RF Exposure Requirements

Requirements: **§15.247(b)(5), §1.1307(b)(1), and §1.1307(b)(2):** Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's Guidelines.

Limits: **§1.1310:** As specified in this section, the Maximum Permissible Exposure (MPE) Limit shall be used to evaluate the environmental impact to human exposure to radiofrequency (RF) radiation as specified in Sec 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this Chapter.

Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2

Highest Measured Output Power: 26.7 dBm (0.467 Watts)

Highest Antenna Gain to be used: 28 dBi (630.95 numeric)

Minimum Separation Distance Calculation:

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

$S = PG / 4\pi R^2$ or $R = \sqrt{(PG/(4\pi S))}$

where, S = Power Density (10 W/m^2)
P = Power Input to antenna (0.467 Watts)
G = Antenna Gain, in numeric (630.95 numeric)
R = distance to the center of radiation of the antenna

$R = \sqrt{(0.467 * 630.95 / (4 * 3.14 * 10))} = 1.5$ meters

The minimum separation distance should not be less than 1.5 meters.