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5745	n20	15.33	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5785	n20	15.71	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5825	n20	15.21	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5745	n20	15.56	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5785	n20	15.67	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5825	n20	14.35	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 1	5755	n40	15.26	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 1	5795	n40	15.73	15±1	16	39.811	5.90	3.89	0.0308	1
Ant 2	5755	n40	15.42	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 2	5795	n40	15.09	15±1	16	39.811	5.20	3.31	0.0262	1
Ant 3	5755	n40	15.29	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 3	5795	n40	14.97	15±1	16	39.811	4.20	2.63	0.0208	1
Ant 4	5755	n40	15.51	15±1	16	39.811	5.60	3.63	0.0288	1
Ant 4	5795	n40	15.41	15±1	16	39.811	5.60	3.63	0.0288	1

SIMULTANEOUS TRANSMISSIONS

When a number of sources at different frequencies, and/or broadband sources, contribute to the total exposure, it becomes necessary to weigh each contribution relative to the MPE. To comply with the MPE, the fraction of the MPE in terms of E^2 , H^2 (or power density) incurred within each frequency interval should be determined and the sum of all such fractions should not exceed unity. In order to ensure compliance with the MPE for a controlled environment, the sum of the ratios of the power density to the corresponding MPE should not exceed unity. That is

$$\sum_{i=1}^n \frac{S_i}{MPE_i} \leq 1$$

Max. SIMULTANEOUS TRANSMISSIONS MODE

Band	Antenna	SISO					MIMO		Verdict
		tune-up power	Antenna	Separation distance (cm)	Evaluation result	Power density	Evaluation result	Power density Limits	
		(dBm)	Gain (dBi)		(mW/cm ²)	(mW/cm ²)			
Wi-Fi 2.4G AX20	Ant1	17	3.7	20	0.023373	1	0.210811	1	PASS
	Ant2	17	2.3	20	0.016932	1			
	Ant3	17	1.9	20	0.015443	1			
	Ant4	17	3.2	20	0.020831	1			
Wi-Fi 5.2G AC20	Ant1	17	5.9	20	0.03879	1			
	Ant2	17	5.2	20	0.033016	1			
	Ant3	17	4.2	20	0.026225	1			
	Ant4	17	5.6	20	0.036201	1			

Conclusion:

For the max ratio : $0.210811 \leq 1$ for Power density, compliance with RF exposure.

Signature:

Date: 2023-08-01



NAME AND TITLE (Please print or type): alex li/Manager

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