

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 0 802.11b BAND

Max Peak output Power at antenna input terminal (dBm)	20.960
Max Peak output Power at antenna input terminal (mW)	124.738
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2462.000
Antenna Gain(typical) (dBi)	2.470
Antenna Gain(numeric)	1.766
Power density at prediction frequency (mW/cm ²)	0.043
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-2. Ant 0 Wi-Fi 802.11g BAND

Max Peak output Power at antenna input terminal (dBm)	24.980
Max Peak output Power at antenna input terminal (mW)	314.774
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	2.470
Antenna Gain(numeric)	1.766
Power density at prediction frequency (mW/cm ²)	0.110
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-3. Ant 0 Wi-Fi 802.11n_20 MHz BAND

Max Peak output Power at antenna input terminal (dBm)	25.530
Max Peak output Power at antenna input terminal (mW)	357.272
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	2.470
Antenna Gain(numeric)	1.766
Power density at prediction frequency (mW/cm ²)	0.125
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-4. Ant 0 Wi-Fi 802.11n_40 MHz BAND

Max Peak output Power at antenna input terminal (dBm)	25.590
Max Peak output Power at antenna input terminal (mW)	362.243
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	2.470
Antenna Gain(numeric)	1.766
Power density at prediction frequency (mW/cm ²)	0.127
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-5. Ant 0 Wi-Fi 802.11a (5745~5825) BAND

Max Peak output Power at antenna input terminal (dBm)	19.070
Max Peak output Power at antenna input terminal (mW)	80.723
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5825.000
Antenna Gain(typical) (dBi)	3.920
Antenna Gain(numeric)	2.466
Power density at prediction frequency (mW/cm ²)	0.0396
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-6. Ant 0 Wi-Fi 802.11n_20 MHz (5745~5825) BAND

Max Peak output Power at antenna input terminal (dBm)	19.110
Max Peak output Power at antenna input terminal (mW)	81.470
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5745.000
Antenna Gain(typical) (dBi)	3.920
Antenna Gain(numeric)	2.466
Power density at prediction frequency (mW/cm ²)	0.0399
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-7. Ant 0 Wi-Fi 802.11n_40 MHz (5755~5795) BAND

Max Peak output Power at antenna input terminal (dBm)	18.790
Max Peak output Power at antenna input terminal (mW)	75.683
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5755.000
Antenna Gain(typical) (dBi)	3.920
Antenna Gain(numeric)	2.466
Power density at prediction frequency (mW/cm ²)	0.0371
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-8. Ant 1 802.11b BAND

Max Peak output Power at antenna input terminal (dBm)	20.740
Max Peak output Power at antenna input terminal (mW)	118.576
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2462.000
Antenna Gain(typical) (dBi)	2.300
Antenna Gain(numeric)	1.698
Power density at prediction frequency (mW/cm ²)	0.040
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-9. Ant 1 Wi-Fi 802.11g BAND

Max Peak output Power at antenna input terminal (dBm)	24.74
Max Peak output Power at antenna input terminal (mW)	297.851
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	2.300
Antenna Gain(numeric)	1.698
Power density at prediction frequency (mW/cm ²)	0.100
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-10. Ant 1 Wi-Fi 802.11n_20 MHz BAND

Max Peak output Power at antenna input terminal (dBm)	24.85
Max Peak output Power at antenna input terminal (mW)	305.492
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	2.300
Antenna Gain(numeric)	1.698
Power density at prediction frequency (mW/cm ²)	0.103
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-11. Ant 1 Wi-Fi 802.11n_40 MHz BAND

Max Peak output Power at antenna input terminal (dBm)	25.000
Max Peak output Power at antenna input terminal (mW)	316.227
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	2.300
Antenna Gain(numeric)	1.698
Power density at prediction frequency (mW/cm ²)	0.106
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-12. Ant 1 Wi-Fi 802.11a (5745~5825) BAND

Max Peak output Power at antenna input terminal (dBm)	17.930
Max Peak output Power at antenna input terminal (mW)	62.086
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5825.000
Antenna Gain(typical) (dBi)	1.640
Antenna Gain(numeric)	1.458
Power density at prediction frequency (mW/cm ²)	0.018
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-13. Ant 1 Wi-Fi 802.11n_20MHz (5745~5825) BAND

Max Peak output Power at antenna input terminal (dBm)	18.220
Max Peak output Power at antenna input terminal (mW)	66.374
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5825.000
Antenna Gain(typical) (dBi)	1.640
Antenna Gain(numeric)	1.458
Power density at prediction frequency (mW/cm ²)	0.0192
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-14. Ant 1 Wi-Fi 802.11n_40 MHz (5755~5795) BAND

Max Peak output Power at antenna input terminal (dBm)	17.890
Max Peak output Power at antenna input terminal (mW)	61.517
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5795.000
Antenna Gain(typical) (dBi)	1.640
Antenna Gain(numeric)	1.458
Power density at prediction frequency (mW/cm ²)	0.0178
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-15. Ant 0 and Ant 1 Wi-Fi 802.11g BAND

