RF EXPOSURE INFORMATION

5.1 RF Safety Requirements to 2.1091 for Mobile Transmitters

The unit under evaluation has two external antennas. Nivis LLC calculated the MPE emission values for the EUT with each of the antennas. The maximum power density occurs when using the 1.73 dBi Fractal antenna. They used the formula shown in OET Bulletin 65 and calculated the minimum distance between antenna and unsuspecting user as 20 cm.

Nivis LLC will sell the RF-P9-05-01-03 with one of the following antennas.

MANUFACTURER	TYPE OF ANTENNA	MODEL	GAIN dB	TYPE OR CONNECTOR
Mobile Antennas				
Nivis	Fractal	Nivis-Falcon	1.73 dB	Soldered to Antenna pad J3
Comtelco	Dual Band PCS	A113182B	Unity	Reverse SMA

Fractal Antenna

Power Output

The EUT's maximum expected output power as shown in Section 2.6 was

Frequency of Fundamental (MHz)	Measurement (dBm)*	Measurement (mW)*	FCC Limit (Watt)
910.447	20.86	121.90	1.0
918.937	21.11	129.12	1.0
927.440	20.88	122.46	1.0

* Measurement includes 0.1 dB for cable loss

The maximum EIRP expected for mobile installations is with the +1.73 dBi gain Fractal antenna. This would yield a maximum EIRP of 20.86 dBm + 1.73 dBi = +22.59 dBm.

(The Comtelco Dual Band PCS antenna has a unity gain, therefore maximum EIRP is 21.02, as detailed in Table 3a.)

5.1 RF Safety Requirements to 2.1091 for Mobile Transmitters – Cont.

The maximum EIRP for mobile installations may be expected to be

Antilog (22.59 dBm/10) = 181.6 mW

MPE Calculations

The limits for this unit (uncontrolled exposure) are 1.0 mW/cm^2. Taking the RF Denisty Field Equation:

Mobile Installations

$S = 181.6/4*\pi* 20^2$

$S = 181.6/5026.55$

$S = .036$ mW / cm^2

This is well below the maximum level of 1.0 mW / cm^2

All manual instructions will specify 20 cm for mobile installations