



MPE Calculation for FCC Uncontrolled Environment

Formula 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

Source Based Time Averaged Duty Cycle is 100% in calculation below

Maximum peak output power at antenna input terminal:	<u>-9.51</u> (dBm)
Maximum peak output power at antenna input terminal:	<u>0.000112</u> (W)
Maximum antenna gain:	<u>5.10</u> (dBi)
Maximum antenna gain:	<u>3.236</u> (numeric)
Prediction distance:	<u>20</u> (cm)
Prediction frequency:	<u>2405</u> (MHz)
Time Averaged Duty Cycle	<u>100</u> %
MPE limit for uncontrolled exposure at prediction frequency:	<u>10.00</u> (W/m ²)
Power density at prediction frequency:	<u>0.0000721</u> (mW/cm ²)
Power density at prediction frequency:	<u>0.000721</u> (W/m ²)
Maximum allowable antenna gain:	<u>46.52</u> (dBi)
Margin of Compliance:	<u>41.42</u> (dB)

<u>Frequency(MHz)</u>	<u>Limit(mW/cm^2)</u>
0.3	100
1.34	100
1.341	3.11202E-05
29.9	3.11202E-05
30	0.2
299.999	0.2
300	0.2
350	0.233333333
375	0.25
400	0.266666667
450	0.3
460	0.306666667
475	0.316666667
500	0.333333333
525	0.35
540	0.36
550	0.366666667
600	0.4
625	0.416666667
650	0.433333333
700	0.466666667
800	0.533333333
900	0.6
1000	0.666666667
1100	0.733333333
1200	0.8
1300	0.866666667
1400	0.933333333
1500	1
100000	1