Max Peak output Power at antenna input terminal (dBm)	27.87
Max Peak output Power at antenna input terminal (mW)	612.35039
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	5.40
Antenna Gain(numeric)	3.46737
Power density at prediction frequency (mW/cm ²)	0.422406
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-16. Ant 0 and Ant 1 Wi-Fi 802.11n_20MHz BAND

Max Peak output Power at antenna input terminal (dBm)	28.09
Max Peak output Power at antenna input terminal (mW)	644.16927
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.000
Antenna Gain(typical) (dBi)	2.39
Antenna Gain(numeric)	1.73380
Power density at prediction frequency (mW/cm ²)	0.222193
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-17. Ant 0 and Ant 1 Wi-Fi 802.11n_40MHz BAND

Max Peak output Power at antenna input terminal (dBm)	28.30
Max Peak output Power at antenna input terminal (mW)	676.08298
Prediction distance (cm)	20.000
Prediction frequency (MHz)	2437.00
Antenna Gain(typical) (dBi)	2.39
Antenna Gain(numeric)	1.73380
Power density at prediction frequency (mW/cm ²)	0.233201
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-18. Ant 0 and Ant 1 Wi-Fi 802.11a(5745~5825) BAND

Max Peak output Power at antenna input terminal (dBm)	21.51
Max Peak output Power at antenna input terminal (mW)	141.57938
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5825.00
Antenna Gain(typical) (dBi)	5.86
Antenna Gain(numeric)	3.85478
Power density at prediction frequency (mW/cm ²)	0.108575
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-19. Ant 0 and Ant 1 Wi-Fi 802.11n(5745~5825)_20MHz BAND

Max Peak output Power at antenna input terminal (dBm)	21.63
Max Peak output Power at antenna input terminal (mW)	145.54591
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5825.00
Antenna Gain(typical) (dBi)	2.93
Antenna Gain(numeric)	1.96336
Power density at prediction frequency (mW/cm ²)	0.056850
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

2-20. Ant 0 and Ant 1 Wi-Fi 802.11n(5755~5795)_40MHz BAND

Max Peak output Power at antenna input terminal (dBm)	21.28
Max Peak output Power at antenna input terminal (mW)	134.27650
Prediction distance (cm)	20.000
Prediction frequency (MHz)	5755.00
Antenna Gain(typical) (dBi)	2.93
Antenna Gain(numeric)	1.96336
Power density at prediction frequency (mW/cm ²)	0.052448
MPE limit for uncontrolled exposure at prediction frequency (mW/cm ²)	1.00000

3. RESULTS

- 1.The power density level at 20 cm is 0.0043 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at . **Ant 0 802.11b BAND**
- 2.The power density level at 20 cm is 0.0110 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 Wi-Fi 802.11g BAND**
- 3.The power density level at 20 cm is 0.0125 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 Wi-Fi 802.11n_20 MHz BAND**
- 4.The power density level at 20 cm is 0.127 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 Wi-Fi 802.11n_40 MHz BAND**
- 5.The power density level at 20 cm is 0.0396 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 Wi-Fi 802.11a (5745~5825) BAND**
- 6.The power density level at 20 cm is 0.0399 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 Wi-Fi 802.11n_20MHz (5745~5825) BAND**
- 7.The power density level at 20 cm is 0.0371 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 Wi-Fi 802.11n_40 MHz (5755~5795) BAND**

- 8.The power density level at 20 cm is 0.040 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at . **Ant 1 802.11b BAND**
- 9.The power density level at 20 cm is 0.100 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 1 Wi-Fi 802.11g BAND**
- 10.The power density level at 20 cm is 0.103 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 1 Wi-Fi 802.11n_20 MHz BAND**
- 11.The power density level at 20 cm is 0.106 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 1 Wi-Fi 802.11n_40 MHz BAND**
- 12.The power density level at 20 cm is 0.018 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 1 Wi-Fi 802.11a (5745~5825) BAND**
- 13.The power density level at 20 cm is 0.0192 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 1 Wi-Fi 802.11n_20 MHz (5745~5825) BAND**
- 14.The power density level at 20 cm is 0.0178 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 1 Wi-Fi 802.11n_40 MHz (5755~5795) BAND**

- 15.The power density level at 20 cm is 0.422406 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 and Ant 1_ Wi-Fi 802.11g BAND**
- 16.The power density level at 20 cm is 0.222193 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 and Ant 1_ Wi-Fi 802.11n_20MHz BAND**
- 17.The power density level at 20 cm is 0.233201 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 and Ant 1_ Wi-Fi 802.11n_40MHz BAND**
- 18.The power density level at 20 cm is 0.108575 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 and Ant 1_ Wi-Fi 802.11a BAND**
- 19.The power density level at 20 cm is 0.56850 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 and Ant 1_ Wi-Fi 802.11n(5745~5825)_20MHz BAND**
- 20.The power density level at 20 cm is 0.052448 mW/cm², which is below the uncontrolled exposure limit of 1.0 mW/cm² at **Ant 0 and Ant 1_ Wi-Fi 802.11n(5755~5795)_40MHz BAND**