

RF Exposure Statement

1. LIMITS

According to §1.1310 and §2.1091 RF exposure is calculated.

(B) Limits for General Population/Uncontrolled Exposures

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
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 - 1500.....			f/1500	30
1500 - 100.000.....			1.0	30

F = frequency in MHz

* = Plane-wave equivalent power density

2. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

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

3. RESULTS (BT BAND)

3-1. BT BAND

Max Peak output Power at antenna input terminal (dBm)	8.5100
Max Peak output Power at antenna input terminal (mW)	7.096
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	2441.00000
Antenna Gain(typical) (dBi)	0.31000
Antenna Gain(numeric)	1.07399
Power density at prediction frequency (mW/cm ²)	0.001516
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

3-2. BT LE BAND

Max Peak output Power at antenna input terminal (dBm)	8.7420
Max Peak output Power at antenna input terminal (mW)	7.485
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	2402.00000
Antenna Gain(typical) (dBi)	0.31000
Antenna Gain(numeric)	1.07399
Power density at prediction frequency (mW/cm ²)	0.001599
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

4.RESULTS (DTS BAND)

4-1. DTS (802.11b BAND)

Max Peak output Power at antenna input terminal (dBm)	23.5800
Max Peak output Power at antenna input terminal (mW)	228.034
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	2437.00000
Antenna Gain(typical) (dBi)	1.22000
Antenna Gain(numeric)	1.32434
Power density at prediction frequency (mW/cm ²)	0.060080
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

4-2. DTS (802.11g BAND)

Max Peak output Power at antenna input terminal (dBm)	25.8000
Max Peak output Power at antenna input terminal (mW)	380.189
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	2437.00000
Antenna Gain(typical) (dBi)	4.43000
Antenna Gain(numeric)	2.77332
Power density at prediction frequency (mW/cm ²)	0.209764
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

4-3. DTS (802.11n_20MHz BAND)

Max Peak output Power at antenna input terminal (dBm)	26.5200
Max Peak output Power at antenna input terminal (mW)	448.745
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	2437.00000
Antenna Gain(typical) (dBi)	4.43000
Antenna Gain(numeric)	2.77332
Power density at prediction frequency (mW/cm ²)	0.247588
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

5.RESULTS (UNII 1 BAND)

5-1.802.11a BW(5180 MHz ~ 5240 MHz)

Max Peak output Power at antenna input terminal (dBm)	16.8600
Max Peak output Power at antenna input terminal (mW)	48.529
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5240.00000
Antenna Gain(typical) (dBi)	4.64000
Antenna Gain(numeric)	2.91072
Power density at prediction frequency (mW/cm ²)	0.028102
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

5-2 802.11n_20MHz BW (5180 MHz ~ 5240 MHz)

Max Peak output Power at antenna input terminal (dBm)	16.7800
Max Peak output Power at antenna input terminal (mW)	47.643
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5180.00000
Antenna Gain(typical) (dBi)	4.64000
Antenna Gain(numeric)	2.91072
Power density at prediction frequency (mW/cm ²)	0.027589
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

5-3 802.11n 40MHz BW (5190 MHz ~ 5230 MHz)

Max Peak output Power at antenna input terminal (dBm)	17.5300
Max Peak output Power at antenna input terminal (mW)	56.624
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5230.00000
Antenna Gain(typical) (dBi)	4.64000
Antenna Gain(numeric)	2.91072
Power density at prediction frequency (mW/cm ²)	0.032789
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

5-4 802.11ac 20MHz BW (5180 MHz ~ 5240 MHz)

Max Peak output Power at antenna input terminal (dBm)	16.8400
Max Peak output Power at antenna input terminal (mW)	48.306
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5240.00000
Antenna Gain(typical) (dBi)	4.64000
Antenna Gain(numeric)	2.91072
Power density at prediction frequency (mW/cm ²)	0.027972
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

5-5 802.11ac 40MHz BW (5190 MHz ~ 5230 MHz)

Max Peak output Power at antenna input terminal (dBm)	17.6300
Max Peak output Power at antenna input terminal (mW)	57.943
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5230.00000
Antenna Gain(typical) (dBi)	4.64000
Antenna Gain(numeric)	2.91072
Power density at prediction frequency (mW/cm ²)	0.033553
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

5-6 802.11ac 80MHz BW (5210 MHz)

Max Peak output Power at antenna input terminal (dBm)	11.1100
Max Peak output Power at antenna input terminal (mW)	12.912
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5210.00000
Antenna Gain(typical) (dBi)	4.64000
Antenna Gain(numeric)	2.91072
Power density at prediction frequency (mW/cm ²)	0.007477
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

6.RESULTS (UNII 3 BAND)

6-1.802.11a BW(5745 MHz ~ 5825 MHz)

Max Peak output Power at antenna input terminal (dBm)	13.5100
Max Peak output Power at antenna input terminal (mW)	22.439
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5745.00000
Antenna Gain(typical) (dBi)	4.44000
Antenna Gain(numeric)	2.77971
Power density at prediction frequency (mW/cm ²)	0.012409
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

6-2 802.11n_20MHz BW (5745 MHz ~ 5825 MHz)

Max Peak output Power at antenna input terminal (dBm)	13.6800
Max Peak output Power at antenna input terminal (mW)	23.335
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5785.00000
Antenna Gain(typical) (dBi)	4.44000
Antenna Gain(numeric)	2.77971
Power density at prediction frequency (mW/cm ²)	0.012904
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

6-3 802.11n 40MHz BW (5755 MHz ~ 5795 MHz)

Max Peak output Power at antenna input terminal (dBm)	14.7200
Max Peak output Power at antenna input terminal (mW)	29.648
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5795.00000
Antenna Gain(typical) (dBi)	4.44000
Antenna Gain(numeric)	2.77971
Power density at prediction frequency (mW/cm ²)	0.016396
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

6-4 802.11ac 20MHz BW (5745 MHz ~ 5825 MHz)

Max Peak output Power at antenna input terminal (dBm)	13.2500
Max Peak output Power at antenna input terminal (mW)	21.135
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5200.00000
Antenna Gain(typical) (dBi)	4.44000
Antenna Gain(numeric)	2.77971
Power density at prediction frequency (mW/cm ²)	0.011688
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

6-5 802.11ac 40MHz BW (5755 MHz ~ 5795 MHz)

Max Peak output Power at antenna input terminal (dBm)	14.8500
Max Peak output Power at antenna input terminal (mW)	30.549
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5795.00000
Antenna Gain(typical) (dBi)	4.44000
Antenna Gain(numeric)	2.77971
Power density at prediction frequency (mW/cm ²)	0.016894
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

6-6 802.11ac 80MHz BW (5775 MHz)

Max Peak output Power at antenna input terminal (dBm)	11.3700
Max Peak output Power at antenna input terminal (mW)	13.709
Prediction distance (cm)	20.00000
Prediction frequency (MHz)	5775.00000
Antenna Gain(typical) (dBi)	4.44000
Antenna Gain(numeric)	2.77971
Power density at prediction frequency (mW/cm ²)	0.007581
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000