MPE CALCULATIONS

The following MPE calculations are based on a measured conducted RF power of 24.6dBm at 2462MHz and 23.4dBm at 5825MHz as presented to the antenna. The gain of this antenna, based on the data sheet is -0.6dBi for the 2.4GHz band and +3.5dBi for the 5.8GHz band.

13.1 2400 to 2483.5 MHz Band

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:	24.60	(dBm)
Maximum peak output power at antenna input terminal:	288.403	(mW)
Antenna gain(typical):	-0.6	(dBi)
Maximum antenna gain:	0.871	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	2405	(MHz)
E limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)
Power density at prediction frequency:	0.049972	(mW/cm^2)
Maximum allowable antenna gain:	12.4	(dBi)
Margin of Compliance at 20 cm =	13.0 dB	

13.2 5725 to 5850 MHz Band

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:	23.40	(dBm)
Maximum peak output power at antenna input terminal:	218.776	(mW)
Antenna gain(typical):	3.5	(dBi)
Maximum antenna gain:	2.239	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	5825	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)
Power density at prediction frequency:	0.097438	(mW/cm^2)
Maximum allowable antenna gain:	13.6	(dBi)

Margin of Compliance at   20   cm =   10.1 dB