

## Prediction of MPE at a given distance

### 1. Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f <sup>2</sup>	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

### 2. Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna

### 3. Result

Worse case is as below:

Mode	Frequency (MHz)	Prediction distance (cm)	RF output power		MPE (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	SAR Test Exclusion
			dBm	mW			
IEEE 802.11 n/HT20	2437	20	18.376	68.8018	0.06860	1	Yes
IEEE 802.11 n/HT40	5230	20	18.913	77.8574	0.02443	1	Yes
IEEE 802.11 ac/HT20	5320	20	18.523	71.1705	0.02233	1	Yes
IEEE 802.11 ac/HT40	5700	20	18.488	70.5992	0.02215	1	Yes
IEEE 802.11 n/HT40	5795	20	18.653	73.3331	0.02301	1	Yes

Then SAR evaluation is not required.