

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

Equation from page 18 of OET Bulletin 65, Edition 97-01

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

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

2-1. Ant 0 802.11a BAND

Max Peak output Power at antenna input terminal (dBm)	13.570
Max Peak output Power at antenna input terminal (mW)	22.750
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5240.000
Antenna Gain(typical) (dBi)	2.460
Antenna Gain(numeric)	1.761
Power density at prediction frequency (mW/cm ²)	0.007975
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-2. Ant 0 802.11n_20MHz BAND

Max Peak output Power at antenna input terminal (dBm)	13.300
Max Peak output Power at antenna input terminal (mW)	21.379
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5240.000
Antenna Gain(typical) (dBi)	2.460
Antenna Gain(numeric)	1.761
Power density at prediction frequency (mW/cm ²)	0.007494
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-3. Ant 0 802.11n_40MHz BAND

Max Peak output Power at antenna input terminal (dBm)	13.010
Max Peak output Power at antenna input terminal (mW)	19.998
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5200.000
Antenna Gain(typical) (dBi)	2.460
Antenna Gain(numeric)	1.761
Power density at prediction frequency (mW/cm ²)	0.007010
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-4. Ant 1 802.11a BAND

Max Peak output Power at antenna input terminal (dBm)	13.940
Max Peak output Power at antenna input terminal (mW)	24.774
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5240.000
Antenna Gain(typical) (dBi)	2.470
Antenna Gain(numeric)	1.766
Power density at prediction frequency (mW/cm ²)	0.008704
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-5. Ant 1 802.11n_20MHz BAND

Max Peak output Power at antenna input terminal (dBm)	14.030
Max Peak output Power at antenna input terminal (mW)	25.292
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5240.000
Antenna Gain(typical) (dBi)	2.470
Antenna Gain(numeric)	1.766
Power density at prediction frequency (mW/cm ²)	0.008886
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-6. Ant 1 802.11n_40MHz BAND

Max Peak output Power at antenna input terminal (dBm)	13.710
Max Peak output Power at antenna input terminal (mW)	23.496
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5230.000
Antenna Gain(typical) (dBi)	2.470
Antenna Gain(numeric)	1.766
Power density at prediction frequency (mW/cm ²)	0.008255
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-7. Ant 0 and Ant 1 802.11a(5180~5240) BAND

Max Peak output Power at antenna input terminal (dBm)	16.77
Max Peak output Power at antenna input terminal (mW)	47.53352
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5240.00
Antenna Gain(typical) (dBi)	5.475
Antenna Gain(numeric)	3.52777
Power density at prediction frequency (mW/cm ²)	0.033360
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-8. Ant 0 and Ant 1 802.11n_20MHz (5180~5240) BAND

Max Peak output Power at antenna input terminal (dBm)	16.69
Max Peak output Power at antenna input terminal (mW)	46.66594
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5240.00
Antenna Gain(typical) (dBi)	2.465
Antenna Gain(numeric)	1.76401
Power density at prediction frequency (mW/cm ²)	0.016377
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-9. Ant 0 and Ant 1 802.11n_40MHz (5190~5230) BAND

Max Peak output Power at antenna input terminal (dBm)	16.380
Max Peak output Power at antenna input terminal (mW)	43.45102
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5230.000
Antenna Gain(typical) (dBi)	2.465
Antenna Gain(numeric)	1.76401
Power density at prediction frequency (mW/cm ²)	0.015249
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

3. RESULTS

- 1.The power density level at 20 cm is **0.007975** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant0 802.11a BAND**.
2. The power density level at 20 cm is **0.007494** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant0 802.11n_20MHz BAND**
3. The power density level at 20 cm is **0.007010** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant0 802.11n_40MHz BAND**.
- 4.The power density level at 20 cm is **0.008704** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant1 802.11a BAND**.
5. The power density level at 20 cm is **0.008886** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant1 802.11n_20MHz BAND**.
6. The power density level at 20 cm is **0.008255** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant1 802.11n_40MHz BAND**
7. The power density level at 20 cm is **0.033360** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant0 and Ant1 802.11a(5180~5240)MHz BAND**
8. The power density level at 20 cm is **0.016377** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant0 and Ant1 802.11n_20MHz(5180~5240) BAND**
6. The power density level at 20 cm is **0.015249** mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant0 and Ant1 802.11n_40MHz(5190~5230) BAND**