FCC §1.1307 (b) (1) & §2.1091 - MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to FCC §1.1307 (b)(1) and §2.1091, 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 level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE)

(B) Limits for General Population/Uncontrolled Exposure				
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;

MPE Calculation

The MPE calculation as given in FCC OET Bulletin 65, page 19 is used to calculate the safe operating distance for the user.

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

Where:

S= power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = Antenna Gain (relative to an isotropic radiator)
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

Frequency (MHz)	**Antenna Gain**		**Conducted Output Power**		**Evaluation Distance (cm)**	**Power Density (mW/cm^2)**	**MPE Limit (mW/cm^2)**
	(dBi)	**(numeric)**	**(dBm)**	**(mW)**			
Cellular Band (Part 22H)							
848.8	1.0	1.26	31.87	1538.15	20	0.386	0.566
PCS Band (Part 24E)							
1909.8	2.0	1.58	30.41	1099.01	20	0.345	1.0

Result: The device meets FCC MPE limit at 20 cm distance, RF exposure information has been addressed in the user manual.