EXHIBIT 13. MPE CALCULATIONS

13.1 Inverted L antenna module.

The following MPE calculations are based on an inverted-L printed circuit board trace antenna, with a measured ERP of 120.5dBµV/m, at 3 meters and conducted RF power of +19.6 dBm as presented to the antenna. The calculated gain of this antenna, based on the ERP measurements is 5.7 dB.

Prediction of MPE limit at a given distance

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

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density
P = power input to the 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

Maximum peak output power at antenna input terminal:	19.60	(dBm)
Maximum peak output power at antenna input terminal:	91.201	(mW)
Antenna gain(typical):	5.7	(dBi)
Maximum antenna gain:	3.715	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	900	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	0.6	(mW/cm^2)
Power density at prediction frequency:	0.067411	(mW/cm^2)
Maximum allowable antenna gain:	15.2	(dBi)
Margin of Compliance at 20 cm =	9.5	dB