

The Electromagnetic Spectrum

EMR	Frequencies (Hz)		Wavelength (m)		Notes
Military communication	3.00E+03	3.00E+04	9993.33	99933.33	Radio
Navigation/Time	3.00E+04	3.00E+05	999.33	9993.33	
AM radio (long wave - Europe)	1.53E+05	2.79E+05	1074.55	1959.48	
AM radio (medium wave - North America)	5.35E+05	1.70E+06	176.35	560.37	
AM radio (short wave - international)	5.90E+06	2.61E+07	11.49	50.81	
Citizens band radio	2.696E+07	2.741E+07	10.94	11.12	
Garage door openers	4.000E+07		7.50		
Cordless phones	4.000E+07	5.000E+07	6.00	7.50	
Baby monitors	4.900E+07		6.12		
Television (network) stations 2 through 6*	5.40E+07	8.80E+07	3.41	5.55	
Radio controlled airplanes	7.200E+07		4.16		
Radio controlled cars	7.500E+07		4.00		
FM radio	8.80E+07	1.08E+08	2.78	3.41	
Television (network) stations 7 through 13*	1.74E+08	2.20E+08	1.36	1.72	
Wildlife tracking collars	2.150E+08	2.200E+08	1.36	1.39	
Cell phones	8.240E+08	8.490E+08	0.353	0.364	
Air traffic control	9.600E+08	1.215E+09	0.247	0.312	
GPS (Global Positioning System)	1.227E+09		0.24		
GPS (Global Positioning System)	1.58E+09		0.19		
Deep space radio communication	2.290E+09	2.300E+09	0.1303	0.1309	

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Microwaves - microwave oven	2.450E+09		0.12		Microwave
Microwaves - ultra-high frequency (UHF)	3.000E+08	3.000E+09	0.0999	0.9993	
Microwaves - super high frequency (SHF)	3.000E+09	3.000E+10	0.0100	0.0999	
Microwaves - extremely high frequency (EHF)	3.000E+10	3.000E+11	0.0010	0.0100	
Far infrared (FIR)	3.00E+11	2.00E+13	1.5E-05	1.0E-03	Infrared
Long wavelength infrared (LWIR)	2.00E+13	3.75E+13	8.0E-06	1.5E-05	
Mid wavelength infrared (MWIR)	3.75E+13	9.99E+13	3.0E-06	8.0E-06	
Short wavelength infrared (SWIR)	9.99E+13	2.14E+14	1.4E-06	3.0E-06	
Near infrared (NIR)	2.14E+14	4.00E+14	7.5E-07	1.4E-06	
Red	4.00E+14	4.84E+14	6.20E-07	7.50E-07	Visible Light
Orange	4.84E+14	5.08E+14	5.90E-07	6.20E-07	
Yellow	5.08E+14	5.26E+14	5.70E-07	5.90E-07	
Green	5.26E+14	6.06E+14	4.95E-07	5.70E-07	
Blue	6.06E+14	6.66E+14	4.50E-07	4.95E-07	
Violet	6.66E+14	7.89E+14	3.80E-07	4.50E-07	
Near ultraviolet (UVA or long wave/"blacklight")	7.89E+14	9.52E+14	3.15E-07	3.80E-07	Ultraviolet
Near ultraviolet (UVB or medium wave)	9.52E+14	1.07E+15	2.80E-07	3.15E-07	
Near ultraviolet (UVC or short wave)	1.07E+15	1.50E+15	2.00E-07	2.80E-07	
Extreme or Vacuum ultraviolet	1.50E+15	3.00E+16	1.00E-08	2.00E-07	
X-rays	3.00E+16	3.00E+18	1.00E-10	1.00E-08	X-rays
Gamma rays	2.42E+18	...and up	1.24E-10	...and shorter	Gamma rays