Prediction of MPE limit at a given distance

802.11a Radio

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

Note: TX power at 95% duty cycle

Maximum peak output power at antenna input terminal:	13.27	(dBm)
Maximum peak output power at antenna input terminal:	21.23244462	(mW)
Antenna gain(typical):	15	(dBi)
Maximum antenna gain:	31.6227766	(numeric)
Prediction distance:	20	(cm)
Prediction frequency:	5250-5825	(MHz)
MPE limit for uncontrolled exposure at prediction frequency:	1	(mW/cm^2)

Power density at prediction frequency: 0.133577 (mW/cm^2)

Maximum allowable antenna gain: 23.74269855 (dBi)

Margin of Compliance: 8.742698554

Note:The power delivered to the antenna is reduced by 0.5dB due to cable loss.