

The Electromagnetic Spectrum

	Wavelength Range (m)	Frequency Range (Hz)	Uses and Other Interesting Facts
Radio	$> 1 \times 10^{-1}$	$< 3 \times 10^9$	
Microwave	$1 \times 10^{-3} - 1 \times 10^{-1}$	$3 \times 10^9 - 3 \times 10^{11}$	
Infrared	$7 \times 10^{-7} - 1 \times 10^{-3}$	$3 \times 10^{11} - 4 \times 10^{14}$	
Visible	$4 \times 10^{-7} - 7 \times 10^{-7}$	$4 \times 10^{14} - 7.5 \times 10^{14}$	
Ultraviolet	$1 \times 10^{-8} - 4 \times 10^{-7}$	$7.5 \times 10^{14} - 3 \times 10^{16}$	
X-ray	$1 \times 10^{-11} - 1 \times 10^{-8}$	$3 \times 10^{16} - 3 \times 10^{19}$	
Gamma-ray	$< 1 \times 10^{-11}$	$> 3 \times 10^{19}$	

As wavelength decreases, frequency _____. Thus, wavelength and frequency are _____ proportional.

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