MPE Calculations

FCC part 1.1310, Table 1 limits the power density for uncontrolled exposure to 1mW/ cm^2 for systems operating in the DTS and UNII bands. The distance, d(cm) from the antenna at which the power density, P_d (mW/cm^2) is below this limit is calculated from the maximum EIRP, P_t (mW) using the equation:

$$P_d = P_t/(4 \pi d^2)$$

Re-arranging for the distance at which the power density is 1mW/cm2 gives:

$$d = \sqrt{} (P_t /(4 \pi))$$

Frequency	Maximum Output Power (dBm)	Max. Antenna Gain (dBi)	EIRP (mW)	Pd at 20cm	Calculated distance (in cm) where Pd < 1mW/ cm2
2412 - 2462 MHz	19.5	1.5	125.89	0.025	3.16
5180 - 5320 MHz	15.0	4.5	89.1	0.018	2.66
5745 - 5805 MHz	16.3	4.5	120.2	0.024	3.09

The minimum distance from the antenna that the power density is 1mW/ cm^2 and the calculated minimum distance is 3.16 cm, for 2.4GHz, and 3.09 cm, for 5 GHz).