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If the maximum value of the magnetic field for an electromagnetic wave is 5x10⁻⁷ T, what is the intensity the wave? What is the maximum value of the electric field?

Suppose that a laser pointer is rated at 3mW. If the pointer produces a 2mm diameter spot on a screen, what is the radiation pressure exerted on the screen?

A hand-held cell phone operates in the 860-900MHz frequency range and they typically have a power output of about 0.600 W through an antenna 3cm long. What is the magnitude of the Poynting vector 4cm from the antenna? Suppose that radio station Pyx-106 broadcasts at 106.5 MHz and produces a 50-kW signal from an antenna that emits EM waves uniformly in all directions.

- a. What is the wavelength of the radio waves?
- **b.** How much energy per second crosses an area 100 m from the transmitting antenna?
- c. What is the maximum magnitude of the electric field at this point, assuming the station is operating at full power?
- d. What is the voltage induced in a 1.0-m-long vertical car antenna at this distance?