- A mobile phone sends signals at about 850 MHz (1 MHz = 1×10^6 Hz). What is the wavelength of this radiation?

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The frequency, ν =850 MHz = 850×10^6 Hz, is related to the wavelength, λ, by the equation:

$$\mathbf{c = \lambda\nu \text{ or } \lambda = \frac{c}{\nu}} \text{ where c is the speed of light.}$$

Therefore, wavelength = $\lambda = \dfrac{2.998 \times 10^8 \text{ m s}^{-1}}{850 \times 10^6 \text{ m}} = 0.35 \text{ m}$

Wavelength = **0.35 m**