

## ¼ Wave Vertical Antenna

### Calculation Results

Average Power at the Antenna	1500 watts
Antenna Gain in dBi	2 dBi
Distance to the Area of Interest	100 feet 30.48 meters
Frequency of Operation	50 MHz
Are Ground Reflections Calculated?	Yes
Estimated RF Power Density	0.0522 mW/cm <sup>2</sup>

	Controlled Environment	Uncontrolled Environment
Maximum Permissible Exposure (MPE)	1.005 mW/cm <sup>2</sup>	0.205 mW/cm <sup>2</sup>
Distance to Compliance From Centre of Antenna	22.8821 feet 6.9745 meters	51.1041 feet 15.5765 meters
Does the Area of Interest Appear to be in Compliance?	yes	yes

### Interpretation of Results

1. The power value entered into these calculations should be the average power seen at the antenna and not Peak Envelope Power (PEP). You should also consider feedline loss in calculating your average power at the antenna.
2. If you wish to estimate the power density at a point below the main lobe of a directional antenna, and if the antenna's vertical pattern is known, recalculate using the antenna's gain in the relevant direction.
3. Please also consult FCC OET Bulletin 65 Supplement B, the Amateur Radio supplement to FCC OET Bulletin 65. It contains a thorough discussion of the RF Safety regulations as they apply to amateur stations and contains numerous charts, tables, worksheets and other data to help determine station compliance.

The above calculation is for a vertical ground plane antenna at 20 feet elevation feed with a short piece of coax with the station located just below the antenna. Minimum safe distance is represented in Red. The antenna is located at ten feet above ground.