## EXHIBIT 12. MPE CALCULATIONS

The following MPE calculations are based on a 1.8 centimeter inverted-F printed circuit board trace antenna, with a measured field strength of 114 dBµV/m, at 3 meters, and conducted RF power of +18.49 dBm as presented to the antenna. The calculated gain of this antenna, based on the field strength measurements is 0.28 dBi.

**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: | 18.49 | (dBm) |
| Maximum peak output power at antenna input terminal: | 70.632 | (mW) |
| Antenna gain(typical): | 0.28 | (dBi) |
| Maximum antenna gain: | 1.067 | (numeric) |
| Prediction distance: | 20 | (cm) |
| Prediction frequency: | 2400 | (MHz) |
| MPE limit for uncontrolled exposure at prediction frequency: | 1 | (mW/cm^2) |
| Power density at prediction frequency: | 0.014988 | (mW/cm^2) |