9. RF EXPOSURE TEST

9.1 APPLIED PROCEDURES / LIMIT

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 limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $|E|^2$,$|H|^2$or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm^2)	Averaging Time $|E|^2$,$|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

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

9.1.1 MPE CALCULATION METHOD

MPE Limit Calculation: EUT's operating freqencies @ **907-922**MHz;

Highest conducted power = **29.70**dBm (peak) therefore,

Limit for Uncontrolled exposure: **0.6** mW/ cm^2 or **10** mW/ cm^2

EUT maximum antenna gain = **5** dBi.

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

S = PG / 4 π R^2 or R = $\sqrt{}$ PG / 4 π S where,

S = Power Density (**0.6** mW/ cm^2)

P = Power Input to antenna (**933.25**mW)

G = Antenna Gain (**3.16** numeric)

R = (933.25*3.16/4*3.14*0.6) $^{1/2}$ = (2949.07/7.536) $^{1/2}$ = **19.78 cm**