11. 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 Limit (Down Link) iDen 800

Max Peak output Power at antenna input terminal	29.960	dBm
Max Peak output Power at antenna input terminal	990.832	mW
Prediction distance	150.000	cm
Prediction frequency	868.988	MHz
Antenna Gain(typical)	16.000	dBi
Antenna Gain(numeric)	39.811	-
Power density at prediction frequency(S)	0.13951	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.579	mW/cm^2

2-2 Limit (Up Link) iDen 800

Max Peak output Power at antenna input terminal	29.99	dBm
Max Peak output Power at antenna input terminal	997.700	mW
Prediction distance	150.000	cm
Prediction frequency	806.013	MHz
Antenna Gain(typical)	16.000	dBi
Antenna Gain(numeric)	39.811	-
Power density at prediction frequency(S)	0.14047	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.537	mW/cm^2

2-3 Limit (Down Link) iDen 900

Max Peak output Power at antenna input terminal	30.05	dBm
Max Peak output Power at antenna input terminal	1011.579	mW
Prediction distance	150.000	cm
Prediction frequency	935.013	MHz
Antenna Gain(typical)	16.000	dBi
Antenna Gain(numeric)	39.811	-
Power density at prediction frequency(S)	0.14243	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.623	mW/cm^2

2-4 Limit (Up Link) iDen 900

Max Peak output Power at antenna input terminal	30.070	dBm
Max Peak output Power at antenna input terminal	1016.248	mW
Prediction distance	150.000	cm
Prediction frequency	896.013	MHz
Antenna Gain(typical)	16.000	dBi
Antenna Gain(numeric)	39.811	-
Power density at prediction frequency(S)	0.14308	mW/cm^2
MPE limit for uncontrolled exposure at prediction frequency	0.597	mW/cm^2

3. RESULTS

The power density level at 150 cm is 0.13951 mW/cm², which is below the uncontrolled exposure limit of 0.579 mW/cm² at iDen 800 Down Link Band

The power density level at 150 cm is 0.14047 mW/cm², which is below the uncontrolled exposure limit of 0.537 mW/cm² at iDen 800 Up Link Band

Simultaneous MPE at 150 cm is (0.13951/0.579) + (0.14047/0.537) = 0.50252< 0.579

The power density level at 150 cm is 0.14243 mW/cm², which is below the uncontrolled exposure limit of 0.623 mW/cm² at iDen 900 Down Link Band

The power density level at 150 cm is 0.14308 mW/cm², which is below the uncontrolled exposure limit of 0.597 mW/cm² at iDen 900 Up Link Band

Simultaneous MPE at 150 cm is (0.14243/0.623) + (0.14308/0.597) = 0.46827< 0.623

Warning: In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, it must also have a minimum distance of 150 cm from the body during normal operation.