Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm²)	Averaging time (minutes)
Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6

f = frequency in MHz

<u>Test Data</u>

Predication of MPE limit at a given distance

$S = PG/4pR^2$

S = power density (in appropriate units, e.g. mW/cm²)

P = power input to the antenna (in appropriate units, e.g., mW) .

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally *numeric* gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Maximum peak output power at antenna input terminal: <u>19.78(dBm)</u>

Maximum peak output power at antenna input terminal: 95.06 <u>(mW)</u>

Prediction distance: <u>>20 (cm)</u>

Predication frequency: <u>2412 (MHz)</u>

Antenna Gain (typical): 2.0<u>(dBi)</u>

Antenna Gain (typical): <u>1.584</u> (numeric)

The worst case is power density at predication frequency at 20cm: 0.0300 <u>(mW/cm²)</u>

MPE limit for general population exposure at prediction frequency: <u>1</u> (mW/cm^2)

0.0300(mW/cm^2) < 1 (mW/cm^2)

<u>Result: Pass</u>