4 FCC §2.1091 - RF Exposure Information

4.1 Applicable Standards

FCC §2.1091, (a) Requirements of this section are a consequence of Commission responsibilities under the National Environmental Policy Act to evaluate the environmental significance of its actions. See subpart I of part 1 of this chapter, in particular §1.1307(b).

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

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minutes)
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	842/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	30

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

MPE Prediction

Predication of MPE limit at a given distance, Equation from OET Bulletin 65, Edition 97-01

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

Where: 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

Maximum rated peak output power at antenna input terminal (dBm):	36.99
Maximum peak output power at antenna input terminal (mW):	5000
Prediction distance (cm):	180
Prediction frequency (MHz):	140.985
Maximum Antenna Gain, typical (dBi):	12.1
Maximum Antenna Gain (numeric):	16.218
Power density of prediction frequency at 180 cm (mW/cm^2):	0.199
MPE limit for uncontrolled exposure at prediction frequency (mW/cm^2):	0.2

Conclusion

The device complies with the MPE requirements by providing a safe separation distance of at least 6 ft. (180) cm between the antenna with maximum 10 dBd (12.1 dBi) gain, including any radiating structure, and any persons when normally operated. RF exposure has been specified in the user manual.